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A *PSYCHOLOGICA* existe desde 1988 e em 2012 foi re-fundada, passando a publicar artigos científicos, em Inglês e Português, avaliados entre pares. Esta revista visa divulgar o trabalho científico nacional e estrangeiro realizado nas diversas áreas da Psicologia, seguindo os mais altos padrões científicos. Pretende, igualmente, ser um espaço para a troca de ideias, problemas e experiências, decorrentes da teoria e da prática do desenvolvimento humano, social e cultural.

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## Editorial

Este número da *Psychologica* é especial. Trata-se de um número de homenagem ao Prof. Doutor A. Duarte Gomes. Regista-se, assim, também deste modo e para memória futura, o seu contributo pioneiro na criação e desenvolvimento daquela que é, atualmente, a reconhecida área de especialidade em Psicologia das Organizações, do Trabalho e dos Recursos Humanos na Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra. Figura incontornável nesta área, nacional e internacionalmente, o Prof. Doutor A. Duarte Gomes marcou definitivamente a sua história. Iniciou o seu percurso académico na Universidade de Coimbra como professor da licenciatura em Psicologia, sendo aí precursor no ensino da Psicologia do Trabalho e na criação do estágio que os estudantes finalistas passaram a poder realizar também nesta área. O seu espírito empreendedor e inovador conduziu-o à criação do ramo de Psicologia do Trabalho e das Organizações que esteve na origem da posterior especialização em Psicologia das Organizações e do Trabalho. A criação do curso de mestrado e do curso de doutoramento constituíram marcos importantes impulsionadores do ensino, da investigação e da intervenção nesta área, proporcionando oportunidades únicas de desenvolvimento e aprendizagem. A internacionalização da área fica inquestionavelmente marcada pelo seu contributo para a criação do mestrado europeu *Erasmus Mundus* em Psicologia do Trabalho, das Organizações e dos Recursos Humanos, hoje designado *Erasmus Mundus Joint Master Degree in Work, Organizational and Personnel Psychology*. A atual área de Psicologia das Organizações, do Trabalho e dos Recursos Humanos da Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra é um legado resultante do seu contributo único, singular e valioso que importa preservar, desenvolver e projetar, pois só assim as comunidades científica e profissional serão dele verdadeiramente merecedoras.

Por tudo quanto acaba de ser dito, compreende-se que este número da *Psychologica* integre um conjunto de artigos centrado, precisamente, na Psicologia do Trabalho, das Organizações e dos Recursos Humanos. Trata-se de três campos de estudo/ensino e intervenção relativos a diferentes aspetos da atividade humana no trabalho e que podem, portanto, distinguir-se tanto no que diz respeito aos aspetos científicos quanto aos profissionais. De facto, apesar de algumas sobreposições, é possível diferenciá-los, por um lado, em termos do objeto de estudo e dos métodos de investigação, e, por outro, quanto aos métodos de diagnóstico e intervenção. Embora possam identificar-se diferenças nas designações adotadas e na importância que lhes é atribuída em diferentes países europeus

e não europeus, é possível afirmar-se que se caminha para uma maior convergência, pelo menos no contexto europeu, sendo três elementos constituintes das áreas de ensino, investigação e intervenção dos psicólogos do trabalho, das organizações e dos recursos humanos.

A Psicologia do Trabalho transporta-nos para a forma como as pessoas lidam com as diferentes tarefas que, no quotidiano, fazem parte das suas atribuições enquanto colaboradores de uma dada organização. Neste âmbito, as pessoas são percecionadas como trabalhadores que, quer individual, quer coletivamente executam tarefas inseridas em processos de trabalho que viabilizam e sustentam o funcionamento organizacional. Questões relacionadas, por exemplo, com a análise do trabalho, o desempenho e o bem-estar são aqui enquadráveis. A Psicologia das Organizações remete para o comportamento coletivo dos indivíduos, sendo estes percecionados como membros de uma dada organização. É nesta qualidade (de membros), e a partir de questões dela emergentes (por exemplo, liderança, cultura e estrutura) que os indivíduos se configuram como alvo de estudo/ensino e intervenção. A relação de cada pessoa/das pessoas com a organização constitui o cerne das questões referentes à Psicologia dos Recursos Humanos. São aqui particularmente relevantes os momentos em que esta relação se estabelece, aqueles em que esta se desenvolve e aqueles em que, por fim, esta termina. As pessoas são aqui percecionadas como “funcionários” que desenvolvem um percurso laboral com princípio, meio e fim, e no âmbito do qual diferentes aspetos são suscitados pela relação que se vai estabelecendo entre o “funcionário” e a organização. São deste campo ilustrativos, entre outros, os processos de recrutamento, seleção e acolhimento, de gestão do desempenho e da carreira, de formação e desenvolvimento.

Este volume 62 da Revista *Psychologica* integra catorze artigos, reunindo contributos de 39 autores que representam 13 Instituições de Ensino Superior presentes em seis países (Portugal, Espanha, Itália, Alemanha, Países Baixos, Rússia e Brasil). Dez artigos estão redigidos em inglês, três em português e um em espanhol. Considerando a grelha de leitura adotada, os referidos contributos foram organizados em função da maior aproximação do seu conteúdo aos três campos anteriormente descritos. Assim sendo, sete artigos são integrados no âmbito da Psicologia do Trabalho, três na Psicologia das Organizações e um na Psicologia dos Recursos Humanos. Os demais três artigos, pelas suas características, não se enquadram em nenhuma destas categorias, mas constituem para todas elas contributos relevantes. Passamos, de seguida, a apresentar, sucintamente, o conteúdo dos catorze artigos.

No conjunto dos sete artigos cujo conteúdo é enquadrável na Psicologia do Trabalho, quatro centram-se no nível individual de análise, dois no nível grupal e um, centrando-se no nível organizacional, pode, inclusivamente, considerar-se na transição para a Psicologia das Organizações.

No primeiro artigo, os autores procuram identificar os fatores que aumentam ou reduzem os efeitos nefastos da atuação superficial (isto é, de fingir emoções) no bem-

-estar no trabalho, testando o papel moderador das crenças de bem-estar relativas à “contribuição para os outros”. Os dados foram recolhidos junto de 95 gestores de organizações para indivíduos com deficiência intelectual. O segundo artigo deste bloco não surge aos leitores na sequência do anterior, em virtude de estar redigido em espanhol e ter que ser apresentado numa outra secção deste volume (VÁRIA). Os seus autores procuram conhecer as mudanças sofridas pela motivação humana no trabalho, considerando os dias da semana e as horas ao longo de um dia de trabalho. Por recurso à técnica de diários, foram recolhidos seis registos junto de 70 trabalhadores durante 21 dias consecutivos num total de 6499 registos. O terceiro artigo foca os efeitos diferenciais da autonomia, variedade de capacidades, significado do trabalho, *feedback* do trabalho e processamento de informação sobre a satisfação laboral intrínseca e extrínseca, testando o papel moderador do capital psicológico (*PsyCap*) nessas relações. Os dados foram recolhidos numa amostra de 1647 trabalhadores. No quarto artigo são analisados os pontos fortes e fracos dos principais tipos de intervenções para lidar com stressores associados ao voo espacial humano (ergonómico, fisiológico, psicológico e psicossocial). Os autores apresentam ainda o desenho de uma intervenção psicossocial sustentada em intervenções baseadas em evidências desenvolvidas em diversos domínios da investigação psicológica. No quinto artigo, centrado no nível grupal, os autores estudam equipas com algum grau de virtualidade, procurando compreender a relação entre a confiança e a inovação grupal, considerando o papel mediador do comprometimento afetivo com a equipa. Os dados foram recolhidos junto de 57 equipas de trabalho de organizações pertencentes a diversos setores de atividade. Igualmente focado no nível grupal, o sexto artigo centra-se no estudo da influência da diferenciação de LMX (o quanto a qualidade das relações líder-membro dentro de uma unidade de trabalho varia) no comprometimento com a unidade de trabalho, considerando o clima de apoio como variável mediadora. Os dados foram recolhidos numa amostra composta por 30 unidades de saúde. O sétimo e último artigo deste bloco é por nós associado à Psicologia do Trabalho, sendo, no entanto, suscetível de se considerar na transição para os aqui indicados no âmbito da Psicologia das Organizações. Foca as relações entre o estilo de liderança transformacional e a adoção das sugestões dos funcionários, considerando como variáveis moderadoras a iniciativa pessoal e o controlo do trabalho. Os dados foram recolhidos numa amostra de 137 enfermeiros, médicos, colaboradores auxiliares e técnicos de um hospital público.

Apresentam-se de seguida os três artigos que integramos no conjunto daqueles cujo conteúdo se aproxima da Psicologia das Organizações. O primeiro relaciona-se com a aplicação, em Itália, da lei nº 107, denominada *La Buona Scuola*. Esta lei tem por objetivo promover a qualidade dos processos organizacionais nas escolas, sendo um dos mais inovadores a introdução de um procedimento de avaliação de desempenho para os quase sete mil diretores de escolas públicas italianas, do ensino primário ao universitário.

É, concretamente, sobre o referido procedimento de avaliação de desempenho que este artigo se centra, descrevendo e discutindo o programa de formação dos avaliadores, o desenho da investigação e apresentando alguns resultados preliminares. O segundo artigo, de natureza psicométrica, é um estudo de validação do *Learning Transfer System Inventory – LTSI*, com o objetivo de este poder ser utilizado por responsáveis de formação e desenvolvimento no Brasil. A amostra de validação é constituída por 898 membros de sete organizações. Igualmente de natureza psicométrica, o terceiro artigo deste bloco tem por objetivo analisar as propriedades psicométricas da versão Filipina (N = 308) e Alemã (N = 200) da versão reduzida da “Auditoria do Sistema Humano – Liderança Transformacional” (HSA-TFL versão reduzida) e identificar em que extensão os perfis de liderança transformacional são similares ou diferentes em ambos os países.

Um único artigo foi por nós considerado como enquadrando-se no âmbito da Psicologia dos Recursos Humanos. Trata-se de um estudo que analisa a interação entre fatores individuais e grupais no desenvolvimento de *i-deals* (acordos idiossincráticos) relacionados com as práticas de recursos humanos. As autoras consideram, especificamente, o papel do Capital Psicológico (*PsyCap*) e do Clima de Justiça (JC) no seu desenvolvimento. Os dados foram recolhidos junto de 520 funcionários que trabalham em 83 unidades de trabalho.

Por fim, damos conta dos três artigos que, pelas suas características, se distinguem dos demais. Os dois primeiros, um sobre empreendedorismo e outro sobre trabalho digno, relacionam dimensões relevantes para a abordagem da Psicologia do Trabalho, das Organizações e dos Recursos Humanos com um contexto social mais amplo. O terceiro, inserido na VÁRIA, possui características muito particulares e fecha de um modo muito singular o conjunto dos catorze artigos que temos vindo a apresentar. Mais concretamente, o primeiro analisa em que medida a presença de empresários numa família influencia o potencial e as motivações empreendedoras dos seus descendentes. Os dados foram recolhidos numa amostra de 966 estudantes do Ensino Superior. O segundo, de natureza conceptual, centra-se no conceito de trabalho digno, procurando analisar e discutir a conjugação entre os valores universais subjacentes ao trabalho digno e a complexidade cultural das sociedades atuais. Considerando esta discussão, o autor apresenta diversas propostas relativas à intervenção para a promoção do trabalho digno. O terceiro e último artigo, de natureza bibliométrica, analisa o conjunto de contribuições de A. Duarte Gomes publicado na revista *Psychologica* entre 1991 e 2016. Centra-se, especificamente, nos seus co-autores, no impacto das suas publicações noutros investigadores e nos tópicos alvo do seu interesse.

Iniciámos este editorial afirmando que este número da *Psychologica* é especial. Porque assim é, terminá-lo-emos, também, de uma forma especial, apresentando, seguidamente, aquela que foi a “Última Lição” do Prof. Doutor A. Duarte Gomes.

# Psicologia das Organizações, do Trabalho e dos Recursos Humanos: o sentido dum percurso para um trabalho com sentido<sup>1</sup>

A. Duarte Gomes<sup>2</sup>

## INTRODUÇÃO

Convidado a proferir a minha última lição, considero ser meu dever começar por agradecer. Neste agradecimento quero incluir todos aqueles que me precederam no uso da palavra, quem organizou esta cerimónia, os meus familiares e amigos, a minha equipa, os meus colegas e alunos, todos os presentes, assim como os colegas que do estrangeiro quiseram associar-se a esta sessão enviando-me mensagens que muito aprecio. À Universidade que me acolheu e me proporcionou uma vida académica plena de sentido, como não estar grato e reconhecido? As oportunidades que me deu de conhecer e de conviver com “mestres” e colegas, portugueses e estrangeiros, que foram para mim um estímulo e uma fonte de inspiração, assim como os momentos felizes que me permitiu ter junto de tantos alunos que ao longo dos anos fui encontrando nas minhas aulas, são inesquecíveis e merecem o meu reconhecimento. O mesmo direi do facto de ter podido trabalhar com entusiasmo em algo de que gosto, de ter tido a oportunidade de construir algo de raiz e de, com o apoio e o empenho duma equipa que não esqueço, ter dado vida a um projeto que se traduziu na criação e desenvolvimento da área da Psicologia das Organizações, do Trabalho e dos Recursos Humanos.

É costume dizer-se que na vida há três momentos marcantes: nascer, crescer e morrer. Julgo que a estes podemos acrescentar mais um: envelhecer. Trata-se de um facto iniludível, já que até hoje não foi inventada uma forma de vida que não implique envelhecer. É aqui que eu estou. E porque é assim, o meu carro engana-se muitas vezes no caminho e faz o que estava habituado a fazer: segue para a Faculdade. E assim constato que não é fácil desligar e, dando-me conta disso, sinto necessidade

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1 Última lição. Apresentada na sessão de homenagem de 18 de maio de 2018.

2 Professor Jubilado da Universidade de Coimbra.

de dizer para mim mesmo o que já sei mas preciso de repetir para me convencer: acabou. Sim, é verdade que tenho muito que fazer, mas o caminho é outro.

Também na vida profissional podemos considerar que há três momentos: o início, o meio e o fim. E então surge a pergunta: o que dizer no final? Invertendo o tradicional papel do professor, quero falar do que aprendi e dar um sentido ao que fiz. Recorrendo à minha memória episódica, consigo recordar alguns dos momentos mais marcantes do que foi a minha aprendizagem; consigo identificar com quem aprendi, como e quando aprendi. Hoje, é minha intenção partilhar o que de mais relevante aprendi fazendo e o que aprendi vivendo. Neste contexto, pergunto-me: o que fica depois de tudo ter esquecido? E do que fica, o que pode e vale a pena ser dito em público?

Ocorreu-me destacar algumas das contribuições que considero mais relevantes ou deter-me sobre a importância do conhecimento científico e sobre os processos através dos quais o mesmo é gerado e gerido. Pensei ainda em abordar o que, para além do conhecimento de natureza explicativa, requer ou implica um modelo de intervenção que se pretenda eficaz. Acabei por optar por uma outra via que me parece fazer mais sentido ao finalizar um percurso académico. Assim, mais do que a investigação, a explicação ou a intervenção, irei salientar a compreensão. Quero deste modo dizer que darei maior atenção ao que considero importante para compreender e tornar inteligível a realidade organizacional. Nesse sentido, farei uma breve reflexão pessoal sobre o momento atual (a dita crise) à luz do que investiguei, do que ensinei e do que aprendi. E, ao fazê-lo, aproveitarei para relembrar, nesta última aula, o que todos os anos dizia aos meus estudantes na primeira aula. Hoje não são apenas estudantes aqueles a quem me dirijo; também o público aqui presente não é apenas constituído por investigadores; dirijo-me a uma audiência em que, para além destes, estão presentes outros interessados. Por isso, a linguagem que adotarei não será a que usaria numa publicação dedicada à investigação científica. O conteúdo e a forma procuram adaptar-se ao público mais vasto aqui presente e no meio do qual estão representadas as várias “partes interessadas” (*stakeholders*) na vida desta organização que é a Universidade. Poder dirigir-me a estes vários “interessados” e, sem renunciar aos critérios de rigor e de relevância que devem estar presentes em toda a atividade científica, tê-los em conta no que digo, é motivo de regozijo. É também uma forma de contribuir para reduzir o fosso que separa a “vida académica” da “vida profissional” – necessidade tantas vezes, e por tantos, assinalada (Gomes, 2011).

Quero falar do que aprendi, como disse. Para isso, tenho que começar por aquilo que foi a minha aprendizagem informal. Ou seja, tudo o que desde cedo aprendi, mesmo sem me dar conta, como o valor e o sentido do trabalho. Foi junto dos meus pais e dos meus avós (paternos e maternos) que pude observar e absorver

o que isso significava. E se há princípios e valores, comportamentos e atitudes, que marcam e dão sentido à vida, é facilitador poder dispor de exemplos do que possa ser a coragem, a luta pela vida, o enfrentar adversidades, a integridade, o gosto pelo trabalho e a energia posta a trabalhar. Tudo isto foi há muito tempo e foi aprendizagem informal.

No plano da aprendizagem formal, quero igualmente salientar de forma breve alguns aspetos mais marcantes. Ao longo do meu percurso escolar, foi-me dada a oportunidade de conhecer alguns professores admiráveis. Foram para mim um estímulo e uma fonte de inspiração. Recordá-los a todos e explicar as razões que me levam a sustentar a afirmação que faço implicaria uma descrição demasiado longa para este momento. Direi apenas que a dedicação ao conhecimento e o prazer de ensinar que vi e senti nesses mestres suscitaram o espanto e a admiração do jovem estudante que eu era. E assim aprendi a ter gosto em aprender e descobri o prazer e a alegria que deriva do facto de ser capaz de compreender e de explicar.

Quero ainda realçar o facto de ter podido estudar num ambiente internacional e de aí aprender a lidar com diferentes culturas, nacionais e organizacionais. Conviver com a diversidade e estar aberto ao mundo foi uma vivência que, embora nem sempre tivesse sido fácil, foi importante para a minha formação. Tal contribuiu para que, num momento posterior, em que ocorreu um movimento de convergência a nível europeu, assim como um crescente intercâmbio a nível mundial, eu pudesse encarar essa nova realidade sem temor e me sentisse capaz de enfrentar novos desafios. No mesmo sentido, as oportunidades que a universidade me proporcionou de conviver e de trabalhar com diversos outros colegas que se dedicavam com entusiasmo à investigação científica constituíram momentos de crescimento e de aprendizagem. Primeiro, o trabalho em conjunto com colegas da mesma universidade e de outras universidades portuguesas, depois, os projetos levados a cabo com colegas de outras universidades europeias, o que implicou uma nova aprendizagem. Colaborar com diferentes universidades de diferentes países representa uma experiência exigente mas também estimulante e enriquecedora. Participar em concursos internacionais e inovar, saber competir e também saber cooperar, ousar algo novo e desconhecido (fazer o que nunca fiz e que ninguém me ensinou a fazer), se, por um lado, é um exercício exigente que implica cumprir prazos e atingir objetivos, assim como obriga a ser perspicaz e a aprender rápido, por outro, o facto de haver um trabalho conjunto permite relacionar e comparar, ver como os outros fazem e com isso aprender. E este poderá ser o momento propício para se deixar surpreender, como ocorre quando nos damos conta de que, em certos aspetos, somos mesmo muito bons, de que o que fazemos é melhor do que imaginávamos; e, ao mesmo tempo, poder aprender com os outros no que eles fazem melhor que nós. Em suma, deixar-se surpreender é fazer sentido e aprender, na medida em que só o que choca ou

surpreende, o que causa espanto, é que obriga a parar e reparar, a refletir e tentar entender, a fazer sentido e aprender.

Se tento recordar o que de mais significativo aprendi e dar um sentido ao que fiz, isso leva-me a relembrar a surpresa do meu primeiro encontro com a Universidade de Coimbra. O então Presidente da Comissão Instaladora do Curso Superior de Psicologia acolheu-me calorosamente, apresentou-me o curso e, entre outras coisas, disse-me o seguinte: “rapaz, não percebo nada disso; encarrega-te dessa área”. Eram muitas as surpresas ao mesmo tempo. A linguagem utilizada mostrava-me que a cultura da organização em que eu estava a entrar era diferente daquela a que eu estava habituado. Teria de aprender. E fui aprendendo. Naquele instante, também me dei conta do imenso desafio que estava perante mim. Só o tamanho do meu entusiasmo era equivalente.

O percurso universitário então iniciado levar-me-ia, primeiro, a tomar parte ativa numa cadeira e no estágio da licenciatura em Psicologia, depois, na criação do ramo de Psicologia do Trabalho e das Organizações e sua posterior transformação na área de especialização em Psicologia das Organizações e do Trabalho. A criação do curso de mestrado em Psicologia das Organizações e do Trabalho e do curso de doutoramento na mesma área constituíram uma nova etapa do percurso que foi sendo desenvolvido. De seguida, o mestrado europeu *Erasmus Mundus* WOP-P representou um passo muito significativo na internacionalização e desenvolvimento da área. E, por fim, a área de Psicologia das Organizações, do Trabalho e dos Recursos Humanos adquiriu o formato que atualmente faz parte do mestrado integrado.

Se me permito relatar tudo isto – e muito fica por dizer – é para me despedir dizendo que considero que está cumprida a missão que me foi atribuída. Foi uma honra ter feito parte desta aventura e, por isso, sinto-me grato e reconhecido.

## **PSICOLOGIA DAS ORGANIZAÇÕES, DO TRABALHO E DOS RECURSOS HUMANOS: QUE CONTRIBUTOS E QUE RELEVÂNCIA PARA O MOMENTO ATUAL?**

À luz do que aprendi e ensinei em Psicologia das Organizações, do Trabalho e dos Recursos Humanos, fará sentido uma reflexão sobre o momento atual? Poderá esta área do conhecimento acrescentar valor ao que é mais conhecido e divulgado? Começarei por formular algumas interrogações para, de seguida, esboçar algumas respostas e partilhar a minha reflexão sobre o tema.

Perante a crise que vivemos nos últimos anos, o que dizemos, o que ouvimos dizer? No espaço público o que tem tido mais eco e mais audiência? Mas como começou a dita crise? Com bancos, com organizações. Porque será que no espaço público se privilegiam as explicações a nível individual e a nível societal? Porque se obscurece o nível organizacional? Valerá a pena pensar no comportamento organizacional? Será que acrescenta valor ao que estamos habituados a ouvir?

A referida crise começou com decisões tomadas por organizações bancárias – os ditos produtos tóxicos, cujas consequências se foram estendendo e que atingiram vários países. Quem geria esses bancos não eram os governos. Quem mais sentiu os efeitos dessa crise? Os líderes dessas organizações? Quem suportou os custos da crise?

O discurso que prevaleceu impôs o castigo coletivo e a culpabilização individual. A culpa é das pessoas, genericamente consideradas. Por isso é preciso é cortar. Este discurso basicamente afirma ou subentende que as pessoas, ou seja, as pessoas sem quaisquer outras considerações, são responsáveis pela crise. E sendo culpadas, devem ser punidas. Tudo aconteceu porque as pessoas se endividaram, os estados se endividaram, porque as pessoas não trabalham ou não querem trabalhar, porque querem viver acima das suas possibilidades, etc. Esta lógica foi ao ponto de alguém responsável pelo Eurogrupo se permitir utilizar uma linguagem ofensiva, preconceituosa e sexista, recheada de alusões a “copos e mulheres”, e que foi dirigida aos países do sul. Esta forma de pensar e tratar as pessoas não é nova. As pessoas são assim porque a natureza humana é mesmo assim, as pessoas por natureza não gostam de trabalhar, são indolentes, são preguiçosas, só trabalham se controladas e só trabalharão mais se o que ganham depender do que produzem. Esta forma de pensar o trabalho tem uma longa tradição – já Taylor pensava assim.

A culpa não é dos erros ou falhas das organizações, não é da falta de visão de gestores, não é da estratégia formulada e implementada, não é dos objetivos definidos ou mal definidos, não é dos resultados não atingidos nem dos processos utilizados para os atingir, não é das estruturas que deixaram de ser pensadas ou que não foram redesenhadas, não é da forma como as tarefas foram concebidas e estão organizadas, não é das práticas e valores em vigor, não é do sistema que incentiva certos comportamentos, não é do sentido atribuído ao trabalho e sem o qual uma comunidade não subsiste, também não é das lideranças tóxicas que povoam as organizações ou as despovoam. Não, tudo o que acaba de ser dito não é responsável pela crise. A culpa ou a responsabilidade é das pessoas, coletiva ou individualmente consideradas. E sendo assim, são as pessoas que têm que mudar. Melhor, têm que ser mudadas. Quer queiram quer não, só lhes resta uma opção e por isso vão ter que mudar; não há alternativa.

Do que fica dito torna-se evidente que é mais fácil lembrarmo-nos do que costumam fazer os políticos a nível da sociedade ou do país, assim como do que cada um sofre a nível individual. Importa, no entanto, pensar no que é feito a outros níveis e por outros atores. Sabemos que as leis que são promulgadas ao nível dum país são importantes e que influenciam múltiplos domínios de ação. Porém, as leis que mudam não bastam para que uma dada cultura seja mudada, como o demonstra a polémica recente relativa à violência contra as mulheres e a persistência do assédio sexual. A campanha *MeToo* e as suas repercussões na imprensa internacional evidenciam o que aqui pretendo sublinhar: não basta mudar a lei para que mude o modelo cultural em vigor numa dada sociedade.

E também não basta ficar por uma explicação que enfatiza responsabilidades coletivas e individuais, genericamente consideradas e que ignora diferenças significativas nos graus de responsabilidade. A sua expressão a diferentes níveis merece alguma atenção. Pensar em diferentes níveis de análise e de intervenção poderá ser relevante para entender que não basta mudar a um determinado nível para que o mesmo ocorra a outros níveis. Os mesmos estão relacionados, mas são distintos; obedecem a lógicas distintas, são avaliados por critérios distintos, o seu impacto é facilmente distinguível e o seu significado também.

Para além do nível individual e do societal, vale a pena pensar nas respostas que são dadas a nível organizacional. Menos faladas, não deixam de ser igualmente importantes. Também elas contam – e muito. Pensemos e falemos delas por um momento, já que vivemos numa sociedade de organizações. Com efeito, para a maior parte de nós, é numa organização que nascemos (maternidade), é numa organização que crescemos e aprendemos (escola), é numa organização que trabalhamos e somos empregados (empresa pública ou privada e organizações de outro tipo), será ainda uma organização que irá ocupar-se dos nossos tempos livres e férias (agência de viagens, hotel, ...), e, por fim, será uma organização que, no final da vida, se encarregará de nos conduzir à última morada (agência funerária).

Nestas organizações – diferentemente do que ocorre com a nossa vida a nível individual ou a nível coletivo – as decisões que aí são tomadas não é o governo que as toma. Também não se trata de uma soma de decisões individuais. Dar apenas atenção ao que se passa a nível governamental ou a nível individual é deixar de fora muita coisa – e coisas importantes.

Mas porquê organizações? Perguntavam-me muitas vezes assim os meus alunos na primeira aula. Há organizações porque ninguém consegue fazer tudo sozinho – e menos ainda fazer tudo bem. As leis e as entidades de regulação condicionam ou constroem a ação das organizações, mas não são os governos que gerem as organizações. No seio de um mesmo país e obedecendo às mesmas leis há organizações e organizações. Por isso, podemos observar que umas são eficazes e outras ineficazes;

algumas prosperam e inovam, outras estagnam e dissolvem-se; enquanto algumas são viáveis, outras tornam-se inviáveis; umas são mais amigas do ambiente do que outras e, para o ponto de vista que aqui e agora pretendo salientar, há algumas organizações que são vivíveis, que são habitáveis, que são respiráveis, pois nelas podemos encontrar pessoas, e pessoas que sabem lidar com pessoas.

Por contraste, sabemos que também as há onde tudo parece sugerir que todos seriam mais felizes se aí não tivessem que lidar com pessoas – como se a organização ideal e eficaz fosse aquela que, despovoada de pessoas e de problemas, de conflitos e de incertezas, de símbolos e de regras, fosse um espaço vazio ou um espaço apenas povoado por robôs.

As questões de natureza financeira e tecnológica são importantes e não podem deixar de ser tidas em conta. Contudo, a importância que lhes atribui o discurso dominante tende a ofuscar todas as demais questões. Daí a necessidade de voltar ao ponto inicial e que pretendo aqui salientar. Segundo o último estudo do Fórum Económico Mundial (WEF), Portugal ocupa uma posição desvantajosa no que toca ao aproveitamento e desenvolvimento do capital humano. Dos 130 países analisados, o nosso país ocupa uma das últimas posições entre os países europeus, ainda que à frente de Espanha e Grécia. O documento mostra que a produtividade por trabalhador deixa muito a desejar. Nesse estudo são enumeradas vários fatores que contribuem para que o resultado seja o observado, como sejam: participação dos trabalhadores, taxa de desemprego, deficiências ou insuficiências do sistema educativo, taxa de emprego qualificado, etc. Qualquer um destes fatores influencia a situação, mas um outro sobressai como particularmente relevante e dele é pouco frequente falar-se em público. Trata-se da falta de investimento das organizações em capital humano.

Do meu ponto de vista, o fator humano não tem recebido a atenção que merece. Em Portugal, se é verdade que hoje se fala mais do que há 20, 30 ou 40 anos da gestão de pessoas ou do papel e da relevância dos recursos humanos nas organizações, continua a ser muito pouco o que se faz, quando nos comparamos com o que sucede noutros países europeus, sobretudo naqueles que nos são mais próximos e dos quais nos queremos aproximar.

Faz parte da maior parte dos diagnósticos que são formulados em público afirmar que as empresas portuguesas são pouco eficazes face a padrões internacionais e que a maior parte das nossas exportações são de baixo valor acrescentado. Também não surpreende se a seguir surgir alguém a afirmar que se espera que o governo altere a situação e que resolva o problema. E, no entanto, mais uma vez, importa fazer notar que o governo não gere as empresas; que é importante e urgente melhorar a gestão das empresas incorporando o conhecimento científico disponível e investindo no capital humano. Alguns acrescentarão que melhorar a

gestão das empresas passa inevitavelmente por mudar a mentalidade. Talvez seja mais adequado falar em mudar a cultura e saber gerir a cultura (Gomes, 2000).

Dar importância ao fator humano, saber lidar com pessoas – e não apenas com números e coisas – também faz parte da mudança a operar e da cultura a criar. Em tempo de crise é decisivo saber envolver os colaboradores, prestar atenção às pessoas. Quando não resta outra opção senão reduzir custos, quando não há dinheiro, quando é preciso poupar, como na situação de crise vivida, há algo que mesmo assim pode ser feito e que pode ser dito. Uma forma simples de o dizer pode traduzir-se nos seguintes termos: se tem que poupar, não poupe nas palavras – estas não custam dinheiro.

O que aqui pretendo sublinhar é a importância de saber reconhecer. O reconhecimento não substitui a remuneração nem evita a insatisfação com a remuneração. Mas em tempos de crise e de desânimo, perante um clima de recriminações e de “culpabilizações”, não tem preço o saber reconhecer, o saber manifestar apreço por quem faz bem – reconhecer e enaltecer o que é digno de apreço.

É nesse sentido que vale a pena afirmar e reafirmar o seguinte, sobretudo porque não é habitual na nossa cultura: não seja poupado nas palavras; não se canse de reconhecer. De facto, há pessoas simples que fazem coisas maravilhosas e que por isso são dignas de apreço. Assim, perante um trabalho bem feito, reconheça a pessoa que o fez; se for o caso e se corresponder ao que pensa e sente, não hesite em dizer algo tão simples como isto: gostei, está bem, está ótimo, está excelente, assim vamos lá, vamos conseguir... Se insisto neste ponto e nestes termos, é por saber que a nossa cultura nos habituou a não fazer isto ou a fazer o contrário. E é por isso que é preciso insistir e repetir. A cultura que é a nossa tende a não incentivar o comportamento positivo (a realçar o que em nós e nos outros é positivo), sabendo nós pela investigação científica que vem sendo realizada que os efeitos de tal comportamento são significativos e benéficos.

Perante algo bem feito e digno de apreço, a reação mais frequente e espontânea será nada dizer; poderá até manifestar-se nestes termos: “pois... e não fizeste mais do que a tua obrigação!” De tal modo está entranhado este hábito na nossa cultura que será preciso tempo e insistência para que tal possa ser alterado. Recompensar o comportamento desejável, distinguir entre quem faz bem e quem não faz ou faz mal, enaltecer o mérito, reconhecer a contribuição individual e de grupo para o desempenho global da organização faz diferença e muita diferença.

Falar do fator humano, de recursos humanos ou da gestão de pessoas e da sua importância implica, entre outras coisas, deixar de conceber as organizações como uma soma de indivíduos ou uma coleção de pessoas. E deixar de pensar apenas no comportamento a título individual. Importa saber pensar como se articulam pessoas e estruturas, processos e resultados para que o termo organização comece

a fazer algum sentido. Uma organização em si mesma não pensa, não sente, não decide; alguém o faz por ela ou em nome dela. Noutros termos, a organização pensa, sente, decide, agradece, reconhece, estimula..., na pessoa de A, B ou C. Isto é, na pessoa de quem dirige e está no topo, mas também na pessoa do técnico, do operador, do colaborador A, B ou C.

Não é a forma como A, B ou C trata dos seus assuntos pessoais ou da sua vida privada que aqui está em causa, mas a forma como também trata dos assuntos da organização, ou seja, do seu trabalho, das suas tarefas, e também do significado que atribui àquilo que está a fazer. O que cada um faz na organização é relevante, mas igualmente o que cada um faz da organização, ou seja, o que faz para que ela permaneça viva e atuante, para que seja viável e sustentável. É mediante a atuação destes atores que a organização deixa de ser uma realidade potencial para passar a ser uma realidade viva e operante, capaz de sobreviver e de assegurar a sua viabilidade. E assim sendo, passa a ser também uma realidade significativa para os seus membros, com impacto nas suas vidas e na vida da sociedade. Esse impacto tem sentido quando o eco-sistema que a organização é se transforma num espaço habitável e saudável, num ambiente interno onde se comunica e onde há reconhecimento, num clima onde dá gosto trabalhar e conviver, numa cultura estimulante onde se partilham saberes e se respira futuro, e onde a liderança se afirma por uma visão estratégica que seja atrativa e capaz de transformar o quotidiano numa experiência positiva e significativa.

Se a organização está presente no comportamento de quem trabalha, é legítima a expectativa de que da parte dessa mesma organização haja inteligência para retribuir através do comportamento que adota para quem nela trabalha e que, ao retribuir, o faça com justiça. Por outras palavras, quem cuida da vida da organização legitimamente espera em troca que a vida na organização tenha sentido e valha a pena. É neste contexto que faz sentido articular comportamento individual e comportamento organizacional e, sabendo distinguir e relacionar, tornar mais facilmente inteligível a razão pela qual hoje em dia certas questões são relevantes, como sejam: qualidade de vida no trabalho, conciliação entre vida profissional e vida pessoal (*work life balance*), trabalho digno, sentido ou significado do trabalho.

Poder sentir-se realizado através daquilo que se faz é uma fonte de motivação, uma fonte de energia. Compatibilizar realização profissional com realização pessoal, assim como ter tempo para si próprio e para a família, também o é. E ter um trabalho que representa um desafio e uma oportunidade de pôr em jogo as suas competências e conhecimentos, poder desenvolver essas competências, dispor de autonomia, são condições que, a par de outras, contribuem para aumentar a motivação, como salientam Hackman e Oldham no modelo que apresentam: *Job Characteristics Model*. A questão aqui abordada corresponde à tentativa de dar uma

resposta à seguinte pergunta: o que é um trabalho que motiva? E esta pergunta é diferente duma outra mais frequente: o que motiva as pessoas? (Gomes, 2011)

A remuneração é básica para manter as pessoas satisfeitas e sem ela surgirá a insatisfação. Porém, estar motivado não é o mesmo que estar satisfeito. Aliás, é possível que alguém possa estar satisfeito e nada motivado para trabalhar; pode até estar satisfeito porque, precisamente, não tem nada que fazer. E isto porque os fatores que estão na origem da satisfação e da motivação são de natureza distinta, como sustenta a teoria *bifactorial* de Herzberg (Gomes, 2011).

Numa linguagem simples que se pretende clarificadora: satisfação ou insatisfação tem que ver com a decisão de ficar ou sair; motivação tem que ver com produzir. Assim, quem está satisfeito permanece; quem está motivado produz; quem está insatisfeito sai ou procura alternativas. O contraste aqui assinalado pode ser ilustrado recorrendo a uma analogia: se alguém “me pisa os calos”, queixo-me, fico insatisfeito e sinto dor, mas não é pelo facto de alguém deixar de me pisar que eu fico satisfeito; posso ficar aliviado, mas não satisfeito ou contente; a ausência de dor não equivale a prazer.

O estado de realização pessoal e profissional, a sensação de bem-estar ou o entusiasmo colocado na realização de uma dada tarefa remetem para outro tipo de fatores. Não me alongarei sobre o tema, mas, do ponto de vista explicativo, considero que assim ganhamos em clareza e que ter esta em conta poderá ser vantajoso em termos de diagnóstico e em termos da eficácia das soluções propostas.

Em jeito de conclusão, diria que limitar-se a culpar as pessoas de forma indiscriminada e fazê-las pagar pela crise em que estamos parece corresponder a um pensamento preguiçoso ou pouco esforçado, a um olhar bastante enviesado que origina um diagnóstico pouco lúcido e que conduz a soluções insatisfatórias.

Para terminar, recorrerei a uma linguagem que se afasta um pouco do que é habitual usarmos numa publicação científica. Faço-o para enfatizar o significado do trabalho. Para facilitar o entendimento do que pretendo aqui salientar, pensemos por momentos no trabalho de construção do edifício desta Faculdade e fixemo-nos sobre o que é o trabalho dum pedreiro ou dum carpinteiro. Para não me alongar, pensemos nos claustros – de que eu gosto – e nos corredores do primeiro andar. Vale a pena reparar no teto desses corredores e no trabalho que está feito em madeira. Eu gosto muito desse trabalho e desse teto. É um trabalho digno de apreço. Há um saber-fazer milenar que foi aplicado pelo carpinteiro para levar a cabo o trabalho que realizou. A estrutura em madeira e as suas junções tiveram que ser pensadas, a disposição das traves e vigas de madeira obedeceu a um projeto e implicou cálculos e medições. A fita métrica, o esquadro, a régua, o nível, e outras ferramentas de que se serviu, permitiram-lhe ir avançando no seu trabalho. Também a serra e o serrote, a plaina, a grossa e o formão lhe foram úteis para trabalhar com ripas e barrotes, assim como com tábuas de diferentes formas e tamanhos.

Depois de assentar a madeira e de montar a estrutura, dedicou-se aos acabamentos e, por um momento, parou para descansar. Sentindo que estava a chegar ao fim, o carpinteiro olhou para o que fez e gostou. Era um trabalho bem feito e era belo o seu efeito. Teve momentos difíceis, nem sempre foi agradável, mas o seu trabalho tinha sentido. Para ele, tinha. Para muitos outros também – pensava ele. E, para a comunidade a que pertencia, ele não tinha dúvidas de que o seu trabalho valia a pena. O seu trabalho tinha sentido; não se resumia a serrar madeira; a pregar, aparafusar ou a colar; era uma parte dum belo edifício. Este edifício, assim como uma casa ou um templo, serve alguém e serve para alguma coisa; e pode ser apreciado pela sua beleza. O velho carpinteiro, ao fazer o que fez, sentia-se como se fosse o herdeiro de alguma coisa, como se ali pudesse prolongar algo que vinha de longe. De facto, naquilo que fez e na forma como foi fazendo, havia um vasto conhecimento que ao longo do tempo foi sendo incorporado na sua profissão. As ferramentas de hoje permitem, por exemplo, serrar ou plainar de forma mais rápida, porque são elétricas; o nível e a régua não empenam, são mais precisos e mais leves, porque são feitos de novos materiais, da mesma forma que as vigas em madeira laminada permitem sustentar outras cargas. Mas, se os materiais e as ferramentas de hoje são outros, os gestos são os mesmos e o saber-fazer é o que vem de longe e permanece. Sentir que o que tinha feito se apoiava e prolongava o que existia não o impedia de tomar consciência de que o seu gesto era “irrepetível”. Ele sabia disso; sabia distinguir o que ali estava e ficava do que antes não existia. A obra feita era isso mesmo. Era um trabalho com sentido, era bonito e valia a pena. Mas o sentido em que agora pensava não estava inscrito no teto; era aquele que, nos passos que ia dando no corredor, ia atribuindo ao que tinha feito no teto. Dando-se conta de que este era um processo contínuo e para sempre inacabado – que outros retomariam para lhe acrescentar novos sentidos e novos passos –, olhou para trás e para cima e, como se quisesse despedir-se do seu trabalho, disse e repetiu para si próprio uma frase que bem conhecia: o que faz sentido não está feito, faz-se (Gomes, Cardoso, & Carvalho, 2000).

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# Linking managers' surface acting to their burnout and engagement: The moderating role of eudaimonic wellbeing beliefs<sup>1</sup>

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## Abstract

Managers display emotional labor in their interactions with workers, including surface acting (faking emotions). One critical challenge of research is to identify the factors that increase or reduce the negative effects of surface acting on wellbeing at work. "Contribution-to-others" wellbeing beliefs (COWBs) could play a moderating role. COWBs refer to an eudaimonic belief that reflects the degree to which individuals think their own well-being is based on helping others. To test the moderating role of COWBs, we measured the two central dimensions of burnout and engagement: exhaustion and vigor. Two competing hypotheses were considered. First, based on cognitive dissonance theory, COWBs accentuate the negative relationship between surface acting and well-being because individuals are forced to act in a way (surface acting) that is contrary to their beliefs. Second, based on the Job Demands-Resources model, COWBs are a personal resource that protects against the negative effects of surface acting. A total of 95 managers in organizations for individuals with intellectual disability participated in the study. Results supported COWBs as a positive resource, but only for vigor. COWBs

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mitigated the negative link from surface acting to vigor. By contrast, COWBs did not play a significant moderating role in the prediction of exhaustion.

**Keywords:** surface acting; “Contribution-to-others” wellbeing beliefs; burnout; engagement; managers

### **Associando a atuação superficial dos gestores ao seu *burnout* e *engagement*: O papel moderador das crenças de bem-estar eudaimônicas**

#### **Resumo**

Os gestores expressam o trabalho emocional nas suas interações com os trabalhadores, incluindo a atuação superficial (fingir emoções). Um desafio crítico da investigação é identificar os fatores que aumentam ou reduzem os efeitos negativos da atuação superficial no bem-estar no trabalho. Crenças de bem-estar “contribuição para os outros” (COWBs) poderiam a este nível desempenhar um papel moderador. As COWBs referem-se a uma crença eudaimónica que reflete o grau em que os indivíduos pensam que o seu próprio bem-estar se baseia em ajudar os outros. Para testar o papel moderador das COWBs, medimos as duas dimensões centrais de *burnout* e *engagement*: esgotamento e vigor. Duas hipóteses concorrentes foram consideradas. Primeiro, a partir da teoria da dissonância cognitiva, as COWBs acentuam a relação negativa entre a atuação superficial e o bem-estar, porque os indivíduos são forçados a agir de uma maneira (atuação superficial) que é contrária às suas crenças. Em segundo lugar, com base na teoria de recursos de exigências de trabalho, as COWBs são um recurso pessoal que protege contra os efeitos negativos da atuação superficial. Um total de 95 gestores de organizações para indivíduos com deficiência intelectual participaram do estudo. Os resultados apoiaram as COWBs como um recurso positivo, mas apenas para o vigor. As COWBs mitigaram a relação negativa entre atuação superficial e vigor. Por contraste, as COWBs não apresentam um papel moderador significativo na predição do esgotamento.

**Palavras-chave:** atuação superficial; crenças de bem-estar “contribuição para os outros”; burnout; engagement; gestores

## **INTRODUCTION**

Service interactions force workers to face highly complex demands, not only cognitive but also emotional, which may seriously affect their wellbeing (Hochschild, 1983).

Emotional demands are increasingly addressed in the literature. In fact, scholars and practitioners refer to *emotional labor* as the management of feelings to create a publicly observable and desirable emotional display as part of the job role (Hochschild, 1983).

Hochschild (1983) described two main strategies for performing emotional labor: *deep acting*, which entails trying to feel and experience the required emotions by purposely engaging in thoughts and activities that help to foster these emotions; and *surface acting*, which consists of modifying one's expression without changing the inner feeling, just "putting on a mask" (Humphrey, Ashforth, & Diefendorff, 2015). Recent meta-analyses have shown that, depending on the strategy workers use to regulate their emotions during the service, deep or surface, the consequences for service performance and health will be different (Hülshager & Schewe, 2011; Mesmer-Magnus, DeChurch, & Wax, 2012; Wang, Seibert, & Boles, 2011). Using a deep acting strategy leads to better performance and does not harm workers' wellbeing, but using a surface acting strategy often has negative consequences for workers' personal wellbeing (Grandey, Rupp, & Brice, 2015; Hülshager, Lang, & Maier, 2011). However, personal differences such as beliefs and skills may buffer or intensify these relationships (Gracia & Ashkanasy, 2014).

With this in mind, the present research study contributes to the literature in at least three ways. First, we extend the investigation of moderator factors associated with the impact of surface acting on the emotional labor of managers. Although emotional labor has traditionally been linked to workers who provide services to customers, patients, or users (Humphrey et al., 2015), managers also have to interact with their subordinates, which requires them to manage daily emotions as frequently as service workers do (Brotheridge & Grandey, 2002). Second, we propose and test the moderating role of COWBs in the relationship between managers' surface acting and their wellbeing at work. COWBs refer to the degree to which individuals think their own wellbeing is based on helping others (McMahan & Estes, 2011a). The moderating role of COWBs has been examined in service workers (Pătraș, Martínez-Tur, Gracia, & Moliner, 2017), but to our knowledge, this possibility has not been investigated in managers. Third, we conceptualize and measure wellbeing at work, considering its positive and negative sides. Accordingly, we assess exhaustion and vigor as the central negative and positive facets of burnout and engagement, respectively. This approach allows a richer picture of wellbeing at work, beyond the traditional focus on repairing damage (see Seligman & Csikszentmihalyi, 2000).

### *Surface acting and wellbeing in managers*

Leaders and followers communicate with each other using emotional labor tactics (Mann, 1997) to create better leader–member exchange relationships. In

fact, emotional labor helps leaders to communicate affect, loyalty and professional respect (Liden & Maslyn, 1998), prevent followers' underestimation of the way they are evaluated by their leader (Cogliser, Schriesheim, Scandura, & Gardner, 2009), and manage the emotions of their followers (Brotheridge & Lee, 2008), for example, by creating optimistic feelings among them (Kiel & Watson, 2009; Newman, Guy, & Mastracci, 2009). To do so, in their leadership role, they sometimes mask their negative emotions when walking in the hallways to avoid upsetting others (Iszatt-White, 2009). In other words, managers may use surface acting, even though it can lead them to suffer from burnout.

Burnout is a response to continuous stressors associated with poor physical and mental health (Lee & Ashforth 1996; Maslach, Schaufeli, & Leiter, 2001). It comprises three dimensions: emotional exhaustion, the depletion of emotional reserves; cynicism, an increasingly cynical and negative approach towards others; and diminished personal accomplishment, a growing feeling of worthlessness (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). *Exhaustion* is considered the core dimension of burnout because it captures the core meaning of what burnout is all about (Shirom, 1989). For this reason, we focus on exhaustion as a central negative facet of wellbeing at work. Based on the job Demand-Resources (JD-R) model (Bakker & Demerouti 2007), we propose that displaying surface acting requires an effort that can exhaust managers' resources. Therefore, we propose the following hypothesis:

*Hypothesis 1: Managers who use frequent surface acting strategies experience higher levels of exhaustion.*

Along the same lines, we expect to find the opposite results in the levels of engagement, a critical positive facet of wellbeing at work (Schaufeli, Salanova, González-Romá, & Bakker, 2002b). Specifically, work engagement is a positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption. *Vigor* is characterized as the main dimension of engagement because it can apply to both intrinsically and extrinsically motivated behavior. It represents high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties (Salanova & Schaufeli, 2008). The high level of resources and energy underlying vigor may be negatively affected when managers are forced to display surface acting in their interactions with workers. Accordingly, we propose the following hypothesis:

*Hypothesis 2: Managers who use frequent surface acting strategies experience lower levels of engagement.*

### *Eudaimonic Wellbeing beliefs in managers*

Wellbeing beliefs are defined as the system of beliefs about the nature and experience of wellbeing. These beliefs are an important aspect of one's worldview, they have many practical implications, and they probably influence behavior in several domains of life (McMahan & Estes, 2011a, 2011b). Individuals define their wellbeing in eudaimonic terms when they look for a virtuous life, develop themselves and contribute to others (McMahan & Estes, 2011a). Eudaimonic wellbeing beliefs, specifically high beliefs in reaching wellbeing through contributions to others (COWBs), could moderate the link from surface acting to wellbeing (Pătraș et al., 2017). However, the moderation by COWBs may have different forms because two theoretical approaches, Cognitive Dissonance theory (Festinger, 1957) and the Job D-R model, support differential roles for COWBs. Accordingly, we propose two competing hypotheses for COWBs' moderation in the links from surface acting to exhaustion and vigor. Researchers increasingly argue that the consideration of competing hypotheses is a good strategy to guard against hypothesis myopia. That is, competing hypotheses avoid conducting research that focuses on one hypothesis exclusively, disregarding evidence supporting alternative outcomes (Nuzzo, 2015).

Cognitive Dissonance theory (Festinger, 1957) argues that individuals experience discomfort or tension when two inconsistent cognitions occur at the same time, as when individuals act in a way that is contrary to their attitudes (Myers, 2010). In a similar way, when managers have high COWBs, they show strong beliefs oriented toward helping others, but they use surface acting and fake their emotions in their interactions with workers. Therefore, the inconsistency occurs because managers act in a way that is contrary to their beliefs, and COWBs accentuate the negative relationship between surface acting and wellbeing. Based on this rationale, the following hypotheses can be proposed:

*Hypothesis 3a: High COWBs increase the positive relationship between surface acting strategies and levels of burnout;*

*Hypothesis 4a: High COWBs increase the negative relationship between surface acting strategies and levels of engagement.*

By contrast, the JD-R model (Bakker & Demerouti, 2007) argues that the risk of burnout is highest in working environments where job demands are high and job resources are low. This model also proposes that high job resources mitigate the negative impact of job demands on wellbeing at work. This rationale

could be transferred to the moderating role of COWBs. In fact, COWBs can be considered relevant personal resources in interpersonal relationships. Although research supports the negative impact of surface acting on wellbeing at work, some authors have mentioned some possible positive effects. For example, the amplification of positive emotions could increase job satisfaction and the sense of personal accomplishment (Côté & Morgan, 2002; Pătraș et al., 2017; Zapf & Holz, 2006). Based on this rationale, it is reasonable to expect that managers who are high in COWBs would also assume that surface acting is a necessary strategy to achieve adequate personal accomplishment in terms of creating a good climate among workers. Accordingly, surface acting may exhaust managers, but COWBs could be a personal resource that mitigates the negative effects of surface acting on wellbeing.

*Hypothesis 3b: High COWBs reduce the positive relationship between surface acting strategies and levels of burnout;*

*Hypothesis 4b: High COWBs reduce the negative relationship between surface acting strategies and levels of engagement.*

## METHOD

### *Participants and procedure*

The current research study comes from a larger cooperation project between the University of the corresponding authors and “Plena Inclusión”, a Spanish NGO dedicated to improving the quality of life and social inclusion of individuals with intellectual disability. The study followed standard good practice ethical protocols and received the ethical approval from the University’s Human and Social Sciences Ethics Committee.

We used a sample composed of 95 managers from 95 small organizations for individuals with intellectual disability. All these organizations were affiliated with *Plena Inclusión*. Participation was voluntary and confidential. *Plena Inclusión*, in cooperation with the research team, presented a call to invite the managers to participate in the current research study. The mean age of participants was 42.01 years ( $SD = 8.33$ ), and 75.8 % were women. Average in job tenure was 83.54 months ( $SD = 74.09$ ).

## Measures

**Surface acting.** To measure surface acting, we used the 3-item Emotional Labor Scale developed by Brotheridge and Lee (2003) and adapted it to managers when they have to relate to their subordinates. An example of an item was: “I intend to express emotions that I really do not feel”. All the items were rated on a 5-point Likert scale ranging from 1 (*never/rarely*) to 5 (*very often*).

**“Contribution-to-others” wellbeing beliefs (COWBs).** To measure COWBs, we used the 4-item Beliefs about Wellbeing Scale by McMahan and Estes (2011b), adapted to the workplace (Pătraș et al., 2017). Managers were asked to indicate their opinion about the contribution of each facet (item) to wellbeing in the workplace. An example of an item was: “Working in a way that benefits others”. All items were rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

**Exhaustion.** To measure exhaustion, we used the 5-item Spanish version of the Maslach-Burnout Inventory-General Survey (Schaufeli, Martínez, Pinto, Salanova, & Bakker, 2002a). An example of an item was: “At the end of the day, I feel tired”. All the items were rated on a 7-point Likert scale ranging from 0 (*never*) to 6 (*every day*).

**Vigor.** To measure vigor, we used the 6-item Spanish version of the Utrecht Work Engagement Scale (Schaufeli et al., 2002b). An example of an item was: “At my work I feel bursting with energy”. All the items were rated on a 7-point Likert scale ranging from 0 (*never*) to 6 (*every day*).

## Control variables

We also considered three *control variables*: sex (as dummy variable: women = 1; men = 0), job tenure and age, because previous literature suggests that these variables can have an effect on surface acting and/or the relationship between surface acting and wellbeing. For example, previous results found that surface acting was more highly correlated with negative affect (Scott & Barnes, 2011), burnout (Johnson & Spector, 2007), and draining feelings (Bartikowsky, 2013) in women than in men. Moreover, previous studies have found that length of experience in the teaching role positively relates to emotional labor. Specifically, teachers with longer service tended to perform more emotional labour and to feel personal accomplishment and job satisfaction (Kinman, Wray, & Strange, 2011). In addition, the literature suggests that older employees are better able to control their emotions and display appropriate emotions (Hochschild, 1983; Kruml & Geddes, 2000; Springer, Pudrovská, & Hauser, 2011). Hence, older managers could experience surface acting and the relationship between surface acting and wellbeing in a different way.

Statistical analyses

To assess the study hypotheses, we performed moderated regression analyses with the PROCESS macro for SPSS (Hayes, 2013). This procedure allowed us to separately test the effects of surface acting on exhaustion and vigor through “contribution-to-others” wellbeing beliefs, controlling for sex, age and job tenure. We used the pick-a-point approach to interpret the interaction effects. Simple slopes for the conditional effects of surface acting on exhaustion and vigor for low and high values of “contribution-to-others” wellbeing beliefs (i.e., one standard deviation below and above the sample mean) were estimated, and results for the regression lines were plotted.

Results

Descriptive results and correlations are presented in Table 1. As expected, surface acting was positively related to exhaustion and negatively to engagement. In addition, COWBs are not significantly related to surface acting, but they are negatively related to burnout and positively related to engagement. Moreover, as the table shows, Cronbach’s alphas were acceptable for the variables, ranging from .65 to .90 (Hair, Black, Babin, Anderson, & Tatham, 2006).

Table 1  
Descriptive statistics and correlations among study variables

| Variable          | Mean  | SD    | 1    | 2     | 3    | 4     | 5     | 6      | 7     |
|-------------------|-------|-------|------|-------|------|-------|-------|--------|-------|
| 1. Gender         | -     | -     |      |       |      |       |       |        |       |
| 2. Age            | 42.01 | 8.33  | -.10 |       |      |       |       |        |       |
| 3. Job tenure     | 83.54 | 74.01 | .01  | .51** |      |       |       |        |       |
| 4. Surface acting | 2.46  | 0.72  | -.13 | -.08  | .08  | (.74) |       |        |       |
| 5. *COWBs         | 6.51  | 0.43  | .05  | -.07  | .04  | -.14  | (.65) |        |       |
| 6. Exhaustion     | 1.96  | 1.28  | .08  | -.14  | -.12 | .35** | -.25* | (.90)  |       |
| 7. Vigor          | 5.29  | 0.57  | -.02 | .17   | .20  | -.22* | .39** | -.35** | (.74) |

Note. \*COWBs = “Contribution-to-others” well-being beliefs. \*  $p < .05$ . \*\*  $p < .01$ . Point-biserial correlation was used when the data were dummy. Pearson’s correlation coefficient was computed for interval data. Cronbach’s alpha coefficients are in brackets.

Table 2 presents the results of the moderated regression analysis. The results show that the relationship between surface acting and exhaustion is positive and significant ( $B = 0.65, p < .01$ ), supporting H1. In addition, the link from COWBs to exhaustion was also significant, but negative ( $B =$

-0.61,  $p < .05$ ). Finally, the results show that the moderator role of COWBs in the relationship between surface acting and exhaustion is not supported ( $B = -0.01$ ,  $p > .05$ ).

Table 2  
*Moderation Process Analysis*

|                                 | Exhaustion |      | Vigor  |      |
|---------------------------------|------------|------|--------|------|
|                                 | B          | SE   | B      | SE   |
| (Constant)                      | 2.25**     | 0.75 | 5.03** | 0.32 |
| Gender                          | 0.48       | 0.30 | -0.06  | 0.13 |
| Age                             | -0.01      | 0.02 | 0.01   | 0.01 |
| Job tenure                      | -0.01      | 0.01 | 0.01   | 0.01 |
| Surface acting                  | 0.65**     | 0.18 | -0.18* | 0.08 |
| *COWBs                          | -0.61*     | 0.29 | 0.48** | 0.13 |
| Interaction                     | -0.01      | 0.41 | 0.36*  | 0.18 |
| R <sup>2</sup>                  | .22**      |      | .28**  |      |
| $\Delta R^2$ due to interaction | .01        |      | .04*   |      |

Note. \*COWBs = "Contribution-to-others" well-being beliefs. B = Non-Standardized coefficient. \*  $p < .05$ . \*\*  $p < .01$ .

Regarding engagement, the results revealed a significant and negative link from surface acting to vigor ( $B = -0.18$ ,  $p < .05$ ), supporting H2. Additionally, the relationship between COWBs and vigor was also significant, but positive ( $B = 0.48$ ,  $p < .01$ ) (see Table 2). The results also showed that the moderator role of COWBs in the relationship between surface acting and vigor was supported ( $B = 0.36$ ,  $p < .05$ ). The results revealed that, for low COWBs (-1SD), the relationship between surface acting and vigor was negative and statistically different from zero ( $B = -0.34$ ,  $t(91) = -2.87$ ,  $p < .01$ ; [CI = -0.58, -0.11]). Meanwhile, for high COWBs (+1SD), the relationship between surface acting and vigor was not statistically significant ( $B = -0.03$ ,  $t(91) = -0.25$ ,  $p > .05$ ; [CI = -0.22, 0.17]). Figure 1 shows the interaction effect, and we can appreciate that COWBs buffered the negative relationship between surface acting and vigor. As it has been stated, for high values of COWBs, there was not statistically significant relationship between surface acting and vigor, supporting H4b.

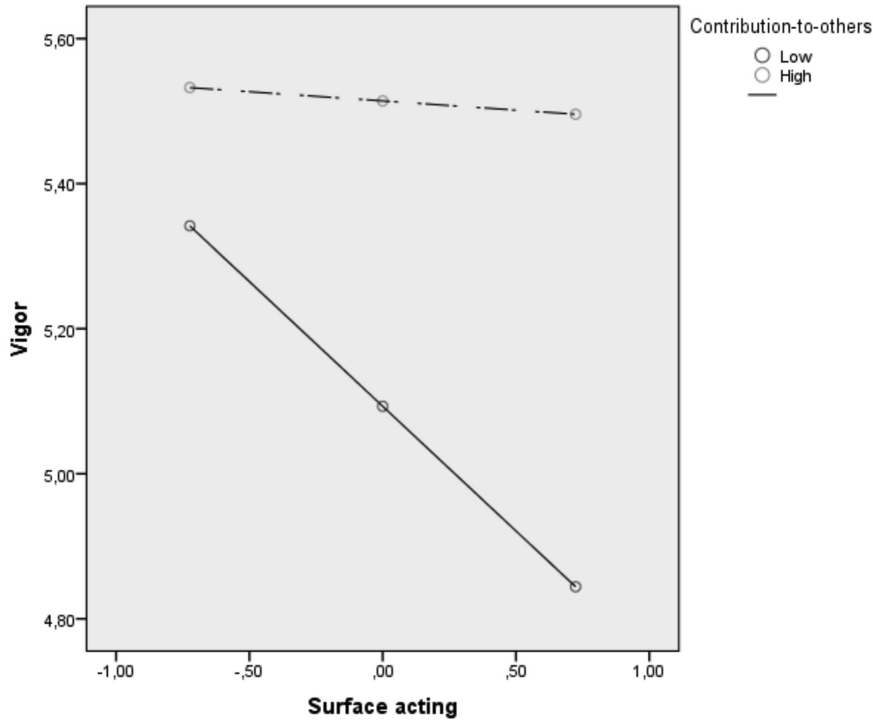


Figure 1. Interaction between surface acting and “Contribution-to-others” well-being beliefs.

DISCUSSION

This study aimed to test whether managers who use frequent surface acting strategies have low levels of wellbeing, and whether managers’ wellbeing beliefs increase or decrease the relationship.

Results confirmed that managers who use more surface acting experience higher levels of burnout and lower levels of engagement. That is, surface acting is related to managers’ negative wellbeing. This result is in consonance with previous meta-analyses that focused on service workers’ managing of emotions (Hülshager & Schewe, 2011; Mesmer-Magnus et al. 2012; Wang et al. 2011). This study also follows the recent line of studies that have analyzed surface acting in managers and found that surface acting is also related to emotional exhaustion and work is related to family conflict in this type of role (Krannitz, Grandey, Liu, & Almeida, 2015). Therefore, this study contributes

to the knowledge from emotional labor studies indicating that surface acting also produces negative results in managers (see Humphrey, 2012; Humphrey et al., 2015).

In addition, this study has formulated two different competing hypotheses in order to test the role of “contribution to others” (COWBS) wellbeing beliefs as a positive or negative moderator of the relationship between surface acting and wellbeing. Formulating two competing hypotheses makes it possible to explain the final results (one or another) through a grounded theory from the field. Thus, we ensure that the results are not biased by the previous description of the hypotheses. As Pillutla and Thau note, “the examination of alternative explanations with a view towards provisionally accepting the validity of one over the other is good science.” (2013, p. 193). Specifically, results of the moderation confirmed that having COWBs, as a relevant personal resource, reduce the relationship between surface acting and work engagement in managers. Thus, these results support the JD-R model (Demerouti & Bakker, 2007) mechanism by showing that personal resources may reduce the relationship between job demands and wellbeing. By contrast, our findings are not congruent with dissonance theory, which suggests that a combination of COWBs and surface acting could generate dissonance, thus reducing wellbeing.

It is important to note that COWBs moderated the relationship between surface acting and engagement, but this moderation was not significant for burnout. These results highlight the need to analyze not only the negative side of wellbeing, but also the positive aspects, in order to enrich our knowledge because, as this study shows, some variables differentially affect the positive vs. negative sides of wellbeing. Consistent with this, Parkinson and McBain (2013) found that disengagement is not simply the opposite of organizational engagement. Moreover, Fredrickson (2003) argues that positivity does far more than just indicate the absence of the negative (such as fear or threats). Hence, this study is consistent with the Positive Psychology approach (Seligman, 1999) because it considers not only burnout, as the negative side of psychosocial wellbeing, but also engagement, the positive side of psychosocial wellbeing in the workplace. Therefore, this study contributes to identifying the mechanisms that can help to build wellbeing instead of just repairing illbeing at workplace. Likewise, this study contributes to advances in Occupational Health Psychology related to the application of psychology to improving the quality of work life and protecting and promoting the safety, health, and wellbeing of workers (Sauter, Hurrell, Fox, Tetrick, & Barling, 1999). It provides clear information about resources that can help managers to deal with the management of emotions when they interact with their subordinates. Thus, this study highlights that wellbeing beliefs oriented

toward contributing to others' lives are a good resource that could buffer the negative effects of surface acting on managers' wellbeing.

### *Limitations and future research*

In spite of the contributions of this study, there are several limitations that should be considered, as well as possible paths for future research. One of the main limitations of the study is the fact that the results reveal that COWBs buffer the negative relationship between surface acting and work engagement, but they do not affect the relationship between surface acting and burnout. This unexpected result allows us to state that a manager who suffers from the Burnout syndrome probably needs more time and other resources coming from different levels (individual, group, or organization level...) to affect the aforementioned relationship. For this reason, future studies should test these relationships using longitudinal studies, instead of cross-sectional ones, and multilevel analyses. Moreover, if we analyze additional results obtained in this study that are beyond the aims of this study, we can see that COWBs had a direct negative relationship with burnout. This result would suggest that COWBs could be a resource that works directly on burnout. For this reason, future studies could also examine wellbeing beliefs as a core resource for managers in reducing burnout. In any case, the findings offer rich insights into the positive side of maintaining managers' wellbeing, even if they use surface acting during workplace interactions. Future studies should also try to overcome the limitation of only using self-reports. Subjective information about demands, resources and wellbeing are a valid indicator of personal experiences, but other complementary measures, such as physiological data, can complement these results.

### *Main conclusions*

This study extends prior knowledge by showing that managers' wellbeing in the workplace related to the use of surface acting may vary depending on the meaning they attribute to achieving wellbeing. Although surface acting is considered the worst strategy for managing emotions at work because it has negative consequences for wellbeing, this study has shown that managers can use personal resources to avoid the negative consequences of surface acting, such as lower engagement at work. Therefore, building strong values and beliefs oriented toward enhancing the eudaimonic side of wellbeing, that is, contributing to others, may help managers to face one of the most difficult demands at work, managing emotions.

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# The effect of job characteristics on intrinsic and extrinsic job satisfaction: the moderating role of psychological capital<sup>1</sup>

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## Abstract

This paper analyzes the differential effects of autonomy, skill variety, work significance, feedback from the job, and information processing on intrinsic and extrinsic job satisfaction, and the moderating role of psychological capital (PsyCap) in these relationships. The influence of job characteristics on job satisfaction has been well established in previous research, but the distinction between intrinsic and extrinsic satisfaction has hardly been considered. Moreover, their effects also depend on workers' characteristics. PsyCap is a set of resources (self-efficacy, optimism, hope, and resilience) that could strengthen the positive effects of job characteristics and provide protection from negative ones. Hierarchical regressions analyzed data from 1647 workers in Spanish organizations. Results showed positive relationships between autonomy and feedback from the job and the two satisfaction dimensions, whereas significance and information processing were negatively related to extrinsic satisfaction. Moreover, PsyCap strengthens the positive effect of information processing and autonomy on intrinsic satisfaction, and it weakens the negative effect of information processing on extrinsic satisfaction. However, it also increases the negative effect of significance on extrinsic satisfaction. Therefore, job enrichment would be beneficial for intrinsic satisfaction, especially for people with high PsyCap, but it could be negative for extrinsic satisfaction.

**Keywords:** job characteristics; psychological capital; job satisfaction

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## O efeito das características do trabalho na satisfação laboral intrínseca e extrínseca: o papel moderador do capital psicológico

### Resumo

Este artigo analisa os efeitos diferenciais da autonomia, variedade de habilidades, significado do trabalho, feedback do trabalho e processamento de informação sobre a satisfação laboral intrínseca e extrínseca; assim como o papel moderador do capital psicológico (PsyCap) nessas relações. A influência das características do trabalho na satisfação laboral está bem estabelecida na literatura, mas a distinção entre a satisfação intrínseca e a satisfação extrínseca raramente foi considerada. Além disso, os seus efeitos também dependem das características dos trabalhadores, como o seu PsyCap. Este remete para um conjunto de recursos (autoeficácia, otimismo, esperança e resiliência) que pode potenciar os efeitos positivos das características do trabalho e oferecer proteção face aos negativos. Por recurso a regressões hierárquicas foram analisados dados de 1647 trabalhadores em organizações espanholas. Os resultados mostraram relações positivas entre autonomia e feedback no trabalho e ambas as dimensões da satisfação, enquanto o significado e o processamento de informação foram negativamente relacionados com a satisfação extrínseca. Embora o PsyCap aumente o efeito positivo do processamento de informação e da autonomia na satisfação intrínseca e enfraqueça o efeito negativo do processamento de informação na satisfação extrínseca, também aumenta o efeito negativo do significado na satisfação extrínseca. Portanto, o enriquecimento do trabalho tende a ser benéfico para a satisfação intrínseca, especialmente para pessoas com alto nível de PsyCap, mas negativo considerando a satisfação extrínseca.

**Palavras-chave:** características do trabalho; capital psicológico; satisfação laboral

## INTRODUCTION

Job satisfaction is an important indicator of wellbeing at work (Peiró, Ayala, Tordera, Lorente, & Rodríguez, 2014), and it is related to many important aspects of organizations, such as performance, loyalty, or absenteeism (Aziri, 2011). Thus, it is not surprising that it has been extensively studied and that many companies try to increase their employees' job satisfaction by improving certain characteristics of work (Holman, Axtell, Sprigg, Totterdell, & Wall, 2010). However, job satisfaction is not a unitary attitude, and the relationships between job characteristics and different dimensions of satisfaction (i.e. intrinsic or extrinsic) might differ.

This would have been especially relevant during the recent economic crisis, when aspects affecting extrinsic job satisfaction (salary, job security, etc.) were seriously impacted by the austerity measures adopted (Markovits, Boer, & van Dick, 2014), and it could have practical implications. Thus, job redesign interventions that try to increase the value and challenging nature of work could have a positive impact on intrinsic job satisfaction, but a negative impact on extrinsic job satisfaction if rewards are not improved at the same time, accentuating the effort-reward imbalance (ERI, Siegrist, 1996) perceived by employees. However, the effect of the different job characteristics on job satisfaction also depend on workers' characteristics (Hackman & Oldham, 1980), and psychological capital (PsyCap) could be one of them. PsyCap is a set of resources (self-efficacy, optimism, hope and resilience) related to employees' well-being (Luthans & Youssef-Morgan, 2017). From the perspective of positive organizational behavior (POB), PsyCap has been presented as a set of personal resources that can interact with the work characteristics, protecting employees from their potentially detrimental effects and increasing potential benefits (Avey, Reichard, Luthans, & Mhatre, 2011; Newman, Ucbasaran, Zhu, & Hirst, 2014). However, this interaction related to the effect of the core characteristics of work on the intrinsic and extrinsic facets of job satisfaction has not been studied. Therefore, the aim of this paper is to explore the effects of job characteristics on both intrinsic and extrinsic job satisfaction, and the moderating role of PsyCap in these relationships.

### *Job characteristics and job satisfaction*

Job satisfaction can be defined as an attitude, or set of attitudes, towards one's work or one or more of its facets (Peiró & Prieto, 2002). These facets can be intrinsic or extrinsic. Intrinsic satisfaction refers to satisfaction with the characteristics of the job itself, whereas extrinsic satisfaction refers to how satisfied people are with the things they can obtain from performing their job. Job satisfaction is an important indicator of wellbeing at work, and it is related to many fundamental aspects for organizations, including commitment, motivation, and performance (Davar & Bala, 2012; Judge, Weiss, Kammeyer-Mueller, & Hulin, 2017; Springer, 2011), as well as absenteeism, turnover, or complaints (Peiró & Prieto, 2002). Therefore, it is still relevant to try to understand the elements that can affect job satisfaction. In this regard, research has focused mainly on three fundamental aspects: job characteristics, individual characteristics, and the interactions between them. However, the first perspective has received more attention, even though wellbeing stems from both the individual and his or her interaction with the work environment (Warr, 2013).

For example, the *two-factor model* (Herzberg, Mausner, & Snyderman, 1959) points out that there are *intrinsic* or *critical* job characteristics linked to the possibilities of development, recognition, and responsibility, whose presence is beneficial for satisfaction and whose absence would produce indifference. In addition, there are *extrinsic* or *contextual* factors, such as company policies or salaries, whose presence would produce indifference, but whose absence would impair satisfaction. Other perspectives of job characteristics have also been identified as antecedents of job satisfaction, such as the knowledge-related requirements of work. For instance, the level of *information processing*, the extent to which a job requires the employee to process and manage information, is also related to job satisfaction (Humphrey, Nahrgang, & Morgeson, 2007).

Finally, another approach that has been especially relevant and received considerable empirical support is Hackman and Oldham's (1976, 1980) *Job characteristics Theory (JCT)* (Loher, Noe, Moeller, & Fitzgerald, 1985; Parker, Morgeson, & Johns, 2017). According to this theory, some core characteristics of the job, namely *autonomy*, *task identity*, *task significance*, *skill variety*, and *job-based feedback*, are necessary in order for workers to be motivated, experience job satisfaction, and perform well. Although this model takes into account the moderating role of certain individual characteristics, such as *growth need strength* and the *level of work-relevant knowledge and skills*, the emphasis is on the job characteristics.

In addition, even though the influence of job characteristics on job satisfaction has been well established in previous research (e.g. Hackman & Oldham, 1980; Loher et al., 1985), the distinction between intrinsic and extrinsic facets of satisfaction has rarely been taken into account (Chiu & Chen, 2005). However, this distinction could be relevant. Let us imagine a job position that requires performing a wide variety of skills and managing large amounts of information. Moreover, let us suppose that the outcomes of this job are highly important to other people or society. Such a job would be challenging, interesting, and valuable, and, thus, its characteristics would be positive for intrinsic job satisfaction.

*H1a. Autonomy, significance, skill variety, feedback from the job, and information processing will be positively related to intrinsic job satisfaction.*

However, the relationship between these job characteristics and extrinsic job satisfaction could be different. In principle, extrinsic job satisfaction is more related to factors external to the job content itself, but it could also be affected by intrinsic factors such as job characteristics. As far as we know, this relationship has hardly been studied. Nevertheless, some studies (e.g. Chiu & Chen, 2005) found that job characteristics were related to both intrinsic and extrinsic satisfaction, but more to the former than the latter. In fact, we argue that some of these characteristics could even be detrimental because they could increase the effort-reward imbalance perceived

by the worker. The *ERI model* (Siegrist, 1996) posits that people make an effort at work as part of a contract based on the norm of social reciprocity. In exchange, the company rewards them with money, esteem, career opportunities, and job security (Siegrist et al., 2004). Moreover, the model also assumes that work contracts often fail to provide a symmetric effort-reward exchange, especially when alternatives in the labor market are scarce. Research has shown that this lack of reciprocity can result in negative emotions and feelings of not being fairly treated or appreciated, leading to impaired job satisfaction and wellbeing (Rugulies, Aust, & Madsen, 2017; Siegrist, 2016; Siegrist et al., 2004). Thus, the aforementioned job position with high value and complexity would be challenging and interesting (positive for intrinsic satisfaction). Nonetheless, the effort required to do the work would also increase, as well as the effort-reward imbalance perceived by the worker, with potential negative effects on (extrinsic) job satisfaction. More specifically, we expect job characteristics that increase the complexity and value of the job (skill variety, significance, and information processing) to be negatively related to extrinsic job satisfaction.

*H1b. Skill variety, significance, and information processing will be negatively related to extrinsic job satisfaction.*

### *The moderating role of PsyCap*

Interactional models go beyond the mere presence of personal and environmental factors and focus on the interaction between them to explain job satisfaction and other variables such as performance. As a clear example, the *person-environment fit* theory (Caplan, 1987; Caplan & Van Harrison, 1993) posits that the better the fit between the characteristics of the job and those of the worker, the greater the worker's satisfaction and performance, and *vice versa*. Hackman and Oldham's model also proposes interactive effects between environmental and individual characteristics, as mentioned above. Specifically, the positive effects of job characteristics on job satisfaction are moderated by the *growth need strength*. However, other factors, including individual characteristics, could also play an important role in these relationships (Oldham & Fried, 2016). One of these characteristics could be PsyCap. The positive organizational behavior (POB) approach emphasizes its importance in work and employee outcomes (Luthans & Youssef-Morgan, 2017). PsyCap is a positive psychological state characterized by: the capacity to find and materialize ways to achieve one's goals (*hope*, Snyder, 2002); the belief in one's capacity to succeed in a certain activity or domain (*self-efficacy*, Bandura, 1997); the expectation of positive events at work (*optimism*, Seligman, 1998); and the capacity to bounce back from adversity (*resilience*, Luthans, 2002). It includes the investment

of time, effort, and skill development to improve performance and competitiveness in organizations (Luthans, Avolio, Walumbwa, & Li, 2005).

The literature shows that all four PsyCap components are related to desirable outcomes in organizations, including job satisfaction (Stajkovic & Luthans, 1998; Youssef & Luthans, 2007), but that the higher-order construct that binds them can be a better predictor. The four PsyCap components have complementary and synergistic effects (Luthans, Avolio, Avey, & Norman, 2007), becoming a source of positivity and contributing to a positive appraisal of one's circumstances and probabilities of success (Luthans et al., 2007).

PsyCap consists of a set of psychological resources that help employees to cope with difficulties and take greater advantage of potential benefits derived from their jobs. For example, high skill variety could be highly beneficial to the job satisfaction of a worker with high PsyCap, or it could become irrelevant or even detrimental to a worker with low PsyCap, who might not feel capable of achieving good performance in such a complex job. In addition, PsyCap could buffer the hypothesized negative effects of job characteristics on extrinsic satisfaction. For example, it could buffer the effect of job significance because it facilitates positive appraisals and expectations of future events, helping people to focus on the positive aspects of their jobs and their possibilities of improving the situation, rather than on the negative ones. In fact, there is evidence showing that PsyCap moderates the relationships between certain characteristics of the work context and the job and job satisfaction (Newman et al., 2014). For instance, Abbas, Raja, Darr and Bouckennooghe (2014) found that PsyCap diminished the negative relationship between certain organizational politics and job satisfaction. Cheung, Tang and Tang (2011) found moderating effects of PsyCap in the relationship between certain job characteristics and job satisfaction, diminishing the negative relationships of some characteristics (e.g. surface acting), and strengthening the positive ones (e.g. deep acting). Thus, we expect PsyCap to display a similar moderating role in the relationships between job autonomy, skill variety, significance, feedback from the job, and information processing and both facets of satisfaction. Specifically, we expect PsyCap to strengthen the positive effects of these job features on intrinsic job satisfaction and, at the same time, diminish the negative effects of some of them on extrinsic job satisfaction. Therefore:

*H2a. PsyCap will enhance the positive job characteristics-intrinsic job satisfaction relationships.*

*H2b. PsyCap will mitigate the negative job characteristics-extrinsic job satisfaction relationships.*

In sum, the literature indicates that jobs rich in autonomy, skill variety, significance, feedback from the job, and information processing are challenging and interesting and, thus, beneficial to intrinsic job satisfaction. However, based on the ERI model, we suggest that the same job characteristics could be detrimental to extrinsic job satisfaction. Moreover, based on previous literature, we also suggest that PsyCap is a resource that can be used to cope with work challenges, and a source of positivity that can act as a moderator in these relationships. Thus, PsyCap would enhance the positive job characteristics-satisfaction relationships and reduce the negative ones. First, we aim to analyze the differential effects of autonomy, skill variety, significance of work, feedback from the job, and information processing on intrinsic and extrinsic job satisfaction and, second, explore the moderating role of PsyCap in these relationships.

## METHOD

### *Sample and procedure*

The sample was composed of 1647 workers from 42 Spanish organizations, 276 in Almería (16.7%), 580 in Valencia (35.2%), 310 in the Balearic Islands (18.8%), and 482 in Barcelona (29.2%), working in the secondary (308, 18.7%) and tertiary (1340, 81.3%) sectors. Regarding sex and age, 702 were men (45.4%) and 843 women (54.6%); 432 (27%) were under 35 years old, 911 (55.3%) between 36 and 50, and 259 (16.2%) over 50 years old. Finally, 743 (46.5%) people had university education, 261 (16.3%) had vocational training, 332 (20.8%) had a high school education, 211 (13.2%) had basic education, 30 (1.8%) had other types of education, and 20 (1.3%) had no academic credentials.

We gathered the data through a questionnaire that was available on paper, tablet, or online. The research team met with the HR managers of the companies interested in the study to explain the details of the project and solicit corporate data, as well as permission to contact their employees. Then, we contacted the workers to get their voluntary participation, guaranteeing confidentiality.

### *Measures*

*Demographics:* Age and gender were measured and introduced as control variables. Gender was codified as 0 for women and 1 for men.

*Job Characteristics* were measured through a reduced 27-item Likert scale, from 1 (strongly disagree) to 5 (strongly agree), from the Work Design Questionnaire (Morgerson & Humphrey, 2006). We used the three-item subscales related to the content of the work: autonomy, significance, skill variety, feedback from the job, and information processing. Sample items on the subscales are: “During the last journey in my work my work, [...] Allowed me to make my own decisions about how to schedule my work”, for autonomy ( $\alpha = .77$ ); “[...] Significantly affected the lives of other people”, for significance ( $\alpha = .69$ ); “[...] Required me to utilize a variety of different skills in order to complete the work”, for skill variety ( $\alpha = .76$ ); “[...] Provided direct and clear information about the effectiveness (e.g., quality and quantity) of my job performance”, for feedback from job ( $\alpha = .76$ ); and “[...] Required me to monitor a great deal of information”, for information processing ( $\alpha = .78$ ).

*PsyCap* was measured with a modified version of the Psychological *Capital Questionnaire-12* (Luthans et al., 2007), adapted by Djourova, Rodríguez and Lorente (2016). The instrument measures the four PsyCap components with Likert scales from 1 (strongly disagree) to 6 (strongly agree), each of which has 3 items. Sample items on each scale are: “I think I can make good contributions to the improvement of the company”, for self-efficacy ( $\alpha = .83$ ); “If I should find myself in a jam at work, I could think of many ways to get out of it”, for hope ( $\alpha = .78$ ); “I usually recover quickly from stressful experiences at work”, for resilience ( $\alpha = .71$ ); and “When things are uncertain for me at work, I usually expect the best”, for optimism ( $\alpha = .72$ ). To obtain the total PsyCap measure ( $\alpha = .88$ ), all the items were averaged.

*Job Satisfaction* was measured with a 12-item version (Cooper, Rout, & Faragher, 1989) of the job satisfaction scale from Warr, Cook and Wall (1979). The scale includes five Likert items from 1 (very dissatisfied) to 7 (very satisfied) to measure intrinsic job satisfaction, and four items to measure extrinsic job satisfaction. A sample item on the intrinsic job satisfaction subscale ( $\alpha = .86$ ) is “indicate to what degree you feel satisfied with each of the aspects [...] Opportunity to use your ability”; and on the extrinsic job satisfaction subscale ( $\alpha = .62$ ) “[...] Your rate of pay”.

### *Analysis*

We used IBM SPSS version 24 to conduct the data analysis. To test our hypotheses, we performed two moderated hierarchical regression analyses, with intrinsic and extrinsic job satisfaction as dependent variables, respectively. In both models, we introduced the control variables, gender, and age in the first step, all the independent variables (autonomy, significance, skill variety, feedback from the job, information processing, and PsyCap) in the second step, and, finally, the interaction between

each of the job characteristics and PsyCap in the third and last step. In the case of extrinsic satisfaction, autonomy and feedback from the job were kept in the model, even though their relationships were not hypothesized, in order to control their potentially confounding effects. The interactions are represented by the product of each job characteristic and PsyCap, computed with mean-centered variables to avoid multicollinearity problems (Cohen & Cohen 1983). On the other hand, moderated multiple regression has more validity than subgroup analysis, but it is a conservative procedure (Champoux & Peters, 1987). Therefore, in order to increase the power of the analyses, the type I error rate was set at  $p = 0.10$ , which some authors recommend for moderated multiple regression (Dormann & Zapf, 1999; Stone, 1986).

## RESULTS

The correlations among the variables and their respective means, standard deviations, and reliabilities (Cronbach's alpha) are shown in Table 1.

Table 1  
*Descriptive statistics of the study variables (reliability on diagonal of the correlation matrix)*

|                  | $\bar{X}$ | $s$  | 1      | 2      | 3     | 4     | 5     | 6     | 7     | 8     | 9      | 10    |
|------------------|-----------|------|--------|--------|-------|-------|-------|-------|-------|-------|--------|-------|
| 1. Age           | -         | -    | -      | -      |       |       |       |       |       |       |        |       |
| 2. Gender        | -         | -    | -      | -      |       |       |       |       |       |       |        |       |
| 3. Autonomy      | 3.98      | .96  | .03    | -.09** | (.77) |       |       |       |       |       |        |       |
| 4. Significance  | 3.34      | 1.02 | .04    | -.13** | .36** | (.69) |       |       |       |       |        |       |
| 5. Skill Variety | 4.23      | .77  | -.04   | -.02   | .37** | .36** | (.76) |       |       |       |        |       |
| 6. Info. Proc.   | 3.85      | .96  | -.07** | -.05*  | .42** | .36** | .56** | (.78) |       |       |        |       |
| 7. Feedback      | 3.78      | .88  | -.03   | -.01   | .43** | .33** | .37** | .36** | (.76) |       |        |       |
| 8. PsyCap        | 4.66      | .68  | .02    | .03    | .33** | .24** | .26** | .25** | .33** | (.88) |        |       |
| 9. I. Satisf.    | 5.21      | 1.07 | -.02   | -.04   | .55** | .25** | .25** | .27** | .44** | .47** | (.86)  |       |
| 10. E. Satisf.   | 5.07      | 1.01 | -.06*  | .01    | .27** | .07** | .08** | .08** | .27** | .32** | .64*** | (.62) |

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

All the job characteristics present average scores above the mid-point of the scale, with skill variety having the highest score ( $\bar{X} = 4.23$ ,  $SD = 0.77$ ). The average score on PsyCap is moderately high, 4.66 ( $SD = 0.68$ ). Finally, both the intrinsic ( $\bar{X} = 5.21$ ,  $SD = 1.07$ ) and extrinsic job satisfaction levels ( $\bar{X} = 5.08$ ,  $SD = 1.01$ ) are above the mid-points of the scales. The five job characteristics and PsyCap have significant positive correlations with both intrinsic and extrinsic job satisfaction. Except for extrinsic satisfaction, all the alpha values meet the criterion of .70 (Nunnally, 1978).

Table 2

*Results of moderated regression with intrinsic job satisfaction as criterion variable*

| Step    | $\Delta R^2$ | F        | Predictor         | $\beta$ |
|---------|--------------|----------|-------------------|---------|
| 1       | .003         | 2.03     | Age               | -.05    |
|         |              |          | Gender            | -.06    |
| 2       | .415**       | 183.06** | Autonomy          | .44**   |
|         |              |          | Significance      | .01     |
|         |              |          | Skill Variety     | -.02    |
|         |              |          | Info. Processing  | -.03    |
|         |              |          | Feedback from job | .23**   |
|         |              |          | PsyCap            | .45**   |
| 3       | .009**       | 4.62**   | PCxAuto           | .07†    |
|         |              |          | PCxSignificance   | .00     |
|         |              |          | PCxSkillV.        | .01     |
|         |              |          | PCxInfoP.         | .11**   |
|         |              |          | PCxFeedback       | -.08 †  |
| Overall | .43          | 87.80**  |                   |         |

†  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ;  $\beta$  are unstandardized regression coefficients from the final stage of the regression analysis

Table 2 shows the results of the moderated regression analysis with intrinsic job satisfaction as criterion variable. There is a significant positive effect of autonomy ( $\beta = .44$ ,  $p < .01$ ), feedback from the job ( $\beta = .23$ ,  $p < .01$ ), and PsyCap ( $\beta = .45$ ,  $p < .01$ ) on intrinsic job satisfaction. There is no significant effect of significance, skill variety, information processing, age, or gender. These results provide partial support for H1a. With regard to the interaction effects, there is a significant moderator effect of PsyCap only in the case of autonomy ( $\beta = .07$ ,  $p < .10$ ), information processing ( $\beta = .11$ ,  $p < .01$ ), and feedback from the job ( $\beta = -.08$ ,  $p < .10$ ), providing partial support for H2a.

In order to clarify the nature of the interaction effects, graphical representations are presented in Figure 1. Independent regression lines have been plotted to represent the relationship between job characteristics and intrinsic job satisfaction, taking values of characteristics and PsyCap one standard deviation above and below the mean.

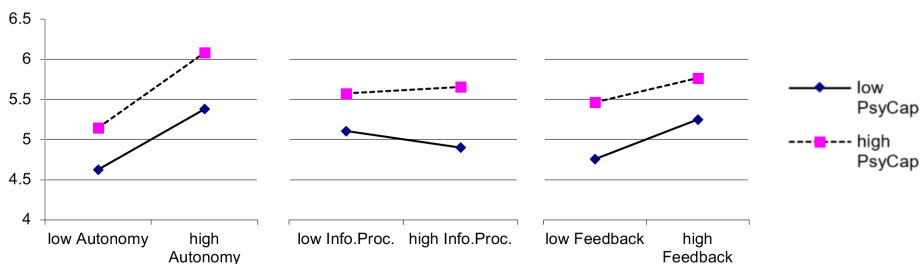


Figure 1. Interaction effects on intrinsic job satisfaction.

As Figure 1 shows, there is a main effect of PsyCap. Higher levels of PsyCap are related to higher levels of intrinsic satisfaction.

In addition, the relationship between job conditions (autonomy, information processing, and feedback) and intrinsic satisfaction depends on PsyCap. Autonomy is positively related to intrinsic satisfaction, and this relationship is higher for employees with high PsyCap. In the case of information processing, the moderating effect is even more relevant because the relationship between information processing and satisfaction is positive only for employees with high PsyCap, but it is negative for those with low PsyCap. Finally, there is no enhancing effect of PsyCap in the case of feedback from the job. Contrary to what was expected, the positive relationship between feedback from the job and intrinsic satisfaction is a bit higher for employees with low PsyCap. Therefore, the results partially support H2a.

Table 3  
*Results of hierarchical regression with extrinsic job satisfaction as criterion variable*

| Step    | $\Delta R^2$ | F       | Predictor         | $\beta$ |
|---------|--------------|---------|-------------------|---------|
| 1       | 0.003        | 2.40    | Age               | -.10**  |
|         |              |         | Gender            | -.03    |
| 2       | .154**       | 47.02** | Autonomy          | .18**   |
|         |              |         | Significance      | -.6*    |
|         |              |         | Skill Variety     | -.07    |
|         |              |         | Info. Processing  | -.08*   |
|         |              |         | Feedback from job | .19**   |
|         |              |         | PsyCap            | .38**   |
| 3       | .007*        | 2.59*   | PCxAuto.          | -.01    |
|         |              |         | PCxSignificance   | -.08*   |
|         |              |         | PCxSkillV.        | -.01    |
|         |              |         | PCxInfoP.         | .11*    |
|         |              |         | PCxFeedback       | .03     |
| Overall | .16          | 23.24** |                   |         |

†  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ;  $\beta$  unstandardized regression coefficients from the last step of the analysis.

Table 3 shows the results of the hierarchical regression analysis with extrinsic job satisfaction as criterion variable. There are significant positive effects of age ( $\beta = -.10$ ,  $p < .01$ ), autonomy ( $\beta = .18$ ,  $p < .01$ ), feedback from the job ( $\beta = .19$ ,  $p < .01$ ), and PsyCap ( $\beta = .38$ ,  $p < .01$ ) on extrinsic satisfaction. Significance ( $\beta = -.06$ ,  $p < .05$ ) and information processing ( $\beta = -.08$ ,  $p < .05$ ) have a significant negative effect. Finally, there is no effect of gender or skill variety. These results also provide partial support for H1b.

With regard to the interaction effects, there is a significant moderating effect of PsyCap only in the case of information processing ( $\beta = .11$ ,  $p < .05$ ) and significance ( $\beta = -.08$ ,  $p < .05$ ), providing partial support for H2b.

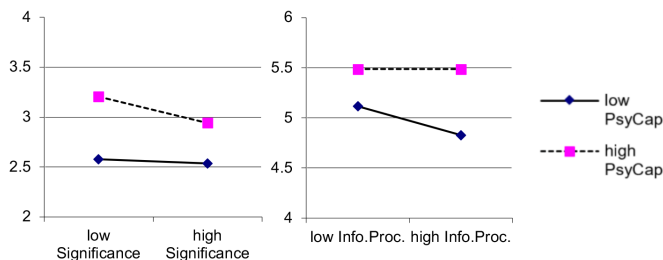


Figure 2. Interaction effects on extrinsic job satisfaction.

As Figure 2 shows, there is a main effect of PsyCap. Higher levels of PsyCap are related to higher levels of extrinsic satisfaction. In addition, the relationship between job conditions (significance and information processing) and extrinsic satisfaction depends on PsyCap. In the case of significance, the results are contrary to what was expected. The relationship between significance and extrinsic satisfaction is negative for people with high PsyCap, and there is no relationship for those with low PsyCap. Therefore, there is a buffering effect of low PsyCap. However, PsyCap has a buffering effect on information processing. There is a negative relationship between information processing and extrinsic satisfaction in people with low PsyCap, and there is no relationship for those with high PsyCap. Therefore, the results partially support H2b.

Overall, the results provide partial support for H1a, H1b, H2a, and H2b, with some of the hypothesized relationships supported by the data, whereas others are not significant or contrary to what was expected. Finally, the positive main effect of PsyCap on both intrinsic and extrinsic job satisfaction is also noteworthy.

## DISCUSSION AND IMPLICATIONS

The aim of this study was (1) to analyze the differential effects of the characteristics of work on intrinsic and extrinsic job satisfaction, and (2) explore the moderating role of PsyCap in these relationships. First, drawing on the ERI model, we hypothesized that, even though some features of work (autonomy, significance, feedback from the job, information processing, and skill variety) are generally considered positive for employee satisfaction, some of them also produce increases in the value of the job (significance) and the effort required (information processing and skill variety). This could affect the effort-reward imbalance perceived by the employees and, thus, be negative for extrinsic job

satisfaction. In addition, we expected that PsyCap would enhance the hypothesized positive effects of the job characteristics on satisfaction and mitigate the negative ones.

The results partially supported the hypotheses. As expected, autonomy and feedback from the job were positively related to intrinsic job satisfaction. Previous literature pointed out that workers who have discretion over their jobs are more satisfied (Clark, 2001; Hackman & Oldham, 1976; Thompson & Prottas, 2006). Both characteristics can be considered basic conditions for workers to feel satisfied with their work because they allow them to feel responsible for the outcomes and the quality of their performance (Hackman & Lawler, 1971) and experience their work as meaningful (Grant, 2008). However, contrary to previous literature (e.g. Hackman & Lawler, 1971; Hackman & Oldham, 1976; Humphrey et al., 2007), the effect of significance, skill variety, and information processing is not significant. The effect of significance and skill variety might be moderated by other variables not included in our model, such as the ones proposed in the original JCT, growth need strength and job-related knowledge and skills (Oldham & Hackman, 2010). In the case of information processing, the main effect is not significant, but it is moderated by PsyCap.

Coinciding with previous literature (e.g. Cheung et al., 2011), the positive relationship of autonomy and information processing with intrinsic satisfaction seems to be strengthened by PsyCap. Workers with high PsyCap could benefit more from discretion over their jobs because they feel better able to respond to the responsibility of doing highly autonomous work. In the case of information processing, the relationship seems to be positive only for employees with high PsyCap, whereas it seems to be negative for those with low PsyCap levels. This moderating role of PsyCap is similar to the roles of growth need strength and job-related knowledge and skills proposed in the JCT. According to Oldham and Hackman (2010), these individual characteristics are needed in order for the worker to succeed on a challenging task and feel positive about it. Similarly, high levels of PsyCap seem to allow employees to feel that they can succeed on a challenging task with plenty of information to manage and overcome the possible difficulties arising from it. However, large amounts of information could be overwhelming to workers with low PsyCap, who might not feel completely capable of performing their work well, which would be detrimental to their intrinsic satisfaction. Finally, the positive relationship between feedback from the job and intrinsic satisfaction appears to be weakened by PsyCap, contrary to what we expected. It seems that the benefits of having clear information from the job about one's performance is somewhat higher for workers with low PsyCap than for those with high levels. Workers with high PsyCap may be more confident about their own performance

and less dependent on direct feedback from the job, thanks to their greater capacity to positively appraise their circumstances and probability of success (Luthans et al., 2007). By contrast, low-PsyCap employees could need direct feedback from the job about their performance to confirm that they are doing well.

As expected, the results showed a significant negative effect of significance and information processing on extrinsic satisfaction. It is likely that, as suggested, increases in the complexity and value of the job accentuate the effort-reward imbalance (Siegrist, 1996) perceived by the employees. This effect would result in lower satisfaction with the rewards they receive for work that requires greater effort to process large amounts of information and is valuable to other people or society. However, this did not apply to skill variety, which was not related to extrinsic job satisfaction. The number of skills the job involves might not be important, but rather their difficulty and the extent to which they require the employee's effort.

Finally, there is a non-hypothesized positive effect of autonomy and feedback from the job on extrinsic job satisfaction. However, these results are consistent with those obtained by Good and Fairhurst (1999).

The results also showed a significant moderating effect of PsyCap in the case of information processing and significance. As expected, PsyCap has a buffering effect on information processing. There is a negative relationship between information processing and extrinsic satisfaction in people with low PsyCap, and there is no relationship in those with high PsyCap. However, in the case of significance, the results are contrary to what was expected. The relationship between significance and extrinsic satisfaction is negative in people with high PsyCap, and there is no relationship in those with low PsyCap. Therefore, PsyCap can increase the negative effects of work significance. This unexpected result can be better understood within a dynamic view of job satisfaction (Bussing, Bissels, Fuchs, & Perrar, 1999). Bussing et al. propose that people react to satisfaction or dissatisfaction with their aspirations, which leads to different modalities of job satisfaction. Applied to our results, high PsyCap workers who are dissatisfied with the rewards they receive for valuable work could believe that they can change the situation and try to do so (constructive job dissatisfaction). Thus, they would be likely to invest effort in getting better rewards and recognition for their work (e.g. re-negotiating salary or other rewards, increasing the visibility of the value of their work, etc.), even though they would continue to feel (perhaps increasingly) dissatisfied until the situation changed.

These findings have implications for practice in job (re-)design. Many companies try to increase the satisfaction of their workers by making their jobs more challenging and appealing, increasing certain work characteristics that are considered beneficial to job satisfaction. Our results suggest that the distinction

between intrinsic and extrinsic job satisfaction can be quite relevant, especially in periods like the recent economic crisis, when the economic rewards and other compensations workers receive have been especially impaired (Markovits et al., 2014). When there is a need to improve extrinsic job satisfaction, but not intrinsic job satisfaction, a redesign intervention to enrich the jobs might not be recommendable because it could have little effect or even detrimental effects. Instead, PsyCap development interventions would improve both facets of satisfaction. Both the main effects and the moderating effects of PsyCap are generally positive for both facets of satisfaction. The only exception is the enhancing effect on the negative relationship between job significance and extrinsic satisfaction. Nevertheless, this constructive dissatisfaction (Bussing et al, 1999) in high-PsyCap employees could encourage them to change the situation and ultimately improve their satisfaction.

Despite its contribution, our study has some limitations. The main one is its cross-sectional design, which does not allow us to draw strong causal conclusions.

Further research should use longitudinal designs. Moreover, we suggest some possible explanations related to the ERI model, the dynamic model of job satisfaction, and the effect of other possible moderators that have not been tested. Therefore, they should be explicitly tested in future studies.

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# Coping in the final frontier: An intervention to reduce spaceflight-induced stress<sup>1</sup>

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## Abstract

Research in human spaceflight has extensively documented how microgravity environments, such as spaceflight across Low Earth Orbit (LEO), affects astronauts' and Spaceflight Participants' emotions. However, a more refined understanding of this topic will become especially relevant as national and international space agencies increase the duration of manned space missions, and as the private sector fully enters the aerospace arena. In this paper, we analyze the strengths and weaknesses of the four main types of interventions for dealing with the stressors associated with human spaceflight (i.e., ergonomic, physiological, psychological, and psychosocial), and then elaborate on a psychosocial intervention

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grounded on evidence-based interventions across several fields of psychological research. Among the components of such interventions, we recommend adopting advanced stress coping strategies, developing emotional and intercultural competencies and crafting a shared social identity among crew members. Our proposed intervention aims to enhance the efficacy of social support as a key coping mechanism and applies to crewmembers and spaceflight participants of diverse cultural backgrounds who, most likely, will work using computer-mediated communication (CMC).

**Keywords:** spaceflight induced stress; proactive stress coping; Emotional competencies; positive emotional contagion; Social identity; Social support

### **Lidando com o stresse na fronteira final: uma intervenção para reduzir o stresse induzido por voos espaciais**

#### **Resumo**

Investigações em voos espaciais tripulados documentaram extensivamente como os ambientes de microgravidade, como voos espaciais pela órbita baixa da Terra (OBT), afetam as emoções dos astronautas e dos participantes do Voo Espacial. No entanto, um entendimento mais refinado deste tópico tornar-se-á especialmente relevante, à medida que as agências espaciais nacionais e internacionais aumentem a duração das missões espaciais tripuladas e que o setor privado entre totalmente na arena aeroespacial. Neste artigo, analisamos os pontos fortes e fracos dos quatro principais tipos de intervenções para lidar com os stressores associados ao voo espacial humano (ergonómico, fisiológico, psicológico e psicossocial) e depois desenhamos uma intervenção psicossocial sustentada em intervenções baseadas em evidências realizadas em vários campos da investigação psicológica. Entre os componentes de tais intervenções, recomendamos a adoção de estratégias avançadas para lidar com o stresse, o desenvolvimento de competências emocionais e interculturais e a criação de uma identidade social partilhada entre os membros da tripulação. A nossa proposta de intervenção visa aumentar a eficácia do apoio social como um mecanismo chave para lidar com o stresse e aplica-se a tripulantes e participantes de voos espaciais de diversas origens culturais que, muito provavelmente, irão trabalhar usando comunicação mediada por computador (CMC).

**Palavras-chave:** Estresse induzido por vôos espaciais; enfrentamento pró-ativo do estresse; competências emocionais; contágio emocional positivo; identidade social; apoio social

## INTRODUCTION

Long-term human spaceflight, understood as manned spaceflight outside Earth's orbit (Low-Earth orbit, or LEO) seems like a distant dream, but recent policy changes within the aerospace sector are transforming such vision into a plausible reality. For example, space agencies now outsource LEO activities such as resupplying the International Space Station (ISS) to private companies such as SpaceX. In turn, such cooperation provided new insights on how to tackle the current roadblocks that prevent long-term human spaceflight (e.g., propulsion, communications, habitat design, etc.). However, despite "technical" advances, experts agree that there are still challenges in the "human" front. Such challenges set the stage for organizational behaviorists to contribute to the advancement of manned spaceflight.

Human Spaceflight is an inherently risky activity that can induce intense distress, even in the most seasoned astronauts (Bensoussan, 2010). Surprisingly, although spaceflight-induced stress (SIS) is one of the four biggest obstacles against sustained long-term human spaceflight (Clément, 2005), prior scholarly work has neglected exploring psychosocial interventions to cope with SIS. Such neglect is surprising, as mainstream stress research shows that social support is a major mitigating factor (Frisch, Häusser, van Dick, & Mojzisch, 2014). One reason for such absence might be that there are just too few actual astronauts, or that national space agencies do not make SIS-related data available to the general public. However, this may change as the private sector enters the human spaceflight arena.

Prior research shows that intensive training gives professional astronauts the self-confidence to cope with spaceflight-induced stress, regardless the adverse effect that microgravity has on the human psyche (Geuna, Brunelli, & Perino, 1995). For example, even a short to moderate exposure to microgravity can induce exhaustion and asthenia, euphoria, depression, accentuation of negative personality traits and cognitive effects, such as reduced fine manual control and psychomotor performance (Morphew, 2001; Urbina & Charles, 2014). However, we still lack a clear understanding of how microgravity affects psychosocial phenomena, such as group-level processes (e.g., psychological safety, trust, intra-group conflict), social cognition (e.g., shared mental models, social identity), and social status (e.g., leadership). Further, there is even less information about how a combination of microgravity and the unavoidable isolation that a long-term spaceflight mission implies may have on the psychosocial aspects of spaceflight-induced stress. Considering the gaps within the existing academic literature on spaceflight-induced stress, and particularly those regarding its psychosocial antecedents and consequences, the goal of this work is to explore SIS stress from an organizational behavior lens and propose an intervention to prevent its negative outcomes.

### *Sources of spaceflight-induced stress*

In a human spaceflight environment, stressors may be of physical, physiological, psychological and psychosocial nature. The physical stressors category collects all those elements inherent to a spaceflight environment that create either physical or psychic strain (e.g., noise, radiation, microgravity, and so forth). Physiological stressors reflect the impact of physical stressors on SFP bodies (e.g., the absence of time parameters, space adaptation sickness; Assad & de Weck, 2015; Kluge et al., 2013; McKenna-Lawlor et al., 2015). Instead, whereas psychological stressors mainly affect the individual consciousness of each astronaut (e.g., isolation, monotony, confinement, high levels of mission complexity, high-risk conditions), psychosocial stressors influence astronauts' and SFPs' ability to function effectively as a team. Whereas physiological and psychological stressors have been extensively studied, research on how a spaceflight environment, and how microgravity may influence such psychosocial stressors is scarce at best. We cover physical, physiological, and psychological stressor in more detail in the next section.

In Earth, psychosocial stressors may derive from the contextual features of the environment in which teams operate (e.g., high-stakes context; Cohen et al., 2016), team characteristics, such as differences in crewmember (age, sex, tenure or cultural background), job characteristics (e.g., monotony, reduced autonomy). For example, a high-stakes context (i.e., a work environment in which errors may result in loss of life) imposes high team coordination demands, and thus increases team-members stress (Sandal, 2001). Moreover, astronauts' anecdotal accounts suggest that microgravity is a critical, unexplored factor that will most likely strengthen the adverse effects of these psychosocial stressors on team processes and outcomes. Hence, making psychosocial trade-offs is necessary if we are to reduce SIS (dis) stressors to their minimum expression.

In what refers to team characteristics, one typical trade-off involves team diversity. On the one hand, people of similar cultural backgrounds, corresponding values are likely to interact more fluidly with each other (Vandenberghe, 1999), but may exhibit a major risk of groupthink (Janis, 1982). On the other hand, whereas gender and cultural diversity may be highly beneficial for teamwork, it may also be counterproductive in high-stakes environments. Whereas team diversity increases the richness of information comprised in teams' shared mental models, understood as a collective understanding of critical information that teams use to operate on their collective tasks, if team members differ substantially in their cultural norms related to work ethics social conflict, and, hence, distress may arise.

We understand *culture* as a set of observed attitudes, values, beliefs, and norms shared through generations and guiding individual behaviors (De La Torre et al.,

2012; Schein, 1984). Some studies show that a shared understanding and respect about the underlying assumptions, values, and practices is an essential trust-developing factor among team members (Glazer, 2008); in reality, is often tough to achieve such shared understanding (Triandis, 1994). Therefore, a lack of shared understanding may lead to unnecessary conflicts. For example, a higher richness of information is not just beneficial per-se and could jeopardize teams' effectiveness if their members do not invest sufficient time to decode the idiosyncrasies in each other's communicational styles (Nurmi, 2011). For example, whereas team members from a *high-context* culture may prefer an indirect approach to conflict management, team members from a *low-context* culture are more likely to adopt a direct and structured approach to conflict management (Adair, Okumura, & Brett, 2001; Yum, 1988). Hence, in a conflicting event the first group will seek to resolve a conflict by avoiding confrontation, the second group will see this as a sign of weakness.

Team diversity may also lead to intercultural communication problems, which not only apply to face-to-face communication, but to computer-mediated communication (CMC) as well (Lira, Ripoll, Latorre-Navarro, & Monzani, 2016; Monzani, Ripoll, Peiró, & Van Dick, 2014). For example, in LEO missions, CMC occurs between the members of the spacecraft and the Earth ground control(s), geographically distributed in the form of Global Virtual Teams (GVTs; Glazer, Kozuszniak, & Shargo, 2012). Cultural differences were particularly relevant for GVTs due to limited non-verbal cues to convey meaning that may cause ambiguity, miscommunications, and other disparities that may affect every stage of the stress process. In the highly stressful situations that may occur during spaceflight, to achieve effective communication involving SFPs from different cultures, it is crucial to invest greater effort in communicating. For example, communicating effectively involves using verbal and nonverbal cues to transmit to peers when they transgress one's cultural values and norms (e.g., individualism, hierarchy, and polychronicity; this last refers to the extent to which people in a culture prefer to be engaged in two or more tasks or events simultaneously). GVT research shows that communicating concisely (i.e., in a way that everyone comprehends), at regular intervals, and using the adequate media reduces culturally-induced stress (Adair et al., 2001; Alexander, 2000; Molinsky, Krabbenhoff, Ambady, & Choi, 2005).

Examples of astronauts' adverse reactions to culturally-induced stress are the Isolation Study for European Manned Space Infrastructures (ISEMSI) or the Simulation of Flight of International Crew on Space Station (SFINCSS-99). In the ISEMSI, negative reactions not only had individual psychological consequences for astronauts but led to deviant behaviors, which not only increased intra-group and inter-group conflict but truly jeopardized these simulations' success. Further, a

detailed analysis of Skylab-4's New Year mutiny suggests that microgravity-induced mood changes might increase culturally-induced stress. In short, after 84 days in space and some disagreements with Earth control, the crew of the Skylab-4 mission announced an unscheduled vacation day, turned off the radio and relaxed, something unheard of in prior spaceflight missions (Clément, 2005). The Skylab-4's mutiny exemplifies well how isolation and microgravity can increase intergroup conflict, which is commonly known as the "Us vs. Them" syndrome (Tajfel & Turner, 1979). Social identity theory suggests that all human beings shape their identity both on a personal level (i.e., highlighting one's individual strengths and weaknesses) but also on a social level (i.e., emphasizing the characteristics of the groups one belongs). Because the positive features of one's group feedback onto a person's self-esteem, people often try to cast the groups to which they belong in a more positive light as compared to other groups. This behavior can sometimes lead to prejudice, discrimination, and conflicts between groups (van Knippenberg, 2003). Without training on psychosocial dynamics that can complement training on emotional self-regulation, the Skylab-4 crew members were ill-equipped to cope with the psychosocial demands of long-term spaceflight, and hence the "Us vs. Them" syndrome had such a substantial impact on their behaviors. Thus, we propose that additional training grounded on social identity research (Haslam, Eggins, & Reynolds, 2003) might have prevented such an intense inter-group conflict between the Skylab's crew and Earth control team.

### *Existing interventions for managing spaceflight-induced stress*

SIS researchers usually rely on either a horizontal bed rest (HBR) or head down tilt bed rest (HDT) approach to study spaceflight-induced stress. HBR and HDT can efficiently simulate the conditions of microgravity and spaceflight on Earth (e.g., of reduced mobility and isolation). In most cases, during and shortly after a period of either HBR or HDT, an increase in depression and neurotic symptoms follow (Ishizaki et al., 2002), reducing individual performance. However, such effects did not occur for HBR participants who could socialize (Dolenc, Tušak, Dimec, & Pišot, 2008). Similarly, existing SIS interventions approach the reduction of microgravity's adverse effects on moods and emotions in four ways (ergonomic, physiological, psychological and psychosocial). While all these routes have strengths and weakness, any attempt to reduce SIS during long-term spaceflight missions will require integrating all four routes into an overall solution.

The ergonomic approach involves factoring stressors into spacecraft habitation design (Peldszus, Dalke, Pretlove, & Welch, 2014). For example, Burattini, Bisegna,

Gugliermetti and Marchetti (2014) suggested a habitation module design countermeasure, which aims to reduce isolation and confinement, and thus their adverse effect on the mood of SFP. Their design challenges the classic idea of habitation systems as a life-support system, moving towards the notion that human factors are a significant element in the overall spacecraft design process (Messerschmid & Renk, 2010). However, we know that neuroticism (or low emotional stability) moderates the level in which the environment affects mood and that, over time, neurotic people tend to filter out environmental stimuli (Jang & Namkung, 2009). Thus, as microgravity strengthens neuroticism's effect on emotions, the attenuating effect of habitation design on SIS should decay faster in a long-term human spaceflight environment.

Physiological SIS interventions involve artificially restoring SFPs' hormonal balance to strengthen their emotional regulation. For example, Gouvier et al. (2004) combined hormones that increase cognitive activity such as alendronate or testosterone, to regulate emotional alterations during microgravity. To simulate the physiological effects of microgravity, they used a -5% HDT combined with triiodothyronine (T3). T3 is a hormone that accelerates bone metabolism during bed rest (Smith et al., 2008), reporting that participants in conditions which either combined T3 and alendronate or testosterone, reported lower stress levels and higher performance respectively than the control group. Although physiological SIS interventions deliver positive results, there are some caveats. For example, in long-term missions such as a two-year mission to Mars, there may be potential medical issues with the side effects of continuous hormonal dosage, as Wood (2008) reported drug dependence effects for anabolic-androgenic steroids (AAS), such as T3. In consequence, a SIS intervention for long-term manned missions should ideally be *non-invasive* at the physiological level, to protect SFPs from potential dependency to AAS such as T3.

Psychological SIS interventions involve intensive mission-specific training. Before any LEO mission, professional astronauts conduct numerous exercises to reduce the number of possible unforeseen contingencies, enhancing their ability to remain calm in highly stressful but *known* situations. However, anticipating all possible contingencies for the complex, unknown context of a long-term spaceflight mission seems impractical, if not impossible. Hence, reducing SIS requires a more direct approach involving the development of four core human emotional competencies, so that astronauts and especially SFPs can regulate their emotions in *unknown* situations. A valid alternative would then be to develop SFP's emotional intelligence (EI). Emotional intelligence refers to the ability to understand adequately and manage emotions (Mayer, Roberts, & Barsade, 2008) through four core emotional competencies. More precisely, emotional competencies imply the

capacity to (1) perceive, (2) assimilate, (3) understand, and (4) manage emotions in oneself and others. The first, emotional perception, refers to deciphering social information and recognizing emotional expression. Instead, whereas emotional assimilation involves knowing how to include and exclude emotions from cognitive processes, emotional understanding implies a conscious reasoning about emotions. Moreover, emotional understanding enables to use one's knowledge about emotions to understand how different emotions are related, perceive the causes and consequences of feelings, label and categorize feelings, interpret complex feelings and describe them. Finally, emotional management refers to the ability of monitoring and regulate own and other's emotions in a way that promotes personal growth (Mayer et al., 2008). There is incipient evidence that such emotional training helps to reduce negative emotions stress in highly uncertain situations without a clear solution, such as being a long-term unemployed individual within a recessive context (Hodzic, Ripoll, Lira, & Zenasni, 2015). Thus, although we believe that a context-based training is highly effective to sustain emotional regulation by reducing uncertainty within familiar theaters of operations, developing SFPs' emotional competencies may be a more *flexible* coping strategy within uncertain scenarios.

Finally, existing psychosocial SIS interventions focus on external social support as a way to enhance reactive coping mechanisms. LEO missions rely on real-time (synchronous) communication using a "CAPCOM buddy", which means having a former astronaut handling direct communication with astronauts (Caldwell, 2006). Although this approach works very well for LEO, where communication is synchronous, it may become obsolete when human spaceflight shifts from LEO towards future long-term missions. The unavoidable connection lag between Earth and the spacecraft will force communication exchanges to be asynchronous, that is, with a temporal delay between emission and response (De La Torre et al., 2012). In this regard, Media Synchronicity Theory (Dennis, Valacich, Speier, & Morris, 1998) posits that when using a communication media for socially related activities (e.g., group work), an elevated level of synchronicity enhances the positive outcomes of social interactions. The opposite occurs for asynchronous communication, which reduces its efficacy as a coping mechanism. It follows then that SIS interventions based on social support for long-term manned spaceflight should ideally be *autonomous* from Earth mission control.

### *The case for a psychosocial intervention to manage spaceflight-induced stress*

The potential issues of existing SIS interventions reviewed above call for a *non-invasive, flexible, and autonomous* solution. We propose a SIS intervention

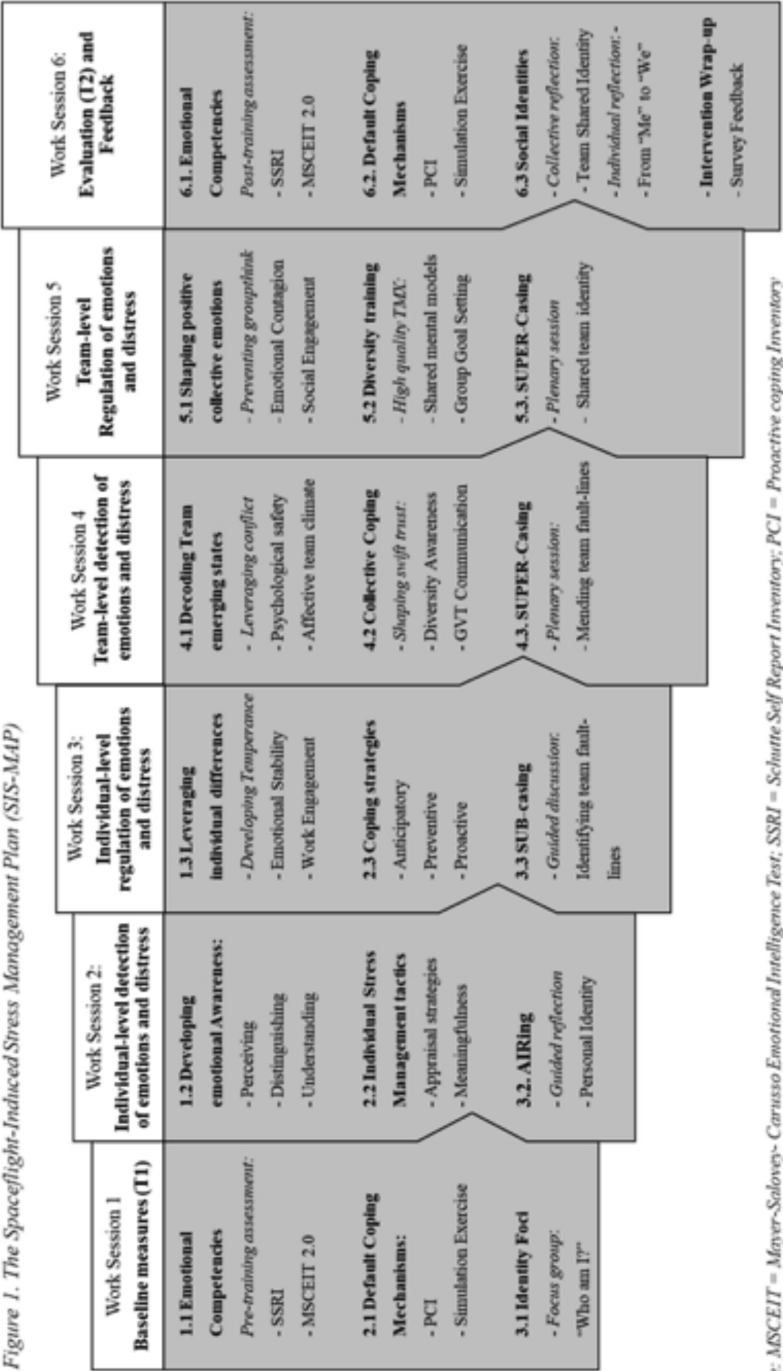
that is compatible, and, to some extent, complements existing SIS interventions. Our intervention has the form of a training program that can equip astronauts, but mainly SFP, with emotional self-regulation and coping techniques to deal with Spaceflight-induced stress individually and collectively.

Our SIS intervention is informed by recent advances in social and applied psychology. First, stress coping research has evolved from purely reactive coping strategies into proactive, anticipatory, and preventive coping strategies. While reactive coping deals with a particular harm, loss or threat once it has occurred, anticipatory coping deals with immediate expected threats, preventive coping deals with an uncertain expectation of threats in the distant future; proactive coping reflects efforts to build up general psychological resources that facilitate achievement of challenging goals and personal growth (Schwarzer & Knoll, 2011).

Second, recent empirical research has shown that emotional competencies can be trained (Hodžić et al., 2015), and that such training reduces subjective stress and improve social relationships (Kotsou, Nelis, Gregoire, & Mikolajczak, 2011). More precisely, emotional competency training can increase quality-of-work-life reports (Cherniss & Adler, 2000; Slaski & Cartwright, 2003), and positively impacts team performance (Turner & Lloyd Walker, 2008). Finally, research social identity shows that a strong team identity enhances the ability of social support to reduce individual stress (Frisch et al., 2014), and even reduce cortisol and testosterone levels without any additional medication (Häusser, Kattenstroth, van Dick, & Mojzisch, 2012). In consequence, integrating activities that develop proactive coping behaviors, emotional competencies, and that foster social support into a training program respects the aforementioned design requirements of non-invasiveness, flexibility, and autonomy.

### *The Spaceflight-Induced Stress Management Plan (SIS-MAP)*

The Spaceflight-Induced Stress Management (SIS-MAP) is a short, group-based training program aimed at prospective astronauts and SFP. The SIS-MAP comprises three modules divided into three phases and conducted through-out 6 work sessions: a training need analysis (work session 1), the actual training sessions (work sessions 2-5), and a training evaluation and feedback phase (work session 6). The first module develops emotional competencies, the second provides training about proactive stress coping techniques, and the third module focuses on developing social support mechanisms through the development of an organic, shared identity that improves both individual and collective coping (Rodriguez, Kozusnik, Peiró, & Tordera, 2019). Figure 1 shows a summary of the SIS-MAP, its components and main activities of each work session.



*Note: MSCEIT = Mayer-Salovey- Carruso Emotional Intelligence Test; SSRI = Schutte Self Report Inventory; PCI = Proactive coping Inventory*

### *Phase 1: Training need analysis*

As in any other intervention, the SIS-MAP requires from facilitators to establish first, baseline scores for emotional competencies and determine default coping mechanisms for each participant, as most individuals tend to differ in their innate ability to regulate their emotions, and how they instinctively cope with distress (Gross & John, 2003). Thus, in a first work session, facilitators should determine participants' baseline levels for (a) trait-like emotional competencies (EC module); (b) default stress coping strategies (Stress coping module); and (c) previous personally-valued social identities (Social Identity Module).

Psychometric tools are practical and cost-effective alternatives to determine individual variation in the aforementioned criteria. However, we recommend only utilizing instruments which are valid and reliable for participants from countries across the globe (i.e., the most likely team configuration of a long-term spaceflight mission). For example, the Schutte Self-Report Inventory (SSRI; Schutte et al., 1998) is a 33-item self-report measure of emotional competencies (e.g., perception, understanding, and management of emotions; Mayer, Roberts, & Barsade, 2008) that has been validated across national cultures. Similarly, the MSCEIT 2.0 is an instrument that uses a behavioral approach to measure emotional competencies (Mayer, Salovey, Caruso, & Sitarenios, 2003). Second, for assessing anticipatory, preventive and proactive coping strategies, we would recommend the Proactive Coping Inventory (PCI), which has also been cross-culturally validated and is already available in multiple languages (Greenglass, Schwarzer, & Taubert, 2007). Finally, the ASPIRe model (for a detailed explanation see Haslam et al., 2003) has been applied in multi-cultural environments. The ASPIRe intervention contributes to the formation of a collective identity and has been linked to reduced intra-group conflict and social support in confined environments (Haslam & Reicher, 2006). The ASPIRe model suggests conducting guided discussions groups to grasp participants' personal identification foci. The main goal of conducting such guided discussion is to raise awareness and foster in participants' a profound reflection about their identity, their inner values, but also bring into mind what are their valued social identities. The quality and depth of such initial reflection are essential to ensure the success of subsequent steps (AIRing, Sub-casing, Super-casing, and ORGAnizing).

## *Phase 2: Training sessions*

### *The emotional competencies (EC) module*

The EC module is divided into four informative stages, and each stage serves as background for learning about and enhancing a particular emotional competence. For example, the goal of work session 2 for the EC module is to help participants to gain awareness of their emotional states by perceiving, distinguishing, and understanding emotions. Some examples of activities involve guided meditation, mindfulness exercises but also a conscious reasoning about one's emotions (Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007; Hülshager, Alberts, Feinholdt, & Lang, 2013).

The goal of work session 3 for the EC module is to strengthen participants' individual management of emotions. Thus, in what refers to managing emotions, we would provide participants with techniques that allow achieving (or restoring) an inner, positive emotional state. To this end, we would train SFP on how to tap into two personal resources, participants' Emotional Stability, and their Temperance. Whereas emotional stability is an inherited personality trait, a myriad of studies suggest it relates to psychological well-being (DeNeve & Cooper, 1998), and task performance under temporal pressure (Monzani, Ripoll, & Peiró, 2014). Instead, Temperance is a character dimension that is informed by stable traits such as emotional stability but also can be actively developed through training activities (Crossan et al., 2017). Participants will learn how to draw from their psychological capital and utilize it proactively to invigorate themselves immerse into their individual tasks with energy and dedication during the mission, or in other words, engage in their work. Work engagement is a strong predictor of individual performance but, more importantly, it is a major protective force against stress and burn-out (Salanova, Agut, & Peiró, 2005; Schaufeli, Salanova, González-Romá, & Bakker, 2002).

The goal of work session 4 for the EC module is enabling participants to decode their team's affective emerging states. Combining individual emotional regulation with collective emotional regulation, because not only the individuals that conform a workgroup have to deal with negative emotions, but the workgroup itself requires to solve their relational conflicts before they can act effectively as a team (Kozlowski & Ilgen, 2006). Recent studies show that collective emotional regulation can be attained either in face-to-face contexts (Curşeu, Pluut, Boroş, & Meslec, 2015) or across computer-mediated communication (Chmiel et al., 2011; Malone & von Ahn, 2012), two likely work environments in a long-term spaceflight mission. However, collective emotional regulation requires, as precondition, the emergence of collective

psychological states, such as psychological safety climate, so that team members can “open up” to their peers without fear of backlash (Edmondson & Lei, 2014).

Finally, the goal of work session 5 for the EC module is to enable participants to shape positive collective emotions. We propose that a positive, collective emotional regulation can be attained through two mechanisms, mainly positive emotional contagion (Bono & Ilies, 2006) and social engagement (Tomaka, Thompson, & Palacios, 2006). Both mechanisms draw on their team members’ individual and collective psychological capital to foster positive group attitudes. Once a positive affective climate emerges, the positive climate should elicit in other team members hope and optimism, and foster group affective outcomes, such as reduced interpersonal conflicting, especially when working in a virtual work environment (Lira, Ripoll, Peiró, & González-Navarro, 2007; Lira, Ripoll, Peiró, & Zornoza, 2013).

### *The stress coping module*

The *stress coping module* would equip participants with anticipatory, proactive and preventive coping strategies, and inform them how to identify and prevent potential stressors. Further, this module aims to reduce social sources of stress, foster psychosocial protective factors such as social support to counter the effect of microgravity of group dynamics. Work session 2 aims to enhance participants’ individual stress appraisal style. One particularly relevant activity for every SFPs is raising awareness of the meaningfulness of the forthcoming spaceflight mission. In this context, meaningfulness refers to a person’s feelings that the tasks being carried out in given role are connected to something greater that provides a purposeful service to society at large (Emmons, 2003; Pratt & Ashforth, 2003). Prior studies show that creating meaningfulness for a stressing activity increases people’s work engagement with such activity (Cartwright & Holmes, 2006). Thus, we propose that a strong sense of meaning can serve as an important psychological resource to deal with inherently stressful environments (Glazer, Kozusznik, Meyers, & Ganai, 2014), such as a long-term spaceflight mission.

The goal of work session 3 for the stress coping module is to provide SFP with individual coping strategies. To this end, facilitators would provide information on anticipatory, preventive, and proactive coping strategies, and create awareness when they would be more appropriate. After having identified participants’ “default” coping strategy in work session 2, facilitators would now explain how to change the referent from the negative to the positive aspects of the demanding and difficult situations. Such changes in referent would, in turn, enable participants to appraise difficult situations as sources of challenge and opportunity (Kozusznik, Rodríguez,

& Peiró, 2015). Ideally, for the experiential learning component of the stress management block, participants would replicate highly stressing events that may occur in long-term human spaceflight within a controlled environment, like a virtual-reality simulator (Blue et al., 2017), or a real scale model of an ISS module, as it exists in ESA's ESTEC center. We also envision that once the ISS reaches the end of its lifespan, it could be reconverted to become the ultimate SIS training environment.

The goal of work session 4 for the stress coping module is to provide participants with strategies for collective coping of stress. This work session would include stress management activities be focused on preventing "culturally-induced" distress. To this end, facilitators should encourage the emergence of both *swift* and inter-personal trust. Team-building exercises focused on strengthening the quality of a team's relational exchanges (TMX) facilitate the emergence of trust (Jarvenpaa & Leidner, 1998; Martínez-Tur & Peiró, 2009; Zornoza, Orengo, Ripoll, González Navarro, & Peiró, 2007). TMX focuses on the horizontal relationships among team members (TMX; Seers, 1989). Second, this block's activities would then seek to optimize the flow of intercultural communication in GVT. More precisely, a first activity would include didactic approaches for dealing with the team's diversity, following Dubé and Robey (2009), and Malhotra, Majchrzak and Rosen (2007) recommendations.

The goal of work session 5 for the stress coping module is to provide participants with tools to reduced "diversity-induced stress". To overcome the natural culture fault-lines that emerge in any multi-national team, facilitators should encourage participants to construct a shared understanding regarding aspects of their collective tasks (available equipment, task requirements, success criteria for coordinated action; Tannenbaum, Salas, & Cannon-Bowers, 1996; Zaccaro, Rittman, & Marks, 2001). Such collective understating is paramount for multinational teams to work effectively (for a review see Chatman, Polzer, Barsade, & Neale, 1998). Similarly, in work session 5, participants should shift from creating the conditions for group-level trust and low quality TMX, towards strengthening it by developing high-quality team-member exchanges (TMX). High-quality TMX predicts increases in positive attitudes (e.g., satisfaction and commitment; Banks et al., 2014). TMX seems appropriate for a long-term human spaceflight mission, in which, as a result of national diversity, each SFP is likely to bring a unique degree of expertise into the mission, and as such is also very likely to expect to participate actively in the mission's decision-making processes.

### *The Social Identity module*

*The Social Identity module* would draw on the well proven Actualizing Social and Personal Identity Resources intervention (ASPIRe; Haslam et al., 2003). In

general, this module explores which social identities participants use to define themselves (e.g., nationality, gender, religion). During work session 2, facilitators should focus on identifying which social identities are relevant to a person (AIRing). Because an individual may have many social identities which are not all relevant to a given context (in this case, a space-flight mission), the facilitator should play an important role in framing this process within the mission's overall agenda. To this end, facilitators should highlight those identities which are functional to the spaceflight mission mandate (i.e., if a participant has a strong national identity, then highlighting the pride in representing one's nation in space activities).

Work session 3 would focus mainly on the second step of the ASPIRe program (SUB-casing). Sub-group caucusing consists in providing a separate space for participants who share similar worldviews and goals to think and communicate ways to contribute to the overall mission's mandate. The underlying process within this stage is called group consensualization, and it enables social support (Haslam et al., 2003). The main challenge for facilitators in this step is preventing the polarization of sub-groups.

Work session 4 of the ASPIRe module would focus on superordinate consensualizing, or Super-Casing. After identifying the subgroups in the prior step, facilitators would invite one or more members of each subgroup to represent their subgroup in a debate. Even though the process of overcoming barriers appears similar to the previous sub-casing stage, the main difference resides in that a larger, shared identity should develop as a result of the super-casing stage. Such shared identity would cohesively unite the subgroup identities into a shared, mission-driven identity, which would not be uniformly imposed but organically developed as result of participants' diverse inputs.

Finally, work session 5 focus on the fourth step of the ASPIRe framework, Organic Goal-setting (ORGanizing). In short, ORGanizing refers to empowering participants to harmonize the emerging shared supra-ordinary goals with, in this case, the actual spaceflight mission mandate. Such alignment provides participants a sense of voice, which can inform team leaders about their crews' aspirations without undermining team leaders' formal authority. Extant research also shows that such participative approach results in higher levels of social support and collective performance in both face-to-face and virtual work environments (Picazo, Gamero, Zornoza, & Peiró, 2015; Wegge, Bipp, & Kleinbeck, 2007).

### *Phase 3: Training evaluation and feedback to participants*

In the training evaluation phase, facilitators would (1) conduct a post-training assessment, (2) provide personalized feedback, (3) encourage self- and collective reflection. First, the above-proposed measures would be administered again to

collect the second measurement of emotional intelligence and stress coping strategies. Contrasting this second measurement to the first measurement (baseline) would allow determining to some extent the efficacy of the SIS-MAP intervention. However, due to high-stakes involved in human spaceflight, we strongly advise to triangulate such report measures with facilitators' observations during the whole training program, and how participants responded to the ASPIRe intervention. In this way, by incorporating self and other reports, facilitators increase the robustness of the final assessments. To conclude, facilitators would provide each participant with feedback on how much they improved (or not) during the SIS-MAP training.

## CONCLUSION

Although long-term spaceflight has caught the attention of the general public and continues to be a constant source of inspiration for psychologists interested in team effectiveness (Salas et al., 2015), spaceflight-induced stress is still a major obstacle for extended human spaceflights. We emphasize the importance of using proactive stress coping strategies, developing a shared social identity, as well as intercultural and emotional competencies, as non-invasive techniques that could contribute to reduce spaceflight-induced stress. The use of these coping techniques would strengthen social support, develop trust, and improve communication among crew members, and SFP. Thus, astronauts and SFPs need to conquer spaceflight-induced stress before a manned mission to Near Earth Objects (NEO), or even Mars can become a viable reality.

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## O papel mediador do comprometimento afetivo com a equipa na relação entre a confiança e a inovação em equipas com algum grau de virtualidade<sup>1</sup>

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**The mediating role of affective commitment with the team in the relationship between trust and innovation in teams with some degree of virtuality**

### Abstract

Group innovation involves social processes that are facilitated by group trust and affective commitment to the team. The present paper intends to analyze, in a context of teams with some degree of virtuality, the relationship between trust and group innovation, considering the affective commitment with the team as the mediator. To achieve the proposed objective, an empirical study was carried out, with a cross-sectional nature, focusing on 57 work teams from Portuguese organizations pertaining to different sectors of activity. Using surveys as the method in order to collect information, the data was analyzed at the group level, and a simple mediation model was tested. The results revealed a positive

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and statistically significant relationship between group trust and affective commitment with the team, as well as between affective commitment and group innovation, in the affective trust mediation model. The mediation hypothesis was not supported. These results reinforce the literature that considers the relevance of group trust as a strategy to increase the affective commitment with the team and suggests that this latter may constitute a variable not to be neglected in promoting group innovation.

**Keywords:** group trust; affective commitment to the team; group innovation; team virtuality

## Resumo

A inovação grupal envolve processos sociais facilitados pela confiança grupal e comprometimento afetivo com a equipa. O presente trabalho teve como objetivo analisar, num contexto de equipas com algum grau de virtualidade, a relação entre a confiança e a inovação grupal, considerando o comprometimento afetivo com a equipa como mediador. Para prossecução do objetivo enunciado, foi realizado um estudo empírico, de natureza transversal, incidindo sobre 57 equipas de trabalho de organizações portuguesas pertencentes a diversos setores de atividade. Recorrendo ao inquérito por questionário como método de recolha de informação, os dados foram analisados ao nível grupal, tendo sido testado um modelo de mediação simples. Os resultados revelaram uma relação positiva e estatisticamente significativa entre a confiança grupal e o comprometimento afetivo com a equipa, bem como entre o comprometimento afetivo e a inovação grupal, no modelo de mediação da confiança afetiva. A hipótese de mediação não foi suportada. Estes resultados reforçam a literatura que alerta para a relevância da confiança grupal como estratégia para aumentar o comprometimento afetivo com a equipa e sugerem que este último pode constituir uma variável a não negligenciar na promoção da inovação grupal.

Palavras-chave: confiança grupal; comprometimento afetivo com a equipa; inovação grupal; virtualidade da equipa

## INTRODUÇÃO

A globalização e o avanço tecnológico têm tornado as equipas/grupos cada vez mais virtuais, ao permitir que elementos geograficamente dispersos recorram a meios eletrónicos para atingir objetivos comuns (Kirkman, Rosen, Tesluk, & Gibson, 2004).

As recentes definições de equipas virtuais enfatizam a omnipresença das interações virtuais em qualquer equipa (Griffith, Sawyer, & Neale, 2003), concentrando-se no grau de virtualidade de uma equipa (e.g., Kirkman et al., 2004).

O trabalho em equipa, quer presencial quer virtual, envolve desafios. A construção da confiança grupal, elemento básico para as equipas realizarem todo o seu potencial e que pode ser definida como o conjunto das perceções de confiabilidade que os membros de um grupo possuem relativamente uns aos outros (Langfred, 2004), constitui um desses desafios. Diversos estudos têm revelado uma relação positiva entre a confiança e a inovação grupal (e.g., Bao, Yang, Xie, & Zhou, 2004). As equipas que se envolvem em processos de inovação procuram, tentam e implementam intencionalmente formas novas e úteis de fazer o seu trabalho (West, 2002). Analogamente, o comprometimento afetivo com a equipa tem sido estudado como uma consequência positiva da confiança (Morgan & Hunt, 1994) e como um facilitador da inovação. O comprometimento afetivo com a equipa de trabalho inclui a aceitação dos objetivos e valores da mesma, a vontade de exercer esforços notáveis em seu nome e, ainda, um forte desejo de continuar a pertencer a essa equipa (Allen & Meyer, 1990).

Os estudos em equipas com algum grau de virtualidade são poucos, o que deixa em aberto um campo de estudo cada vez mais relevante. Pretendendo contribuir para aprofundar o conhecimento nesse domínio ainda pouco explorado, este estudo propõe-se a analisar as relações que a confiança, o comprometimento com a equipa e a inovação grupal estabelecem entre si. De um modo mais específico, pretende-se analisar a relação entre a confiança e a inovação grupal, considerando o papel mediador do comprometimento afetivo, enquanto estado emergente.

### *1. Grau de virtualidade nas equipas de trabalho*

Historicamente, o termo “virtual” era utilizado para classificar apenas equipas que nunca se encontram presencialmente (e.g., Cascio, 2000). Todavia, atualmente, este conceito tem sido aplicado também a equipas que apresentam, simultaneamente, interação presencial e mediada por tecnologia, dado que um crescente número de autores sugere que a visão dicotómica é simplista e irreal, estando a questão em saber quão virtual é uma equipa (e.g., Kirkman et al., 2004). Com efeito, equipas convencionais ou virtuais puras são raras, podendo a maioria ser descrita entre os extremos de um *continuum* de virtualidade, desde “nada” até “totalmente” virtual (Griffith et al., 2003).

Embora seja consensual que o grau de virtualidade é um constructo multidimensional (Martins, Gilson, & Maynard, 2004), o número de dimensões varia consoante o quadro concetual. Este facto, e também porque a maioria dos estudos se têm realizado com estudantes em laboratório (Martins et al., 2004), tem levado a que a investigação seja criticada pela falta de uma compreensão que permita a análise comparativa e cumulativa (Gilson, Maynard, Young, Vartiainen, & Hakonen, 2015).

Segundo Johnson, Bettenhausen e Gibbons (2009), o uso de tecnologia para comunicar é a dimensão mais utilizada na investigação, produzindo efeitos nas relações sociais e emocionais dentro da equipa. Deste modo, esta é também a dimensão usada para caracterizar as equipas do nosso estudo. Contudo, analogamente a De Jong, Schalk e Cursçeu (2008) e, também, Kirkman e Mathieu (2005), incluímos para além da frequência de utilização, a riqueza do meio de comunicação utilizado e o grau de sincronia do mesmo. Os meios de comunicação mais pobres e com baixo nível de sincronia associam-se a níveis mais elevados de virtualidade (De Jong et al., 2008; Kirkman & Mathieu, 2005).

A investigação sugere que o grau de virtualidade das equipas influencia negativa e significativamente a confiança (e.g., Chudoba, Wynn, Lu, & Watson-Manheim, 2005), o comprometimento afetivo com a equipa (e.g., Johnson et al., 2009) e a inovação (e.g., Gibson & Gibbs, 2006). Porém, continua atual o apelo de Martins et al. (2004) relativo à necessidade de a comunidade científica conduzir mais estudos nesse contexto. A presente investigação, realizada com equipas com algum grau de virtualidade, procura responder a esse apelo.

## 2. *Confiança grupal*

As equipas de trabalho possuem muitas vezes autonomia, pelo que os mecanismos de controlo são reduzidos e a confiança é essencial. A confiança requer uma antecipação de comportamentos positivos por parte dos outros e envolve a vontade de se tornar vulnerável em situações de risco e interdependência, permitindo suspender a dúvida acerca do outro poder ser oportunista (Grichanik, 2014).

No nível grupal, a confiança tem sido definida como um agregado de perceções de confiabilidade que os membros de um grupo possuem relativamente uns aos outros (Langfred, 2004), sendo esta a definição adotada neste estudo. Igualmente, seguindo a adaptação, para o nível grupal, do modelo de McAllister (1995), proposta por Grichanik (2014), concetualiza-se que a confiança grupal possui bases afetivas e cognitivas. A confiança afetiva associa-se à perceção de existência de partilha de ideias, sentimentos e preocupações na equipa, na esperança de receber apoio e compreensão (Dimas, Alves, Lourenço, & Rebelo, 2016). A confiança cognitiva tem por base o reconhecimento de profissionalismo e competência dos colegas de equipa (Dimas et al., 2016).

Meyerson, Weick e Kramer (1996) afirmam que equipas temporárias tendem a desenvolver muito rapidamente confiança entre os seus membros (fenómeno que designaram como confiança rápida ou, no original, *swift trust*). Com efeito, por se desenvolver precocemente, este tipo de confiança é muito frágil, temporário e dependente da comunicação inicial entre os membros da equipa. No entanto, pode facilitar a cooperação, partilha de informações e continuidade dos membros.

Bos, Olson, Gergle, Olson e Wright (2002) acrescentam que em equipas virtuais, a comunicação eletrónica diminui as pistas não-verbais acerca da confiabilidade dos membros do grupo, atrasando a emergência da confiança. Este fenómeno, que podemos designar como confiança retardada, foi originalmente cunhado por Bos et al. (2002) sob a designação de *delayed trust*.

### 3. *Comprometimento afetivo com a equipa*

O estudo do comprometimento no local de trabalho é central para a compreensão do comportamento humano nos grupos e organizações. O comprometimento é um estado psicológico que caracteriza a relação de um indivíduo com a organização a que pertence e que influencia a decisão de continuar ou não a pertencer à mesma (Allen & Meyer, 1990).

A nível grupal, o comprometimento refere-se à ligação psicológica que os membros sentem relativamente à sua equipa (Pearce & Herbik, 2004). Neste domínio, o comprometimento afetivo remete para uma forte ligação emocional, elevado envolvimento e identificação com as metas e valores da equipa e o desejo de continuar a pertencer à mesma (Allen & Meyer, 1990).

Na verdade, indivíduos com elevado comprometimento afetivo irão demonstrar níveis mais elevados de cidadania no trabalho e partilha de conhecimento (Bouwman, Runhaar, Wesselink, & Mulder, 2017; Pearce & Herbik, 2004). Assim, torna-se provável que o comprometimento afetivo possa relacionar-se positivamente com resultados grupais que dependem da partilha de ideias e conhecimento entre os membros do grupo, de que é exemplo a inovação (Zheng, Zhu, & Yang, 2010).

Embora a investigação, neste âmbito, se concentre em equipas tradicionais e apesar de Johnson et al. (2009) terem concluído que a utilização de comunicação mediada por computador afeta negativamente o comprometimento afetivo com a equipa, Lin, Chiu, Joe e Tsai (2010) concluíram que, quando os membros de uma equipa virtual confiam uns nos outros, geram um forte comprometimento afetivo com a equipa.

### 4. *Inovação grupal*

A inovação representa um elemento chave para as organizações alcançarem vantagem competitiva (Batarseh, Usher, & Daspit, 2017). Batarseh et al. (2017) definem inovação grupal como a introdução e aplicação intencional de ideias, processos, produtos e procedimentos novos para a equipa, que visam melhorar

de forma significativa os resultados do grupo ou da organização. Assim, implica novidade para a unidade que a adota, mas não necessariamente uma novidade absoluta (West, 2002). O presente estudo segue esta definição de inovação grupal.

A inovação grupal envolve processos sociais que são facilitados pela capacidade de colaboração, na medida em que esta, com base no estabelecimento de confiança, comunicação e comprometimento, permite à equipa avaliar a informação, partilhar ideias e desenvolver soluções inovadoras (Batarseh et al., 2017). O que acabámos de explicitar contribui para explicar porque Gibson e Gibbs (2006) concluíram, no seu estudo com equipas com diferentes graus de virtualidade, que a virtualidade prejudica a inovação, dado que pode reduzir a confiança grupal e a partilha de informação.

### *5. Confiança, comprometimento afetivo com a equipa e inovação grupal*

Ruppel e Harrington (2000) sugerem que a confiança é relevante onde a inovação é desejada, dado que ajuda a trocar livremente informações e ideias, podendo conduzir a novos produtos, serviços ou métodos. Na mesma linha, Bao et al. (2004) e também Khan, Breitenacker, Gustafsson e Schwarz (2015) apontaram, nos seus estudos, para o facto de a confiança constituir um antecedente da inovação. Ainda no mesmo sentido, Pinho (2017) concluiu que tanto a confiança afetiva como a cognitiva se relacionam positivamente com a capacidade dos membros da equipa desenvolverem soluções inovadoras, o que apoia a ideia de que a confiança pode incentivar os membros da equipa a partilhar conhecimentos (afetiva) e a interpretar os diferentes pontos de vista que surgem aquando da inovação com base na perceção de confiabilidade que os membros têm uns dos outros, relativamente a fatores relevantes para o desempenho (cognitiva).

Além disso, Morgan e Hunt (1994), e também Zheng et al. (2010) e Breuer, Hüffmeier e Hertel (2016) concluíram que a confiança também se associa positivamente ao comprometimento afetivo com a equipa. A investigação tende a sugerir que tanto a confiança afetiva como a cognitiva influenciam positivamente o comprometimento afetivo (e.g., Hon & Lun, 2010).

Assim, o estabelecimento de um relacionamento baseado na confiança e no comprometimento afetivo com a equipa pode inspirar cada membro a ingressar no processo de inovação da equipa (Zheng et al., 2010).

Segundo Bao et al. (2004), se os membros da equipa não se conhecem, como muitas vezes acontece em equipas virtuais, temerão que a sua confiança ou comprometimento possam ser explorados e traídos. Com efeito, torna-se essencial que se estabeleça confiança entre os membros de equipas de trabalho (Alsharo, Gregg, & Ramirez, 2017), nomeadamente em equipas virtuais, para garantir o

comprometimento afetivo com a equipa e elevar os resultados da equipa, como a inovação.

Deste modo, o objetivo primordial desta investigação consiste em estudar o papel mediador do comprometimento afetivo com a equipa na relação entre a confiança e a inovação grupal. Por conseguinte, testar-se-á um modelo de mediação, em que a confiança (afetiva e cognitiva) constitui a variável *input*, o comprometimento afetivo com a equipa a variável mediadora e a inovação grupal a variável *output*.

Assim sendo, formulamos as seguintes hipóteses de investigação:

**H1:** A confiança afetiva está positiva e diretamente relacionada com a inovação grupal (1a); a confiança cognitiva está positiva e diretamente relacionada com a inovação grupal (1b).

**H2:** A confiança afetiva está positivamente relacionada com o comprometimento afetivo com a equipa (2a); a confiança cognitiva está positivamente relacionada com o comprometimento afetivo com a equipa (2b).

**H3:** O comprometimento afetivo com a equipa está positivamente relacionado com a inovação grupal.

**H4:** O comprometimento afetivo com a equipa medeia a relação entre a confiança afetiva e a inovação grupal (4a); o comprometimento afetivo com a equipa medeia a relação entre a confiança cognitiva e a inovação grupal (4b).

## MÉTODO

### 1. Amostra

A amostra em que incidiu o estudo das qualidades psicométricas dos instrumentos ficou constituída por 71 líderes e 277 membros, pertencentes a equipas de diversas áreas de atividade, cujas organizações, num total de 46, são também de diferentes setores de atividade, sendo o dos serviços o mais representado (45.10%). A média de antiguidade da equipa é de aproximadamente 8.41 anos ( $DP = 7.91$ ), variando entre três meses e 35 anos. A média de membros por equipa é de cerca de sete ( $DP = 4.43$ ), variando entre os três e os 25 membros.

Os membros das equipas têm idades compreendidas entre os 18 e os 67 anos ( $M = 34.83$ ;  $DP = 11.24$ ), sendo a maioria do sexo feminino (54.20%). A antiguidade de

cada membro na atual equipa varia entre um mês e 32 anos ( $M = 5.05$ ;  $DP = 6.18$ ). Relativamente às habilitações literárias, a licenciatura é o grau de escolaridade mais representado (40.10%).

Os líderes têm idades compreendidas entre os 21 e os 67 anos ( $M = 41.72$ ;  $DP = 10.74$ ), sendo 67.10% do sexo masculino. A maioria dos líderes (77.20%) possui habilitações ao nível do ensino superior. Em média, os líderes assumiam a liderança da sua equipa há cerca de sete anos ( $DP = 7.16$ ), variando entre cerca de dois meses e 27 anos.

## 2. Recolha de dados

A seleção das equipas teve como critério a definição de grupo adotada pela equipa de investigação – um conjunto de três ou mais indivíduos, que se reconhecem e são reconhecidos como grupo e que interagem de forma regular e interdependente, de modo a alcançar um alvo comum (Lourenço, Dimas, & Rebelo, 2014). Além disso, todos os líderes deveriam ser supervisores diretos das equipas, sendo responsáveis pela gestão da equipa e não executar as tarefas diárias da equipa. De igual modo, constituiu critério de inclusão a equipa utilizar, em alguma medida, ferramentas virtuais para comunicar, coordenar e executar as suas atividades.

Para a constituição da amostra utilizou-se o método de amostragem por conveniência (Hill & Hill, 2012). Os dados, obtidos através do método do inquérito por questionário, foram recolhidos a partir de duas fontes: os líderes e os membros das equipas. O contacto inicial com um representante de cada organização foi realizado pessoalmente ou por via eletrónica (*e-mail*). Às organizações que se mostraram interessadas em colaborar, foi explicado detalhadamente o projeto de investigação. Posteriormente, procedeu-se à administração dos questionários, presencialmente ou através da disponibilização da sua versão *online*. Em ambos os casos foram assegurados os pressupostos éticos de investigação em psicologia, nomeadamente o consentimento informado dos participantes, bem como a garantia de confidencialidade.

## 3. Instrumentos de medida

**Confiança grupal:** foi administrada, somente aos membros de cada equipa, a versão portuguesa da escala da confiança de McAllister (1995), posteriormente adaptada para o nível grupal por Grichanik (2014). A versão portuguesa foi traduzida e adaptada por I. Nascimento (2015) num estudo realizado com estudantes do ensino superior, tendo sido posteriormente submetida a novos estudos de dimensionalidade e fiabilidade por R. Nascimento (2017), numa amostra de equipas de

trabalho. A versão portuguesa da escala que utilizámos (versão de R. Nascimento, 2017) integra oito itens (quatro por componente), de que são exemplo, “posso confiar que os meus colegas não me dificultarão o trabalho com as suas ações” na componente cognitiva e “o meu grupo tem uma relação de partilha. Podemos partilhar livremente as nossas ideias, preocupações e estratégias” na componente afetiva. A escala de resposta é de tipo Likert de 6 pontos (1 – *Discordo muito* a 6 – *Concordo muito*), na qual os valores mais elevados indicam que os membros do grupo confiam nos restantes. Nos estudos de R. Nascimento (2017) a escala demonstrou bons resultados ao nível da consistência interna para ambas as componentes ( $\alpha = .88$  na componente cognitiva e  $\alpha = .87$  na componente afetiva).

**Comprometimento afetivo com a equipa de trabalho:** utilizámos a escala proposta por Batarseh et al. (2017), composta por quatro itens adaptados da escala de comprometimento afetivo de Allen e Meyer (1990). Cada item, como, por exemplo “Os membros sentem-se emocionalmente ligados à equipa”, foi classificado pelos membros de cada equipa numa escala de Likert de 5 pontos (1 – *Discordo fortemente* a 5 – *Concordo fortemente*). No estudo de Batarseh et al. (2017), o alfa de Cronbach foi de .91.

Dado não existir uma versão portuguesa, a escala foi traduzida, retrovertida e submetida à avaliação de um conjunto de quatro investigadores especialistas no domínio da investigação sobre equipas de trabalho, de modo a avaliar se existia concordância entre todos acerca da tradução dos itens. A realização de um estudo piloto não conduziu à necessidade de quaisquer alterações ao instrumento. Na avaliação das qualidades psicométricas da escala, foram analisadas, no presente estudo (cf. Secção Resultados), a dimensionalidade e a fiabilidade.

**Inovação grupal:** utilizámos uma escala de três itens (por exemplo, “A equipa é altamente inovadora”) também utilizada por Batarseh et al. (2007) com base em Vera e Crossan (2005). A escala foi administrada apenas aos líderes das equipas e cada item foi classificado numa escala de tipo Likert de 7 pontos (1 – *Discordo totalmente* a 7 – *Concordo totalmente*). Dado não existir uma versão portuguesa da escala, para adaptação e avaliação das suas qualidades psicométricas seguiram-se os mesmos procedimentos que foram realizados para a escala anterior. No estudo de Batarseh et al. (2017), o alfa de Cronbach foi de .89.

### Variáveis de controlo:

– **Grau de virtualidade de uma equipa de trabalho:** utilizou-se um indicador centrado no tipo de comunicação utilizado no grupo, criado com base no trabalho de De Jong et al. (2008), o qual é composto por nove itens (e.g., presencial; através de *e-mail*) e foi administrado ao líder de cada equipa. O indicador considera, para além da frequência (expressa em percentagem de utilização da tecnologia pela

equipa, no mês anterior ao da recolha de dados), a riqueza do meio utilizado e o grau de sincronia da comunicação.

– **Dimensão da equipa:** o tamanho da equipa foi incluído neste estudo como variável de controlo, pois diversos estudos mostram que a dimensão da equipa afeta os processos/estados emergentes grupais (e.g., Hülsheger, Anderson, & Salgado, 2009).

#### 4. *Análise de dados*

Para avaliação das qualidades psicométricas das escalas da inovação grupal e do comprometimento afetivo com a equipa, foram realizados estudos de fiabilidade (através da estimativa do alfa de Cronbach) e dimensionalidade, através da Análise Fatorial Exploratória. Para a escala da confiança grupal, considerando que o estudo de R. Nascimento (2017) apontou para boas qualidades psicométricas do instrumento numa amostra semelhante à utilizada neste estudo, efetuou-se somente a análise da sua fiabilidade.

Para o teste de hipóteses, tendo em conta aspetos relativos quer à representatividade de respostas por equipa (somente integrariam a amostra as equipas em que pelo menos 50% dos seus membros tivessem respostas válidas nas escalas utilizadas) quer ao facto de em algumas equipas não haver dados do líder, foram eliminadas 14 equipas, pelo que a amostra ficou composta por 57 equipas (57 líderes e 246 membros). A média do grau de virtualidade destas equipas era de 35.81% ( $DP = 21.87$ ).

Posteriormente, procedeu-se à agregação dos dados para o nível grupal, calculando-se as pontuações médias obtidas pelos membros, para cada uma das escalas ou dimensões. Para justificar a agregação, calcularam-se os valores de  $r_{wg}$  (James, Demaree, & Wolf, 1984), bem como os valores dos *Intraclass Correlation Coefficients* ICC(1) e ICC(2) para as escalas respondidas pelos membros das equipas. Os valores médios obtidos para o cálculo de  $r_{wg}$  foram de .89 para a confiança afetiva, .88 para a confiança cognitiva e de .88 para o comprometimento afetivo com a equipa. Assim, todos os valores são superiores ao limiar de .70 para se considerar a existência de acordo entre os membros das equipas nas respetivas escalas (Brown & Hauenstein, 2005). Os valores do ICC(1) encontrados para essas variáveis foram, respetivamente, .11, .13 e .21, pelo que são semelhantes aos encontrados na literatura (e.g., Bliese, 2000). No que diz respeito ao ICC(2), os valores encontrados para as mesmas variáveis foram, respetivamente, .35, .40 e .54. Embora os valores para a confiança afetiva e a confiança cognitiva se encontrem abaixo dos valores recomendados (e.g., .50 segundo Klein & Kozlowski, 2000), são próximos de valores encontrados noutros estudos para justificar a agregação dos dados (e.g., Liu & Batt, 2010). Assim, os valores encontrados, tomados no seu conjunto, fundamentam a agregação dos dados ao nível grupal.

Previamente ao teste de hipóteses procedeu-se a uma análise de correlações entre as variáveis em estudo (incluindo as variáveis de controlo). As hipóteses foram testadas através da análise da mediação simples (*simple mediation analysis*), com recurso ao PROCESS. Foram testados previamente os pressupostos de aplicação da técnica, nomeadamente ausência de *outliers* uni e multivariados, ausência de multicolinearidade, normalidade, linearidade e homoscedacidade dos resíduos (Tabachnick & Fidell, 2007). Os resultados obtidos apontaram para a manutenção de todos os casos e variáveis, em todas as análises a realizar.

## RESULTADOS

### 1. Qualidades psicométricas dos instrumentos

A escala da confiança apresentou um alfa de .89 para a componente cognitiva e .85 na componente afetiva.

Relativamente à escala do comprometimento afetivo com a equipa, a solução obtida na Análise Fatorial Exploratória, através do método de extração fatorização de eixo principal fez emergir, como esperado, uma estrutura unidimensional. Todas as comunalidades se situam entre .54 e .75. A solução extraída explica 59.41% da variância total. As saturações fatoriais variam entre .73 e .87. Relativamente à consistência interna, obtivemos um alfa de Cronbach de .85.

Para a escala da inovação, a solução inicial, obtida com o mesmo método de extração utilizado para a escala de comprometimento, fez emergir, como esperado, uma estrutura unidimensional, explicativa de 62.22% da variância total. Todas as comunalidades se situam entre .44 e .79. As saturações fatoriais variam entre .66 e .89. A respeito da consistência interna, obtivemos um alfa de Cronbach de .82.

### 2. Teste de hipóteses

As análises de correlação bivariada entre as variáveis em estudo (cf. Tabela 1) revelaram que tanto a confiança afetiva como a confiança cognitiva não se relacionaram de forma estatisticamente significativa com a inovação grupal ( $r = .08$ ,  $p = .577$ ;  $r = .19$ ,  $p = .159$ , respetivamente). Em contraste, quer a confiança afetiva quer a confiança cognitiva correlacionaram-se de forma positiva e estatisticamente

significativa com o comprometimento afetivo com a equipa ( $r = .56, p < .001$ ;  $r = .45, p < .001$ , respetivamente). Os valores das referidas correlações podem ser classificados como de grande e de média magnitude, respetivamente (Cohen, 1988). O comprometimento afetivo revelou uma correlação positiva, pequena e marginalmente significativa (a um nível de  $p < .10$ ) com a inovação grupal ( $r = .26, p = .051$ ). As variáveis de controlo não se correlacionaram com as restantes, pelo que foram eliminadas de todas as análises subseqüentes (Becker, 2005).

Tabela 1

*Correlações, Médias e Desvios-padrão das Variáveis em Estudo*

| Variável                             | M     | DP    | 1   | 2                | 3      | 4      | 5   | 6 |
|--------------------------------------|-------|-------|-----|------------------|--------|--------|-----|---|
| Dimensão da equipa                   | 5.89  | 3.58  | -   |                  |        |        |     |   |
| Inovação grupal                      | 5.18  | .80   | .05 | -                |        |        |     |   |
| Comprometimento afetivo com a equipa | 3.89  | .47   | .07 | .26 <sup>†</sup> | -      |        |     |   |
| Confiança cognitiva                  | 5.08  | .47   | .08 | .19              | .45*** | -      |     |   |
| Confiança afetiva                    | 5.05  | .48   | .14 | .08              | .56*** | .73*** | -   |   |
| Grau de virtualidade                 | 35.91 | 21.87 | .09 | .06              | .10    | .09    | .21 | - |

Nota. N = 57.

†  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Embora se tenha verificado que o mediador (comprometimento afetivo com a equipa) apenas se relacionava a um nível de significância marginal ( $p < .10$ ) com a variável dependente (inovação grupal), considerando o valor de  $p$  obtido (.051) e a reduzida dimensão da amostra utilizada, a qual limitou o poder estatístico da análise, optámos por testar o modelo de mediação simples.

Como se verifica na Tabela 2, a confiança afetiva, conforme sugerido pela análise de correlações, encontra-se relacionada significativamente com o comprometimento afetivo com a equipa ( $a = .56, EP = .11, p < .001$ ), explicando 31% da variância dessa variável ( $R^2 = .31, F(1,55) = 25.20, p < .001$ ). A relação entre o comprometimento afetivo e a inovação grupal situa-se no limite da significância estatística ( $b = .54, EP = .27, p = .049$ ). Por seu lado, os efeitos total e direto da confiança afetiva na inovação grupal não se revelaram significativos ( $c = .13, EP = .23, p = .577$ ;  $c' = -.17, EP = .27, p = .519$ , respetivamente). Analogamente, a análise, através do método *bootstrapping*, do efeito indireto da confiança afetiva na inovação via comprometimento afetivo revelou que o mesmo era não significativo (estimativa do produto  $ab = .30, EP_{boot} = .25, 95\% \text{ CI } [-.09, .94]$ ), num modelo que explica 8% da variabilidade na inovação ( $R^2 = .08, F(2,54) = 2.19, p = .122$ ). Assim, no modelo em que se testaram os efeitos da confiança afetiva, apesar de ter sido encontrado suporte empírico para as hipóteses H2a e H3, as hipóteses H1a e H4a não foram suportadas.

Tabela 2

*Análise de regressão da mediação para o modelo 4 testado (Hipótese 4<sub>A</sub>)*

| VD/Preditor                          | <i>b</i>         | <i>EP</i> | 95% IC |      | <i>R</i> <sup>2</sup> |
|--------------------------------------|------------------|-----------|--------|------|-----------------------|
|                                      |                  |           | LI     | LS   |                       |
| Comprometimento afetivo com a equipa |                  |           |        |      | .31***                |
| Confiança afetiva                    | .56***           | .11       | .34    | .78  |                       |
| Inovação grupal                      |                  |           |        |      | .08                   |
| Comprometimento afetivo com a equipa | .54 <sup>†</sup> | .27       | .00    | 1.08 |                       |
| Confiança afetiva                    | -.17             | .27       | -.71   | .36  |                       |
| Interação                            | .30              | .25       | -.09   | .94  |                       |

*Nota.* *N* = 57. VD = variável dependente. *b* = coeficiente de regressão não-estandardizado. *EP* = erro padrão. IC = intervalo de confiança. LI = limite inferior. LS = limite superior. Interação = efeito de regressão mediada.

\**p* < .05, bicaudal. \*\**p* < .01, bicaudal. \*\*\**p* < .001, bicaudal.

No caso da confiança cognitiva, como é possível observar na Tabela 3, esta encontra-se relacionada significativamente com o comprometimento afetivo com a equipa ( $a = .45$ ,  $EP = .12$ ,  $p < .001$ ), explicando 20% da variabilidade dessa variável ( $R^2 = .20$ ,  $F(1,55) = 13.78$ ,  $p < .001$ ). O comprometimento afetivo com a equipa não se associou significativamente com a inovação grupal ( $b = .37$ ,  $EP = .25$ ,  $p = .139$ ). Também os efeitos total e direto da confiança cognitiva na inovação grupal não foram estatisticamente significativos ( $c = .32$ ,  $EP = .23$ ,  $p = .159$ ;  $c' = .15$ ,  $EP = .25$ ,  $p = .538$ , respetivamente). Analogamente, a análise, através do método *bootstrapping*, do efeito indireto da confiança cognitiva na inovação via comprometimento afetivo revelou que esse efeito era não significativo (estimativa do produto  $ab = .17$ ,  $EP_{boot} = .16$ , 95% CI [-.05, .60]), num modelo que explica 7% da variância na inovação ( $R^2 = .07$ ,  $F(2,54) = 2.17$ ,  $p = .12$ ). Assim, apesar de ter sido encontrado suporte para a hipótese H2b, as hipóteses H1b, H3 e H4b não foram apoiadas empiricamente.

Tabela 3

*Análise de regressão da mediação para o modelo 4 testado (Hipótese 4<sub>B</sub>)*

| VD/Preditor                          | <i>b</i> | <i>EP</i> | 95% IC |     | <i>R</i> <sup>2</sup> |
|--------------------------------------|----------|-----------|--------|-----|-----------------------|
|                                      |          |           | LI     | LS  |                       |
| Comprometimento afetivo com a equipa |          |           |        |     | .20***                |
| Confiança cognitiva                  | .45***   | .12       | .21    | .69 |                       |
| Inovação grupal                      |          |           |        |     | .07                   |
| Comprometimento afetivo com a equipa | .37      | .25       | -.13   | .87 |                       |
| Confiança cognitiva                  | .15      | .25       | -.35   | .65 |                       |
| Interação                            | .17      | .16       | -.05   | .60 |                       |

*Nota.* *N* = 57. VD = variável dependente. *b* = coeficiente de regressão não-estandardizado. *EP* = erro padrão. IC = intervalo de confiança. LI = limite inferior. LS = limite superior. Interação = efeito de regressão mediada.

\**p* < .05, bicaudal. \*\**p* < .01, bicaudal. \*\*\**p* < .001, bicaudal.

## DISCUSSÃO

O principal objetivo da presente investigação consistiu em analisar o papel mediador do comprometimento afetivo com a equipa na relação entre a confiança (afetiva e cognitiva) e a inovação grupal.

Contrariamente ao previsto na hipótese H1 e ao sugerido pelos estudos realizados até ao momento nesta área (e.g., Bao et al., 2004; Ruppel & Harrington, 2000), não se encontrou uma associação positiva, estatisticamente significativa, entre a confiança, nas suas componentes afetiva (H1a) e cognitiva (H1b), e a inovação grupal. Assim, os resultados não sustentam a perspetiva de que quanto mais elevada for a confiança afetiva entre os membros de uma equipa, mais segurança estes terão para colaborar para atingir a inovação grupal. Igualmente, a ideia de que a inovação grupal se associa à confiança cognitiva, ou seja, à perceção de confiabilidade entre os membros de uma equipa, tendo em conta aspetos relevantes para o desempenho, também não foi suportada.

Quanto à relação entre a confiança grupal, nas suas duas componentes, e o comprometimento afetivo com a equipa (H2), tal como previsto e indo ao encontro de outras investigações (e.g., Lin et al., 2010; Morgan & Hunt, 1994), verificou-se uma relação positiva estatisticamente significativa entre estas variáveis. A confiança afetiva parece ter uma associação mais forte com o comprometimento afetivo do que a confiança cognitiva, uma vez que a relação daquela componente da confiança grupal com o comprometimento afetivo com a equipa revelou um valor de maior magnitude. Assim sendo, à semelhança de estudos anteriores, os resultados parecem indicar que, quando os membros de uma equipa confiam uns nos outros devido a sentimentos de identificação, laços emocionais e à perceção de existência de partilha de ideias, têm maior probabilidade de demonstrar níveis mais elevados de comprometimento afetivo com a equipa.

A hipótese H3, que apontava para a existência de uma relação positiva e estatisticamente significativa entre o comprometimento afetivo com a equipa e a inovação grupal, foi suportada parcialmente. Consequentemente, os resultados sugerem que na presença de confiança afetiva os membros não só se encontram comprometidos afetivamente com a equipa como se esforçam e propõem sugestões novas e inovadoras. Assim, embora os resultados não apoiem claramente os encontrados noutros estudos (e.g., Zheng et al., 2010), também não se mostram totalmente divergentes desses estudos. Importaria, contudo, replicar o estudo com uma amostra de maior dimensão para sustentar (ou refutar) de forma clara esta nossa interpretação dos resultados obtidos.

Por fim, a hipótese de mediação (H4) não recebeu suporte empírico, visto que os resultados não mostraram que o comprometimento afetivo com a equipa atua enquanto mediador da relação entre cada uma das componentes da confiança e a

inovação grupal. Estes resultados revelam-se divergentes dos que sugerem que a confiança atua de forma indireta sobre a inovação, através do comprometimento afetivo que gera num grupo (e.g., Ruppel & Harrington, 2000). Ainda assim, dado que não se verificou uma relação estatisticamente significativa entre a confiança e a inovação grupal, a ausência de mediação não pode ser imputada a um efeito direto da confiança sobre aquela variável.

## CONCLUSÕES

Dada a crescente relevância das equipas de trabalho nas organizações, nomeadamente aquelas com algum grau de virtualidade, é cada vez maior a importância atribuída à confiança e ao comprometimento afetivo com a equipa na inovação grupal. Com efeito, compreender a relação entre estas variáveis constitui um contributo relevante. O presente estudo teve como objetivo analisar a influência da confiança grupal na inovação grupal, considerando o comprometimento afetivo com a equipa como mediador.

Os resultados apenas suportaram a hipótese H2 e parcialmente a H3 (nomeadamente no modelo que inclui a confiança afetiva), o que permite afirmar que a confiança grupal, nas suas componentes afetiva e cognitiva, se relaciona positivamente com o comprometimento afetivo com a equipa e que este pode desempenhar um papel significativo na inovação. Sob o ponto de vista da investigação, estes resultados reforçam a consistência dos resultados obtidos noutros estudos (e.g., Lin et al., 2010; Zheng et al., 2010) e contribuem cumulativamente para o conhecimento no domínio dos grupos de trabalho e, particularmente, das equipas virtuais. Sob o ponto de vista da intervenção, reforçam, sobretudo, as vantagens de os líderes de equipa estimularem a confiança grupal, nomeadamente se pretendem elevar o comprometimento afetivo com a equipa. Considerando a magnitude da influência positiva da confiança afetiva sobre o comprometimento afetivo, comparativamente com a confiança cognitiva, importa que os líderes impulsionem, mais que o reconhecimento de profissionalismo e competência, a perceção de existência de partilha de ideias, sentimentos e preocupações na equipa.

Embora o comprometimento afetivo com a equipa não se tenha revelado mediador da relação entre a confiança e a inovação grupal, importa assinalar, reforçando o que afirmámos já, que os resultados sugerem, ainda que parcialmente, uma relação positiva entre o comprometimento afetivo com a equipa e a inovação grupal, o que aponta para o facto de o comprometimento afetivo poder contribuir para a inovação grupal. Assim, a promoção de comprometimento afetivo com a

equipa pode revelar-se uma estratégia de gestão relevante em equipas virtuais que se pretendam inovadoras.

Ao nível da investigação, o presente estudo amplifica a literatura acerca das relações entre as variáveis analisadas, respondendo ao apelo da investigação sobre as múltiplas relações entre constructos que carecem de uma atenção adicional ao nível grupal (e.g., Hülsheger et al., 2009; Neining, Lehmann-Willenbrock, Kauffeld, & Henschel, 2010). Além disso, o facto de ter sido realizado com equipas de trabalho com algum grau de virtualidade contribui para o conhecimento relativo ao funcionamento deste tipo de grupos de trabalho. Em contraste com a maioria dos estudos realizados com equipas virtuais que ocorre em contexto de laboratório, com equipas de estudantes, o estudo incidiu sobre equipas em contexto real de trabalho. A presente investigação contribui, também, sob o ponto de vista instrumental, para dotar investigadores e gestores de equipas com instrumentos em língua portuguesa válidos e fiáveis (as escalas de comprometimento afetivo e de inovação grupal foram adaptadas para a língua portuguesa no âmbito da presente investigação).

Ainda assim, existem algumas limitações que podem ter contribuído para que algumas das hipóteses formuladas não tenham recebido suporte empírico. Primeiramente, embora a revisão da literatura que efetuámos tenha permitido estabelecer, sob o ponto de vista conceptual, o sentido causal das relações analisadas, o desenho transversal do estudo constitui um obstáculo à inferência empírica dessa causalidade. Em segundo lugar, ter-se recorrido ao método de amostragem por conveniência implica que a generalização dos resultados seja feita de forma cuidadosa. Em terceiro lugar, a utilização do questionário autoadministrado pode ter constituído uma limitação, na medida em que a informação foi recolhida somente com base nas percepções dos membros e respetivos líderes de equipa. Assim, embora atenuado pelo facto de as análises terem sido realizadas ao nível grupal, é possível que as respostas dos inquiridos possam refletir o efeito da desejabilidade social.

Finalmente, a dimensão da amostra constituiu uma das mais relevantes limitações da investigação que realizámos. Com efeito, a reduzida dimensão da amostra ( $N = 57$ ), diminuindo o poder estatístico das análises, poderá ter contribuído para o valor de  $p$  não ter sido significativo na maioria das nossas hipóteses (Snyder & Lawson, 1993). A dimensão da amostra impossibilitou também a adoção de outras técnicas de análise de dados, nomeadamente a utilização do modelo de equações estruturais, que permitiria controlar o efeito do erro de medição e testar de forma completa e simultânea todas as relações definidas pelas hipóteses (Kline, 2005).

Deste modo, seria relevante replicar este estudo em amostras com tamanho significativamente superior ao utilizado. Também em futuras investigações seria pertinente adotar um desenho longitudinal, a fim de ser possível inferir causalidade entre as variáveis. Adicionalmente, é importante que em futuros estudos

se incluam outras variáveis nos modelos a testar, nomeadamente aquelas que a literatura sugere serem também relevantes nas equipas virtuais (e.g., Gilson et al., 2015): várias dimensões da virtualidade, o bem-estar dos membros da equipa, o conflito intragrupal e o estilo de liderança.

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# The influence of leader-member exchange differentiation on work unit commitment: the mediating role of support climate<sup>1</sup>

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## Abstract

We investigated whether the influence of LMX differentiation (the extent to which the quality of the leader-member relationships within a work unit varies) on work unit commitment is mediated by support climate. We tested this mediated relationship in a sample composed of 30 health care units. The results obtained showed that LMX differentiation measured at Time 1 was negatively related to work unit support climate measured one year later (Time 2), which in turn was positively related to work unit commitment measured at Time 2. The negative indirect effect of LMX differentiation on work unit commitment through support climate was statistically significant. Our study contributes to having a better understanding of the role of LMX differentiation in work unit functioning.

**Keywords:** leader-member exchange theory; leader-member exchange quality; LMX differentiation; support climate; work unit commitment

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## **A influência da diferenciação das relações líder-membro no comprometimento com a unidade de trabalho: o papel mediador do clima de apoio**

### **Resumo**

Investigámos se a influência da diferenciação de LMX (o quanto a qualidade das relações de líder-membro dentro de uma unidade de trabalho varia) no comprometimento com a unidade de trabalho é mediada pelo clima de apoio. Testámos essa relação mediada em uma amostra composta por 30 unidades de saúde. Os resultados obtidos mostraram que a diferenciação da LMX medida no Tempo 1 foi negativamente relacionada ao clima de suporte da unidade de trabalho medido um ano depois (Tempo 2), que por sua vez foi positivamente relacionado ao comprometimento com a unidade de trabalho medido no Tempo 2. O efeito indireto negativo da diferenciação da LMX no comprometimento com a unidade de trabalho por meio do clima de apoio foi estatisticamente significativo. O nosso estudo contribui para uma melhor compreensão do papel da diferenciação do LMX no funcionamento da unidade de trabalho.

**Palavras-chave:** teoria de troca líder-membro; qualidade de troca de líder-membro; diferenciação de LMX; clima de apoio; comprometimento de unidade de trabalho

## **INTRODUCTION**

Leadership is a key process in understanding how work units' function and perform. Different theories have been developed to advance knowledge about the leadership phenomenon. One theory that has stimulated considerable research in recent decades is the leader-member exchange (LMX) theory (Graen & Cashman, 1975; Graen & Uhl-Bien, 1995). This theory posits that leaders develop distinct relationships with their subordinates depending on the quality of the exchanges involved. High quality LMX relationships are characterized by exchanges of both material and non-material resources, where partners tend to show high levels of mutual respect, trust, affection and obligation (Dansereau, Graen, & Haga, 1975; Graen, 1976; Graen & Schieman, 1978; Graen & Uhl-Bien, 1995; Liden, Wayne, & Stilwell, 1993). Low quality LMX relationships are characterized by transactional exchanges based on the specifications of the employment contract. In the latter case, partners generally show low levels of mutual respect, trust, affection and obligation. The extent to which there are distinct quality relationships within a unit is referred to as LMX differentiation (Henderson, Liden, Glibowski, & Chaudhry, 2009). LMX

differentiation is a fundamental element of LMX theory (Erdogan & Bauer, 2014). However, empirical research at the work-unit level on the relationship between LMX differentiation and unit outcomes is still scarce (Ma & Qu, 2010), and it has mainly focused on examining interaction effects between LMX-differentiation and other work-unit characteristics. For instance, Liden, Erdogan, Wayne and Sparrowe (2006) did not find a direct relationship between LMX differentiation and work group performance. However, they found two first-order interactions showing that LMX differentiation interacted with task interdependence and with the LMX median, so that the relationship between LMX differentiation and work group performance was positive when groups' task interdependence was high and their LMX median was low. In Stewart and Johnson's (2009) study, LMX differentiation was not directly associated with work group performance. However, the relationship was positive when gender diversity and aggregate LMX were high. Boies and Howell (2006) found an interaction effect between teams' mean LMX and LMX differentiation on team conflict and team potency (although the sign was contrary to the one expected). Finally, Le Blanc and González-Romá (2012) found that LMX differentiation was positively related to affective commitment and performance only in work units with a low LMX-quality median. Hence, previous research has mainly focused on the boundary conditions (i.e., moderators) of the LMX differentiation-unit outcomes relationship, but it has not paid attention to the possibility that certain variables (i.e., mediators) link LMX differentiation to unit outcomes (Martin, Guillaume, Thomas, Lee, & Epitropaki, 2016). In other words, only few studies have examined whether LMX differentiation and unit outcomes are *indirectly* related through hypothetical mediators (Li & Liao, 2014; Sui, Wang, Kirkman, & Li, 2016). This gap in the literature seriously limits the understanding of the relationship between LMX differentiation and work unit outcomes because the mechanisms underlying this relationship may remain hidden. Therefore, in order to contribute to filling this gap, the goal of this study is to determine whether the relationship between LMX differentiation and a relevant work unit outcome (work unit commitment) is mediated by work unit support climate. Our research model is shown in Figure 1.



Figure 1. The research model.

We conceptualized support climate as the unit members' shared perception of the extent to which the relationships among unit members are characterized by interest, concern and support. We chose support climate as a plausible mediator

for several reasons. First, as we will see later in more detail, some studies suggest that LMX differentiation can create problems in the relationships among peers (Erdogan & Bauer, 2010; Sherony & Green, 2002). These difficulties should be mirrored in work unit support climate and transmitted to other variables through this climate variable. Thus, work unit support climate is a plausible mediator of the LMX differentiation-work unit outcomes relationship. Moreover, this climate facet is crucial to work units' effectiveness (Kopelman, Brief, & Guzzo, 1990). To accomplish their goals in changing and complex environments, unit members must help each other solve the problems they encounter in their jobs and within their units.

Work unit commitment is defined as the shared psychological attachment unit members feel for their work unit. This psychological attachment is based on identifying with and internalizing work unit goals and values (O'Reilly & Chatman, 1986). We chose unit commitment as the key outcome variable in this study because goal achievement in work units involves a large amount of coordinated effort that is facilitated when unit members share a high level of commitment with their unit. Thus, unit commitment is a key collective construct for work unit effectiveness (Aubé & Rousseau, 2005).

Our study attempts to make three specific contributions to the literature. First, this investigation can help to improve our understanding of the mechanisms underlying the LMX differentiation-work unit commitment relationship by showing one of the mediators linking these two constructs. Second, we contribute to the development of LMX theory at the collective level. Graen and Uhl-Bien (1995) proposed four stages in the development of LMX theory. Stage 4 focuses on "how differentiated dyadic relationships combine together to form larger systems of network assemblies" (Graen & Uhl-Bien, 1995, p. 233); thus, at this stage the focus is on higher-level LMX constructs. Specifically, "Stage 4 involves investigating ... the effects of differentiated relationships on ... the entire structure" (p. 234). By examining the influence of LMX differentiation on two work unit properties (support climate and commitment), we provide empirical evidence to support the extension of LMX theory at higher levels of analysis. Third, we contribute to extending the integration of LMX and climate theories initiated by Kozlowsky and Doherty (1989) by showing how LMX differentiation is related to work unit support climate. Previous research has shown that LMX differentiation is related to climate strength (i.e., within-unit agreement in climate perceptions; Cogliser & Schriesheim, 2000), but its relationship with climate intensity (i.e., the aggregate score on a given climate dimension) has been investigated less.

Moreover, from a practical perspective, an improved understanding of the LMX differentiation-work unit commitment relationship may be useful in designing strategies for better managing teams based on LMX propositions and findings. For

instance, if LMX differentiation is found to be negatively related to work unit commitment via a negative relationship with support climate, unit managers should learn how to minimize differentiated leader-member relationships within their teams.

### *LMX differentiation and support team climate*

As a shared perception, support climate emerges at the work unit level through interactions among work unit members (Ashforth, 1985; Moran & Volkwein, 1992; Schneider & Reichers, 1983). Through these interactions, unit members communicate, confront and discuss their interpretations of work events, and they develop a shared interpretation of their work setting. Work unit members engage in this sense-making process because it gives them the opportunity to compare their own perceptions with those of their peers through a social verification process (Zohar, 2010), and it helps them to understand a complex and changing environment.

Our first hypothesis posits that LMX differentiation is negatively related to work unit support climate. LMX differentiation creates status differences within the work unit based on the quality of the leader-member relationships (Liden et al., 2006). Unit members with a high-quality relationship are considered to have a high status within the unit, whereas unit members with a low-quality relationship with their leader are considered to have a low status. We argue that as LMX differentiation increases, the associated status differences within the unit will hamper the unit's support climate. This relationship can be based on the similarity-attraction paradigm, which posits that individuals tend to be attracted to others who are perceived as like them (Berscheid & Walster, 1978; Byrne, 1971; Green, Anderson, & Shivers, 1996). People prefer to interact with other individuals who have (or are perceived to have) characteristics (e.g., sex, age, tenure, status), beliefs and attitudes like their own (Barsade & Gibson, 1998; George, 1996; Williams & O'Reilly, 1998), due to the reinforcing value of similarity. Similarity provides positive reinforcement for one's attitudes and beliefs, while dissimilarity is seen as frustrating. When unit members have similar LMX relationships with their leader (i.e., there is low LMX differentiation), they will also have a similar status within the unit. According to the similarity-attraction paradigm, this similarity will foster attraction among unit members, which in turn will promote interest and concern for similar others. Therefore, as LMX differentiation decreases, the unit's support climate will increase. In contrast, as LMX differentiation increases, unit members' attraction to other unit members (with distinct LMX relationships with their leader) will decrease, deterring behaviors of interest and concern for other unit members and causing the work unit's support climate to go down. Previous research conducted at the dyadic level is congruent with this

rationale. Sherony and Green (2002) found that the dissimilarity between the LMX relationships that two coworkers had with their leader was negatively related to the quality of the relationship between these two coworkers. This finding suggests that, at the unit level of analysis, when there is high variability in LMX relationships (i.e., high LMX differentiation), relationships among unit members have poorer quality and are less supportive (Erdogan & Bauer, 2010). Therefore, based on the arguments and findings presented above, we posit the following:

*Hypothesis 1: LMX differentiation is negatively related to work unit support climate.*

### *Support team climate and work unit commitment*

Our second hypothesis posits that work unit support climate is positively related to work unit commitment. As stated above, work unit commitment is conceptualized as the shared psychological attachment unit members feel for their work unit. This psychological attachment is based on identifying with and internalizing the work unit's goals and values (O'Reilly & Chatman, 1986). Work unit commitment emerges as shared psychological attachment at the unit level through several processes, such as socialization and social interaction. Through formal (e.g., planned training courses) and informal (e.g., on-the-job assignments, and help and guidance from coworkers while solving work problems) socialization tactics, work unit members learn and internalize the goals and values of their work unit (Van Maanen & Schein, 1979). By means of these learning and internalization processes, socialization tactics implemented in work units foster members' psychological attachment to their unit. Social information processing theory (Salancik & Pfeffer, 1978) posits that employees' attitudes and beliefs are like those of other coworkers with whom they interact. According to this theory, within a given work unit, members influence the attitudes and beliefs of their coworkers by providing relevant information about an object or situation (e.g., the work unit's goals and values) and by rewarding the adoption of this information (e.g., providing contingent social and instrumental support). Therefore, based on social information processing theory, the emergence of shared attitudes at the unit level (such as work unit commitment) is expected and rewarded (Burkhardt, 1994). Previous studies have provided empirical evidence showing that work unit members tend to share their levels of work unit commitment (González-Romá, Peiró, & Tordera, 2002; Kirkman & Rosen, 1999; Le Blanc & González-Romá, 2012).

The expected positive relationship between work unit support climate and work unit commitment is based on the following rationale. In work units with a high support

climate, relationships among unit members are characterized by interest, concern and help. These supportive relationships can promote psychological attachment to the work unit (i.e., commitment) because they foster a sense of belonging among unit members that contributes to fulfilling their affiliation and social needs (O'Reilly & Chatman, 1986; Ostroff & Bowen, 2000). Supporting the aforementioned relationship, in a sample of work units from a regional public health service, González-Romá et al. (2002) found that support climate was positively related to organizational commitment. Therefore, based on the arguments and findings presented above, we posit the following:

*Hypothesis 2: Work unit support climate is positively related to work unit commitment.*

### *A hypothesized mediated relationship*

Taking Hypotheses 1 and 2 into account, we expect LMX differentiation to have a negative indirect “effect” on work unit commitment through work unit support climate. Moreover, we posit that the expected mediation will be full. Full mediation is congruent with the input-processes-output (I-P-O) model (McGrath, 1984) and the input-mediator-output-input (IMOI) model (Ilgen, Hollenbeck, Johnson, & Jundt, 2005), in which processes and mediators (e.g., work unit support climate) are posited to transmit the influence of work unit inputs (LMX differentiation) on work unit outcomes (commitment). Moreover, in a recent study, Le Blanc and González-Romá (2012) observed that the direct relationship between LMX differentiation and work unit commitment was not statistically significant. Therefore, we hypothesize the following:

*Hypothesis 3: The relationship between LMX differentiation and work unit commitment is fully mediated by work unit support climate, so that the corresponding indirect effect is negative.*

## METHOD

### *Sample and data collection*

Data were collected from a convenience sample composed of thirty health care units. These units were composed of different health professionals (e.g., doctors,

nurses, and auxiliary personnel) and had a formal unit leader or director who was generally one of the unit doctors. The health care units' leaders were contacted by a member of our research unit and invited to participate in the study. Unit members were informed about the study general goals, and confidentiality and anonymity of the data were guaranteed. Participation in the study was voluntary. Once unit members agreed to participate, a member of our research team visited each of the health care units and gathered data by means of collective administration of the questionnaire designed for this investigation.

Data were collected at two time points separated by one year. This time lag was long enough to observe significant relationships among the study variables over time, but it was mainly determined by the participating work units' availability. At Time 1, we gathered information about the leader-member exchange quality and demographic characteristics of the health care units' members. At Time 2, we collected information about demographic characteristics, support climate and work unit commitment.

The data analyzed in this study were those provided by the non-leader members of the health care units. At Time 1, 421 subjects responded to the questionnaire. The average response rate across work units was 59%. Fifty-five percent of the respondents were women. Respondents' average age was 36.3 years ( $SD = 7.1$ ), and their average tenure in their health care unit was 4.7 years ( $SD = 3.0$ ). At Time 2, 313 subjects responded to the questionnaire. The average response rate across work units was 49%. At this time, 58.4% of the respondents were women, the average age was 36.4 ( $SD = 7.6$ ), and the average tenure in the unit was 5.5. ( $SD = 3.3$ ). The average size of the health care units participating in the study was the same at both time points (26.8 members,  $SD = 13.9$ ).

### *Measures*

*LMX differentiation.* LMX quality was measured at Time 1 from the health care unit members' perspective by means of Scandura and Graen's (1984) 7-item scale (e.g., "To what extent do you find your supervisor able to understand your problems and needs?", "To what extent do you think your supervisor recognizes your potential?"). Unit members answered using a 4-point response scale, where 1 was indicative of high quality LMX, and 4 was indicative of low quality LMX. Before computing LMX quality scores, respondents' scores were reversed, so that high scores were indicative of high quality LMX. Cronbach's alpha equaled .88.

Once unit members' scores on LMX quality had been obtained, within-unit standard deviation was used to operationalize LMX differentiation for each health

care unit. Higher within-unit standard deviation implies greater variability in unit members' assessments of LMX quality, representing more LMX differentiation.

Because within-unit variability measures are influenced by within-unit central tendency statistics (see Lindell & Brandt, 2000), we controlled for work units' central tendency on LMX quality scores. Given that LMX theory assumes that LMX quality can vary across leader-member relationships within a single unit, within-unit agreement is not expected. In such cases, the mean or average is not an appropriate measure (Bliese, 2000), and the median is preferred (Henderson et al., 2009; Liden et al., 2006). Thus, we computed the median LMX quality for each health care unit to represent the units' central tendency in LMX quality.

*Support climate.* Work units' support climate was measured at Time 2 by means of 4 items (e.g., "How many people in your work unit with personal problems are getting help?") selected from the FOCUS climate questionnaire (Van Muijen et al., 1999). The support climate scale of the FOCUS questionnaire is composed of eight items whose content refers to support received from coworkers and formal leaders. In order to avoid content overlapping between the LMX and support climate measures, we dropped the items referring to support received from the work units' formal leaders. Using unit members' responses, the four items were submitted to a principal axis factor analysis. The results showed that the four items loaded on a single factor that explained 50.4% of common variance. All the factor loadings were greater than .49. Cronbach's alpha for the support climate scale was .67.

To obtain a support climate score for each work unit, we aggregated work unit members' scores in this variable. Prior to aggregating, we obtained empirical evidence for aggregation by using two complementary approaches (Kozlowski & Klein, 2000): a consensus-based approach: computation of James, Demaree and Wolf's (1993)  $r_{wg(I)}$ ; and a consistency-based approach: computation of the intraclass correlation coefficient (ICC(1)). The average  $r_{wg(I)}$  across work units was .74 ( $SD = .13$ , Median = .77), which indicated a sufficient level of within-unit agreement. The one-way ANOVA conducted to compute ICC(1) showed that there were statistically significant differences in support climate across work units ( $F(29, 283) = 1.9, p < .01$ ). The value obtained for ICC(1) equaled .08, which is within the typical range of values (.05 – .20) suggested by Bliese (2000). Therefore, we concluded that aggregation of support climate scores at the work unit level was justified.

*Work unit commitment.* This variable was measured at Time 2 by means of a 3-item scale. Two items ("What my work unit stands for is important to me", "I am proud to tell others that I am a part of this work unit") were selected from O'Reilly and Chatman's (1986) scale. The third item ("I share the goals of my work unit") was developed by the authors of the present study. As in the case of support climate, the three items were submitted to a principal axis factor

analysis. The results showed that the three items loaded on a single factor that explained 70.5% of common variance. All the factor loadings were greater than .57. Cronbach's alpha for the work unit commitment scale was .79. To examine the discriminant validity of the support climate and work unit commitment scales, we submitted the seven items involved to a principal axis factor analysis with oblimin rotation. The results showed two factors with eigenvalues greater than 1 that explained 59.1% of common variance. The support and commitment items loaded on different factors, providing empirical evidence for the discriminant validity of the two scales.

To obtain work units' scores on work unit commitment, we aggregated work unit members' scores in this variable. Before proceeding with aggregation, we computed  $r_{wg(I)}$  and ICC(1). The average  $r_{wg(I)}$  across work units was .72 ( $SD = .15$ , Median = .74), which indicated a sufficient level of within-unit agreement. The one-way ANOVA conducted to compute ICC(1) showed that there were statistically significant differences in work unit commitment across work units ( $F(29, 277) = 2.04$ ,  $p < .01$ ). The value obtained for ICC(1) equaled .09. Therefore, we concluded that aggregation of work unit commitment scores at the work unit level was justified.

*Controls.* Considering that work unit size determines the number of interpersonal contacts within the unit, and work unit tenure may facilitate relationships among unit members, we controlled for these variables. Size data were obtained from the health care units' directors. Work unit tenure data were obtained by asking unit members how long they had been working in their current health care unit and aggregating their responses.

## Analysis

All the analyses carried out to test the study hypotheses were conducted at the work unit level. To test for mediation, it is important to note that Baron and Kenny's (1986) procedure has received important conceptual criticisms, especially related to the condition that X (the independent variable) must be related to Y (the dependent variable) (James, Mulaik, & Brett, 2006; LeBreton, Wu, & Bing, 2009; Zhao, Lynch, & Chen, 2010). Moreover, a simulation study showed that this procedure has low power to detect mediation (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002).

Mediation involves a causal relationship in which an independent variable (X; LMX differentiation) impacts on a mediator (M; support climate), which in turn impacts on a dependent variable (Y; work unit commitment). To estimate these relationships (X à M à Y), two regression models are needed. First, the mediator (M) is

regressed onto the independent variable (X):  $M = \beta_{0(1)} + \alpha X + \varepsilon_1$  (Equation 1; where  $\beta_{0(1)}$  and  $\varepsilon_1$  are the intercept and error term, respectively). Second, the dependent variable (Y) is regressed onto the mediator (M), controlling for the independent variable (X):  $Y = \beta_{0(2)} + \tau X + \beta M + \varepsilon_2$  (Equation 2). The product  $\alpha\beta$  is the mediated or indirect effect, whereas ( $\tau$ ) is the non-mediated or direct effect. One can say that a relationship is mediated if: 1) X is significantly related to M (testing for  $\alpha$ ); 2) M is significantly related to Y after controlling for X (testing for  $\beta$ ); and 3) the mediated effect is statistically significant (testing for  $\alpha\beta$ ) (MacKinnon, 2008).

We estimated the two regression models mentioned above by using SPSS 19. In these analyses, work units' median LMX quality was considered as a covariate whose impact was controlled for. The statistical significance of the mediated or indirect effect was tested by means of bootstrapping techniques as implemented in PROCESS for SPSS v2.11 (Hayes, 2013).

## RESULTS

Descriptive statistics and the correlations among the study's work unit variables are displayed in Table 1. As expected, LMX differentiation was negatively related to work unit support climate ( $r = -.55, p = .001$ ), and the latter was positively related to work unit commitment ( $r = .63, p < .001$ ). Team tenure was not significantly related to support climate ( $r = .23, p = .23$ ), but team size was ( $r = -.48, p = .007$ ). Therefore, we only controlled for team size when we estimated the relationship between LMX differentiation and support climate.

Table 1  
Descriptive statistics and correlations among the work unit study variables

|                            | <i>Mean</i> | <i>SD</i> | 1    | 2      | 3      | 4     | 5     | 6 |
|----------------------------|-------------|-----------|------|--------|--------|-------|-------|---|
| 1. Team tenure-T1          | 4.6         | 1.4       |      |        |        |       |       |   |
| 2. Team size-T1            | 26.8        | 13.9      | -.35 |        |        |       |       |   |
| 3. LMX Differentiation-T1  | .53         | .16       | -.15 | .35    |        |       |       |   |
| 4. LMX Median-T1           | 2.36        | .36       | .08  | -.26   | -.25   |       |       |   |
| 5. Support climate-T2      | 3.30        | .45       | .23  | -.48** | -.55** | .56** |       |   |
| 6. Work unit commitment-T2 | 3.76        | .33       | .05  | -.34   | -.18   | .53** | .63** |   |

Note.  $N = 30$  work units. \*\* $p < .01$ ; \* $p < .05$ , two tailed.

Hypothesis 1 proposes that LMX differentiation is negatively related to work unit support climate. To test this hypothesis, support climate at Time 2 was regressed

on LMX differentiation at Time 1, controlling for LMX median and team size, both measured at Time 1. The results obtained are displayed in Table 2. The regression coefficient estimating the relationship between LMX differentiation at Time 1 and support climate at Time 2 was negative and statistically significant ( $\beta = -.37$ ,  $p = .016$ ). LMX differentiation accounted for an additional 11% of the explained variance in support climate. This increase in R-squared was statistically significant ( $\Delta F(1, 26) = 6.6$ ,  $p = .016$ ). These results provide empirical support for Hypothesis 1.

Table 2

*Regression analyses to estimate the relationship between LMX differentiation at Time 1 and work unit support climate at Time 2*

| Predictors             | Step 1 | Step 2 | Step 3 |
|------------------------|--------|--------|--------|
| Team size T1           | -.48** | -.36*  | -.25   |
| LMX median T1          |        | .47**  | .41**  |
| LMX differentiation T1 |        |        | -.37*  |
| $R^2$                  | .23**  | .44**  | .55**  |
| $F$                    | 8.57** | 10.6** | 10.7** |
| $\Delta R^2$           |        | .21**  | .11*   |
| $\Delta F$             |        | 9.9**  | 6.6*   |

Note. \*\* $p < .01$ ; \* $p < .05$  (two-tailed). The regression coefficients shown are standardized.

Hypothesis 2 proposes that work unit support climate is positively related to work unit commitment. To test this hypothesis, work unit commitment at Time 2 was regressed on support climate at Time 2, controlling for LMX differentiation and LMX median, both measured at Time 1. The results obtained are displayed in Table 3. The regression coefficient estimating the relationship between support climate and work unit commitment was positive and statistically significant ( $\beta = .61$ ,  $p = .005$ ). Work unit support climate explained an additional 18% of the explained variance in work unit commitment. This increase in R-squared was statistically significant ( $\Delta F(1, 26) = 9.24$ ,  $p = .005$ ). These results render empirical support for Hypothesis 2.

Table 3

*Regression analyses to estimate the relationship between work unit support climate and work unit commitment at Time 2*

| Predictors                   | Step 1 | Step 2 |
|------------------------------|--------|--------|
| LMX median T1                | .52**  | .25    |
| LMX differentiation T1       | -.05   | .22    |
| Work unit support climate T2 |        | .61**  |

|              |       |        |
|--------------|-------|--------|
| $R^2$        | .29** | .47**  |
| $F$          | 5.44* | 7.81** |
| $\Delta R^2$ |       | .18**  |
| $\Delta F$   |       | 9.24** |

Note. \*\* $p < .01$ ; \* $p < .05$  (two-tailed). The regression coefficients shown are standardized.

Hypothesis 3 posits that the relationship between LMX differentiation and work unit commitment is fully mediated by work unit support climate, so that the corresponding indirect effect would be negative. To test Hypothesis 3, we first checked whether the conditions for mediation were met. The results presented above showed that the independent variable (X; LMX differentiation) was related to the mediator (M; support climate), which in turn was related to the dependent variable (Y; work unit commitment), after controlling for the independent variable. Thus, we concluded that the two first conditions for mediation were met. Then, we tested the statistical significance of the mediated or indirect effect ( $\alpha\beta = -.59$ , in unstandardized metric<sup>4</sup>). To do so, we used bootstrapping techniques. The number of bootstrap samples extracted to compute the bias-corrected 95% confidence interval was 1000. The results obtained showed that the lower and upper limits of this interval were -1.27 and -.23, respectively. Because the 95% confidence interval for the indirect effect did not include the value of zero, we concluded that the indirect or mediated effect was statistically significant. Therefore, the third condition for mediation was also met. Moreover, because LMX differentiation at Time it was not directly related to work unit commitment (see Table 3), we concluded that the mediation was full. Taken together, these results provide empirical support for Hypothesis 3<sup>5</sup>.

## DISCUSSION

The goal of the present study was to ascertain whether the relationship between LMX differentiation and work unit commitment was mediated by work unit support

4 We use a non-standardized metric here because it is the metric used by PROCESS to estimate indirect effects and the corresponding confidence intervals.

5 Taking into account that previous studies found an interaction effect between LMX median and LMX differentiation on work unit outcomes (e.g., Le Blanc & González-Romá, 2012; Liden et al., 2006), we also investigated this interaction effect. The results obtained showed that the interaction term composed of LMX median and LMX differentiation was not related to either support climate or work unit commitment, and that the indirect effect of LMX median on work unit commitment mediated by support climate was not moderated by LMX differentiation.

climate. The results obtained provide empirical evidence supporting the hypothesized mediated relationship, and show that LMX differentiation is negatively and indirectly related to work unit commitment through its negative relationship with work unit support climate.

### *Implications for theory and research*

The findings reported here have important theoretical implications. First, our study shows that work unit support climate is one of the mechanisms linking LMX differentiation and work unit commitment, and it suggests a theoretical explanation for it. Our theoretical rationale proposed that LMX differentiation produces status differences within the work unit between members with high and low quality LMX relationships (Liden et al., 2006). According to the similarity-attraction paradigm (Berscheid & Walster, 1978; Byrne, 1971; Green et al., 1996), these differences decrease attraction and interaction among work unit members and discourage behaviors of interest and concern for other unit members, which is mirrored in a low support climate within the unit. Thus, LMX differentiation has a negative influence on work unit support climate. Work units with low support climates cannot fulfill the affiliation and social needs of their members, which in turn dampens their psychological attachment (i.e., commitment) to their work unit. Our results at the work unit level are in line with previous findings obtained at the dyadic level showing that the dissimilarity between the LMX relationships of two coworkers with their leader was negatively associated with the quality of the relationship between the two coworkers (Sherony & Green, 2002). Taken together, all these findings suggest that LMX differentiation may be harmful to relationships among work unit members.

Second, our study contributes to developing LMX theory at higher levels of analysis by showing that one of its key higher-level constructs (LMX differentiation) significantly impacts two work unit properties: it is directly related to work unit support climate and indirectly related to work unit commitment. Moreover, our study provides a theoretical explanation for the relationships observed. The results reported here and those obtained by previous studies (e.g., Boies & Howell, 2006; Le Blanc & González-Romá, 2012; Liden et al., 2006; Stewart & Johnson, 2009) point out that the prospects of LMX research at higher levels of analysis are promising and will contribute to leading LMX theory into its fourth, team-level stage of development (Graen & Uhl-Bien, 1995). In our opinion, LMX differentiation plays a prominent role in this fourth stage (Henderson et al., 2009).

Third, previous research on LMX differentiation carried out at the work unit level of analysis has mainly focused on examining direct and interaction effects

on work unit outcomes (e.g., Boies & Howell, 2006; Le Blanc & González-Romá, 2012; Liden et al., 2006; Stewart & Johnson, 2009). Together with Li and Liao's (2014) and Sui et al.'s (2016) findings, our study shows that mediation models can contribute to improving our understanding of the role played by LMX differentiation in work units' functioning. One of the advantages of mediation models is that they require a careful examination and justification of the linking mechanisms involved. By elaborating and testing mediation models for LMX differentiation, we can gain more fine-grained knowledge about its impact on work unit properties. In this regard, future research could examine whether the relationship between LMX differentiation and work unit performance is mediated by work unit cohesion. The results presented here and our theoretical rationale suggest that LMX differentiation may be detrimental to work unit members' attraction to or liking of the work unit (i.e., cohesion; Evans & Jarvis, 1980), and the relationship between cohesion and work unit performance is well-documented in meta-analyses (e.g., Beal, Cohen, Burke, & McLendon, 2003). Future studies could also consider work unit conflict and justice as potential mediators of the relationship between LMX differentiation and work unit outcomes (see Martin, Thomas, Legood, & Russo, 2018). Differential treatment of team members by the leader can negatively affect justice within the work unit and trigger conflict.

Fourth, our study contributes to extending the integration of LMX and climate theories initiated by Kozlowsky and Doherty (1989). These authors showed that by developing high quality relationships, leaders can have a relevant influence on individual perceptions of climate (i.e., psychological climate). Later, Cogliser and Schriesheim (2000) extended the LMX-climate relationship to a higher level of analysis by showing that LMX differentiation was negatively related to climate strength (i.e., within-unit agreement in climate perceptions). Our study contributes to strengthening this extension by showing that LMX differentiation is also negatively related to climate intensity (i.e., mean score) in support climate. These results suggest that LMX differentiation shapes work unit climate through different pathways.

### *Practical implications*

Our study findings have clear practical implications for managing work units. First, work unit managers should be informed about and made aware of the dysfunctional consequences that LMX differentiation can have on supportive relationships among work unit members. This knowledge can improve their interest and motivation in learning how to deal with this leadership issue. Second, considering

the observed positive influence of the LMX median on subsequent support climate, and to prevent the dysfunctional consequences of LMX differentiation, work unit managers should be trained to develop high quality relationships with all the members of their work unit. This can be quite challenging, especially in large work units. Fortunately, previous research has shown that LMX training is not difficult to implement, and LMX interventions can be based on introducing behaviors that are easy to perform (e.g., Graen, Novak, & Sommerkamp, 1982; Graen, Scandura, & Graen, 1986; Scandura & Graen, 1984). For instance, Graen et al. (1982) trained managers to improve LMX quality by having one-to-one conversations with their work unit members, in which managers: 1) show interest in members' concerns and work expectations; 2) practice active listening; 3) refrain from imposing their point of view; and 4) share their own work expectations. Interestingly, this LMX-based intervention yielded improvements in productivity and work attitudes in a series of studies (Graen et al., 1982, 1986; Scandura & Graen, 1984).

### *Limitations*

Our study has some limitations that should be kept in mind when interpreting its findings. First, our sample of work units was small, which means that we had low statistical power to test our hypotheses. Nevertheless, the results obtained supported all the study hypotheses. Second, the study sample was composed of only one type of work unit (health care units), limiting the generalizability of our findings. Future studies should test the mediation model investigated here using other types of work units operating in different sectors. Third, all the data analyzed were gathered from the same source (work unit members), which might have contributed to inflating the relationships among the study variables. However, by measuring LMX differentiation and support climate at two different time points separated by one year, we reduced this concern in estimating the relationship between these two variables. Fourth, the time lag between the two measurement points (Time 1 and Time 2) was considered long enough to observe significant relationships among the study variables over time. However, it was mainly determined by practical reasons (i.e., the participating work units' availability). Unfortunately, there is no sound theoretical and empirical knowledge to determine the appropriate lag among the study variables. This is important because an inappropriate lag could result in an underestimation of the relationships observed (Mitchell & James, 2001). And fifth, support climate and work unit commitment were measured at the same time point, which did not allow us to draw sound conclusions about their causal relationship. For instance, based on similarity-attraction theory, it is also plausible that a similar, shared attachment to

the work unit could promote interaction, interest and concern for other work unit members. To overcome this issue, future studies should test the mediation model investigated here by measuring the three key constructs at different time points.

Despite these limitations, by showing the relationships between LMX differentiation and support climate and work unit commitment, our study contributes to developing a research line focused on testing mediation models in an attempt to better understand the role of LMX differentiation in work unit functioning.

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# Transformational leadership and innovation adoption: Is there a moderation role of personal initiative and job control?

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## Abstract

Hospital managers and chief physicians, but also doctors and nurses, in an effort to face constant changes, are involved in innovation. This study examines if transformational leadership style is related to adoption of employees' suggestions, and if personal initiative and job control moderate this relationship. Nurses, doctors, and auxiliary and technical collaborators (n = 137), of an Italian public hospital, participated in this study. Results show that transformational leadership was correlated to innovation adoption but, when examined moderators were included in the analysis, the relation was no more significant. Personal initiative and job control did not moderate the relationship between transformational leadership and innovation adoption but they do have a significant direct effect on innovation adoption. Findings suggest that innovation in hospitals is more related to personal variables, like personal initiative and job control, rather than to transformational leadership.

**Keywords:** innovation adoption; transformational leadership; personal initiative; job control; hospitals

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## **Liderança transformacional e adoção de inovação: Existe um papel moderador da iniciativa pessoal e do controle de trabalho?**

### **Resumo**

Os gestores dos hospitais e chefes, assim como os médicos e enfermeiras, esforçando-se para enfrentar as mudanças constantes, estão envolvidos na inovação. Este estudo examina se o estilo de liderança transformacional está relacionado com a adoção das sugestões dos funcionários e se a iniciativa pessoal e o controle do trabalho moderam essa relação. Enfermeiros, médicos e colaboradores auxiliares e técnicos ( $n = 137$ ) de um hospital público italiano participaram neste estudo. Os resultados mostram que a liderança transformacional se correlaciona com a adoção da inovação, mas, quando os moderadores examinados foram incluídos na análise, a relação não foi significativa. A iniciativa pessoal e o controle do trabalho não moderam a relação entre a liderança transformacional e a adoção da inovação, mas têm um efeito direto significativo na adoção da inovação. Os resultados sugerem que a inovação nos hospitais está mais relacionada com variáveis pessoais, como iniciativa pessoal e controle do trabalho, do que com a liderança transformacional.

**Palavras-chave:** adoção de inovação; liderança transformacional; iniciativa pessoal; controle de trabalho; hospitais

## **1. INTRODUCTION**

Change is a constant in many organizations, and this also applies to health organizations and hospitals. Hospitals need to continuously innovate medical treatments and services because of the constant technological change (Speziale, 2015), the increasing requests of patients and families, and the frequent decrease of financial resources (Dubois, McKee, & Nott, 2006).

Changes in healthcare require to substitute the old-traditional physician-centered approach for an “organization-driven” approach (Speziale, 2015). As a result, multiple professional figures play a central role in hospitals’ innovation processes and performance.

Hospital managers, head of wards or health-care professionals, in their daily management activities, may support or not the innovation (Mumford, Scott, Gaddis, & Strange, 2002). At the same time, the success of creative and innovative ideas depends very much also on the initiative of employees that implement the new ideas

and transform them into concrete practices (Fay & Frese, 2001; Martín, Potočnik, & Fras, 2017; Wu, Parker, de Jong, 2014).

This study investigates if transformational leadership style, due to its demonstrated role in fostering and supporting organizational innovation (Gumusluoglu & Ilsev, 2009; Noruzy, Dalfard, Azhdari, Nazari-Shirkouhi, & Rezazadeh, 2013) and performance (Wang, Oh, Courtright, & Colbert, 2011) is related to the innovative behaviour of employees. Furthermore, we want to investigate if personal initiative and job control moderate this relationship. These latter hypotheses are based on the interest of companies to increase employees' personal initiative in order to support change processes (Baer & Frese, 2003) and of employees to shape objectives, strategies and conditions of their own daily work (Petrou, Demerouti, & Schaufeli, 2018).

## 2. LITERATURE REVIEW

West and Farr (1990, p. 9) defined innovation as “the intentional introduction and application within a job, work team or organization of ideas, processes, products or procedures which are new to that job, work team or organization and which are designed to benefit the job, the work team or the organization”. Two main steps characterize the innovation process: the “development of new ideas”, or creativity, stage and the test, and implementation of the new ideas, or innovation stage (Amabile, 1988; West, 2002). While creativity concerns the generation of solutions, implementation refers to the “transition period during which targeted organizational members ideally become increasing skilful, consistent and committed in their use of an innovation” (Klein & Sorra, 1996, p. 1057).

The organizational implementation of innovative ideas aims to anticipate or match environmental changes and to improve the effectiveness of services (Shipton, West, Parkes, Dawson, & Patterson, 2006).

Studies regarding the implementation of new ideas generally focus on individual and organizational-related processes. On one hand, studies focused on individuals examine employees' behavioural responses to innovation, such as the psychological commitment to the innovation and intention to use it or the actual use of innovation (Choi & Price, 2005; Hartwick & Barki, 1994). On the other hand, studies focused on organizational-level innovation examine institutional resources, structures and practices of the implementation units (Chatterjee, Grewal, & Sambamurthy, 2002).

These two different approaches have been integrated by Greenhalgh, Robert, Macfarlane, Bate and Kyriakidou (2004), who found that institutional factors influence employees' attitudes and behaviours to innovation. For instance, employees' job satisfaction can

indeed increase the probability that innovations or changes are introduced in a work context (Shipton et al., 2006). In addition, individuals who experience positive feelings at work may be ready to develop good ideas and also prone to build constructive relationships with colleagues and managers (Shipton et al., 2006). Furthermore, Staw, Sutton and Pelled (1994) observe that employees that have positive emotions experience also greater optimism, perceived control, persistence and creativity, that may lead to innovation.

Literature has shown that leaders play an important role in creating and supporting organizational change and innovation (Leonard, Lewis, Freedman, & Passmore, 2013), because they actively create the context in which change-oriented behaviours (adaptive and proactive behaviours above all) can develop.

In 1978, Burns introduced the distinction between transactional and transformational leadership. Transactional leadership is based on the conservation of the status quo, advancing well-defined tasks and monitoring employee's performance through rational and economic means; transformational leadership, instead, has been conceptualized as a set of components (idealized influence, inspirational motivation, intellectual stimulation and individualized consideration) oriented to change and innovation (Bass & Riggio, 2006). A great emphasis has been devoted to the intellectual stimulation components of transformational leadership. Jung, Chow and Wu (2003) observed that it encourages to reframe problems, approach situations in new ways and modify existing rules in order to achieve goals and think "outside the box", which may be relevant for innovative processes.

Furthermore, transformational leaders have also been depicted as creating opportunities for professional development of team members, also in the health-care field (Stanley, 2006). These leaders "partner" much more with followers, which means higher levels of information sharing, mentoring and one-on-one coaching (Dong, Bartol, Zhang, & Li, 2017). In short, transformational leaders are supposed to challenge the traditional barriers and to look for new ways of doing things; they might support for the implementation of innovations and changes, which encourages the innovative behaviour of followers. Thus, we argue that:

**H1)** Transformational leadership is positively related to the innovative behaviour of employees.

Leadership is important, but leaders cannot carry out projects alone, and that is why it is also important to keep in account the personal initiative of their followers, especially if the leadership style tends to promote initiative and autonomy.

As stated by Frese, Fay, Hilburger, Leng and Tag (1997), personal initiative is the tendency to overcome rules and barriers in order to carry out a task or goal by engaging in proactive behaviours. Three important aspects of personal initiative are self-starting,

proactivity and persistence (Frese et al., 1997). Self-starting means that employees, feeling free from external pressure, instructions and role duties, direct their behaviours to the goals developed during their work. Proactivity is the capacity to anticipate problems and opportunities and to try to take advantage from them. Persistence refers to the will to overcome barriers and difficulties even when the situation seems to be insurmountable.

Dimensions of personal initiative reinforce each other, and people who develop these attitudes not only follow orders by supervisors and the organization, but also actively carry changes forward (Frese & Fay, 2001) and convert new ideas into concrete applications (Fay & Frese, 2001). Accordingly, we argue that the positive effect of transformational leadership on employee's innovative behaviours will be enhanced when employees have also a higher level of personal initiative. Thus, we hypothesize that:

**H2)** Personal initiative moderates the relationship between transformational leadership and innovative behaviour of followers.

The positive effect that transformational leadership might have on innovative behaviours may also be related to the job control, or the range of autonomy, that workers can use to introduce innovation in their organization. Job control refers to the influence that employees have over their actions and over the conditions under which the work is conducted (Frese, 1989). High levels of job control seem also related to personal initiative and a proactive orientation toward work (Parker, Wall, & Jackson, 1997). Accordingly, we argue that the positive effect of transformational leadership on employee's innovative behaviours will be enhanced when employees also have a higher level of job control. Thus, we hypothesize that:

**H3)** Job control moderates the relationship between transformational leadership and innovative behaviour of followers.

### 3. METHOD

#### 3.1 *Participants*

The study was conducted in two wards of a public hospital in central Italy. One ward had faced important changes and innovations in previous years for the merging of three equivalent wards of different hospitals into a single one. The other

ward, instead, had faced minor changes, mainly consisting in the integration of a surgical structure with a medical one.

Employees had been informed of the present study by their supervisors and participated on a voluntary and anonymous basis after being informed about the processing of their personal data and about their rights to privacy.

A self-report questionnaire was administered to 137 workers of the hospital; 49 respondents were men (36%) and 88 women (64%); nurses were 118, doctors and biologists were 9, while 10 respondents were auxiliary and technical collaborators. More than two third of the respondents ( $n = 98$ ; 71.5%) were working in the ward facing multiple changes, and the remaining ( $n = 39$ , 28.5%) were working in the other one. The average age was 33.9 y. o. ( $SD = 8.47$ ;  $Min. = 22$ ;  $Max. = 60$ ). Workers with a permanent contract were 123, while 16 had a fixed-term contract.

### 3.2 Measures

*Transformation leadership style:* Transformation leadership style was measured using 16 items of a shortened version of the Multifactor Leadership Questionnaire (MLQ) by Bass & Avolio (2000). Items asked to rate the frequency of specific actions and behaviours implemented by the leader, on a 5-point Likert scale, from 0 (“Not at all”) to 4 (“Frequently, if not always”). The items measure the four different dimensions of transformational leadership (idealized influence, inspirational motivation, intellectual stimulation and individualized consideration). Respondents had to report, for example, the extent with which the leader “spends some time in coaching and mentoring his/her collaborators” or “suggests new ways of doing things”. Internal consistency showed that Cronbach’s  $\alpha$  for this scale was .88.

*Innovation adoption:* Innovation adoption was estimated using the 5-item Italian version of the scale developed by Axtell et al. (2000). The scale measures the extent to which employees’ suggestions are implemented. Participants indicated the frequency with which their suggestions about, for example, “new services or improvement of services” or “new ways of managing and transmitting information”, have been effectively implemented. Answers were given in a 7-point Likert scale, from 0 (“Never”) to 6 (“Always”). The Cronbach’s  $\alpha$  for this scale was .96.

*Personal Initiative:* Personal Initiative was measured with the 7 items of the Italian version of the scale developed by Frese et al. (1997). Answers were given on a 7-point Likert scale, from 0 (“I completely disagree”) to 6 (“I completely agree”). Some examples of items are: “I face problems actively”; “Every time that something goes wrong, I immediately look for a solution”; “I quickly take the initiative, even if others don’t do it”. Cronbach’s  $\alpha$  for this scale was .93.

*Job control:* Job control was assessed using the control dimension of the Italian and shortened version of Cenni & Barbieri's (1997) translation of the Job Content Questionnaire originally developed by Karasek (1985). The subscale is composed of 7 items on a 7-point Likert scale, from 0 ("I completely disagree") to 6 ("I completely agree"). Participants had to think about their own work situation and indicate their agreement with items such as "I have not enough time to do all I should do". Cronbach's  $\alpha$  for this scale was .83.

### 3.3 Data analysis

Before testing our hypotheses, after preliminary analysis we removed three outliers. Then, correlations between all the examined variables were computed. Subsequently, using the PROCESS Macro in SPSS (Hayes, 2013), we tested the direct relationship between transformational leadership and innovation adoption (H1), and also the influence of personal initiative (H2) and job control (H3) as moderators of that relationship. All variables were standardized before conducting the regression analyses. All statistics were computed using SPSS 25.0 for Windows.

## 4. RESULTS

Descriptive statistics are reported in Table 1. Averages show that transformational leadership behaviours are often showed by the direct supervisor ( $M = 2.79$ ;  $SD = 0.47$ ), that respondents moderately agree with items concerning their personal initiative behaviours ( $M = 4.52$ ;  $SD = 0.90$ ) and job control ( $M = 4.11$ ;  $SD = 0.92$ ) and, finally, that employees' suggestions are rarely adopted within the organization ( $M = 2.57$ ;  $SD = 1.47$ ). Bivariate Pearson correlations show significant relationships between all the variables in this study. In particular, significant positive results are observed between transformational leadership and innovation adoption ( $r = .30$ ,  $p < .01$ ).

Table 1  
Means, standard deviations and correlations of study variables ( $N = 134$ )

|                                | M    | SD   | 1     | 2     | 3     | 4     |
|--------------------------------|------|------|-------|-------|-------|-------|
| 1. Transformational Leadership | 2.79 | 0.47 | (.88) |       |       |       |
| 2. Personal initiative         | 4.52 | 0.90 | .33** | (.93) |       |       |
| 3. Job control                 | 4.11 | 0.92 | .42** | .58** | (.83) |       |
| 4. Innovation adoption         | 2.57 | 1.47 | .30** | .55** | .48** | (.96) |

Note. \*\*  $p < .01$  level. Cronbach's alphas on the diagonal (between brackets)

To test our hypotheses, two moderation analyses were performed using the Model 1 of PROCESS Macro for SPSS. Results of these two analyses are reported in Table 2.

The first analysis, testing personal initiative as a moderator of the relationship between transformational leadership and innovative behaviours, returned a significant model ( $F(3, 124) = 20.20, p < .001, R^2 = .33$ ). In this model, transformational leadership ( $\beta = .13; p = .17$ ) does not predict significantly innovation adoption. On the contrary, personal initiative results a significant predictor of innovation adoption ( $\beta = .49; p < .001$ ), while no moderating effect of personal initiative is observed.

The second analysis, testing job control as a moderator of the relationship between transformational leadership and innovation adoption, returned a significant model ( $F(3, 124) = 14.34, p < .001, R^2 = .26$ ). As in the previous model, also in this model transformational leadership ( $\beta = .14; p = .20$ ) does not predict innovation adoption. On the other side, job control ( $\beta = .44$ ) results as a significant predictor, but the same is not true the interaction term ( $\beta = -.02; p = .87$ ).

Table 2  
*Moderation analyses with transformational leadership as independent variable and innovation adoption as dependent variable*

|                                    | Innovation adoption |      |      | Innovation adoption |      |      |
|------------------------------------|---------------------|------|------|---------------------|------|------|
|                                    | $\beta$             | S.E. | Sig. | $\beta$             | S.E. | Sig. |
| Transformational Leadership (T.L.) | .13                 | 0.10 | .17  | .14                 | 0.11 | .20  |
| Personal Initiative (P.I.)         | .49                 | 0.08 | .00  |                     |      |      |
| T.L. x P.I.                        | .11                 | 0.10 | .27  |                     |      |      |
| Job control (J.C.)                 |                     |      |      | .44                 | 0.08 | .00  |
| T.L. x J.C.                        |                     |      |      | -.02                | 0.10 | .87  |
| R <sup>2</sup>                     | .33                 |      |      | .26                 |      |      |
| F                                  | 20.20               |      |      | 14.34               |      |      |

In conclusion, on the basis of the reported data, H2 and H3 were only partially confirmed: although, in fact, both personal initiative and job control singularly predicted innovative behaviours, neither transformational leadership, nor its interaction with personal initiative and job control showed significant results.

## 5. DISCUSSION AND CONCLUSION

The purpose of this study was to clarify the role that transformational leadership style and personal initiative and job control have in determining the adoption

of employees' ideas and, more specifically, considering our sample, the adoption of nursing staff's ideas, in an Italian health context.

Our results showed a significant correlation between transformational leadership and innovative behaviours but also that this relationship is no more significant when personal initiative and job control are introduced as moderating variables. This result suggests that although scientific literature generally shows that transformational leadership usually promotes change and innovation (Bass & Riggio, 2006), this may not be the case for any organizational context; on the contrary, there may be cases in which innovations are adopted but this is not related to the direct contribution of transformational leaders or supervisors. In fact, although many studies suggest that transformational leadership predicts innovative behaviours, both at individual and group-levels, in a research, similarly conducted in a Taiwanese hospital, it was observed that transformational leadership was related to team innovation only when it was considered alone in the regression, and such effect disappeared, supporting an indirect effect, when patient safety climate and innovation climate were entered in the regression as mediators (Weng, Huang, Chen, & Chang, 2015).

Such result is also consistent with the contribution by Eisenbeiss, van Knippenberg and Boerner, who found that "transformational leadership may be instrumental in team innovation but is not sufficient to stimulate team innovation" (2008, p. 1443). All this suggests that further studies are needed, especially in health care organizations where rigid protocols have to be respected in order to secure patient health and patient safety, and leaders may try to directly orient individual developments in areas not related to creativity and innovation.

At the same time, however, this study suggests that personal initiative and work control may facilitate the adoption of innovations in hospital environment. Personal initiative and job control resulted to be both predictors of the perception that employees' ideas may be adopted, which confirms the important role these two personal-level dimensions have as drivers of entrepreneurial and wellbeing oriented behaviours (Frese & Fay, 2001; Frese & Gielnik, 2014; Martín et al., 2017; Wu et al., 2014). Future studies might investigate which type of ideas and suggestions are more often suggested and implemented in hospital wards and, in addition, which are the specific procedures through which such ideas are implemented.

This study has some limitations. Two limitations concern the self-report nature of the questionnaire and the cross-sectional design. Given the specific context and the relatively small sample, also the generalizability of results is limited. Therefore, other research, conducted with larger samples, with a longitudinal design and the adoption of more objective measures, could more clearly investigate the relationships between transformational leadership, personal initiative and job control, and adoption of nurses' suggestions.

Practical implications of this study are related especially to the presence of those micro level innovations in hospitals that can be suggested by doctors and nurses. Innovation adoption average in this study was not very high, which suggests that healthcare organizations are so complex and require so high coordination that hierarchy continues to be preferred to bottom-up suggestions (Ramanujam & Rousseau, 2006). Anyway, this study suggests that employees' and nurses' personal initiative and job control are related to the perception that suggestions are implemented. Consequently, an interesting practical implication of this study is that innovation may also be related to employees' job proactivity and job control, which are two relevant characteristics of healthcare staff performance.

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# Accompanying organizational innovation by research: The case for performance evaluation of Italian school principals<sup>12</sup>

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## Abstract

In 2015, the Italian parliament approved the law no. 107, named “La Buona Scuola” (“The Good School”), in order to boost the quality of organizational processes in schools. Among these, one of the most innovative was introducing a performance evaluation procedure for the nearly 7000 school principals of Italian public schools, from primary to college. From 2000 on, the legal status of schools principals in the public system have been set to the managerial level. However, no formal performance evaluation had been really performed before.

In 2016, the INVALSI (the governmental agency for the evaluation of the national education system - <http://www.invalsi.it/invalsi/index.php>) was instructed to formulate a project aimed to: i) translate into concrete organizational procedures the goals dictated by the law; ii) train the evaluation teams needed; iii) monitor by an appropriate research design the outcomes of the new performance evaluation.

The paper describes and discusses the training programme for assessors, the research design and some preliminary results.

**Keywords:** Italian school principals; performance; assessment; INVALSI

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2 The views expressed are those of the authors and do not imply any expression of opinion on the part of the INVALSI.

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## Acompanhando a inovação organizacional pela investigação: o caso da avaliação de desempenho de diretores de escola italianos

### Resumo

Em 2015, o parlamento italiano aprovou a lei nº 107, denominada “La Buona Scuola” (“A Boa Escola”), com o objetivo de impulsionar a qualidade dos processos organizacionais nas escolas. Entre eles, um dos mais inovadores foi a introdução de um procedimento de avaliação de desempenho para os quase 7 mil diretores de escolas públicas italianas, do ensino primário ao universitário.

Já desde 2000 que o estatuto legal dos diretores de escolas no sistema público ficou definido para o nível de gestão. No entanto, nenhuma avaliação formal de desempenho foi antes realmente realizada.

Em 2016, a INVALSI (a agência governamental para a avaliação do sistema nacional de educação - <http://www.invalsi.it/invalsi/index.php>) foi instruída no sentido de formular um projeto com o objetivo de: i) traduzir em procedimentos organizacionais concretos; os objetivos ditados pela lei; ii) treinar as equipes de avaliação necessárias; iii) monitorizar, por meio de um desenho de investigação apropriado, os resultados da nova avaliação de desempenho.

Este artigo descreve e discute o programa de formação para avaliadores, o desenho da investigação e alguns resultados preliminares.

**Palavras-chave:** Diretores de Escolas Italianas; desempenho; avaliação; INVALSI

## INTRODUCTION

In the year 2015, the Italian parliament approved the law no. 107, also known as “La Buona Scuola” (“The Good School”), in order to boost the quality of both pedagogical and organizational processes in schools. Within this framework, “school” refers to the institutions directly held by the State, and includes primary (6 to 11-year-old pupils), to lower secondary (11 to 14), and upper secondary school (14 to 19).

This paper will concentrate only in the organizational side of the educational process developed by the school, taking into account more in detail the evaluation of the performance of school principals (hereafter, SP), which has been introduced by the aforementioned law.

In Italy, slightly more than 8000 public (i.e. directly managed by the State) school institutions were active in 2017/18. Each school is under the responsibil-

ity of an SP. At the same time, the number of SPs in service was around 6500. It implies that one school out of five was managed by an SP assuming a double (or, in rare instances, triple) position and responsibility, because of the scarce number of SP hired and in service.

The career of SP has two main entry requirements: having at least 5 years of service as a teacher, and passing a regional-based examination. From the year 2000 on, Italian SPs became public managers for law purposes, reporting to a general Director on a regional basis (“Regional Director”). SPs are responsible for all aspects of school functioning, including pupils’ learning results, coordination of teachers’ activities and relationship with local community and institutions.

Among the new features introduced by the aforementioned law 107/2015, one is of central interest for this paper: the new procedure for the performance appraisal of the SPs of Italian public schools. Previously, a formal performance assessment had never been realized. As officially stated, the whole assessment process “aims to professional enhancement and improvement of SPs, to progressively increase the quality of school service” (from the article 3 of the Directive implementing the law 107/2015).

The Ministry of Education was in charge to decide and implement the operational criteria for such performance assessment. It has been stated that the performance of every SP during the previous school year has to be assessed against three main criteria, namely: i) unified management, promotion of participation, managerial competences aimed to get results (accounting for 60% of the final evaluation rating); ii) enhancing and promoting human resources, professional effort and merit (30%); iii) recognition within professional and local community (10%).

## 1. THE PERFORMANCE ASSESSMENT OF SPS: THE CONTEXT

Organizational theorists have often considered schools as a rather special kind of organization, to be described and studied paying attention to their specificity, as Weick (1976) suggested in his famous paper that used the conceptual frame of “loosely coupled system”, to explain individual and collective behaviours in schools. Following Weick’s approach, a loosely coupled system shows some typical features, namely: i) situations where different means can get the same result; ii) a lack of coordination; iii) absence of regulations; iv) very slow feedback times, within highly connected networks. That is why schools (intended as organizations) would be quite agile and able to respond to local and contingent stimuli, but hard to regulate by tight organizational rules and linkages.

This condition of a loosely coupled system should not be considered a weakness, as if “tight connected” organizational systems would be more reliable and efficient than the loosely coupled ones. Loosely coupled systems – just because of their flexibility – tend to perform better in times of rapid environmental changes, to produce local adaptations more easily, and to allow for more self-determination by actors. However, one more time because of their flexibility, they also need special care in order to reach and maintain a reasonable amount of organizational congruence among their components.

Concerning the role of SP in schools, besides the focus put by researchers on the so-called instructional leadership (Davis, Darling-Hammond, LaPointe, & Meyerson, 2005; Hallinger, Adams, Harris, & Suzette Jones, 2018; Purinton, 2013), since schools still are *also* organizations, many conceptual tools of organizational sciences are applicable. Following this line, one of the most relevant topic for Italian SPs is a possible responsibility-authority gap. As the first example of such a gap, Italian SPs do not have any middle management in their staff, helping them in the everyday organizational life: this is a quite rare situation for a manager being directly responsible for approximately one hundred collaborators (mean 2017/18 of a number of teachers per school, from official Ministry database). The second example of such responsibility-authority gap is that an SP has not any voice in selecting teachers serving in his/her school. SPs have also a limited amount of real influence on teachers’ daily professional behaviour.

In other words, SPs are held responsible for the results of the school, while they have to manage schools more through moral authority than through real power. However, research showed that SP does have an influence on many crucial elements of school life. As Paletta, Alivernini and Manganelli (2017) showed, when the influences of the context where the school operates are controlled for, principal’s leadership actually influences the process variables related to teachers and educational climate: job satisfaction among the teachers, self-efficacy of teachers, quality of educational climate, as well the academic success of students are related to SP’s leadership behaviours.

A complete description and analysis of the role of SP in Italian schools goes beyond the scope of this paper. However, the aforementioned research data and information seem sufficient to show that SP’s performance is a focal point for school effectiveness. Before entering into the main topic of this paper, the reader should consider some specificities of the Italian situation, considering that all data that will be shown concern only public schools, since the private ones are not regulated by the same discipline.

From the year 2000 on, the government has set the legal status of SPs to a managerial level, at the same moment when schools have been declared “autonomous”,

stressing the right and duty to self-organize their effort towards the attainment of educational goals. Consequently, SP's role was redesigned, shifting from a "primus inter pares" role, towards a managerial one.

Within this framework, SPs should have been treated in the same way than other public managers in other areas of Civil Service. Among the many elements to be considered, performance assessment is an important one. Although performance evaluation is mandatory by law for all public managers, the unique characteristics of educational organizations suggested not to automatically translate for SPs the same procedure in use for "standard" administrative managers of the public sector. This choice seems adequate, following good practices in organizational theory and in professional consulting, but in fact, any formal performance evaluation had not been performed for many years before the aforementioned law no. 107 ("The Good School"), which in 2015 dictated the guidelines for the performance assessment of SPs.

One year later, in 2016, the National Institute for the Educational Evaluation of Instruction and Training (hereafter: INVALSI), a governmental agency dedicated to study and research on the whole education system from kindergarten to college, was requested to formulate a project concerning SPs' performance assessment, aimed to:

- i) translate into concrete organizational procedures the guidelines dictated by the law;
- ii) train the teams of assessors needed;
- iii) monitor, by appropriate research design, the whole process.

## 2. THE PERFORMANCE EVALUATION OF SPS: CONTENT, PROCESS, AND OUTCOMES

As seen before, Italian SPs are public managers. It implies that the assessment of their performance is quite complex, at least for three main reasons.

First, it has been necessary to clearly state who should have been responsible for such an assessment. In organizations, the immediate supervisor is usually in charge of it: in our case, the definition of "immediate supervisor" is not completely applicable. The Italian schools system is organized on a regional basis: 18 Directors of "Regional School Office" are responsible in each of the 18 administrative regions that form the Italian Republic. In principle, in each region, an SP reports directly to the Regional Director, so that the Ministry made the Regional Director responsible for the performance assessment of all the SPs working within the region.

Secondly, following the law and professional good practices, managers have to be assessed not against their organizational behaviours, but against the objectives

they have been assigned to. Managers are expected to behave in order to reach goals, not only in conformity with pre-fixed behavioural standards like punctuality, collaboration with colleagues, and similar. Taking into account the goals assigned to SPs, one should note that a good amount of variability has been found in the nature and format of the goals actually delivered by each regional director to their SPs. And, following the law, every SP has to be evaluated by appreciating “his/her contribution to the attainment of the goals related to the improvement of the service offered by the school [that s/he is managing]”.

Thirdly, this is the first massive performance appraisal campaign implemented within the Italian school system. The national school community did not experience any previous programme, any learned habits, any customary practices of implementation or negotiation between actors about what a performance assessment is, and how to deal with it: the national educational community was confronted with a completely new situation, like in a true textbook case of organizational learning.

Once defined the content of the performance assessment (i.e., measuring the contribution of the SP to the attainment of the assigned goals), the definition of the assessment process was the second challenge. As seen before, the regional Director was responsible of the assessment: however, it should be noted that the ratio of SPs per Director varies between 1:44 (in the smallest region) and 1:922 (in the biggest one). It is quite evident that the regional Director, although formally responsible for the whole process of assessment, would not be able to manage personally every step of this task.

The reader should also consider that regional offices have in average a small amount of staff adequately skilled for this job so that some new teams of assessors had to be established. Drawing on the existing role of “inspector” (regionally located expert collaborators of the Director, mainly used to investigate, help and report to the Regional Director in case of critical events within the schools), a number of a team of assessors have been created. Each team is formed by two SPs (preferably not serving in the same area where they have to act as evaluators), coordinated by one “inspector”.

The tasks of the teams are: i) studying the personal file of the SP they have to evaluate; ii) meeting (preferably by an audio-visual tool like Skype) the SP, to give him a voice in the process; iii) formulating a personalized “feedback for improvement”, for the personal use of the SP; iv) translating the evaluation into a final statement of appraisal, and proposing it to the Regional Director.

As seen before, only the regional Director is legally responsible for the assessment, so that the team *proposes* the final evaluation, which is adopted and/or amended by the Director, who, at the end of the process, signs the final official act that communicates to every SP the evaluation received for his/her performance.

The aforementioned feedback deserves a short comment. Professional literature suggests (cf. Aguinis, 2009; Aguinis, Joo, & Gottfredson, 2011) that the perfor-

mance feedback has an influence on individual and team performance, as well as on worker engagement, motivation, and job satisfaction. For a professional, getting (and using) competent feedback about one's own performance could be considered at the same time duty and a right since competent feedback is a powerful tool to increase the performance quality and improve personal skills. Following this approach, such "feedback for improvement" can be considered as the empirical proof of the fact that the whole process of evaluation was not put in practice only to rate SPs, but also to help them to improve professional skills and competences. Moreover, assessors having to deliver a personalized feedback suggestion are "forced" to become more deeply acquainted of the SP's unique situation (the school where s/he works; the phase of his/her career; the strengths and weaknesses of his/her managerial behaviour).

### 3. THE TRAINING PROGRAMME FOR THE MEMBERS OF THE ASSESSMENT TEAMS

The first main task for INVALSI has been the training of a very large number of members of the assessment teams. Although the choice of the members remained under the responsibility of the Regional Directors, the training has been designed and implemented on a national basis. In total, more than 300 assessment teams (corresponding to around 800 evaluators, some of them being part of more than one team) were trained in a series of 2-day intensive training seminars, replicated 17 times in different locations.

The goal was to provide a national-based shared model of the procedure, through a participated training, made of some informational inputs, and of a larger amount of small group activities, mainly aimed to become familiar with the procedure, and to anticipate and discuss possible problems and solutions. Special attention has been paid to allow participants to practically experience the various steps, simulating a complete evaluation procedure, starting from the analysis of documents, through the direct interaction with the SP, choosing the professional feedback for improvement, and proposing a simulated final judgment to the Regional Director.

All the procedure has been accompanied by a pre- and post-seminar questionnaire, aimed to collect data about: i) satisfaction about the course; ii) motivation to apply learned skills; iii) expectations about one's own performance as assessor; iv) expectations about the quality of the whole assessment system that will take place in the near future.

#### 4. THE PERFORMANCE EVALUATION OF SPS: THE IMPLEMENTATION PHASE

After the end of the training programme, regional Directors started the evaluation procedure in their region. Using a dedicated digital platform, every SP was requested to upload his/her own portfolio, documenting activities performed and results obtained, together with a self-evaluation against the same criteria used by the assessors.

During approximately three months, all the evaluation teams performed the assessment sessions required, taking into account official documents of the school, SP's personal portfolio, direct interaction with the SP, in every region. Then, they delivered the proposed assessment to the regional Director, including for every SP the personalized "professional feedback for improvement".

Every SP finally received the final assessment and the feedback, directly from his/her regional Director.

During this period, factual data (e.g. the number and timing of the performed assessments) were collected. At the same time, INVALSI conducted a broad research activity, aimed to monitor the whole process, through the point of view of both assessors and SPs assessed.

#### 5. THE PERFORMANCE EVALUATION OF SPS: THE RESEARCH AND MONITORING PROGRAMME

In order to monitor the implementation of the performance appraisal system, we investigated two areas.

The first area is a subsidiary one and concerns the efficacy of the training delivered to assessors, in order to get an estimate of the transfer of training obtained. As noted below, this was the widest training programme in this domain in the Italian school: getting data (although based only on self-rating by assessors) was crucial.

The second area is the central one and concerns the way the SPs perceived the assessment procedure. With this scope, we adopted the Appraisal Effectiveness model firstly developed by Cardy and Dobbins (1994) and subsequently integrated by Levy and Williams (2004). This model postulates that appraisal effectiveness consists of three main components: a) rater errors and biases; b) rating accuracy; c) appraisal reactions. The research and monitoring programme specifically focused on appraisal reactions held by SPs, which included dimensions such as: satisfaction

for the whole assessment system; satisfaction for the assessment session; perceived utility; perceived accuracy; procedural justice; distributive justice; interactional justice; motivation to use feedback; fairness and competence exhibited by the assessors.

Besides the scope of reliable information about the perception of the procedure and its outcomes, we were interested in locating SPs' answers into a situated work context. It is well known that the same procedure may be considered more or less positive, useful, and acceptable, also depending on the characteristics of the respondent's work situation. Specifically, with the aim to analyse such a work situation, we adopted the Job Demands-Resources Model (JD-R) (Bakker & Demerouti, 2017). This model assumes that job performance, as well as its personal consequences, is determined by two processes. The first is the *health-impairment* process, which postulates that job demands are able to increase strain (such as exhaustion) in employees and consequently decrease job performance. The second is the *motivational* process, which states that job and personal resources are able to increase motivation (such as work engagement) and consequently increment the levels of job performance.

This model appeared to be useful for two aims. First, in order to locate perceptions about the assessment procedure within a specific work context (as perceived by respondents). Secondly, this model helped to analyse the relationship between lower and higher job performances (as rated by assessors), and the working conditions (as perceived by respondents). This second part of the questionnaire proposed to the SPs included scales of effort/reward imbalance, professional exhaustion, workload, received support, adequacy of skills, skill discretion, decision latitude, and organizational identification.

## 6. POPULATION AND PROCEDURE OF THE RESEARCH AND MONITORING PROGRAMME

Two populations have been studied.

The first one was composed by the 800 assessors, who received three questionnaires: i) Q1, at the beginning of the 2-day training seminar; ii) Q2, at the end of the same seminar; iii) Q3, after the end of the evaluation work. Q1 and Q2 investigated through a pre-post design the perceived efficacy of the training session, while Q3 (administered via a dedicated digital platform) collected assessors' perceptions about the task performed, checking also changes in confidence previously expressed by Q2, at the end of the training session.

The second population was formed by all the 6500 SPs. They too have been called to participate in this research through the same dedicated digital platform.

They answered two questionnaires: i) Q1, before the beginning of the assessment procedure; ii) Q2, after they received the final formalized assessment by their Regional Director. Referring to the structure described in paragraph 5, Q1 comprised the scales exploring the expectations about the assessment procedure, while Q2 proposed the same scales after receiving the final assessment, plus the scales describing SP's work context (following his/her perception).

It is worth of note that during the first implementation of this new performance appraisal system, a rude confrontation between government and SPs occurred. The unions asked for a greater recognition (both in terms of salary and of professional autonomy at school), and the government decided to resist. Within this framework, SPs decided to use their participation in the assessment procedure as a tool of political pressure. As an effect of such confrontation, SPs' major unions invited to boycott the assessment itself and, of course, the related research questionnaires. This hot political climate-induced the government to declare that this first campaign of performance assessment was an experimental one, also "freezing" any impact (monetary and other) of the evaluation performed.

The impact of such a political climate was relevant, both for assessors and for SPs. The whole group of assessors answered the questionnaires Q1 and Q2 (pre- and post- training session), administered in presence at the very beginning and at the end of the training sessions. Q3 questionnaire (after the end of the assessment procedure) was answered by 74% of the assessors. As for the response rate of SPs, despite this very unfavourable climate, 60% of the SPs who decided to give their contribution to the assessment process (completing their portfolio, and accepting the interaction with the assessment team) collaborated also by answering the questionnaires we proposed. In total, and summing up Q1 and Q2, more than 5500 questionnaires have been collected.

## 7. FINAL REMARKS

The main scope of this paper was to present briefly the interplay between design, implementation and research monitoring of a wide and innovative organizational intervention. However, although this paper does not want purposely to be a classic research report, centred on hypothesis testing and data analysis, some preliminary results that emerged from questionnaires may add some interesting information.

Concerning the population of assessors, data from Q1 and Q2 (pre- and post-training session) showed in general high satisfaction for the training itself, and good levels of confidence about future performances, both for the respondents themselves

as assessors, and for the new appraisal system. It suggests that participants appreciated the efficacy and the quality of the massive training intervention performed. Data from Q3 (answers given by assessors after the assessment procedure closed) are currently under examination, but a first analysis suggested that, in average, the real assessment has been harder than foreseen (compared with pre-assessment expectations at Q2). However, assessors in average self-rated their team performance as satisfying, able to ensure organizational equity, and to capture the core quality of SPs' performance they had to assess.

Concerning the SPs respondents, preliminary data (still under examination) are suggesting that satisfaction for the final evaluation received is mainly a function of fairness, competence, and genuine respect shown by assessors, as predicted by the model. Of course, more analyses are needed to explore this large database, linking SPs' perceptions also to personal and situational characteristics, following the frame of the Job Demand-Resources model adopted.

The performance assessment of the 6500 Italian SPs has shown the complexity of this task and the challenge set by its first implementation. The research activity conducted by INVALSI is showing that the indicators of the quality of the process proposed by the literature, both scientific and professional, have to be considered a necessary requirement of the system.

In particular, the quality of the whole assessment process, and of its outcomes, seems to rely on two main factors. The first one is the degree of participation allowed for the SPs assessed. The second one is the high level of commitment and performance that the process requires the teams of assessors to show. The main challenge for them seems to switch from an old-fashioned concept of "assessment as rating", towards a more flexible and modern one, considering "assessment as help for improvement".

It is worthy of note that this is a very crucial point in the international debate too, as shown quite recently by a brilliant paper (Adler et al., 2016) under the title: "Getting Rid of Performance Ratings: Genius or Folly? A Debate". Following this debate, it appears that performance appraisal systems would be no longer beneficial (not even in financial terms) for organizations, if confined to a simple rating classifying "good" and "bad" workers. On the contrary, the right question would be if the performance assessment in use is really able to give a concrete contribution to organizational performance. In other words, performance assessment adds value when it is able to suggest what kind of knowledge, skills, and behaviours should be adopted by organizational members as targets of professional improvement.

We hope that researchers may be able to accompany more and more the implementation of new performance assessment programmes, mainly in relatively new domains, like the school. Many elements suggest that such research would show

the additional contribution that organizational sciences might offer for a better understanding of the factors influencing the quality of processes and outcomes, even in so “special” organizations like schools.

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## Learning transfer system inventory: evidências de validação para o Brasil

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### Resumo

O sucesso das empresas dependerá da velocidade com que as pessoas possam adquirir e transferir novas ideias e informações. Um instrumento que diagnostica fatores que afetam a transferência de treinamento foi estudado no Brasil, visando a obtenção de evidências de validação fatorial e preditiva. É chamado *Learning Transfer System Inventory* – LTSI, composto por 89 itens. Foi respondido por 898 membros de sete organizações brasileiras, no final de eventos de treinamento e desenvolvimento (T&D). A análise da máxima verossimilhança com rotação oblíqua foi a abordagem da análise fatorial exploratória utilizada. A análise paralela foi utilizada para decidir sobre o número de fatores a extrair e o peso fatorial de .3, para decidir sobre o número de itens a reter em cada fator. Encontraram-se 12 fatores, cujos alfas variaram entre .78 e .90. Entre 3 e 12 meses depois, foram aplicados os instrumentos de Impacto do Treinamento em Largura e o de Suporte à Transferência de Treinamento, desenvolvidos no Brasil e com boas evidências de validade. Correlações moderadas e fracas foram encontradas entre escores desses instrumentos e nove fatores do LTSI. O instrumento tem evidências de validade e pode ser utilizado pelos gestores de T&D no Brasil.

**Palavras-chave:** aprendizagem; transferência de aprendizagem; validação fatorial e preditiva de instrumento

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## Learning Transfer System Inventory: evidences of validity for Brazil

### Abstract

Business success depends on the speed at which people can acquire and transfer new ideas and information. This study aimed to obtain factorial and predictive evidence of validity, in Brazil, of the Learning Transfer System Inventory – LTSI. Its 89 items were answered by 898 members of seven Brazilian organizations, at the end of training and development events (T&D). The exploratory factorial analysis was used, with the method of maximum verisimilitude analysis and oblique rotation. The decision on the number of extracted factors (12) was made with the parallel analysis. The factorial weight of .3 was used to decide the number of items to retain in each factor. Cronbach's alpha varied from .78 to .90. Between 3 and 12 months later, two instruments were used, in order to assess the impact of those events and the support for the transfer of training. Both were previously developed and validated in Brazil. Weak or moderate correlations were found between scores of these instruments and nine LTSI factors. The instrument has evidence of validity and may be used by T&D managers in Brazil.

**Keywords:** learning; transfer of learning; factor and predictive validation

## INTRODUÇÃO

Paulo é gerente de uma empresa brasileira de produtos eletrônicos. A área de gestão de pessoas o enviou para um treinamento sobre gestão de processos. Ao retornar para o local de trabalho, apresentou ideias inovadoras para melhorar os processos de trabalho do departamento. Seu superior informou que nada daquilo era possível na empresa. Casos assim são comuns nas organizações. Elas investem em capacitação e o que foi adquirido não é transferido para o trabalho. Treinamentos nas organizações não produzirão os efeitos necessários se os conhecimentos, habilidades e atitudes, neles adquiridos, não forem transferidos para as atividades de trabalho (Aguinis & Kraiger, 2009). A facilitação dessa transferência, dentro e fora daqueles treinamentos, deve receber mais atenção da pesquisa científica (Noe, Clarke, & Klein, 2014).

A literatura científica foi caracterizada pela medida inconsistente de transferência de treinamento e pela grande variabilidade nos resultados significativos (Blume, Ford, Baldwin, & Huang, 2009). Esses resultados foram organizados

em três níveis (organizacional, dos próprios treinamentos e individual), por Tonhäuser e Bükér (2016). Estas autoras salientaram, no nível organizacional, o suporte social e circunstâncias estruturais e organizacionais presentes no local de trabalho como as variáveis mais importantes. Diagnosticaram falta de clareza sobre o papel das variáveis individuais, quando elas têm efeitos significativos sobre a transferência, e a necessidade de investigação adicional sobre o papel do desenho instrucional dos treinamentos. As evidências científicas que fundamentam prescrições práticas foram sintetizadas em três dimensões (Ford, Baldwin, & Prasad, 2018): 1) pessoal (personalidade, motivação, autoeficácia, domínio de habilidades), 2) desenho de treinamento e sua implementação (estabelecimento de objetivos pelo treinando, natureza e sequenciamento de estratégias instrucionais) e 3) ambiente de trabalho (oportunidade de aplicação do que foi adquirido, suporte de colegas e supervisor). Estes autores enfatizaram a grande importância do suporte recebido de colegas e do supervisor. Mas ressaltaram que pouco é conhecido sobre os efeitos das experiências de trabalho que ocorrem entre o momento em que o indivíduo finaliza o treinamento e o momento em que a transferência é mensurada. Quanto a esta mensuração, lembraram que distintos instrumentos podem levar a diferentes conclusões sobre a transferência e que eles deveriam obter dados de múltiplas fontes.

A pesquisa brasileira sobre transferência de treinamento, quando comparada à realizada em outras subáreas da psicologia organizacional e do trabalho, é profícuca. Existem publicações que descrevem instrumentos de medida com evidências de validade e que relatam os efeitos de muitas variáveis antecedentes (Zerbini & Abbad, 2010). Dentre estas, as de suporte ambiental são as que apresentam maior poder de explicação da transferência de treinamento, seguidas de variáveis relativas a características dos treinandos e dos treinamentos. Essas autoras, entretanto, identificaram a necessidade de investigar concomitantemente essas variáveis. Isto seria possível com um instrumento de diagnóstico que as integrasse. Os resultados da revisão dessas autoras foram posteriormente confirmados com uma amostra mais ampla e atual de pesquisas (Cassiano & Borges-Andrade, 2017). Contudo, estes autores apontaram limitações metodológicas de muitas dessas pesquisas. Uma delas foi a obtenção simultânea de dados relativos às variáveis antecedentes e às medidas de transferência de treinamento, o que poderia resultar em elevação dos escores de correlação entre elas.

O presente artigo relata um estudo que objetivou obter evidências de validação fatorial e preditiva, no Brasil, do *Learning Transfer System Inventory* – LTSI (Holton III, Bates, & Ruona, 2000). Esse instrumento diagnostica um amplo conjunto de fatores que afetam a transferência. Ao contrário das medidas já encontradas no País, que são aplicadas quando o indivíduo já retornou ao posto de trabalho, o

LTSI é aplicado no final de eventos de T&D. Não possui características típicas de questionários de avaliação de reação, também já existentes no Brasil. Sua vantagem está no levantamento de dados no final desses eventos, e não alguns meses depois deles. Este levantamento tardio inviabiliza a intervenção precoce nos treinamentos e nas organizações que neles investem.

## TRANSFERÊNCIA DE APRENDIZAGEM PARA O TRABALHO E O SEU DIAGNÓSTICO

Transferência de treinamento pode ser definida como a aplicação, no trabalho, dos conhecimentos, habilidades e atitudes adquiridas em treinamento, bem como sua posterior manutenção durante certo período de tempo (Baldwin & Ford, 1988; Xiao, 1996). As primeiras teorias de transferência de aprendizagem fizeram convergir seu interesse para o número de elementos idênticos nas situações e nos comportamentos, antes e depois da aquisição, para explicar sua transferência. Um quadro conceitual sobre o processo de transferência de treinamento, que propõe um modelo de entradas e saídas e condições para essa transferência, foi elaborado por Baldwin e Ford (1988). Esse modelo está fundamentado em teoria de sistemas e é útil para subsidiar um diagnóstico de transferência de aprendizagem para o trabalho. O aumento das revisões de literatura e meta-análises sobre a eficácia do treinamento tornou o conhecimento de certos elementos do modelo conceitual dos referidos autores mais abrangente e estabelecido (Aguinis & Kraiger, 2009; Blume et al., 2009; Burke & Hutchins, 2007; Cassiano & Borges-Andrade, 2017; Ford et al., 2018; Tonhäuser & Bükler, 2016; Zerbini & Abbad, 2010).

O grau de aplicação do que foi adquirido é um dos principais resultados do treinamento. Permite avaliar em que medida determinada ação de capacitação foi, ou não, bem-sucedida. A avaliação dessa transferência é crítica na determinação dos efeitos e resultados do treinamento. No entanto, para determinar essa eficácia, é também necessário analisar os aspectos particulares da concepção do treinamento, do ambiente de trabalho e das características dos participantes que influenciaram a transferência (Alvarez, Salas, & Garofano, 2004). Existem modelos que identificam os principais fatores que influenciam a transferência da aprendizagem, mas a maioria não apresenta escalas de medida válidas e com boas qualidades psicométricas para avaliar esses mesmos fatores. O LTSI é conhecido como o instrumento com maior validade para avaliar os fatores que influenciam a transferência, para o trabalho, do que foi adquirido em treinamento (Velada, 2007).

A primeira versão foi denominada de *Learning Transfer Questionnaire* – LTQ, desenvolvida por Holton III, Bates, Seyler e Carvalho (1997). Esse primeiro questionário possuía nove fatores e era composto por 66 itens, sendo que 49 foram retirados do instrumento sobre clima de transferência proposto por Rouiller e Goldstein (1993). Os demais foram acrescentados pelos autores. Com o objetivo de desenvolver um instrumento que englobasse uma maior quantidade de fatores, o LTQ foi melhorado por Holton III et al. (2000). A estrutura conceitual do novo instrumento foi baseada no modelo de avaliação focado no desempenho individual, proposto por Holton III (1996). A designação “sistema de transferência” foi utilizada por ser mais ampla e por englobar fatores inerentes ao indivíduo, à formação e à organização, suscetíveis de influenciar a transferência para o desempenho das funções. Esse modelo propõe três resultados primários de uma intervenção formativa: aprendizagem, desempenho individual e resultados organizacionais. Visando ajustar a medida ao modelo, os nove fatores previamente identificados foram acrescidos de outros sete fatores encontrados na literatura científica, por Holton III et al. (2000). O novo instrumento, denominado LTSI, passou a incluir 112 itens que representavam 16 fatores.

O LTSI encontrava-se dividido em dois domínios de construtos diferentes: o primeiro, relativo ao treinamento específico, com 76 itens que representavam 11 fatores; e o segundo, relativo à organização em geral, composto por 36 itens que representavam cinco fatores. Para testar a validade do LTSI, foram recolhidos dados de 1616 treinandos, provenientes de uma grande variedade de indústrias, que frequentaram diversos programas de treinamento (Holton III et al., 2000). Os dois diferentes domínios do instrumento foram submetidos a análises fatoriais independentes. O instrumento final resultou em 68 itens com 16 fatores. No entanto, alguns desses fatores apresentaram baixas consistências internas. Com o objetivo de melhorar a consistência interna das referidas escalas, foram acrescentados 21 novos itens de investigação aos 68 existentes (Holton III & Bates, 2002). A versão mais recente do LTSI engloba 89 itens que representam 16 fatores de transferência (Tabela 1). Além dessa versão estadunidense, investigações buscaram encontrar evidências fatoriais de validação fatorial desse instrumento em Portugal (Velada, Caetano, Bates, & Holton III, 2009), França (Devos, Dumay, Bonami, Bates, & Holton III, 2006), Tailândia (Yamnill, 2001), Taiwan (Chen, Holton III, & Bates, 2005), Jordânia (Khasawneh, 2004), Alemanha (Bates, Kauffeld, & Holton III, 2007) e Ucrânia (Yamkovenko, Holton III, & Bates, 2007). O LTSI é uma medida bastante útil para o diagnóstico antecipado do sistema de transferência de T&D nas organizações.

Tabela 1  
*Fatores e definições do LTSI*

| NÚMERO<br>FATOR                     | FATORES                                               | DEFINIÇÕES                                                                                                                                                                                                                 |
|-------------------------------------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Relativas ao Treinamento Específico |                                                       |                                                                                                                                                                                                                            |
| 1                                   | Prontidão do Aprendiz                                 | Extensão na qual os indivíduos estão preparados para entrar e participar do treinamento.                                                                                                                                   |
| 2                                   | Motivação para Transferir                             | Direção, intensidade e persistência de esforço visando utilizar no trabalho as competências adquiridas.                                                                                                                    |
| 3                                   | Resultados Pessoais Positivos                         | Grau em que a aplicação do treinamento no trabalho leva a resultados que são positivos para o indivíduo.                                                                                                                   |
| 4                                   | Resultados Pessoais Negativos                         | Extensão na qual os indivíduos acreditam que não aplicar as competências aprendidas levará a resultados negativos.                                                                                                         |
| 5                                   | Capacidade Pessoal de Transferir                      | Extensão na qual os indivíduos têm tempo, energia e espaço mental no seu trabalho para fazer as mudanças requeridas para transferir aprendizagem.                                                                          |
| 6                                   | Apoio dos Colegas                                     | Extensão na qual os colegas dão apoio e reforçam o uso no trabalho do que foi aprendido.                                                                                                                                   |
| 7                                   | Apoio do Supervisor                                   | Extensão na qual os supervisores e gerentes apoiam e reforçam o uso do treinamento no trabalho.                                                                                                                            |
| 8                                   | Sanções do Supervisor                                 | Extensão na qual os indivíduos percebem respostas negativas dos supervisores e gerentes quando aplicam no trabalho competências aprendidas em treinamento.                                                                 |
| 9                                   | Validade de Conteúdo Percebida                        | Extensão na qual os treinandos julgam que o conteúdo do treinamento reflete acuradamente os requisitos do trabalho.                                                                                                        |
| 10                                  | Planejamento de Transferência                         | Extensão na qual o treinamento foi planejado e oferecido para dar aos treinandos a capacidade de transferir aprendizagem para o trabalho e que as instruções do treinamento estão de acordo com os requisitos do trabalho. |
| 11                                  | Oportunidade de Uso                                   | Extensão na qual os treinandos recebem ou obtêm recursos e tarefas no trabalho que lhes permitem usar o que aprenderam no trabalho.                                                                                        |
| Relativas à Organização em Geral    |                                                       |                                                                                                                                                                                                                            |
| 12                                  | Esforço de Transferência – Expectativas de Desempenho | Expectativa de que o esforço empreendido para transferir a aprendizagem levará a mudanças de desempenho no trabalho.                                                                                                       |
| 13                                  | Expectativas de Desempenho e Resultados               | Expectativa de que mudanças de desempenho no trabalho levarão a resultados valorizados.                                                                                                                                    |

|    |                                 |                                                                                                                                                                      |
|----|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14 | Resistência/Abertura a Mudanças | Extensão na qual normas grupais predominantes são percebidas pelos indivíduos como resistentes ou desencorajadoras ao uso de competências adquiridas em treinamento. |
| 15 | Autoeficácia de Desempenho      | Crença geral do indivíduo de que ele é capaz de mudar seu desempenho quando quer fazê-lo.                                                                            |
| 16 | Orientação de Desempenho        | Indicadores formais e informais da organização sobre o desempenho do indivíduo no trabalho.                                                                          |

Fonte: Adaptado de Holton III et al. (2000, pp. 344-346).

## IMPACTO DO TREINAMENTO EM LARGURA E SUPORTE À TRANSFERÊNCIA DE TREINAMENTO

Há três tipos de validade: a de critério, a conceitual e a facial (Schweigert, 1994). A validade de critério é o grau em que um método de medição se correlaciona com outros métodos já estabelecidos para o mesmo fenômeno. Existem dois tipos de validade de critério: preditiva e concorrente. A validade preditiva é o grau com que o resultado de um teste ou medida prevê o comportamento futuro do indivíduo. A versão francesa do LTSI teve sua validade preditiva verificada (Devos et al., 2006). Contudo, essa validade não foi verificada na grande maioria dos países. Como ela ocorreria no Brasil? Para a verificação dessa validade no País, era preciso utilizar boas medidas de critério. Os instrumentos de medida de impacto do treinamento em largura e o de suporte à transferência de treinamento foram os escolhidos para fornecer essas medidas.

O impacto do treinamento no trabalho pode ser entendido como o efeito do treinamento no desempenho do indivíduo ao retornar ao trabalho e compreende noções de desempenho e motivação (Abbad, 1999). Esse impacto pode ser medido em profundidade – efeitos relacionados aos conteúdos ensinados nos programas de treinamentos – e largura ou amplitude – efeitos referentes a desempenhos gerais esperados pela organização (Borges-Andrade, 2002). A medida de suporte à transferência de treinamento foi construída por Abbad (1999) e possui dois fatores: “suporte psicossocial à transferência” e “suporte material à transferência”. O primeiro avalia o apoio gerencial, social e organizacional para a aplicação do aprendido no trabalho. O fator suporte material à transferência avalia a qualidade, a quantidade e a disponibilidade de recursos materiais e financeiros, assim como a qualidade e adequação do local de trabalho para que ocorra a transferência de treinamento.

## DELIMITAÇÃO DO PROBLEMA E OBJETIVOS DO ESTUDO

As organizações de hoje mudaram suas práticas de recursos humanos (por exemplo, participação dos trabalhadores, condições de trabalho flexíveis, treinamento) como fatores de custo obrigatórios para considerá-los como armas estratégicas na batalha por vantagem competitiva. Consistentemente incluídas em qualquer discussão de tais práticas, estão os treinamentos de funcionários (Combs, Liu, Hall, & Ketchen, 2006). O treinamento eficaz certamente tem potencial para aumentar os conhecimentos, habilidades e atitudes (CHAs) e capacitar os funcionários para alavancar seus CHAs em benefício da organização (Becker & Huselid, 1998; Combs et al., 2006).

Entretanto, as organizações continuam a se perguntar sobre o rendimento real dos gastos com a capacitação de funcionários. Apesar dos grandes investimentos e potenciais benefícios do treinamento, os gestores organizacionais, muitas vezes, não têm certeza de que os funcionários tenham um desempenho diferente ao retornarem ao trabalho após a capacitação (Blume et al., 2009).

Diante de tal cenário, propõe-se, neste estudo, validar no Brasil o LTSI para permitir às empresas a utilização de um instrumento que contribua no diagnóstico dos fatores que afetam a transferência de aprendizagem, visando tomar medidas corretivas e alternativas que permitam e maximizem a transferência positiva. Os estudos realizados na área de transferência têm mostrado que o LTSI é um instrumento válido, quer em termos de relevância teórica e prática, quer em termos de qualidades psicométricas (Velada, 2007).

O objetivo geral deste estudo é o de realizar a validade fatorial e preditiva do LTSI no Brasil, pelo que são levantadas as seguintes perguntas de investigação:

1. A realização de análises fatoriais exploratórias da versão Brasileira do LTSI irá resultar numa estrutura fatorial consistente com a estrutura fatorial da versão original do LTSI?
2. Qual das versões do LTSI será mais apropriada para utilização no Brasil? A versão com 68 itens – aqui denominada versão C – ou a versão com os 89 itens – aqui denominada versão D?
3. Essa versão brasileira é capaz de prever respostas posteriores, obtidas pelos instrumentos de impacto do treinamento em largura e o de suporte à transferência de treinamento, desenvolvidos por Abbad (1999) e amplamente utilizados no Brasil?

## MÉTODO

### *Parte I: Validação Fatorial*

Partiu-se da versão do LTSI que obteve evidências de validação em Portugal (Velada et al., 2009) e utilizada em estudos posteriores divulgados em Portugal (Lopes, Bidarra, & Barreira, 2016) e no Brasil (Veloso, Silva, Silva, & Caetano, 2015). Essa versão em português europeu passou por um rigoroso processo que envolveu a utilização de traduções bilaterais. O processo foi iniciado com uma tradução direta da versão inglesa do LTSI para uma versão portuguesa, por um indivíduo bilíngue. Em seguida, dois tradutores bilíngues e independentes (um nativo inglês e outro português) traduziram novamente para o inglês. Terminou com a revisão final de um dos autores do LTSI (Velada, 2007). Tendo em vista esse processo, julgou-se desnecessário outro processo de tradução do inglês para o português brasileiro. O presente estudo adaptou o instrumento desenvolvido e utilizado em Portugal à realidade das organizações brasileiras. Foi aplicado em vinte pessoas que tinham finalizado diferentes treinamentos em diversas organizações. Depois de responderem, elas foram entrevistadas para identificarem problemas de compreensão da redação realizada em português europeu. Os itens que emergiram com tais problemas foram reescritos em português brasileiro, por meio de consulta à versão original do LTSI em inglês, para que fosse evitado o distanciamento entre a futura versão brasileira e a atual original estadunidense. A nova versão foi aplicada numa segunda amostra de dez pessoas. Alguns problemas de compreensão voltaram a emergir e um novo processo de revisão do texto foi realizado, tal como o anterior. Uma terceira aplicação, em mais dez pessoas, demonstrou que não mais existiam problemas de compreensão.

O LTSI aplicado no presente estudo possui 89 indicadores. Para avaliar o domínio específico do treinamento foram utilizados 63 indicadores e, para avaliar o domínio geral da organização, foram utilizados 26 indicadores. Todos os itens foram respondidos numa escala tipo Likert de 5 pontos, em que 1 corresponde a “Discordo Completamente” e 5 corresponde a “Concordo Completamente”. O questionário foi aplicado presencialmente. Iniciava com uma descrição do objetivo da pesquisa e informava que a participação dos respondentes era voluntária e anônima. Foi necessário solicitar aos participantes que informassem seus e-mails para contato, preferencialmente pessoais. Tal solicitação visou obter um endereço eletrônico para posterior envio dos instrumentos que avaliariam impacto de treinamento e suporte à transferência, objetivando a verificação da validade preditiva, descrita na próxima

seção. Foram seguidos, em ambos procedimentos de coleta de dados, os cuidados éticos individuais e institucionais em pesquisa, preconizados pela APA (2017).

Tendo em conta que os indicadores do LTSI representam dois domínios de construtos distintos, os autores que validaram esse instrumento em outros países realizaram duas análises fatoriais separadas (Chenet al., 2005; Holton III et al., 2000). Para cada uma dessas análises fatoriais exploratórias, foram realizadas duas análises diferentes. Da mesma forma que nos outros países, neste estudo foram realizadas análises fatoriais separadas por construtos (específico e geral) e também com os dois construtos juntos. Para a validação fatorial da versão brasileira, foram aplicados, presencialmente, ao final de treinamentos, 1200 questionários em sete organizações públicas e privadas, que concordaram previamente com a realização da pesquisa, localizadas nas regiões nordeste e centro-oeste do Brasil. Desses, 898 foram considerados válidos, o que corresponde a aproximadamente 74.8% da amostra. Os questionários excluídos possuíam muitos itens sem resposta ou uma única resposta em todos os 89 itens. Isso sugeriu, respectivamente, que os participantes cansaram de responder e que não chegaram a ler as perguntas.

A análise fatorial exploratória (AFE) é considerada uma técnica estatística apropriada quando o estudo não tem uma forte sustentação teórica e quando a estrutura subjacente ao instrumento ainda não está bem definida (Nunnally, 1978). De acordo com outros estudos que também realizaram testes à validade de construto do LTSI (e.g., Chen et al., 2005), o método de extração de fatores da máxima verossimilhança é mais adequado do que o de componentes principais, quando o objetivo do estudo é a identificação de estruturas latentes. A rotação oblíqua é o método de rotação de fatores mais adequado quando é esperada a existência de alguma correlação entre as variáveis latentes. A análise da máxima verossimilhança com rotação oblíqua foi a abordagem da AFE utilizada neste estudo.

Nas AFEs realizadas neste estudo, foram considerados os seguintes critérios de decisão: auto valor maior do que um, análise paralela para decidir sobre o número de fatores a extrair e o peso fatorial de .30 para decidir sobre o número de indicadores a reter em cada fator. O critério de análise paralela tem sido considerado o procedimento mais confiável na verificação do número de fatores a serem retidos (Hayton, Allen, & Scarpello, 2004). No estudo de simulação mais abrangente realizado até hoje, foram comparados o critério de GK, o teste de Bartlett, o teste *scree* de Cattell, o critério da média mínima de correlações parciais (MMCP) de Velicer e o critério de Análise Paralela (AP) de Horn (Zwick & Velicer, 1986). O critério AP de Horn foi o procedimento mais preciso, indicando o número correto de fatores em 92% dos casos, e mostrou ser o melhor método em todas as condições de decisão. Por isso, foi o critério adotado neste estudo, apesar de não ter sido o critério utilizado nos estudos feitos nos outros países.

## Parte II: Validação Preditiva

De três meses a um ano após o treinamento, os respondentes do LTSI receberam um e-mail com os instrumentos de impacto do treinamento em largura e o de suporte à transferência de treinamento. Este e-mail, assinado pelos dois autores do presente artigo, explicava que o contato dava prosseguimento à primeira coleta de dados realizada presencialmente, há algum tempo, e descrevia o objetivo da segunda coleta de dados. Reiterava a confidencialidade destes e o caráter voluntário da participação. O propósito foi obter indicadores que possibilitassem correlacionar os dados desses questionários com os anteriormente obtidos por meio da aplicação do LTSI. Os instrumentos foram previamente desenvolvidos no *software* EFS survey (versão 7.0). O questionário permanecia acessível aos participantes por cerca de três meses, a partir da data em que eles recebiam o primeiro convite. Durante esse período, dois lembretes por semana, em média, foram enviados aos participantes. Somente a primeira autora do presente estudo acompanhou esse processo.

O instrumento de medida de impacto do treinamento em largura foi construído e validado por Abbad (1999) e inclui 12 itens, associados a uma escala de concordância de cinco pontos. Este estudo, em uma organização, indicou as possibilidades de uma estrutura bifatorial ou uma estrutura unifatorial. Outro estudo, com esta mesma escala, com dados obtidos de indivíduos de diferentes categorias funcionais, em sete organizações, utilizou uma análise fatorial confirmatória e indicou uma estrutura unifatorial (Pilati & Abbad, 2005). O instrumento de suporte à transferência de treinamento é baseado na percepção dos respondentes sobre aspectos sociais de apoio, consequências associadas à aplicação de novas habilidades e apoio material à transferência do que foi adquirido em treinamentos (Abbad, 1999). É composto por 22 itens, associados a uma escala de cinco pontos (1 = nunca a 5 = sempre).

Apesar de a validade fatorial contar com 898 respondentes, a validade preditiva dependia da disponibilidade do participante em colocar seu e-mail pessoal no instrumento preenchido no final dos treinamentos. Em função deste cuidado ético, apenas 327 participantes informaram seus e-mails e receberam os instrumentos para avaliação de impacto e suporte. Destes, 118 respostas completas foram obtidas, pois era permitido aos participantes interromperem o preenchimento, visando garantir o cuidado ético relativo à participação voluntária. Verificou-se que sete respondentes constituíam casos extremos multivariados. Optou-se por excluí-los da amostra, pois *outliers* podem exercer grande impacto sobre a matriz de correlações (Neiva, Abbad, & Tróccoli, 2007). A amostra final foi de 111 respondentes e a correlação de Pearson foi utilizada para a análise da relação entre os escores

do LTSI e de impacto do treinamento em largura e de suporte à transferência de treinamento. Não foi utilizada a análise de regressão múltipla em razão do pequeno número de respondentes nessa etapa da pesquisa.

## RESULTADOS

### *Parte I: Validação Fatorial*

Considerando os 898 questionários válidos da amostra, 54.2% dos respondentes eram do sexo masculino. A idade média dos participantes foi de 36.8 anos, 85% tinha pelo menos o nível superior de escolaridade, e o tempo médio de serviço nas suas organizações foi de oito anos. A elevada escolaridade na amostra, quando comparada ao universo dos trabalhadores brasileiros, sugere que o presente esforço de validação não conseguiu incluir um número suficiente de pessoas com menor escolaridade, ou essas pessoas não participam de eventos de T&D com a mesma intensidade que as de maior escolaridade.

A amostra é formada por membros de uma empresa privada, duas sociedades de economia mista e quatro organizações públicas. Em todas as organizações obteve-se uma amostra de funcionários de várias áreas, de diferentes níveis hierárquicos, uma grande gama de cursos e com cargas horárias que variaram de três horas a mais de 200 horas.

Os pressupostos de normalidade foram analisados nas AFEs e nenhuma delas apresentou problemas sérios com o não atendimento desses pressupostos. Todos os resultados dessas análises referem-se ao banco de dados com os *outliers*, uma vez que este apresentou a melhor solução em termos psicométricos e de conteúdo. A investigação da fatorabilidade da matriz de dados também foi realizada. A medida de adequação amostral Kaiser-Meyer-Olkin (KMO) foi obtida para realização das análises fatoriais. O teste de esfericidade de Bartlett obteve índices satisfatórios em todos os casos. O critério de 5 a 10 respondentes por item e, no mínimo, 200 respondentes foi cumprido (Pasquali, 1999).

A análise dos componentes principais (PC) foi utilizada para determinar o número de fatores. Os indicadores para essa análise foram os autovalores iguais ou superiores a um (Kaiser, 1960, citado por Pasquali, 2005), a análise paralela (Horn, 1965, citado por Pasquali, 2005) e a existência de significado teórico ou semelhança semântica entre os itens agrupados em um mesmo fator. O método

de fatora  o da m  xima verossimilhan  a, com rota  o obl  qua para extra  o dos fatores, foi empregado. A consist  ncia interna dos fatores foi verificada pelo alfa de Cronbach ( $\alpha$ ). Para a interpreta  o dos fatores foi feita a an  lise do conte  do sem  ntico dos itens que comp  em cada fator, tendo como base a vers  o original estadunidense e a vers  o portuguesa.

Esse estudo revelou uma estrutura fatorial de 12 fatores com alfas que variaram entre .78 e .90,   ndices que indicam ser boa a sua consist  ncia interna (Hair, Black, Babin, Anderson, & Tatham, 2009). Com exce  o de um fator que n  o emergiu, foram obtidos os mesmos fatores da vers  o original do LTSI – apenas agrupados de maneira diferente (Tabela 2).

Tabela 2  
*Diferen  as entre o Instrumento Original e o LTSI Brasileiro*

| Fatores | Instrumento Original                                  | LTSI Brasileiro                              |
|---------|-------------------------------------------------------|----------------------------------------------|
| 12      | Esfor  o de transfer  ncia –Expectativa de Desempenho | Fator 8<br>(Agrupamento dos fatores 12 e 15) |
| 15      | Autoefic  cia do Desempenho                           |                                              |
| 6       | Apoio dos Colegas                                     | Fator 10<br>(Agrupamento dos fatores 6 e 7)  |
| 7       | Apoio do Supervisor                                   |                                              |
| 9       | Validade de conte  do percebida                       | Fator 1<br>(Agrupamento dos fatores 9 e 11)  |
| 11      | Oportunidade de uso                                   |                                              |
| 10      | Planejamento de Transfer  ncia                        | N  o emergiu                                 |

*Fonte:* Elaborada pelos autores.

As m  dias revelaram-se plaus  veis, por  m os desvios padr  o foram um pouco elevados. Oito itens apresentaram valores de *assimetria* entre 1 e 2. Os demais apresentaram valores inferiores a 1. A an  lise dos casos extremos multivariados revelou 190 respondentes, que foram mantidos na amostra. Os casos encontrados com dados omissos superiores a 5% foram 30 e foram exclu  dos, totalizando 868 respondentes.

A medida de adequa  o amostral Kaiser-Meyer-Olkin (KMO) foi igual a .915. Itens com cargas positivas e itens com cargas negativas foram encontrados dentro de um mesmo fator. As respostas de 19 itens com cargas negativas foram invertidas. Cinco vari  veis foram eliminadas por terem carga fatorial elevada em mais de um fator, ou por n  o ter carga fatorial elevada em qualquer fator. Os fatores extra  dos explicam 57.99% da vari  ncia dos itens componentes da matriz fatorial, percentual considerado bastante razo  vel.

A adequação da análise fatorial foi verificada, examinando se a matriz das correlações residuais de fato continha apenas resíduos. A existência de 215 resíduos foi constatada, equivalentes a 5%, com valores absolutos maiores que .05, sendo a maioria pouco superior a esse valor. O percentual de resíduos grandes é relativamente pequeno, portanto há pouca variância comum que não é explicada pelos 12 fatores, o que sugere adequação da solução fatorial (Pasquali, 2005). Na Tabela 3 consta o número de itens, os alfas e a nomenclatura de cada um desses 12 fatores.

Tabela 3

*Número de itens, os alfas e nomenclatura dos 12 fatores do LTSI no Brasil*

| <b>Fator</b> | <b><math>\alpha</math></b> | <b>Nº itens</b> | <b>Nomenclatura</b>                                                               |
|--------------|----------------------------|-----------------|-----------------------------------------------------------------------------------|
| 1            | .91                        | 13              | Validade de Conteúdo Percebida e Oportunidade de Uso                              |
| 2            | .84                        | 4               | Resultados Pessoais Negativos                                                     |
| 3            | .84                        | 6               | Resistência/Abertura a Mudanças                                                   |
| 4            | .89                        | 10              | Sanções do Supervisor                                                             |
| 5            | .86                        | 6               | Resultados Pessoais Positivos                                                     |
| 6            | .83                        | 6               | Motivação para Transferir                                                         |
| 7            | .83                        | 4               | Prontidão do Aprendiz                                                             |
| 8            | .86                        | 9               | Esforço de Transferência – Expectativa de Desempenho e Autoeficácia do Desempenho |
| 9            | .85                        | 7               | Orientação de Desempenho                                                          |
| 10           | .88                        | 8               | Apoio dos Colegas e do Supervisor                                                 |
| 11           | .79                        | 8               | Capacidade Pessoal para Transferir                                                |
| 12           | .80                        | 3               | Expectativa de Desempenho e de Resultados                                         |

*Fonte:* Elaborada pelos autores.

## **Parte II: Validação Preditiva**

Análises correlacionais de Pearson foram realizadas para verificar as evidências de validade preditiva dos 12 fatores do LTSI. Os seus escores fatoriais foram utilizados e também o escore fatorial do instrumento de impacto de treinamento e os dois escores fatoriais do instrumento de suporte à transferência de treinamento (Tabela 4). Os valores em negrito são os que possuem correlação significativa, no nível de .05.

Tabela 4

*Correlação de Pearson entre os fatores do LTSI e os fatores dos instrumentos de impacto de treinamento e de suporte à transferência de treinamento.*

| LTSI                                                                              | Impacto                         | Suporte Psicossocial            | Suporte Material                |
|-----------------------------------------------------------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Validade de Conteúdo Percebida e Oportunidade de Uso                              | <b>.446<sup>*</sup></b><br>105  | <b>.243<sup>*</sup></b><br>105  | .113<br>105                     |
| Resultados Pessoais Negativos                                                     | .009<br>109                     | .079<br>109                     | -.012<br>109                    |
| Resistência/Abertura a Mudanças                                                   | -.114<br>108                    | -.166<br>108                    | -.105<br>108                    |
| Sanções do Supervisor                                                             | -.112<br>105                    | -.127<br>105                    | -.183<br>105                    |
| Resultados Pessoais Positivos                                                     | <b>-.268<sup>*</sup></b><br>104 | <b>-.197<sup>*</sup></b><br>104 | -.174<br>104                    |
| Motivação para Transferir                                                         | <b>.513<sup>*</sup></b><br>104  | <b>.265<sup>*</sup></b><br>104  | <b>.222<sup>*</sup></b><br>104  |
| Prontidão do Aprendiz                                                             | <b>-.398<sup>*</sup></b><br>106 | <b>-.294<sup>*</sup></b><br>106 | .035<br>106                     |
| Esforço de transferência – Expectativa de Desempenho e Autoeficácia do Desempenho | <b>.302<sup>*</sup></b><br>103  | .187<br>103                     | .097<br>103                     |
| Orientação de Desempenho                                                          | <b>.357<sup>*</sup></b><br>107  | <b>.297<sup>*</sup></b><br>107  | .076<br>107                     |
| Apoio dos Colegas e dos Pares                                                     | <b>.318<sup>*</sup></b><br>106  | <b>.364<sup>*</sup></b><br>106  | .097<br>106                     |
| Capacidade Pessoal para Transferir                                                | <b>-.205<sup>*</sup></b><br>105 | .022<br>105                     | -.146<br>105                    |
| Expectativa de Desempenho e de Resultados                                         | <b>-.249<sup>*</sup></b><br>109 | <b>-.284<sup>*</sup></b><br>109 | <b>-.191<sup>*</sup></b><br>109 |
|                                                                                   | 111                             | 111                             | 111                             |

Fonte: Elaborada pelos autores.

A variável critério suporte material à transferência só foi predita por dois fatores enquanto as variáveis critério suporte psicossocial à transferência e impacto de treinamento foram respectivamente preditas por sete e nove fatores do LTSI.

## DISCUSSÃO

Os dois primeiros objetivos deste estudo foram verificar se o LTSI brasileiro iria resultar em uma estrutura fatorial consistente com a estrutura do LTSI e qual das suas versões seria mais apropriada para utilização no Brasil. Tal como no LTSI original, a versão maior parece ser a mais adequada para se utilizar no Brasil. Ela apresenta um maior número de fatores – achado também relatado em outros países. Mas tem uma estrutura fatorial mais parcimoniosa. No instrumento original, foram obtidos cinco fatores concernentes à organização e 11 ao treinamento, e, na versão brasileira, foram obtidos, respectivamente, oito e quatro. Em relação aos seis fatores do instrumento original que foram agrupados em três fatores na versão brasileira, optou-se por manter a nomenclatura completa, para facilitar a comparação.

A diferença entre os achados originais e os do Brasil, na quantidade de fatores e no agrupamento dos mesmos, pode ter ocorrido em razão do método utilizado na análise fatorial. Nos Estados Unidos e em Portugal, a análise do *scree plot* foi utilizada para a definição da quantidade de fatores. No presente estudo foi utilizada a análise paralela, pelas razões já apresentadas. Isso pode ter sido um avanço na validação do LTSI, considerando o que tem sido escrito sobre as vantagens da análise paralela, como foi mencionado em outra seção do presente artigo.

No Brasil, os fatores “Esforço de Transferência – Expectativa de Desempenho” e “Autoeficácia do Desempenho”, da escala original, ficaram agrupados em um único fator. Para os respondentes brasileiros, o esforço para transferir e a expectativa de conseguir fazer isso estão estreitamente relacionados à crença de que o indivíduo é capaz de mudar seu desempenho quando quer. Por essa razão, representariam um único fator. Tal entrelaçamento entre esforço, expectativas e crenças não é incomum na literatura sobre motivação no trabalho. É, inclusive, parte importante das suposições de um conhecido modelo de motivação proposto por Vroom.

Os fatores “Apoio dos Colegas” e “Apoio do Supervisor” foram também agrupados. Supõe-se que para o respondente brasileiro não existe diferença entre o apoio recebido dos colegas e o da chefia. Eles fariam parte do mesmo constructo e isso é algo já evidenciado por ocasião da validação da escala de suporte proposta por Abbad (1999). O fato de as organizações pesquisadas serem em sua maioria públicas e sociedade de economia mista – que possuem funcionários públicos concursados e, por isso, também possuem estabilidade no emprego – pode também ter influenciado esse agrupamento. Podem existir diferenças de visão entre um funcionário/servidor público e um empregado da iniciativa privada, sobre o papel da chefia. Esta, na

iniciativa pública, muitas vezes é passageira e não possui o poder de influenciar tão significativamente a carreira do indivíduo.

Os fatores “Validade de Conteúdo Percebida” e “Oportunidade de Uso” foram agrupados e podem significar que, para o respondente brasileiro, não haveria como avaliar de maneira separada se o treinamento estaria adequado ao trabalho dele e se existiriam condições para aplicar o que aprendeu no trabalho. Esses dois fatores estariam tão relacionados que representariam um único fator.

O fator “Planejamento de Transferência” não emergiu no Brasil. Esse fator pode não ter emergido em razão do fato de que as organizações brasileiras ainda aplicam apenas o instrumento de avaliação de reação, quando aplicam. A grande maioria não planeja as ações de capacitação levando em conta os fatores que afetam a transferência de aprendizagem.

As diferenças entre as estruturas fatoriais que emergem em diferentes países podem ser atribuídas a diferenças culturais, a diferenças na concepção e implementação do instrumento ou a problemas no processo de tradução (Chen et al., 2005). Não existem razões para acreditar em problemas na implementação e tradução do instrumento. Parece ser mais provável a suposição de que tais diferenças sejam decorrentes das diferenças culturais e, como já foi discutido, da utilização da análise paralela e não do *scree plot* para a extração de fatores.

O terceiro objetivo deste estudo foi verificar as correlações entre os escores de impacto do treinamento e de suporte à transferência, variáveis critério, e os escores do LTSI, de forma a verificar a validade preditiva deste. Com exceção dos escores dos fatores 2, 3 e 4 do LTSI, todos os demais escores fatoriais obtiveram correlação significativa com os escores de impacto e suportes psicossocial e material. Dentre esses três escores, o que é melhor predito pelos fatores do LTSI é o primeiro, seguido de suporte psicossocial e, a uma grande distância, suporte material.

O LTSI é um bom preditor de impacto e suporte psicossocial, mesmo passados vários meses entre a sua aplicação e a aplicação das escalas que mensuraram essas variáveis critério. Entretanto, não é um bom preditor de suporte material, uma vez que esse foi predito por somente dois fatores do LTSI: “Motivação para Transferir” e “Expectativa de Desempenho e de Resultados”. Além disso, a explicação da variabilidade é menor que 5%, nos dois casos. Entende-se, então, que o LTSI tem baixa capacidade preditiva para o fator suporte material. Essa baixa capacidade preditiva pode ser decorrente da dificuldade de o participante prever, antes do treinamento, o que ocorrerá depois, em aspectos que não estarão sob seu controle ou sob controle de seu chefe imediato e colegas (disponibilidade e qualidade de recursos). Dessa forma, outros mecanismos de predição de suporte material precisam ser utilizados pelos gestores de T&D, além do LTSI. Já as variáveis critério suporte psicossocial e impacto foram respectivamente preditas por sete e nove fatores do LTSI.

O LTSI se mostrou um bom preditor de impacto, trazendo informações logo após a realização do curso, e não meses depois, sobre o efeito potencial deste no trabalho do participante. Em que pese o LTSI ser um razoável preditor de suporte psicossocial, o fato de “Sanções do Supervisor” não ter capacidade preditiva chama a atenção. Outros dois fatores, além de “Sanções do Supervisor”, tampouco emergiram como preditores das três variáveis critério: “Resultados Pessoais Negativos” e “Resistência/Abertura a Mudanças”. Os itens desses fatores talvez pudessem ser eliminados do instrumento quando aplicado para diagnóstico no Brasil, o que reduziria o seu tamanho e facilitaria o seu preenchimento.

O presente estudo permitiu testar a validade de construto do LTSI no Brasil, sugerindo que os fatores que são considerados importantes na explicação da transferência da aprendizagem nos EUA e em Portugal são os mesmos, com apenas as exceções já mencionadas. Quanto às contribuições teóricas para a literatura sobre os fatores que afetam a transferência, este trabalho também produziu evidências que fortaleceram a validade de constructo transcultural do LTSI (Bates et al., 2007; Chen et al., 2005; Devos et al., 2006; Khasawneh, 2004; Velada, 2007; Yamkovenko et al., 2007; Yamnill, 2001).

Este estudo apresenta algumas limitações que devem ser consideradas, quando seus achados são interpretados. A primeira delas diz respeito ao fato de o instrumento ser autoaplicável, o que pode enviesar as respostas, considerando tratar-se de fonte única (Puente-Palacios & Borges-Andrade, 2005). Outra limitação é que as diferenças de médias de fatores de transferência em termos de características individuais concernentes a gênero, idade, escolaridade e antiguidade na organização não foram analisadas. Os gestores devem ter em consideração que não podem tomar decisões sobre os fatores de transferência da mesma forma, para todos os participantes treinados, pois podem existir algumas características individuais que influenciem a forma como esses mesmos fatores são percebidos pelos participantes.

Quanto à validade externa do estudo, é preciso ressaltar que foi abrangida uma variedade de organizações e setores de atuação, assim como vários tipos de treinamento. Mas o setor privado ficou sub-representado, e os segmentos primário e secundário da economia não foram contemplados. Isso pode limitar a possibilidade de generalização dos resultados para todos os contextos.

Para pesquisas futuras, recomenda-se a análise das diferenças individuais dos respondentes e que a coleta de dados seja realizada em todas as regiões do país, tanto em organizações públicas quanto privadas, dos diversos segmentos da economia e incluindo trabalhadores com baixa escolaridade. Além disso, a obtenção de um número maior de respondentes para a validação preditiva poderá permitir a utilização do método de regressão em vez da correlação de Pearson.

Outra recomendação é a utilização de planos longitudinais, com a análise do desempenho no trabalho antes, imediatamente após e algum tempo depois do treinamento terminado. Dessa forma será possível determinar, com maior rigor, se as mudanças se devem, ou não, à aplicação do aprendido no local de trabalho e se essas mesmas mudanças se mantêm ao longo do tempo. Esta recomendação atenderia a sugestão de melhor investigar o que ocorre no intervalo de tempo entre o final do treinamento e a coleta de dados sobre transferência deste treinamento feita por Ford et al. (2018).

Apesar dessas limitações e da certeza de que ainda há muitas lacunas a preencher nesse campo de estudo, com este trabalho obteve-se uma importante contribuição para o conhecimento dos fatores de transferência de aprendizagem, quer pela sua facilitação quer pela sua inibição. Esses fatores são: Validade de Conteúdo Percebida e Oportunidade de Uso, Resultados Pessoais Negativos, Resistência/Abertura a Mudanças, Sanções do Supervisor, Resultados Pessoais Positivos, Motivação para Transferir, Prontidão do Aprendiz, Esforço de Transferência – Expectativa de Desempenho e Autoeficácia do Desempenho, Orientação de Desempenho, Apoio dos Colegas e do Supervisor, Capacidade Pessoal para Transferir e Expectativa de Desempenho e de Resultados. Além disso, seu diagnóstico não precisa ocorrer meses após o treinamento. Pode ser realizado no final do mesmo e, portanto, pode imediatamente sugerir ações para minimizar problemas de transferência de aprendizagem.

O presente trabalho apresenta um instrumento válido e com boas qualidades psicométricas para os gestores de T&D no Brasil. Supõe-se que estejam interessados na potencialização da transferência de treinamento e, conseqüentemente, no aumento do retorno do investimento canalizado em atividades de treinamento. Os objetivos propostos para este trabalho, as evidências de validação fatorial e preditiva do LTSI no Brasil, foram alcançados. Espera-se que os resultados encontrados possam contribuir para a construção de conhecimento científico consistente que fundamente a prática profissional.

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# Psychometric properties of the human system audit-transformational leadership short scale in Germany and Philippines: A cross-cultural study

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## Abstract

The aims of this research are to analyze the psychometric properties of the Philippine ( $N = 308$ ) and German ( $N = 200$ ) version of the Human System Audit transformational leadership short-scale (HSA-TFL short-scale) and to identify whether transformational profiles are similar or different in both countries. In today's globalized environment, the number of multinational organizations increases and trade relations between countries become straighter. This intensifies the companies' need for short leadership instruments that are scientifically designed, reliable and quick to apply. We analyzed factor structure, convergent and criterion validity, as well as transformational profiles for Germany and the Philippines, both important economies in their regional economic blocks that experienced a considerable growth of their bilateral relations. Results indicate that the HSA-TFL short-scale is a reliable instrument (Philippines:  $\alpha = .90$ ; Germany:  $\alpha = .91$ ) with a one-factor structure for the Philippine (RMSEA = .08, CFI = .88) and the Germany version (RMSEA = .06, CFI = .89) showing convergent validity for both countries. Criterion validity was different in both countries and sensible to the cultural context. The transformational profiles, using the Multifactor Leadership Questionnaire (MLQ-5X), showed differences for both countries. This research provides empirical evidence for the validity and usefulness of the HSA-TFL short-scale.

**Keywords:** transformational leadership; cross cultural validity; short scale

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## Propriedades psicométricas da escala curta de liderança transformacional da auditoria do sistema humano na Alemanha e nas Filipinas: um estudo cross-cultural

### Resumo

O objetivo desta investigação é analisar as propriedades psicométricas da versão Filipina (N = 308) e Alemã (N = 200) da versão reduzida da “Auditoria do Sistema Humano – liderança transformacional” (HSA-TFL versão reduzida) e identificar em que extensão os perfis de liderança transformacional são similares ou diferentes na Alemanha e na Filipinas. No contexto globalizado atual, aumentam o número de organizações multinacionais e se ajustam as relações comerciais entre países. Com isso, se intensifica a necessidade em organizações multinacionais de instrumentos parcimoniosos para medir a liderança e que sejam elaborados cientificamente, confiáveis e de aplicação rápida. Analisamos a estrutura fatorial, validade convergente e de critério, assim como os perfis de liderança transformacional na Alemanha e Filipinas, ambas economias importantes no seu bloco econômico regional que experienciaram um crescimento considerável das suas relações comerciais bilaterais. Os resultados indicam que o HSA-TFL versão reduzida é um instrumento confiável (Filipinas  $\alpha = .90$ ; Alemanha:  $\alpha = .91$ ) com estrutura unifatorial quer para a versão filipina (RMSEA = .08, CFI = .88) quer para a alemã (RMSEA = .06, CFI = .89), demonstrando validade convergente para ambos os países. A validade do critério foi diferente nos dois países e sensível ao contexto cultural. Os perfis transformacionais, baseados no Multifactor Leadership Questionnaire (MLQ-5X), mostraram diferenças para ambos os países. Esta investigação fornece evidências empíricas da validade e utilidade da HSA-TFL na sua versão reduzida.

**Palavras-chave:** liderança transformacional; validade cross-cultural; escala curta

## INTRODUCTION

The aims of the present research are a cross-cultural analysis of the psychometric characteristics comparing the German and Philippine’s version of the HSA-TFL short-scale and of transformational leadership (TFL) profiles. Given the organizations’ need to adapt to current changing environments (Jung, Bass, & Sosik, 1995; Mittal, 2015), TFL, which was developed and studied first for western cultures (Felfe, Tartler, & Liepmann, 2004), currently is considered as one of the most effective positive leadership styles (Dumdum, Lowe, & Avolio, 2002) at all levels and across cultures (Bass, Avolio, Jung, & Berson, 2003; Braun, Weisweiler,

& Frey, 2013; Lowe, Kroeck, & Sivasubramaniam, 1996). Therefore, the positive relations of TFL to organizational outcomes evidence that investment on training programs to develop transformational leaders is a good strategy for organizations looking for improvements (Barling, Weber, & Kelloway, 1996; Felfe et al., 2004).

With the globalization and growing number of companies that decided to implement an internationalization strategy and to expand their business to different countries (Dean & Ritzer, 2012), the need for cross-cultural collaboration and management became more important (Shi & Wang, 2001) and, along, expatriation of managers increased (Larsen, 2004). Following Scandura and Dorfman (2004), research on cross-cultural validation of instruments to screen leadership in globalized business' is still scarce and even today needed as some recent studies validated other leadership styles like identity (Dick et al., 2018), ethical (Zhu, Zheng, He, Wang, & Zhang, 2017) and servant leadership (Rodríguez-Cavajal, de Rivas, Herrero, Moreno-Jiménez, & van Dierendonck, 2014), but not short transformational leadership screening instruments.

Even though leadership has been studied recently in Asia, Arvey, Dhanaraj, Javidan and Zhang (2015) and Lam, Huang and Lau (2012) mention that the growing importance of eastern economies in our globalized world should be taken into account and that leadership theories and practices developed in western contexts may lack adjustment to non-western contexts. Therefore, the topic still needs more scientific contribution (Arvey et al., 2015).

Although the Multifactor Leadership Questionnaire (MLQ 5X), developed by Bass (1985) and Bass and Avolio (1997), is a well-known and valid instrument to assess leadership, its size is often seen too long for practical purpose. The current context of fast changes, new technologies and processes in the companies call for short and quick to apply instruments that save up time and resources, what is "clearly preferred for surveys" (Tejeda, Scandura, & Pillai, 2001, p. 48). As for the availability of reliable and valid short instruments to assess TFL in Asian organizations, Arvey et al. (2015) highlight that peculiarities within Asian countries are relevant, but still less explored (Lam et al., 2012; Mittal, 2015).

Taking the above-mentioned aspects into account, a short valid and reliable instrument to measure TFL in further Asian economically growing countries, based on scientific studies and usable for combined quality-related company assessment is necessary (Berger, Yepes, Gómez-Benito, Quijano, & Brodbeck, 2011). In our research, Germany and Philippines were chosen as they are representatives of western and eastern culture. Philippine has a stable macroeconomic environment, being an Asian economy that shows high growth rates (Federal Foreign Office, 2017). Germany is amongst the first five economies in European Union, occupying the first position in 2015 (Schwab, 2015). Both countries are establishing a closer bilateral relationship in politics and increased their trade relations in the past years, being Germany one of the biggest foreign inves-

tors in Philippines among the top 10 market destinations of exports and being the first destination in European Union. As for TFL, nevertheless, in Philippines we found no relevant research till this moment. Hence, this research aims to contribute first to the psychometric validation of a short and reliable TFL instrument for Philippines, being the first validation providing evidence of the factor structure stability across cultures. Second, this research aims to contribute to the existing cross-cultural literature about TFL profiles in Europe and Asia by adding information to a scarce body of research about the topic, particularly in Southeast Asia. Third, the comprehension of compared German and Philippine TFL profiles has practical implications offering inputs for the design of training programs for expatriate managers (Mittal, 2015; Muenjohn & Armstrong, 2007; Thomas, Lazarova, & Inkson, 2005).

In study 1, the cross-cultural psychometric analysis of the HSA-TFL short-scale was done for the German and Philippine version using several sources: factor structure applying confirmatory factor analysis (CFA), internal consistency, convergent and criterion validity. In study 2, the German and Philippines' TFL profiles, measured by the transformational part of the MLQ-5X (TFL), were compared and analyzed using Hofstede's model of cultural dimensions (Hofstede, 2011).

### *Transformational Leadership*

TFL is seen as the most popular leadership theory (Arnold, 2017; Bass, 1985; Bass & Avolio, 1997; Lanai, Johnson, & Lee, 2016). It consists of four dimensions, the so called "Four I's". Research shows that all four transformational dimensions have a more positive relationship with employees' wellbeing (Breevaart & Bakker, 2018) and with subjective (Dumdum et al., 2002; Kranabetter & Niessen, 2017) and objective (Geyer & Steyrer, 1998) performance at all levels (Bass et al. 2003) and across cultures (Berger et al. 2011) than transactional scales (Lowe et al. 1996). Inspirational motivation (IM) refers to a leader that is able to create a common vision. Individualized consideration (IC) is the leader that is able to develop follower's individual strengths treating each follower as an individual with own needs and abilities. Intellectual stimulation (IS) means that the leader motivates his/her followers to find new ways of analysing and solving problems. Idealized influence (II) measures attributed impact (Yukl, 2010) of positive values and attitudes (Bass et al. 2003) on followers. There is disagreement on the TFL factor structure evidencing a four-factor structure in Singapore, a representative of southeastern culture like Philippines (Bass, 1997) as well as a one-dimensional structure for the MLQ-5X-TFL short version (16 items) in Hong Kong (Sheer, 2010) and in several other cultures (Berger, et al., 2011; Den Hartog, Van Muijen, & Koopman, 1997; Goodwin, Wofford, & Whittington, 2011;

Tejeda et al., 2001). This shows that more research is needed to clear the factor structure cross-culturally (Goodwin et al., 2011) as both perspectives are considered relevant for academic and practical contexts (Antonakis, Avolio, & Sivasubramaniam, 2003; Bass et al., 2003). Bass (1996) argues that TFL can be seen as universal as the concept exists in different cultures with important relations to organizational outcomes. In Germany, TFL validation started to be a topic in scientific research during the 1990's (Felfe et al., 2004; Rowold, 2005). In Philippines, we found no study on TFL validation. The HSA-TFL short-scale, that is based on Bass' (1985) TFL concept answers the above-mentioned requirements (Carless, 1998; Felfe, 2006; Quijano, Navarro, Yepes, Berger, & Romeo, 2008) for short screening instruments with its practical advantages for the implementation of intervention showing consistently good psychometric characteristics for samples in diverse sectors (Berger, Romeo, Guardia, Yepes, & Soria, 2012). The 8-item HSA-TFL short-scale was developed in the frame of the Human Systems Audit (HSA) (Quijano et al. 2008), first in Spanish, then translated into English, Portuguese, Polish (Berger et al., 2011) and German (Kolbe, 2009) confirming always a one-dimensional factor structure (Berger et al., 2012). It evaluates employees' perceptions of their direct supervisors' TFL. Based on these previous findings concerning the factor structure of the HSA-TFL short-scale and psychometric properties (Berger et al., 2011, 2012) we expect:

*H1:* The construct validity of the HSA-TFL short-scale is similar in the German and Philippines' samples.

*H1a:* The HSA-TFL short-scale in Philippines and Germany will show a one-dimensional factor structure.

*H1b:* Convergent validity for the Philippine's sample will be significant and similar to those obtained for the German one.

### *Cultural approach*

Even transformational leadership is considered a universal concept (Bass, 1996), variations can be found in different cultural contexts (Bass, 1997) because universality does not mean that outcomes related to TFL and its profiles will be exactly the same in all cultural contexts. The perception of this behavior seems to be influenced by cultural differences as individuals with different cultural values may perceive leadership differently (Spreitzer, Perttula, & Xin, 2005). In this sense, the relationship of TFL and its outcomes in form of criterion validity (Liden, 2012)

and the TFL profiles might be explained by cultural difference (House, Hanges, Javidan, Dorfman, & Vipin, 2004).

This research is based on Hofstede’s model of national cultural dimensions, the most used model in cross-cultural studies (Dickson, Den Hartog, & Mitchelson, 2003; Dorfman et al., 1997) with updated data collection in Germany and Philippines (Hofstede, 2018). For the interpretation of our results we focus on the following cultural dimensions: power distance, individualism, and uncertainty avoidance, that, according to Ergeneli, Gohar and Temirbekova (2007), are related to the emergence of TFL and to its relation with performance outcomes and on the dimensions masculinity and long term orientation. According to Hofstede’s model of cultural dimensions countries scores in each dimension range from 0 to 100, being 50 the midlevel; scores below 50 are considered as relatively low and scores over 50 as relatively high (Hofstede, Hofstede, & Minkov, 2010). The current scores of the cultural dimensions are presented in Hofstede Insights (2018) and summarized in Table 1. It can be observed that Philippines show lower scores on individualism, uncertainty avoidance and long term orientation than Germans and higher scores on power distance. For the dimension masculinity the scores are very similar (Hofstede, 2018).

Table 1  
*Germany and Philippines scores on the Cultural Dimensions related to Transformational Leadership emergence*

| Cultural Dimensions   | Germany | Philippines |
|-----------------------|---------|-------------|
| Power Distance        | 35      | 94          |
| Individualism         | 67      | 32          |
| Uncertainty Avoidance | 65      | 44          |
| Masculinity           | 66      | 64          |
| Long Term Orientation | 83      | 27          |

Source: Hofstede Insights (2018). Retrieved November 25, 2018 from <https://www.hofstede-insights.com/product/compare-countries/>  
Note. Hofstede’s scale range is from 0 to 100, being 50 the midlevel.

The relationship between TFL and SATISFACTION (SAT) in both countries might be explained by power distance and individualism (vs. collectivism). Power distance is defined as the extent to which the less powerful members of an organization within a country expect and accept that power is distributed unequally. It was found that power distance influences the relationship between TFL and outcomes in China and Eastern countries (Atwater, Wang, Smither, & Fleenor, 2009, cited by Liden, 2012). Philippines is considered a hierarchical society, in which people accept centralized decisions. In organizations, subordinates prefer to be told what to do. They are satisfied with leaders that are benevolent, care about the well-being of their employees or are also autocrats. Germany is a decentralized society, with

low score on power distance. In organizations, control is not so much appreciated, but direct and participative communication is valued. Employees are satisfied with expertise and leaders are expected to be experts. Decision making is not centralized to leaders, and uncertainty regarding decisions is diminished by restricted rules, procedures and by relying on expertise. Individualism (vs. collectivism) means that individuals are expected to look after themselves and their own immediate family and was found to be related to the enactment of TFL (Ergeneli et al., 2007). Collectivism is related to societies in which people are integrated in strong groups; people are committed in a long-term relationship with their groups, like the organization they work for. They care about their group and faithfulness is extremely important. The relationship between employee and employer is similar to family relations. The leaders consider the needs of the employee group. Pillai, Scandura and Williams (1999) found for Colombia, Middle East countries and India, cultures characterized by high collectivism and power distance, that leaders have more satisfied followers, showing directive and autocratic behavior, contrary to a large body of research in western contexts. Likewise, Cheng, Chou, Wu, Huang and Farh (2004) found that authoritarianism in a Chinese sample is likely to result in obedience by subordinates. Philippines is considered a collectivistic society with these characteristics. Germany is considered an individualist society in which nuclear family, based on parent-children relationship is more common with a high sense of duty and responsibility that fosters loyalty on behalf of personal preferences rather than group ones. The work relationships are based on contract and direct communication and employees are satisfied with participative leaders. Therefore, in Philippines as a collectivist and high power distance culture, employees would be more satisfied with benevolent autocrat leaders than with transformational ones. This might lead to the idea that SAT will be a criterion that in Germany relates significantly to TFL, but not in Philippine organizations.

The relationship between TFL and EXTRA EFFORT (EWEF) in both countries might be explained by long term orientation. It describes “how every society has to maintain some links with its own past while dealing with the challenges of the present and future” (Hofstede, 2018). Cultures that are more longterm-oriented promote efforts to deal successfully with future demands. Societies that are scoring low on long term orientation are looking more skeptical to future change and focus more on tradition (Hofstede, 2018) and are not encouraging effort for the future goals. The German culture points high on long term orientation meanwhile the Philippine culture points low. This might lead to the idea that EEF maybe is not a suitable criterion for transformational leaders in Philippines’ organizations and therefore there will be no significant relation between TFL and EEF in Philippines and a significant one in Germany.

The relationship between TFL and EFF in both countries might be explained by uncertainty avoidance and masculinity. Uncertainty avoidance is defined as the level members feel either uncomfortable or comfortable in unstructured situations. This feeling is expressed through stress and a need for predictability, like established rules and is related to enactment of TFL in different societies. TFL is more effective in uncertain organizational environment (Bass & Riggio, 2006; Felfe, 2006). For uncertainty avoidance, the countries' scores show few differences. Philippines is considered a medium-low uncertainty avoidance culture, valuing more practices than principles and tolerate more easily the deviation from the norm. Rules should exist only if necessary. Innovation usually happens and is seen as a good thing. The German culture points medium-high on uncertainty avoidance. Systematic planning is valued and necessary in order to act. Laws are usually detailed and well established.

The other culture dimension that might influence EFF, masculinity, is about "what motivates people, wanting to be the best (Masculine) or liking what you do (Feminine)" (Hofstede, 2018). In masculin societies, competition, achievement and success are relevant. Both countries are not differing. For the similar scores of both countries on uncertainty avoidance and masculinity we expect a similar significant relationship between TFL and EFF in both countries. Considering the findings of previous research, we establish the following hypothesis:

*H1c:* Concurrent criterion validity of the HSA-TFL short-scale for the Philippine sample will be different from the results obtained for the German one. We expect a significant positive relationship with all criterions for Germany, meanwhile for the Philippines we expect no significant relationship with SAT and EEF and a significant positive relationship with EFF.

Previous studies showed that it is also possible that TFL profile variations in different countries are explained by cultural differences, "particularly as one crosses into the non-Western world" (Bass, 1997, p. 136). Dickson et al. (2003) and Jung et al. (1995) argue that collectivist societies are more likely to endorse TFL behavior due to their characteristics such as respect and obedience for their leaders, that seem to stimulate the II and IS and also the sense of taking care of the group, which approximate the relationship between leader and follower and enhance the IC. This is in line with Bass (1997) and Jung et al. (1995) who discuss that collectivist societies, especially from Asia, are more likely to show a more robust profile in TFL than individualist societies. As for uncertainty avoidance, Jung et al. (1995) hypothesized that lower uncertainty avoidance cultures will tolerate more innovative and transformational behavior. When power distance is low, people tend to prefer more egalitarian leadership and when it is high, "lead-

ers tend to be less participative and more authoritarian and directive” (Dickson et al., 2003, p. 740). Germany is considered a more decentralized society, with low score on power distance. For these diverse reasons we expect relatively high, but significantly different means of TFL and II, IS, and IC in both countries and establish the following hypothesis:

*H2:* The MLQ-5X (TFL) profile in Germany and Philippines will show significantly different means for the dimensions II, IS and IC.

On the other hand, Leong and Fischer (2010) mention that in masculine, mastery-oriented cultures inspirational motivation might be perceived as important as these cultures see leaders more “as a source of inspiration and exemplary figure” (Leong & Fischer, 2010, p. 8). As Germany and Philippines show a similar level of masculinity, we expect also similar means for IM.

*H3:* The means of the MLQ-5X (TFL) dimension IM for Germany and Philippines will not differ significantly.

## METHOD

### *Participants*

The German sample consists of 200 employees, meanwhile the Philippine sample is build by 308 employees, in both countries working in diverse services (Table 2). All participants were employees without a supervisor function. Although participants’ age distribution is different in the Philippines and Germany, we used both samples as Wang, Van Iddekinge, Zhang and Bishoff (2018) in their meta-analytic article did not find an influence of followers age on leadership ratings.

Table 2  
*Sample characteristics*

| Country     | <i>N</i> | Sector  | Male  | Female | Age                  | Tenure (Mean) |
|-------------|----------|---------|-------|--------|----------------------|---------------|
| Germany     | 200      | Service | 48.5% | 51.5%  | 53.5% over 36 years  | 8.55 years    |
| Philippines | 308      | Service | 69.9% | 33.1%  | 93.8% under 36 years | 5.68 years    |

## *Instruments*

Three questionnaires were answered by both samples.

*The Human System Audit – Transformational Leadership short scale (HSA-TFL).* The instrument is based on the Spanish short version of the HSA-TFL short-scale showing Cronbach's coefficients ranging between .92 to .95 (Berger et al., 2011) and validated in German (Kolbe, 2009). The instrument is composed of eight questions (e.g., "I am confident that s/he can surpass any obstacle"; "Ich vertraue auf seine/ihre Fähigkeiten, Hindernisse jeder Art zu überwinden"), two for each theoretical dimension using a 5-point Likert scale from 1 (*definitely do not agree*) to 5 (*completely agree*).

*The Multifactor Leadership Questionnaire (MLQ-5x).* This research uses only the 20 transformational items (Bass & Avolio, 1997) (e.g., "Seeks differing perspectives when solving problems") rated on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*frequently, if not always*).

*The Multifactor Leadership Questionnaire (MLQ-5x), internal performance measures part.* It is composed by effectiveness (EFF) with four items (e.g., "Is effective in meeting my job-related needs"), extra-effort (EEF) with three items (e.g., "Heightens my desire to succeed") and satisfaction (SAT) with two items (e.g., "Uses methods of leadership that are satisfying"), also on a 5-point Likert scale, ranging from 1 (*not at all*) to 5 (*frequently, if not always*).

For the German sample the instruments were applied in German, for the Philippines in English. This was possible because the Global English Corp institute ranked Philippines as among the highest level in business English. Nevertheless, to assure the items' full comprehension, a Tagalog version, the official language of Philippines, was provided together with the English version. Both versions passed through a careful process of translation and back-translation into German (Kolbe, 2009) and English (Berger et al., 2012) following the International Test Commission (ITC) guidelines (ITC, 2017).

## *Procedure*

Data was collected using online survey and paper-pencil method after previous contact with the organizations in order to explain the research's objectives and assuring anonymity and confidentiality of the responses during all the process. Paper-pencil questionnaires were distributed by a consultant, answered during working hours and returned the same day by the employees in a sealed envelope.

## RESULTS

### *Results of study 1: Psychometric properties in Germany and Philippines*

Table 3 shows the descriptive statistics for HSA-TFL and MLQ-5x (TFL) in Germany and Philippines.

Table 3  
*Descriptive statistics of HSA-TFL and MLQ-5x (TFL) for Germany and Philippines*

|                | HSA-TFL |       | MLQ-5x (TFL) |       |
|----------------|---------|-------|--------------|-------|
|                | GE      | PHI   | GE           | PHI   |
| Mean           | 3.67    | 3.64  | 3.59         | 3.81  |
| Median         | 3.75    | 3.62  | 3.65         | 3.85  |
| SD             | 0.79    | 0.66  | 0.70         | 0.46  |
| $\alpha$       | .91     | .90   | .93          | .88   |
| Skewness       | -0.80   | -0.79 | -0.50        | -1.75 |
| SE of Skewness | 0.17    | 0.13  | 0.17         | 0.13  |
| Kurtosis       | 0.37    | 1.75  | 0.03         | 5.95  |
| SE of Kurtosis | 0.34    | .27   | 0.34         | 0.27  |

A Confirmatory Factor Analysis (CFA) using version 22 of AMOS was done to confirm the factor structure of the HSA-TFL short-scale. Considering the sample size, the extraction method used was the General Least Square (GLS), that is indicated to well-specified models and allows small sample sizes to do an acceptable job in terms of theoretical and empirical fit (Olsson, Tron, Troye, & Howell, 2000). Criteria for an acceptable fit are defined as follows: The Normed Fit Index (NFI) should be greater than .95, the Comparative Fit Index (CFI) and the Adjusted Goodness-of-Fit Index (AGFI) greater than .90, the standardized Root Mean Square Residual (SRMR) smaller than 0.8, and the Root Mean Square Error of Approximation (RMSEA) close to .06 (Byrne, 2006). Considering that the Chi-square test is known to be very sample dependent in relation to normal distribution and size and to be higher for simpler models, multiple fit indexed were used to provide a more holistic and parsimonious view (Schlermelleh-Engel & Moosbrugger, 2003; Vandenberg, 2006). Two models were tested: model 1 tested a one-dimensional structure and model 2 tested a four-factor structure.

*Germany.* The goodness of fit indexes for both models are similar and show satisfactory fit indexes (Table 4): NFI = .81, AGFI = .92 for the one-factor model (model 1) and NFI = .73, AGFI = .87 for the four-factor model (model 2). The SRMR for both models met the acceptable index (SRMR = .03). The RMSEA met the recommended of .06 for one-factor model but it is above this rule of thumb for the four-factor model (RMSEA = .09). The smaller value for the CAIC favored the one-factor model over the four-factor one (CAIC = 154.17 and CAIC = 177.45 for model 1 and model 2, respectively). The one-factor model demonstrated a non-significant chi-statistic ( $X^2(16, N = 200) = 28.20, p > .01$ ), indicating a good fit. The four-factor model showed a significant chi-statistic ( $X^2(14, N = 200) = 38.89, p < .01$ ), indicating a poor fit. Considering the Chi-square test and the fit index, the one-dimensional model better explains the factor structure of the HSA-TFL short-scale in the German sample. Inter-correlations between the dimensions II, IM, IC and IS ranged between .60 and .69. All correlations were significant at a 0.01 level (Table 4).

*Philippines.* The goodness of fit indexes for model 1 showed satisfactory fit indexes (Table 4): NFI = .85, CFI = .89, AGFI = .92. Both the SMRS and the RMSEA were close to the recommended of 0.6 (SRMR = .04 and RMSEA = .08) for one-factor model. Model 1 demonstrated a significant chi-statistic ( $X^2(12, N = 308) = 37.71, p < .01$ ), which indicates a poor fit. Considering that the Chi-square test is known to be very sample dependent in relation to normal distribution and size, this index is not considered to further analysis. Therefore, the model 1 was considered appropriate with regard to the description of the data. Inter-correlations between the dimensions II, IM, IC and IS ranged between .38 and .76. All correlations were significant at a .01 level (Table 4). Model 2 showed the following indexes (Table 4): NFI = .70, CFI = .73, AGFI = .84, SMRS = .04 and RMSEA = .11) and a significant chi-statistic ( $X^2(14, N = 308) = 74.34, p < .01$ ), which indicates a poor fit. Furthermore, the four-factor model tested presented some Heywood cases, with negative correlations between some factors, which is not acceptable for the fit of the model and led to the rejection of the four-factor model for this sample. In both samples, the model 1 fit index is reported after modifications in order to achieve better fit. This is in line with literature about CFA using AMOS (Olsson et al., 2000). Model 2 was not suitable for modifications suggested by the software due to the risk of theoretical violations. The one-dimensional model therefore fits better for both samples.

Table 4  
*Goodness of fit index for the HSA-TFL short-scales' factor structure*

|         |                      | $X^2$ | p     | df | NFI | CFI | AGFI | SRMR | RMSEA | CAIC   |
|---------|----------------------|-------|-------|----|-----|-----|------|------|-------|--------|
| Germany | Model 1 <sup>a</sup> | 28.20 | > .01 | 16 | .81 | .89 | .92  | .03  | .06   | 154.17 |
|         | Model 2              | 38.89 | < .01 | 14 | .73 | .79 | .87  | .03  | .09   | 177.45 |

|             |                      |       |       |    |     |     |     |     |     |        |
|-------------|----------------------|-------|-------|----|-----|-----|-----|-----|-----|--------|
| Philippines | Model 1 <sup>a</sup> | 37.71 | < .01 | 12 | .85 | .88 | .90 | .04 | .08 | 199.22 |
|             | Model 2 <sup>b</sup> | 74.34 | < .01 | 14 | .70 | .73 | .84 | .04 | .11 | 222.40 |

Notes. Model 1 reflects the one-dimensional construct for TFL. Model 2 reflects a first order four-dimensional. <sup>a</sup> In both samples, Model 1 was adjusted inserting correlations between errors. <sup>b</sup> Model 2 in Philippines is not admissible as it has Heywood cases. The X2/DF score is 3.14 which is seen as acceptable.

Internal consistency for the HSA-TFL short-scale and MLQ-5X (TFL) in both countries is good with similar Cronbach's alpha. For the German HSA-TFL short-scale Cronbach's alpha is .91 and inter-item correlation ranges from .46 to .69. For the German MLQ-5X (TFL) Cronbach's alpha is .93 and inter-item correlation lays between .19 and .68. The Philippine HSA-TFL short-scale has a Cronbach's alpha of .90 and the inter-item correlation ranges from .36 to .73. For the MLQ-5X (TFL) in Philippines, the Cronbach's alpha is .88 and the inter-item correlation is between -.041 and .72.

Significant correlations between HSA-TFL short-scale and the MLQ-5x (TFL) show in both samples convergent validity with lower results in the Philippines sample ( $r = .32, p < .01$ ) then in Germany ( $r = .78, p < .01$ ). The same is true for the TFL subdimensions (Table 5).

Table 5  
*Inter-correlations of the HSA-TFL short-scale and the MLQ-5X (TFL) per dimension*

|             | HSA II | HSA IM | HSA IS | HSA IC | MLQ IC | MLQ IS | MLQ II | MLQ IM | HSA-TFL | MLQ-5X (TFL) |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------------|
| HSA II      | -      | .67**  | .61**  | .60**  | .55*   | .51**  | .66**  | .49**  | .83**   | .65**        |
| HSA IM      | .69**  | -      | .69**  | .63**  | .64**  | .65**  | .71**  | .50**  | .86**   | .72**        |
| HSA IS      | .52**  | .60**  | -      | .64**  | .60**  | .66**  | .65**  | .51**  | .86**   | .69**        |
| HSA IC      | .38**  | .50**  | .76**  | -      | .61**  | .58**  | .62**  | .48**  | .84**   | .66**        |
| MLQ IC      | .30**  | .22**  | .19**  | .20**  | -      | .74**  | .72**  | .49**  | .69**   | .85**        |
| MLQ IS      | .30**  | .21**  | .15**  | .16**  | .60**  | -      | .73**  | .61**  | .69**   | .86**        |
| MLQ II      | .20**  | .40**  | .24**  | .21**  | .45**  | .29**  | -      | .72**  | .76**   | .93**        |
| MLQ IM      | .27**  | .28**  | .30**  | .25**  | .50**  | .40**  | .62**  | -      | .58**   | .78**        |
| HSA-TFL     | .76**  | .83**  | .85**  | .79**  | .24**  | .21**  | .28**  | .29**  | -       | .78**        |
| MLQ-5X(TFL) | .32**  | .37**  | .27**  | .24**  | .77**  | .64**  | .84**  | .77**  | .32**   | -            |

Note. \*\* $p < .01$ , two-tailed. Correlations above the diagonal represent the Germany sample and below the Philippine sample.

To test criterion validity, the HSA-TFL short-scale is correlated to the outcomes EEF, EFF and SAT measured by the MLQ-5X in both samples, showing good and similar alphas (Germany: .89; Philippines: .93). For the German sample all correlations are significant and indicate good criterion validity (Table 6). For the Philippine's sample,

only the performance indicator EFF correlates significantly with HSA-TFL short-scale. Criterion validity in Germany and Philippines differs regarding to the criteria.

Table 6  
*Correlations between the performance indicators and the HSA-TFL and MLQ-5x (TFL)*

|              | EEF   | EFF   | SAT   | HSA-TFL | MLQ-5X (TFL) |
|--------------|-------|-------|-------|---------|--------------|
| EEF          | -     | .56** | .64** | .56**   | .70**        |
| EFF          | .86** | -     | .72** | .67**   | .66**        |
| SAT          | .82** | .77** | -     | .73**   | .75**        |
| HSA-TFL      | .10   | .13*  | .06   | -       | .78**        |
| MLQ-5X (TFL) | .46** | .46** | .49** | .32**   | -            |

Note. \* $p < .05$ ; \*\* $p < .01$ , two-tailed. Correlations above the diagonal represent the Germany sample and below the Philippine sample.

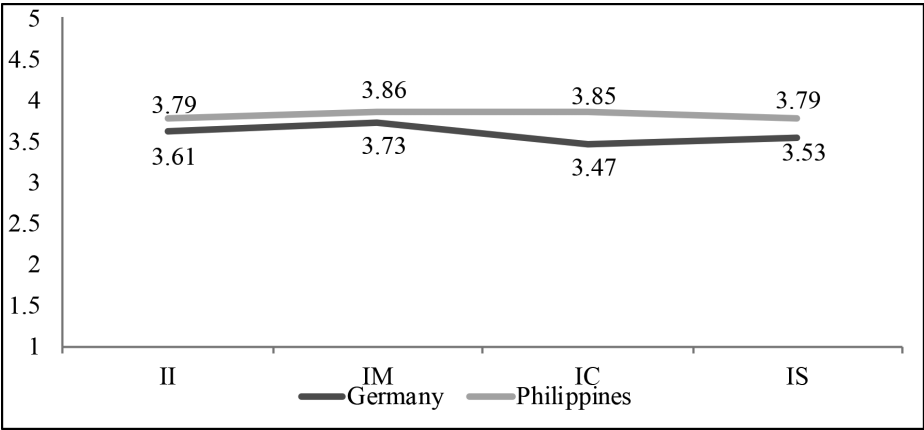


Figure 1. Transformational Leadership profile as measured by the MLQ-5X in Germany and Philippines. Note. II (Idealized Influence), IM (Inspirational Motivation), IC (Individual Consideration), IS (Intellectual Stimulation). Mean scores presented according the four dimensions, based on a likert scale ranging from 1 to 5.

*Results of study 2: comparison of TFL profiles in Germany and Philippines*

To get a deeper insight, TFL profiles were compared between countries using the responses obtained with the MLQ-5X (TFL), that shows a four-factor structure, applying Mann-Whitney U test (Morgan, Leech, Gloeckner, & Barrett, 2004). Results show that the overall mean of the MLQ-5X (TFL) in Germany and Philippines is significantly different

being higher in Philippines than in Germany ( $U = 24440, p = .001$ ) and the same is true for the three sub-dimensions IC ( $U = 23167, p = .001$ ), IS ( $U = 23817, p = .001$ ) and II ( $U = 26572, p = .001$ ). However, IM ( $U = 29235, p = .32$ ) shows no significant difference (Figure 1).

### *Discussion of the results of study 1*

The CFA revealed in both countries a one-dimensional factor structure of the HSA-TFL short-scale supporting H1a. This fits to other results (Antonakis et al., 2003; Berger et al., 2011, 2012; Kolbe, 2009; Rowold, 2005; Sheer, 2010). Furthermore, high internal consistency and significant convergent validity with MLQ-5x (TFL) was found for both countries, supporting H1b and in line with other results. For criterion validity of the HSA-TFL short-scale, differences were found between both countries as for the German sample good criterion validity was found for all criterion, but for the Philippine sample a significant correlation was only found for EFF. This is in line with previous studies in different cultural contexts that showed the positive and significant relationship between this outcome and TFL (Avolio, 2011; Braun et al., 2013). SAT and EEF did not correlate significantly with the HSA-TFL short-scale in Philippines indicating the influence of culture (Spreitzer et al., 2005). SAT is related to the way followers feel satisfied with their leaders' behavior. No significant correlation with this outcome was found in the Philippines coinciding with other results in collectivistic societies with high power distance (Cheng et al., 2004; Pillai et al., 1999) where directive and autocrat leadership behaviors seem to be more important.

Regarding EEF, in which followers evaluate whether their leaders stimulate them to do more than expected and increases their willingness to try harder, the non-significant correlation between TFL and EEF in the Philippines may be explained by its low score on long term orientation. A culture with a low level on long term orientation seems not to encourage efforts for future (Hofstede, 2018). Results support H1c.

The HSA-TFL short-scale can be considered a psychometrically sound measure in both countries, showing the sensibility to cultural differences related to performance criteria.

### *Discussion of the results of study 2*

The overall mean as well as the means of the four subdimensions are higher for the Philippines' sample than for the German one. This fits to Bass (1997)

and Jung et al. (1995) who mention that collectivist societies from Asia show a more robust profile in TFL than individualist societies. The comparison of the means of the MLQ-5X (TFL) and of its subdimensions showed significant differences in three of the four subdimensions: II, IS and IC differ significantly across both countries, being higher in Philippines. Collectivism might have an influence in the Philippines society in the sense that employees feel significantly more II, IS and IC than in Germany due to respect for their leaders (Dickson et al., 2003). Results support our H2. Only IM was found to be similar in both countries. Along with Leong and Fisher (2010) the similar scores on masculinity might have an influence here. As hypothesized, IM is perceived in a similar way in Germany and Philippines, both cultures with a similar level of masculinity that consider the leader as the source of mastery and inspiration. Our results support H3.

Results are in line with other studies that suggested that differences in the TFL score can happen because of cultural differences (Spreitzer et al., 2005).

### *Implication for theory*

This research adds evidence for the HSA-TFL short-scale in Philippines offering a short and reliable instrument that can be used for a combined assessment of quality-related organizational aspects. Moreover, this research also contributes to theory in cross-cultural studies as it provides empirical evidence about TFL profiles in two different cultures using the Short-scale. This in line with Aycan, “cross-cultural studies are necessary to test the external validity of leadership theories that have been developed in a single context by identifying ‘universal’ as well as ‘culture-specific’ traits, behaviors, and influence processes in leadership” (2008, p. 220). Additionally this research provides an insight in the culture-sensitivity of the TFL concept at sub-dimension level.

### *Implications for practice*

In terms of practice, results suggest a valid and reliable instrument to measure TFL, particularly for the Philippines context, that is short and quick to apply, saving up time and resources of organizations (Quijano et al., 2008). Moreover, our research also offers information at sub-dimension level for German and Philippine TFL profiles for the design of training programs for expatriate managers (Mittal, 2015; Muenjohn & Armstrong, 2007; Thomas et al., 2005). Knowing the possible

profile of the transformational leaders in Philippines can be useful for the design of training programs for German leaders in process of being expatriated to work in Philippines' companies.

### *Limitations and future research*

This research is not without limitations. Results can be influenced by sample characteristics. Also, in this research, age mean was statistically significant comparing both samples, we follow Wang et al. (2018) that found in their meta-analytic article that follower age was not related to their ratings of leadership behaviors. Nevertheless, data with more variability on demographics could be used in future studies in order to overrule possible effects of sample characteristics on the results. Measurement invariance according Byrne (2006) was not tested in this study. Future research should investigate the measurement invariance of the HSA-TFL short-scale in German and Philippine context in order to get a deeper insight in the cross-cultural sensibility of the instrument. Interpretation of the TFL profile in both countries was done in a theoretical way. Future research should collect data on culture dimensions that would provide a deeper insight and more explanation over the results. Another possible explanation for the difference could be the organizational structure of companies in both countries that was not included in the analysis. In the future, structure-related information should be collected to allow a better understanding of possible impacts of organizational structure on TFL and outcomes.

## CONCLUSION

All the hypothesis were confirmed. Our results show that the HSA-TFL short-scale is a reliable and valid instrument for the Philippine context. The relationship to TFL performance outcomes was found to be sensible to cultural characteristics and helps to shape the transformational leadership behavior. The TFL profile as measured by the MLQ-5X (TFL) revealed some differences at subdimension level between Germany and Philippines as representatives of western and eastern cultures, respectively. Cultural differences could explain these results. The short-scale can serve as a first measurement of TFL, especially for practical interest in order to have a first comprehension of tendencies in TFL to design human resource policies and projects.

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## Individual and group level antecedents in the development of idiosyncratic deals. A cross-level study<sup>1</sup>

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### Abstract

Research on workers' proactive behaviors has increased in recent years, emphasizing the need for a more active workforce. In this context, research has been carried out on idiosyncratic deals (i-deals), that is, individualized work arrangements that employees negotiate with their employers about aspects that are mutually beneficial. Because this research topic focuses on individuals' actions, most of the studies analyzing its antecedents examine individual characteristics. However, group and organizational characteristics have been suggested to play a role. The aim of the present paper is to analyze the interplay between individual and group

<sup>1</sup> Although the present research has greatly evolved from its inception, this research originated as part of the Master thesis presented by Arianna Knering in the context of the Master on Work, Organizational and Personnel Psychology (WOP-P). Thus, to some extent is one of the fruits of the WOP-P Master, in which prof. Adelino Duarte Gomes was involved as a founder. We would also like to thank prof. Carla Semedo from the Universidade da Coimbra/Evora for her comments and feedback during the development of the research. The Spanish Government with project PSI2015-64862-R (MINECO/FEDER) supported this work.

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level factors in the development of *i-deals*. More specifically, we consider the role of psychological capital and justice climate in the development of *i-deals*. A total of 520 employees working in 83 work-units in Spain participated in a panel study. A cross-level approach was adopted to analyze the relationships among psychological capital (*psycap*), justice climate and *i-deals*. The results revealed group differences in the enactment of *i-deals*. Individual and group level factors showed a significant positive relationship with *i-deals*. After controlling for individual characteristics, Justice Climate still added predictive power.

**Keywords:** *I-deals*; Psychological capital; Justice climate; cross-level research

### Antecedentes individuais e grupais no desenvolvimento de acordos idiossincráticos: um estudo entre níveis

#### Resumo

A investigação sobre comportamentos proativos de trabalhadores tem vindo a aumentar nos últimos anos, enfatizando a necessidade de uma força de trabalho mais ativa. No espectro do comportamento proativo, os acordos idiossincráticos (*i-deals*) foram desenvolvidos, isto é, acordos de trabalho individualizados que os funcionários negociam com os seus empregadores em aspectos que são benéficos para ambos. Como esse tópico de investigação está centrado nas ações dos indivíduos, a maioria dos estudos que analisa os seus antecedentes é focada em características individuais. No entanto, sugere-se que as características organizacionais e de grupo também desempenhem um papel relevante. Assim, o objetivo do presente artigo é analisar a interação entre fatores individuais e grupais no desenvolvimento de *i-deals* relacionados com as práticas de recursos humanos. Mais especificamente, incluiu-se o papel do capital psicológico (*psycap*) e do clima de justiça no seu desenvolvimento. Os dados foram recolhidos junto de 520 funcionários que trabalham em 83 unidades de trabalho em Espanha. Foi adotada uma abordagem *cross-level* para analisar a relação entre *PsyCap* e Justice Climate e os acordos *i-deal*. Os resultados mostraram que as variáveis individuais e grupais apresentaram relações positivas significativas estabelecidas com os *i-deals*. Depois de controlar as características individuais, o JC ainda acrescentou poder preditivo.

**Palavras-chave:** Acordo idiossincrático; Capital psicológico; Clima de justiça; Pesquisa entre-níveis

## INTRODUCTION

The changes in the employment system that have occurred in recent decades have challenged the concept of career and the relationship between employers and employees. Both parties are now aware that the working relationship is not going to last forever (Arthur, Khapova, & Wilderom, 2005). This awareness, along with the demise of the traditional models of vertical growth-careers (Hall, 1996), may be factors underlying the change in psychological contracts (Schalk & Roe, 2007). Against this background, the definition of a career path becomes more tortuous and less clear, and careers today are increasingly fragmented and flexible. At the same time, there has been an evolution in the attitudes towards work and men and women's expectations about work have changed (Benko & Weisberg, 2007) emphasizing the employees' active role in developing their own careers.

It has also been argued that organizations can no longer rely on universalistic approaches ("one-size-fits-all approaches") in the design and implementation of Human Resource Practices (HR Practices) (Boxall & Macky, 2009). Instead, they need to tailor and adapt those practices to the specific needs and characteristics of their employees, so that each employee has the opportunity to define his/her own growth path within the organization (Bal, Kooij, & De Jong, 2013). If people increasingly differ from each other in terms of preferences, attitudes, and needs, their expectations towards the organization and their work and career development opportunities will also vary (Rousseau, 2005).

In this context, the concept of idiosyncratic deals (i-deals) (Rousseau, 2005) emerges. I-deals are defined as a type of proactive behavior through which employees develop personalized arrangements of their working conditions that are favorable to them and to the organizations they work for. These work arrangements allow valuable employees, high performers in particular, to benefit from the opportunity to customize all the conditions of their contract based on their personal and professional needs. Research on i-deals has shown that these types of behaviors are related to several positive outcomes, such as work-family balance (Hornung, Rousseau, & Glaser 2008), motivation to continue working after retirement (Bal, De Jong, Jansen, & Bakker, 2012), increased affective commitment (Liu, Lee, Hui, Kwan, & Wu, 2013), and satisfaction (Rosen, Slater, & Johnson, 2013).

Research on the antecedents of i-deals is rather scarce and mostly centered on individual antecedents, with personal initiative being the most well-established one (e.g. Hornung, 2018; Hornung et al., 2008). Some researchers have pointed out the need to explore other individual factors that might play an important role in organizational behavior, such as psychological capital (PsyCap) (Tims & Kooij, 2014). Moreover, some researchers have advocated the importance of analyzing the possible antecedents of i-deals from different perspectives and considering variables

at different levels (Bal et al., 2012; Liao, Wayne, & Rousseau, 2016). As Bal (2017) states, studies that take individual predictors into account offer a good explanation for “who” is more proactive at work, but not “why” or “what” factors inhibit or promote these behaviors. Group level and organizational level characteristics are the contextual factors where idiosyncratic deals evolve, and the workgroup has been considered “an appropriate starting point for extending the research on i-deals” (Liao et al., 2016, p. 19). Some research has shown that the organizational context moderates the effect of i-deals on employee outcomes (Bal et al., 2012), but the role of organizational and group factors in its development has been understudied.

Some theoretical approaches also suggest that contextual factors, such as justice climate, could have a moderator role in the relationship between individual antecedents and i-deals. Specifically, following the trait activation theory, some authors propose that when the situation is less supportive of individuals, individual traits might have stronger impact on behavior (Liao et al., 2016; Tett & Guterman, 2000). Thus, we propose that situations where the level of justice climate is lower could be related to stronger effects of PsyCap on the development of i-deals.

In summary, in the present paper, we aim to advance the study of antecedents of i-deals by analyzing the role of individual characteristics, PsyCap, along with a contextual group-level factor, justice climate, in generating proactive behaviors towards the creation of idiosyncratic deals. Moreover, we explore the interaction between both individual and group level factors.

### *The concept of i-deals*

I-deals have been defined as individualized and voluntary employment arrangements that employees negotiate with their employers in order to adapt their work conditions to their own needs (Rousseau, 2005). Several elements contribute to distinguishing i-deals from other types of agreements that commonly exist in the workplace, such as cronyism or favoritism (Rousseau, 2005). First, they are the result of individual negotiation, i.e., they lead to a certain exclusive relationship between the employer and the employee. In addition, they are heterogeneous because they characterize the relations between workers and employer in a variety of ways. They benefit the employee and the employer, and they are executed based on legitimate values and shared across the organization, rather than being based on personal favoritism. Moreover, they have different scopes, in other words, they can be related to a closed circle or a much larger group of work aspects. For example, one worker might want more flexible working hours, whereas someone else might be interested in taking on different responsibilities, etc.

There are many examples of deals that can be made through i-deals. Rousseau and Kim (2006, in Hornung et al., 2008) identified the three most common forms of i-deals as developmental, flexibility and workload reduction. Developmental i-deals have the aim of developing the skills and knowledge needed to exploit interests and aspirations and to improve opportunities for growth. Flexibility i-deals have the objective of providing greater flexibility in work performance. Workload reduction i-deals have the aim, as the name suggests, of reducing the workload. Most of the research has concentrated on the two first types, developmental and flexibility (Hornung, 2018). Workload reduction i-deals have been suggested as less related to employees' proactive behavior than the other two types. Indeed, some studies have found a lower correlation with personal initiative and some authors suggest that this arrangement is more an indicator of the way managers compensate for employees' contributions than of proactive behavior (Stinglhamber & Vandenberghe, 2003). Thus, in the present research, we will consider i-deals referring to developmental and flexibility arrangements.

As indicated previously, most of the research on i-deals has focused on the relationship between i-deals and their outcomes. The study of antecedents of i-deals is still in an incipient phase.

### *Antecedents of i-deals*

Research on antecedents of i-deals is still scarce and has mainly dealt with the individual characteristics of the actors in these agreements (employees or leaders). Different personal variables, such as a high degree of initiative (Hornung et al., 2008), have been shown to be related to the experience of these types of agreements. In addition, some skills, such as a political attitude and negotiating skills (Rosen et al., 2013), have been found to increase the possibility of concluding a customized agreement about the tasks and the flexibility of the work location. Moreover, career planning skills (Guerrero, Jeanblanc, & Veilleux, 2016), entrepreneurial orientation (Tuan, 2016) and employees' motivational goals (Ng & Lucianetti, 2016) have been found to have a positive relationship with the creation of i-deals. However, research on this topic is still in its initial stages and limited. For instance, Liao et al. (2016) suggested going beyond individual proactivity to examine the role of other personality characteristics. More specifically, Tims and Kooij (2014) defended the appropriateness of examining the role of personal resources such as psychological capital.

Some authors have also stressed the importance of looking at i-deals from a broader viewpoint; by researching them from different perspectives and considering

different levels of influence (Anand & Vidyarthi, 2015). Variables at the group or organizational level are considered important contextual factors in the explanation of behaviors and attitudes (Liao et al., 2016). Indeed, research has shown that certain cultural orientations promote or facilitate different organizational results (Rebelo & Gomes, 2011). However, research on i-deals has not devoted much effort to this issue. Some authors have recommended adopting a multilevel approach to the study of i-deals, considering their conceptualization at the group level, potential group- and organizational-level predictors of i-deals, or the moderator role of context in the relationship between i-deals and outcomes (Liao et al., 2016).

In a similar vein, proactivity research has suggested that investigations of situational antecedents of proactive behaviors should pay more attention to the influence of organizational factors such as organizational climate (Grant & Ashford, 2008). Nevertheless, to date, research considering both individual and group-level antecedents and consequences of i-deals is limited and strongly suggested by some authors (Bal et al., 2012). Hence, the present research emphasizes the importance of considering the combined influence of individual and organizational factors in the development of i-deals.

### *Psychological capital and i-deals*

The concept of psychological capital has received considerable attention in the recent decades. Luthans, Luthans and Luthans (2004) showed that PsyCap encompasses different personal resources that distinguish people, and have a significant impact on determining success in the business world. PsyCap is described as a state-like construct (Luthans, Youssef, & Avolio, 2007b) composed of four dimensions: hope, resilience, optimism and self-efficacy. Self-efficacy is the construct that denotes “having confidence to take on and put in the necessary effort to succeed at challenging tasks”, whereas optimism is “making a positive attribution about succeeding now and in the future”, hope is “persevering toward goals and, when necessary, redirecting paths to goals in order to succeed”, and resilience consists of “when beset by problems and adversity, sustaining and bouncing back and even beyond to attain success” (Luthans et al., 2007b, p. 3). PsyCap has been found to be related to different positive work outcomes such as job satisfaction, engagement or performance (Luthans, Avolio, Avey, & Norman, 2007a) and it has been considered a strategic resource for organizations (Newman, Ucbasaran, Zhu, & Hirst, 2014). Employees’ resources may provide them with the power to enact the employee-organization relationship (Meijerink, 2014), based on the theory of i-deals. PsyCap represents a strong financial leverage for the organization, and it creates returns

on investment, and competitive advantage through improved performance of high PsyCap employees (Luthans, Avolio, Walumbwa, & Li, 2005). Thus, according to social exchange theory, it would be a strong individual resource that employees can use in negotiating agreements with their employers. According to this theoretical framework, individuals with high PsyCap would have the necessary confidence to predict successful outcomes of their requests.

PsyCap could also influence the display of proactive behaviors at work because it involves valuable resources for activating the two processes that drive proactivity (Parker, William, & Turner, 2006), that is, the perceived capability of being proactive and the motivation for performing proactively. Thus, because employees with high PsyCap “are confident (self-efficacy), have positive expectations (optimism), persevere toward goals (hope), and overcome adversity (resiliency)” (Klemme Larson & Bell, 2013, pp. 297-298), they are likely to engage in proactive behavior at work (Tims & Kooij, 2014). Thus, research has suggested the need to examine the influence of psychological capital in filling the gap in the current knowledge about proactive behaviors such as i-deals. This research will therefore consider PsyCap as an individual antecedent of i-deals.

*H1: PsyCap in T1 will be positively related to developmental and flexibility i-deals in T2, so that the higher the level of PsyCap in T1, the higher the level of i-deals in T2.*

### *Justice climate as an antecedent of i-deals*

Organizational justice has mainly been conceptualized in terms of individual-level justice perceptions and it has been associated with work attitudes, performance and citizenship behaviors (Liao & Rupp, 2005). Individual measures of organizational justice are considered antecedents of proactive behaviors, such as personal initiative (López-Cabarcos, Machado-Lopes-Sampaio-de Pinho, & Vázquez-Rodríguez, 2015), which, in turn, is recognized as an antecedent of i-deals (Hornung et al., 2008). As Anand and Vidyarthi (2015) state, employees are more likely to seek and obtain i-deals from a manager who has a reputation for being fair in interactions with subordinates.

Three dimensions of organizational justice have been identified: distributive, procedural and relational justice (Colquitt, 2001). Distributive justice refers to resources such as wages and the arrangement of accommodations in the workplace; procedural justice is related to policies and procedures, such as the way requests are handled; and interpersonal justice is related to the extent to which the organization's members are treated with respect, dignity, and sensitivity. Research has shown that all three facets are interrelated and create an overall sense of fairness and justice in the workplace.

Because organizational justice is determined by organizational structures and shared information and organizational experiences arise from common interactions, employees may share their perception of organizational justice to a certain extent. Therefore, many authors have considered justice at a level higher than the individual, defining these shared perceptions as justice climate (Liao, 2007; Naumann & Bennett, 2000), which refers to the shared perception of organizational justice in a work unit or team (Liao, 2007; Moliner, Martínez-Tur, Peiró, Ramos, & Cropanzano, 2005),

Therefore, justice climate reveals collective beliefs about the distributive, procedural and interpersonal justice within an organization or a work group (Liao, 2007). Keeping in mind that i-deals should be favorable to both, the organization and the individual (Bal et al., 2012), it is conceivable that a high justice climate would favor a positive view of these arrangements, thus stimulating employees to request them. In work-units with a high level of justice climate, there would be more cooperation between employees and their co-workers towards the achievement of goals. Thus, we could also expect that it would contribute to an increase in proactivity in the work carried to achieve those goals.

In addition, a high level of perceived justice would potentially avoid problems between colleagues, and a sense of unfairness in i-deals. The role of organizational justice has been acknowledged in the acceptance of i-deals by co-workers (Brillert, 2015). Likewise, many studies have shown that people are influenced by various psychological pressures in their decisions in the workplace, such as the desire to please co-workers and the desire to be part of a team (Aronson, Wilson, & Akert, 2013). Hence, the shared perception of justice becomes an important element to account for the individual choice about whether to make an i-deal. In the decision to bargain with the management for this individual condition the support of other employees, induced by a climate of justice, would play a requisite role. In a climate in which justice is perceived as high, an employee will have the confidence to ask for the same personalized deals as his/her colleagues (Anand et al., 2010).

Recently, a qualitative study (Bal, 2017) showed that i-deals are more accessible when employees have good and strong relationships with their co-workers and managers and when they experience transparency and open communication about these deals in their organizations.

*H2: After controlling for PsyCap in T1, justice climate in T1 will be positively related to developmental and flexibility i-deals in T2, so that, the greater the justice climate in T1, the higher the level of i-deals in T2.*

As mentioned previously, trait activation theory proposes that in less supportive situational circumstances personal traits could be more salient in the prediction of certain

behaviors than in more supportive circumstances (Tett & Guterman, 2000). Based on these ideas, Liao et al. (2016) proposed that this effect could be relevant in understanding how personal characteristics affect the display of actions toward the development of i-deals. As described above, high justice climate levels in groups could contribute to enhancing a higher level of i-deals in the members of these groups. Situations characterized by low levels of justice climate could also increase the salience of individual differences in the display of i-deals. Thus, in this environment, employees with a high level of personal resources such as self-efficacy, optimism, hope and resilience, would be more likely to ask for i-deals than employees with lower levels of these resources.

*H3: Justice climate in T1 will moderate the relationship between PsyCap in T1 and developmental and flexibility i-deals in T2, so that, the lower the level of justice climate in T1, the higher the relationship between PsyCap in T1 and i-deals in T2.*

Therefore, the present research will examine the role of PsyCap and justice climate, as antecedents of developmental and flexibility i-deals. To test the hypotheses, we developed a cross-level study with two time-lags (see Figure 1).

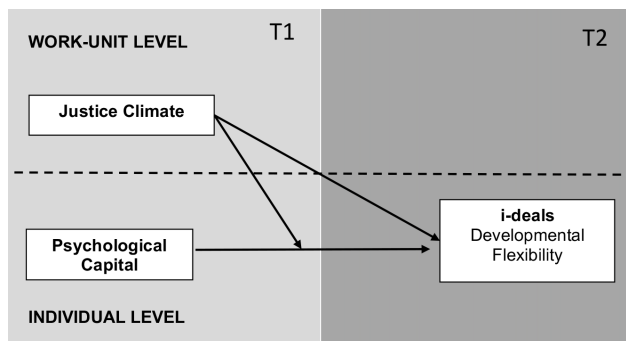


Figure 1. The cross-level research model.

## METHOD

### *Procedure and sample*

Managers from different organizations were contacted and asked to participate in the research study, and they were given details about the aims, procedure, and

timing of the study. Researchers also asked for formal permission to proceed with the data collection from the employees. Participation was voluntary and confidential. The data were collected using a set of self-report questionnaires.

Employees from 23 different organizations located in Spain participated in the study. We used a panel design with two time lags (Time 1 and Time 2). Data about psychological capital and justice climate were collected at Time 1. Data about i-deals were collected at Time 2 between 9 and 12 months later. The sample was composed of 520 employees in 83 work units. Most of them worked in the services sector (71.9%), and the rest worked in the production and construction sector (28.1%). They belonged to different occupational categories. Age composition was as follows: 29.7% were less than 35 years old, the majority (59.5%) were between 35 and 50 years old, and the remaining 10.8% of the employees were more than 50 years old. The sample was balanced between men (54.8%) and women (45.2%).

### Measures

The following measures were used to test the proposed hypotheses:

*HR i-deals* were measured through an ad-hoc questionnaire that measures two types of i-deals: developmental (3 items) and flexibility (3 items). This scale measures the frequency of employees' proactive behaviors toward idiosyncratic agreements, rated on a 5-point Likert scale (1 = "never" to 5 = "always"). An example of an item in the developmental dimension is: "I participate in meetings to communicate my opinions to management". An example of an item in the flexibility dimension is: "I try to negotiate my job conditions with the company".

*Psychological capital* was measured using a 12-item scale, with 3 items in each of the four dimensions (modified version of the short Psychological Capital Questionnaire PCQ-12, Djourova, Rodríguez & Lorente, in press). A 6-point Likert scale measured respondents' level of agreement (1 = "strongly disagree" to 6 = "strongly agree"). An example of an item is: "I feel confident contributing to discussions about the company's strategy".

*Justice climate* was measured using an adaptation of the scale developed by Colquitt (2001) to measure organizational justice. This scale is composed by 9 items (3 items for each type of justice: distributive, procedural, interactional). A 5-point Likert scale was used (1 = "not at all" to 5 = "a lot"). An example of an item is: "Does your boss treat you politely?". Individual scores were aggregated at the work-unit level after justifying it statistically (Bliese, 2016; Moliner et al., 2005).

## Analysis

### Aggregation analysis

A consensus model was used to justify the aggregation of individual level responses (Chan, 1998). We statistically justified aggregation of justice climate by exploring within-work-unit agreement ( $AD_{M(J)}$ , Burke, Finkelstein, & Dusig, 1999) and reliability (ICC1) and between work unit differences (ANOVA, ICC2). The aggregation index for justice climate was:  $AD_{M(J)} = .56$  ( $AD_{SD(J)} = .12$ ), and so within-organization agreement was adequate. ANOVA showed between-organization variance ( $F_{(82, 437)} = 2.25, p < 0.01$ ), and the interrater reliability index values (ICC1 = .11 and ICC2 = .56) showed sufficient reliability. Considering these results, we aggregated justice climate using the direct consensus model (Chan, 1998).

To take the nested experimental design (variables were observed clustered into work-units) into account, a mixed-effect model approach (multilevel modeling) was used, following the instructions provided by Bliese (2016). Individual level justice perceptions were also included in order to control for the individual level effects. The analyses were performed using the R statistical software.

## RESULTS

Descriptive statistics, polychoric fit measures, correlations and Cronbach's alphas are shown in Table 1. As can be observed, both PsyCap and justice climate were significantly related to developmental and flexibility i-deals.

Table 1  
*Descriptive statistics, polychoric fit indexes, correlations, RkF\* and Cronbach's alphas (between brackets on the diagonal)*

|                           | M    | SD   | Likelihood<br>$X^2$ | df | TLI | RMSEA | 1     | 2     | 3      | 4 |
|---------------------------|------|------|---------------------|----|-----|-------|-------|-------|--------|---|
| 1. Psychological capital  | 4.74 | .064 | 100                 | 24 | .94 | .08   | (.88) |       |        |   |
| 2. Organizational justice | 3.51 | 0.63 | 67                  | 12 | .97 | .08   | .34** | (.83) |        |   |
| 3. Justice climate        | 3.51 | 0.34 | -                   | -  | -   | -     | .14** | .55** | (.83+) |   |

|                                  |      |      |   |   |     |     |       |        |        |             |
|----------------------------------|------|------|---|---|-----|-----|-------|--------|--------|-------------|
| 3. I-deal: Devel-<br>opmental T2 | 3.04 | 0.97 | 7 | 4 | .92 | .10 | .27** | .20 ** | .21 ** | (.78)       |
| 4. I-deal: Flexi-<br>bilityT2    | 2.83 | 0.91 |   | - | -   |     | .20** | .18 ** | .17 ** | .64** (.69) |

\*\*p < .001

+To conduct reliability of multilevel data it was used Psych package from Revelle (2016).

To test the proposed hypotheses, we used hierarchical linear modeling, as implemented in the R statistical package.

*Null model*

In order to test the multilevel hypotheses, it is necessary to have significant within- and between-work-unit variance in the outcome variables. Accordingly, we specified both i-deal dimensions, developmental and flexibility, in T2 as the outcome variable. The -2 log likelihood value for the model with the random intercept is significantly smaller than the model without the random intercept, and the chi-square between these models was 24.17 ( $p < 0.001$ ) for developmental i-deal and 15.34 ( $p < .0001$ ) for flexibility i-deals. These indexes indicate that the variables have two sources of intercept variation: within-group and between-group, as can be seen in Table 2.

Table 2  
*Anova (Null.gls, Null.Model)*

| Null test     | Model      | df | AIC     | BIC     | logLikelihood | L.Ratio | p        |
|---------------|------------|----|---------|---------|---------------|---------|----------|
| Developmental | Null.GLS   | 2  | 1454.90 | 1463.40 | -725.45       |         |          |
|               | Null.Model | 3  | 1432.72 | 1445.48 | -713.36       | 24.17   | < .0001  |
| Flexibility   | Null.GLS   | 2  | 1380.58 | 1389.09 | -688.29       |         |          |
|               | Null.Model | 3  | 1367.25 | 1380.00 | -680.62       | 15.34   | < .00001 |

*Random coefficient Regression model*

We used the random coefficient regression model to test the three hypotheses. Specifically, we tested four models. Model 1 tests the relation between i-deals and PsyCap. Model 2 includes individual perceptions of organizational justice in order to test the effect of justice climate after controlling for its individual level effects (Bliese, 2016). Model 3 includes the group level variable, justice climate. Finally, Model 4 tests the same relations including a cross-level interaction between PsyCap and justice climate. Table 3 presents a summary of the findings for all the models.

Table 3  
*Results of Hierarchical lineal model*

| Model         | IV                                    | Value | df  | t-value | p     |
|---------------|---------------------------------------|-------|-----|---------|-------|
| Developmental |                                       |       |     |         |       |
| 1             | Psychological capital                 | .40   | 436 | 6.25    | < .01 |
| 2             | Psychological capital                 | .36   | 435 | 5.37    | < .01 |
|               | Organizational justice                | .10   | 435 | 1.50    | .13   |
| 3             | Psychological capital                 | .37   | 435 | 5.46    | < .01 |
|               | Organizational justice                | .04   | 435 | 0.55    | .58   |
|               | Justice climate                       | .40   | 81  | 2.23    | .03   |
| 4             | Psychological capital                 | .34   | 434 | 0.50    | .61   |
|               | Organizational justice                | .04   | 434 | 0.51    | .61   |
|               | Justice climate                       | .37   | 81  | 0.40    | .69   |
|               | Psychological capital*Justice climate | .01   | 434 | 0.05    | .96   |
| Flexibility   |                                       |       |     |         |       |
| 1             | Psychological capital                 | .28   | 436 | 4.94    | < .01 |
| 2             | Psychological capital                 | .25   | 435 | 3.82    | < .01 |
|               | Organizational justice                | .13   | 435 | 1.95    | .05   |
| 3             | Psychological capital                 | .25   | 435 | 3.86    | .01   |
|               | Organizational justice                | .09   | 435 | 1.18    | .24   |
|               | Justice climate                       | .25   | 81  | 1.50    | .14   |
| 4             | Psychological capital                 | -.09  | 434 | -.14    | .89   |
|               | Justice                               | .08   | 434 | 1.14    | .26   |
|               | Justice climate                       | -.22  | 81  | -0.24   | .81   |
|               | Psychological capital*Justice climate | .10   | 434 | 0.53    | .60   |

Model 1 shows that PsyCap was positively related to both types of i-deals, supporting Hypothesis 1. In Model 2, positive significant relationships were found between Organizational justice and flexibility i-deals. No significant relationships were found with developmental i-deals. In Model 3, results show partial support for Hypothesis 2. We found a positive relationship between justice climate and developmental i-deals but not with flexibility i-deals. Model 3 for developmental i-deals shows that within-group variance explains 5.97% and the between-group intercept variance explains 28.42% (i.e. Justice climate). Finally, we did not find support for Hypothesis 3 because the cross-level interaction did not show any significant relationships.

## DISCUSSION

The aim of our study was to test the role of individual and group level variables as antecedents of i-deals. The results confirm that PsyCap and justice climate were independent and simultaneous significant predictors of i-deals. Using a panel design and a cross-level approach, we contribute to previous research on the antecedents of i-deals by showing that both, individual and group-level factors contribute to the development of i-deals. Employees with higher levels of PsyCap in T1 showed higher levels of developmental and flexibility i-deals six months later. Employees in work units with a higher perception of justice climate in T1 also showed higher levels of developmental i-deals in T2. We did not find significant effects of justice climate on flexibility i-deals. However, individual level organizational justice perceptions were significantly related to flexibility i-deals. Finally, we found no support for the moderator role of justice climate in the relationship between PsyCap and i-deals.

Results offer support for research that has previously shown the importance of personal factors in the development of i-deals (Hornung et al., 2008). Moreover, these results support Tims and Kooij's (2014) call to consider PsyCap as an antecedent of proactive behaviors. Employees with higher levels of self-efficacy, optimism, hope and resilience are more likely to display proactive behaviors directed to negotiating idiosyncratic deals about development and flexibility in their working conditions. As previous research suggested, these personal resources can play a strategic role in organizations (Newman et al., 2014) which, in turn, will increase the ability of employees who have them to bargain for specific i-deals. Higher levels of PsyCap could also influence i-deals through the activation of the cognitive and motivational processes that drive proactivity: the perceived capability of being proactive and the will to perform proactively (Parker et al., 2006). Thus, employees who show higher levels of self-efficacy, optimism, perseverance toward goals and overcoming adversity are more likely to see themselves as more capable and more motivated to be proactive (Tims & Kooij, 2014).

Results also support the call for multilevel research in the i-deals' field (Bal, 2017; Hornung, 2018; Liao et al., 2016). First, they support the existence of between-group variations in i-deals. Thus, some of the variance in these types of behaviors seems to be due to work-unit factors. Therefore, it is reasonable to test the relationships between i-deals and second-level variables.

Our results also support the importance of justice climate, a group level variable, in the display of developmental i-deals at work, after controlling for PsyCap and individual perceptions of organizational justice. These results suggest that i-deals are not only a result of the individual bargaining power of employees, but also of contextual factors. Thus, our results offer some insights into what kind of group factors can facilitate the enactment of i-deals in organizations (Liao et al.,

2016). As suggested in Bal's (2017) qualitative study, organizational factors that favor good and strong relationships with co-workers and managers and increase transparency and open communication, as in the case of justice climate, could contribute to the enhancement of i-deals. Previous research has shown that individual perceptions of justice are related to employees' actions toward the development of i-deals (Anand & Vidyarthi, 2015). Our research takes a step forward by showing that shared perceptions of justice contribute further to the development of i-deals. Although no significant relationship was found between justice at the group level and flexibility i-deals, individual perceptions of justice showed positive relationships with this type of i-deals. These results are consistent with research that has found organizational justice to be an antecedent of proactive behaviors (Lopez-Cabarcos et al., 2015). Together, these results show that organizational justice is important for both types of i-deals, but at different levels. Justice climate was found to be an antecedent of developmental i-deals, whereas individual organizational justice perceptions were positively associated with flexibility i-deals. Differences in the specific characteristics of these two types of i-deals could explain these results (Rousseau & Kim, 2006). Developmental i-deals refer to actions designed to develop employees' skills, knowledge, and opportunities for growth, whereas flexibility i-deals refer to actions directed toward obtaining greater flexibility in work performance. Although developmental i-deals might change the content of the work performance in organizations (i.e. new responsibilities, skills), flexibility i-deals do not attempt to change the expected performance, but rather the procedures or timing of the prescribed performance (i.e. schedules, vacations, tele-work). Thus, for the former, factors related to the organizational culture, co-workers' acceptance of i-deals or a shared perception of justice climate could be more important than for the later.

Finally, we did not find support for the moderation hypothesis. Contrary to literature based on trait activation theory, the level of justice climate did not buffer the relationship between PsyCap and i-deals (Liao et al., 2016). PsyCap and justice climate contribute separately to the display of i-deals. Future research could explore other situational factors, such as other strategic climates that could make PsyCap more salient in reaching of i-deals. For instance, research could directly address the study of non-supportive climates as proposed by trait activation theory (Tett & Guterman, 2000).

The present study also has important implications for future research and practice. First, it provides evidence about the relationship between PsyCap and i-deals. In this regard, it extends the study of individual antecedents of i-deals. Further research could investigate the role of the different components of PsyCap to determine which personal resources have a stronger effect on the display of different types of i-deals. Second, following the suggestions of other researchers (Bal, 2017; Liao et al., 2016), this study is a seminal work in understanding the

role of group-level factors in the development of i-deals. Thus, it opens up a line of research in a field mainly focused on antecedents at the individual level. Future research could analyze the role of other situational factors as antecedents of i-deals (e.g. other cultural factors) that could influence the presence of these behaviors in organizational settings (Rebelo & Gomes, 2011). Further research could also examine the impact of different dimensions of justice climate (Moliner et al., 2005).

The results of the current research also have practical implications. These results point to some factors that organizations should take into account in order to detect which individuals might be more prone to developing i-deals. This information might help management and HR departments to design different HR practices such as recruitment and selection or training and development. Moreover, the results also provide information about how organizations might enhance these employee behaviors through the development and monitoring of a positive justice climate. For example, justice climate levels should be checked in their regular organizational assessments.

The present research also presents some limitations. First, the sample was limited to employees working in Spanish organizations. Thus, the results cannot be broadly generalized to other cultural contexts. However, the heterogeneous nature of the sample in terms of sectors and type of industries and the sociodemographic characteristics of the employees reduces the extent of this limitation. Second, we only included two types of i-deals, developmental and flexibility. Research has also suggested the existence of at least a one more type of i-deals, workload reduction i-deals. Nevertheless, these two types are the most commonly explored in the literature and more related to proactive behaviors.

In summary, the present research contributes to the knowledge about antecedents of i-deals in two ways. First, it broadens the scope of individual antecedents by exploring the relationship between psychological capital and i-deals, a construct that has been found to have a great impact on organizational behavior. In addition, it contributes to the consideration of multilevel issues in i-deals research, specifically group-level analysis in i-deals research. Moreover, it shows the importance of contextual factors, such as justice climate, in making developmental i-deals. Finally, it contributes to the simultaneous study of individual and group factors in i-deals research.

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## **A influência dos familiares empresários no potencial empreendedor dos estudantes**

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**The influence of family entrepreneurs on students' entrepreneurial potential**

### **Abstract**

Until recently, the family was a motivational model for the entrepreneurial potential of their descendants. In today's post-European economic crisis, its role is unknown. This article aims to analyze to what extent the presence of entrepreneurs in the family influences the entrepreneurial potential and motivations of their descendants.

A sample of 966 Portuguese Higher Education students answered the Entrepreneurial Motivations survey, which showed adequate psychometric properties.

The presence of entrepreneurs in the family had a positive influence on the motivations of family and societal achievement, despite a lack of effect on the motivations of resources and income, as well as prestige and personal learning/development.

Having entrepreneurs in the family positively influenced the Judging-Perceiving and Thinking Feeling factors of the Carland Entrepreneurship Index. However, path analysis

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revealed there was no direct effect of the presence of entrepreneurs in the family on the entrepreneurial potential and on the motivations for family and societal achievement of the students, although there was a significant indirect effect, with the desire for self-employment and the ability to start a business as mediators. Having entrepreneurs in the family have also shown a direct effect on these mediators, as well as having/implementing business ideas.

**Keywords:** entrepreneurship; students; entrepreneurial potential; entrepreneurship motivations

## Resumo

No passado recente, a família constituía-se como modelo motivacional para o potencial empreendedor dos seus descendentes. No período de pós-crise económica europeia, desconhece-se o seu papel. Este artigo visa analisar em que medida a presença de empresários na família influencia o potencial e as motivações empreendedoras dos seus descendentes. Uma amostra de 966 estudantes do Ensino Superior português respondeu ao inquérito *Motivações Empreendedoras*, que evidenciou adequadas propriedades psicométricas. Verificou-se uma influência positiva da presença de empresários na família nas motivações de realização familiar e societal, apesar de uma ausência de efeito nas *motivações de recursos e rendimentos*, bem como de *prestígio e de aprendizagem/desenvolvimento pessoal*. Ter empresários na família influenciou positivamente os fatores *Judging Perceiving e Thinking Feeling* do *Carland Entrepreneurship Index*. Contudo, a *path analysis* revelou a inexistência de um efeito direto da presença de empresários na família no potencial empreendedor e nas *motivações de realização familiar e societal* dos estudantes, apesar de se ter registado um efeito indireto significativo, tendo por mediadores o *desejo dos estudantes em trabalhar por conta própria* e a *capacidade de criar uma empresa*. Ter empresários na família evidenciou ainda um efeito direto nestes mediadores, bem como em *ter/implementar ideias de negócio*.

**Palavras-chave:** empreendedorismo; estudantes; potencial empreendedor; motivações empreendedoras

## INTRODUÇÃO

A crise que assolou muitos países da Europa transformou e mudou as nossas vidas. Até que ponto a família que outrora se constituía como modelo motivacional e de referência para o potencial empreendedor dos seus descendentes se mantém

nos dias de hoje? Este estudo teve por objetivo analisar em que medida ter empresários na família é suscetível de influenciar o potencial empreendedor dos seus descendentes, sobretudo num período pós-crise económica, em Portugal.

O empreendedorismo tem sido reconhecido por diversos autores (e.g., Farhangmehr, Gonçalves, & Sarmiento, 2016; Gedeon, 2017; Kuratko, 2005; Parreira, Pereira, & Brito, 2011; Pereira, 2001; Rae & Woodier-Harris, 2013; Vance, Groves, Gale, & Hess, 2012), e organismos (Comissão Europeia, 2006, 2012; OECD, 2004; União Europeia, 2012) como um dos motores mais poderosos de crescimento, sustentabilidade e prosperidade da economia, para além de promotor do desenvolvimento social (Rasmussen & Sorheim, 2006). Apesar de a popularidade do conceito ter vindo a crescer progressivamente, emergindo como uma “descoberta súbita” para o desenvolvimento da economia, sobretudo em tempos de crise (Parreira et al., 2018b), a verdade é que o empreendedorismo não é um fenómeno recente, pois a história encontra-se repleta de empreendedores (Parreira, Mónico, Carvalho, & Silva, 2018a). O conceito de *entrepreneur* proveio da língua francesa para aludir àquele que iniciava novas atividades e assumia riscos (Lobato & Carmo, 2009). Segundo Van Praag (1999) o termo fora já proposto em 1755 por Richard Cantillon, tendo adquirido crescente notoriedade ao longo do século XX. Durante este, assistiu-se a uma mudança conceptual quando Schumpeter (1947) atribuiu ao empreendedor a força motora do sistema económico. De acordo com Rae e Woodier-Harris (2013), é sobretudo após o ano de 2008 que o empreendedorismo parece ter um papel preponderante e um efeito positivo na economia global, derivada, em grande parte, da capacidade de sobrevivência que a operacionalização do conceito incutia e impulsionava (e.g., identificação de oportunidades de negócio e de resolução de problemas). Por conseguinte, parece ser notória a ligação entre empreendedorismo e promoção do crescimento económico, mesmo em tempos difíceis (Ahmad, Ramayah, Wilson, & Kummerow, 2010; Bhagavatula, Elfring, van Tilburg, & van de Bunt, 2010; Butler, Doktor, & Lins, 2010; Carroll, Burke, & Carroll, 2010; Meydani, 2010; Ramayah, Ahmad, & Fei, 2012; Vance et al., 2012). O empreendedorismo desempenha ainda um papel central na liderança, principalmente em períodos de recessão (Bhasin & Venkataramany, 2010; Terjesen & Amorós, 2010), e ao nível da sociedade detém um papel fundamental, nomeadamente, na emergência de novas soluções, resolução de problemas e transformação de dificuldades em oportunidades. Para outros autores (e.g., Bhasin & Venkataramany, 2010; Parreira, Carvalho, Mónico, & Santos, 2017; Terjesen & Amorós, 2010), tem também um papel na promoção de emprego, na criação de oportunidades de negócios e distribuição mais equitativa de lucros, na melhoria da qualidade de vida, na realização de sonhos, bem como na competitividade local e global. Para Parreira et al. (2017) isto contribui para a superação e prevenção

da crise, crescimento da economia e, a *la limite*, na promoção de um ciclo de progresso e abundância, independentemente das condições sociais, económicas e políticas de um dado período histórico e/ou zona geográfica – numa palavra, o empreendedorismo é o motor do progresso (Parreira et al., 2018b, p. 39). Enquanto fenómeno social, importa compreender os fatores que o influenciam, especialmente em contextos de crise económica e social.

O ano de 2008 está ainda bem presente nas nossas memórias, quando formalmente foi declarada a “instalação” da crise em Portugal e na Europa. Neste processo assistimos a uma diminuição notória da atividade empresarial, dos lucros nos mercados, dos salários em diversas áreas e setores de atividade, e a um aumento acentuado do desemprego (Vegetti & Adăscăliței, 2017). Em contexto de crise financeira, e de acordo com Poposka e Mihajloska (2016), a criação de novas empresas tende a surgir mais por *necessidade* como resposta à criação do seu próprio emprego, do que por *oportunidade* (entenda-se por oportunidades exploradas pelos indivíduos ditos empreendedores). Face a tal cenário, coloca-se a hipótese de que esta crise poderá ter tido um impacto negativo nas motivações e nos comportamentos empreendedores da população europeia.

Para além das variáveis económicas que se relacionam com o processo empreendedor, as características pessoais dos indivíduos também são suscetíveis de influenciarem o comportamento empreendedor. De entre estas características, uma das variáveis psicológicas mais estudadas para a compreensão global do comportamento empreendedor reporta-se à motivação e aos fatores que conduzem à criação do seu próprio negócio (Valencia, Restrepo, & Restrepo, 2014). Neste âmbito, um dos primeiros autores a abordar as questões da motivação foi o psicólogo David McClelland (1961), assinalando que a necessidade de realização é a principal motivação dos indivíduos para se tornarem empreendedores. Esta necessidade pode ser desenvolvida ao longo do tempo através, por exemplo, da educação e de estímulos de natureza sociocultural do contexto (Valencia et al., 2014). A literatura neste domínio refere que, para além da educação, a família pode ter um papel decisivo na motivação para o empreendedorismo e para o desenvolvimento do potencial empreendedor (e.g., Almeida & Teixeira, 2014; Altınay, Madanoglu, Daniele, & Lashley, 2012; Mueller, 2006; Shanker & Astrachan, 1996; Silva, 2018; Zellweger, Sieger, & Halter, 2011). Alguns estudos demonstraram que os estudantes com empresários na família tendem mais frequentemente a serem empreendedores. O estudo de Ratten, Ramadani, Dana, Hoy e Ferreira (2017) destacou a importância do empreendedorismo familiar e da internacionalização como determinantes da economia global e do desenvolvimento socioeconómico. Mustapha e Selvaraju (2015) realizaram um estudo com estudantes universitários na Malásia cujos resultados indicaram que a maioria dos

participantes com empreendedores na família manifestava o desejo de iniciar o seu próprio negócio, denotando uma percepção positiva sobre o empreendedorismo e uma maior motivação empreendedora, comparativamente aos estudantes sem familiares empresários.

Não obstante as evidências empíricas das influências familiares nas carreiras empreendedoras dos seus descendentes, alguns estudos revelam que, quando os negócios fracassam, os indivíduos tendem a tomar a decisão de optar por outro tipo de carreira. Por exemplo, o estudo conduzido por Zellweger et al. (2011) revelou que, apesar dos estudantes com familiares empreendedores terem todos os recursos e apoios necessários para criarem o seu próprio negócio, nem sempre enveredavam por esse caminho. Mungai e Velamuri (2011) no seu estudo concluíram que o insucesso de pais empresários pode contribuir para a diminuição da intenção empreendedora dos filhos, na medida em que estes se tornam modelos de referência negativos. Nesta linha, e mais recentemente Criaco, Sieger, Wennberg, Chirico e Minola (2017) analisaram em que medida o desempenho de pais empreendedores produzia uma percepção positiva acerca do empreendedorismo nos seus filhos. Os resultados obtidos com o estudo revelaram a existência de uma tendência para os filhos se compararem com o desempenho dos seus pais, funcionando estes como um modelo de referência.

Além da importância que as motivações e o *background* familiar possam ter no comportamento empreendedor dos sujeitos, o desejo, a determinação e a capacitação do indivíduo para o desenvolvimento de competências empreendedoras é também importante. Desta forma, será determinante avaliar o potencial empreendedor e analisar os fatores que o podem influenciar (Laranjeira, 2018; Parreira et al., 2011; Raposo, Paço, & Ferreira, 2008; Rauch & Frese, 2007). Um dos modelos conceptuais mais conhecidos do potencial empreendedor incorpora as principais características psicológicas do empreendedor, nomeadamente as *motivações empreendedoras* (desejo de independência e motivação económica), as *competências psicológicas* (capacidade de inovação, inteligência emocional e resiliência), as *competências sociais* (capacidade de comunicação e persuasão, capacidade para desenvolver a rede social), e as *competências de gestão* (visão, capacidade para mobilizar recursos, capacidade para liderar e auto-eficácia empreendedora), servindo de base para diferenciar indivíduos empreendedores dos não empreendedores (Carland, Carland, & Hoy, 1992; Carland, Hoy, & Carland, 1988; Santos, Caetano, & Curral, 2010). O potencial empreendedor pode, assim, ser visto como um constructo constituído por três dimensões: *Realização*, *Planeamento* e *Poder*, e uma quarta dimensão complementar – a chamada *Intenção Empreendedora*. Segundo Santos (2008), a *Realização* está relacionada com o reconhecimento de oportunidades, persistência e eficácia, enquanto o *Planeamento* se refere à definição de objetivos,

procura de informações, planeamento contínuo e controlo permanente; o *Poder* é identificado através da capacidade de persuasão e para o estabelecimento de relações; e a *Intenção Empreendedora* está associada ao desejo de empreender, de ter um negócio, que deriva da perceção de condições favoráveis (Santos, 2008; Souza et al., 2017).

Carland et al. (1992), no trabalho deles concluíram que o empreendedorismo pode ser entendido como um impulso individual em direção ao comportamento empreendedor. Posteriormente, Carland, Carland e Ensley (2001) defendem que o empreendedorismo é, primeiramente, uma *gestalt* de quatro elementos: cognição, preferência por inovação, assunção de riscos e postura estratégica, e que esses elementos combinados produzem um impulso para criar. Desta forma, criaram um instrumento para medir a tendência de um indivíduo para cada um dos quatro constructos, resultando na avaliação do *Potencial Empreendedor*.

Para além do indivíduo, Barreiro, Gonçalves e Sousa (2014) consideram que o nível educacional também parece ter influência na intenção empreendedora de uma pessoa dado que a *educação* pode ajudar a desenvolver uma personalidade empreendedora, o que nos leva à questão da importância da *educação para o empreendedorismo*, onde a academia tem um papel determinante no desenvolvimento do espírito empreendedor. Daí a importância das IES (Instituições de Ensino Superior) na promoção do empreendedorismo, tal como salientada pela Comissão Europeia, ao afirmar que o aumento da inovação (e consequentes repercussões no crescimento económico) se encontra dependente de um notório investimento na educação para o empreendedorismo (Comissão Europeia, 2006). A referida Comissão destaca, ainda, a importância da oferta formativa em empreendedorismo para melhor preparar os estudantes para o mercado de trabalho (União Europeia, 2012). Para Parreira et al. (2018b, p. 43) é decisivo definir as condições fundamentais à promoção do empreendedorismo, tal como são apresentadas no modelo conceptual *Global Entrepreneurship Monitor* (GEM, 2001, 2013, 2017), as quais articulam funções das IES, das empresas, do Governo e da sociedade civil, materializando-se no modelo da *Quadruple Helix*, ou mais recentemente no modelo da *Quintuple Helix* (Herrington & Kew, 2017). Tal modelo evidencia os múltiplos contextos (económico, político, social e cultural) no qual o indivíduo empreendedor se encontra inserido e o influenciam. Como referem Parreira et al. (2018b), em termos gerais, as investigações neste domínio, realizadas um pouco por todo o mundo, assinalam a importância da *educação para o empreendedorismo* como promotora de competências empreendedoras nos estudantes.

Tal como referido, este estudo visa analisar em que medida o facto de se possuir na família empresários influencia o potencial e as motivações empreendedoras dos seus descendentes, num período pós- crise, em Portugal.

## MÉTODO

### *Participantes*

A amostra é constituída por 966 estudantes de diversas instituições de ensino superior português, maioritariamente do Ensino Superior Universitário (cerca de 95% da amostra total) e da área científica *Direito, Ciências Sociais e Serviços* (62.2% do total da amostra). A média de idades dos participantes é  $M = 23.82$  anos ( $DP = 6.73$  anos), variando entre os 18 e os 63 anos. A maioria dos respondentes é estudante (77.2%, sendo os restantes trabalhadores-estudantes), do sexo feminino (72.6%), solteira ou divorciada (90.8%) e de cidadania europeia (91.9%). Uma caracterização mais detalhada da amostra pode consultar-se no Quadro 1.

Quadro 1  
*Caracterização da amostra*

|                           | M     | DP    | Total<br>(N=966) |      |
|---------------------------|-------|-------|------------------|------|
|                           |       |       | <i>n</i>         | %    |
| Idade                     | 23.82 | 6.725 | 966              | 100  |
| Sexo                      |       |       |                  |      |
| Masculino                 |       |       | 265              | 27.4 |
| Feminino                  |       |       | 701              | 72.6 |
| Estado Civil              |       |       |                  |      |
| Solteiro(a)/Divorciado(a) |       |       | 877              | 90.8 |
| Casado(a)/União de facto  |       |       | 85               | 8.8  |
| Empresários na família    |       |       |                  |      |
| Sim                       |       |       | 560              | 58.0 |
| Não                       |       |       | 406              | 42.0 |
| Cidadania                 |       |       |                  |      |
| Europeia                  |       |       | 888              | 91.9 |
| Africana                  |       |       | 17               | 1.8  |
| Sul-americana             |       |       | 59               | 6.1  |
| Asiática                  |       |       | 2                | 0.2  |
| Instituição de ensino     |       |       |                  |      |
| Universidade              |       |       | 918              | 95.0 |
| Politécnico               |       |       | 45               | 4.7  |
| Outros                    |       |       | 3                | 0.3  |
| Curso que frequenta       |       |       |                  |      |
| Licenciatura              |       |       | 294              | 30.4 |
| Mestrado Integrado        |       |       | 515              | 53.3 |
| Mestrado                  |       |       | 95               | 9.8  |
| Doutoramento              |       |       | 57               | 5.9  |

|                                                 |     |      |
|-------------------------------------------------|-----|------|
| Pós-graduação                                   | 5   | 0.5  |
| <i>Área do curso</i>                            |     |      |
| Ciências                                        | 24  | 2.5  |
| Saúde                                           | 35  | 3.6  |
| Tecnologias                                     | 57  | 5.9  |
| Agricultura e Recursos Naturais                 | 4   | 0.4  |
| Arquitetura, Artes Plásticas e Design           | 18  | 1.9  |
| Ciências da Educação e Formação de Professores  | 12  | 1.2  |
| Direito, Ciências Sociais e Serviços            | 601 | 62.2 |
| Economia, Gestão e Contabilidade                | 87  | 9.0  |
| Humanidades, Secretariado e Tradução            | 90  | 9.3  |
| Educação Física, Desporto e Artes do Espetáculo | 32  | 3.3  |
| Não-respostas                                   | 6   | 0.6  |
| <i>Ano do curso</i>                             |     |      |
| 1º                                              | 112 | 11.6 |
| 2º                                              | 210 | 21.7 |
| 3º                                              | 309 | 32.0 |
| 4º                                              | 149 | 15.4 |
| 5º                                              | 186 | 19.3 |
| <i>Condição perante o ensino</i>                |     |      |
| Estudante                                       | 746 | 77.2 |
| Trabalhador-Estudante                           | 220 | 22.8 |

### ***Instrumentos***

Neste estudo utilizou-se o questionário “Motivações Empreendedoras dos Estudantes”, que foi aplicado pela primeira vez no âmbito do projeto Poliemprende/PIN (pin.poliemprende.innovtek.net), desenvolvido pela rede politécnica visando fomentar o empreendedorismo e promover o espírito empresarial em Portugal. Entre outros constructos, o questionário pretendia avaliar as motivações e o potencial empreendedor dos estudantes do ensino superior português. Foi construído por uma equipa de cinco especialistas de diferentes áreas (Parreira et al., 2011), tendo por base escalas sobre a motivação para a criação de uma empresa, as influências sociais e do meio e o apoio à criação de negócios. Estas escalas, abaixo descritas, assentam no trabalho da *Society for Associated Researchers on International Entrepreneurship* (SARIE) tendo em consideração as contribuições de investigadores conceituados como Aldrich, Rozen e Woodward (1987), Baumol (1990), McClelland (1961), Pereira (2001) e Shapero e Sokol (1982).

### *Escala de Motivações Pessoais e Fatores Facilitadores do Empreendedorismo*

A *Escala de Motivações Pessoais e Fatores Facilitadores do Empreendedorismo* é constituída por 17 itens que avaliam as motivações pessoais para empreender e os fatores que facilitam o empreendedorismo. Aos respondentes é pedido que classifiquem cada item numa escala de tipo Likert de cinco pontos, de 1 (pouco importante) a 5 (muito importante). A escala foi sujeita a uma análise fatorial exploratória (AFE) prévia numa amostra anterior, recolhida no ano de 2009, composta por 6394 estudantes do Ensino Politécnico Português, que foi aleatoriamente dividida em duas, sendo na primeira realizada uma análise fatorial exploratória (AFE) e na segunda uma análise fatorial confirmatória (AFC). Da primeira análise emergiu uma estrutura composta por quatro fatores (F), confirmada pela AFC com a segunda amostra aleatória: F1 – *Motivações de Realização Familiar e Societal* (exemplo de um item deste fator: Dar segurança à minha família); F2 – *Motivações de Recursos e Rendimentos* (exemplo de um item deste fator: Ter acesso a lucros indiretos tais como isenções fiscais); F3 – *Motivações de Prestígio* (exemplo de um item deste fator: Ter mais influência na minha comunidade); e F4 – *Motivações de Aprendizagem e Desenvolvimento* (exemplo de um item deste fator: Continuar a aprender).

A estrutura final da AFC evidenciou bons índices de ajustamento (índices NFI = .871, SRMR = .080, CFI = .885) e índices de ajustamento aceitáveis índices TLI = .851 e RMSEA = .083 (IC 90 de .077 a .089).

A escala apresentou um coeficiente alpha de Cronbach de  $\alpha = .79$  para a escala global, considerando-se um indicador de consistência interna aceitável (Nunnally, 1978), (ver Quadro 2). O Fator 1 apresentou uma boa consistência interna ( $\alpha = .85$ ), ao passo que os fatores F2 e F4 apresentaram uma consistência interna aceitável segundo DeVellis (2012).

Quadro 2  
Descritivas, coeficientes alpha de Cronbach (entre parêntesis) e matriz de intercorrelações entre a Escala Motivações Pessoais e Fatores Facilitadores do Empreendedorismo e o Carland Entrepreneurship Index

|                                                                                   | M    | DP   | Motivações de Realização Familiar e Societal F1 | Motivações de Recursos e Rendimentos F2 | Motivações de Prestígio F3 | Motivações de Aprendizagem e Desenvolvimento F4 | Escala Global das Motivações e Fatores Facilitadores do Empreendedorismo | Judging Perceiving F1 | Thinking Feeling F2 | Global Carland Entrepreneurship Index |
|-----------------------------------------------------------------------------------|------|------|-------------------------------------------------|-----------------------------------------|----------------------------|-------------------------------------------------|--------------------------------------------------------------------------|-----------------------|---------------------|---------------------------------------|
| F1 - Motivações de Realização Familiar e Societal                                 | 4.12 | 0.52 | (.85)                                           | .239***                                 | .285***                    | .134***                                         | .580***                                                                  | .171***               | .150***             | .179***                               |
| F2 - Motivações de Recursos e Rendimentos                                         | 2.88 | 0.80 |                                                 | (.67)                                   | .395***                    | .288***                                         | .754***                                                                  | .185***               | .036                | .163***                               |
| F3 - Motivações de Prestígio                                                      | 3.25 | 0.91 |                                                 |                                         | (.78)                      | .116***                                         | .752***                                                                  | .318***               | .157***             | .314***                               |
| F4 - Motivações de Aprendizagem e Desenvolvimento                                 | 4.13 | 0.61 |                                                 |                                         |                            | (.63)                                           | .524***                                                                  | .308***               | .214***             | .300***                               |
| Escala Global das Motivações Pessoais e Fatores Facilitadores do Empreendedorismo | 3.56 | 0.52 |                                                 |                                         |                            |                                                 | (.79)                                                                    | .372***               | .201***             | .362***                               |
| F1 - Judging Perceiving                                                           | 3.76 | 0.51 |                                                 |                                         |                            |                                                 |                                                                          | (.86)                 | .402***             | .966***                               |
| F2 - Thinking Feeling                                                             | 3.91 | 0.70 |                                                 |                                         |                            |                                                 |                                                                          |                       | (.78)               | .588***                               |
| Global Carland Entrepreneurship Index                                             | 3.80 | 0.48 |                                                 |                                         |                            |                                                 |                                                                          |                       |                     | (.87)                                 |

\* $p \leq .05$ ; \*\* $p \leq .01$ ; \*\*\* $p \leq .001$

### *Versão adaptada do Carland Entrepreneurship Index*

Este instrumento surge como uma versão adaptada e melhorada do *Carland Entrepreneurship Index*, constituído por 33 itens que avaliam o potencial empreendedor. Para além do conteúdo dos itens ter sido sujeito ao processo de tradução-retroversão habitual num processo de validação de uma escala, na presente versão foi alterada a escala de medida; em alternativa à opção de resposta aos itens através de questões de seleção de escolha dicotómica entre duas afirmações (De Ketele, 1993) que refletiam perspetivas antagónicas, o respondente era convidado a exprimir o seu grau de concordância para cada uma das afirmações através de uma escala de tipo Likert com cinco opções de resposta (de 1 = discordo totalmente a 5 = concordo totalmente). O objetivo desta alteração foi possibilitar ao respondente a oportunidade de se posicionar em termos de potencial empreendedor em itens que, atendendo à realidade portuguesa, poderão não ser antagónicos, tais como: “Quero que o meu negócio cresça e se torne forte” e “O principal objetivo do meu negócio será sustentar a minha família.”, ou “Gosto de pensar que sou uma pessoa habilidosa” e “Gosto de pensar que sou uma pessoa criativa”. Foi realizada uma AFE com esta versão numa amostra anterior (Laranjeira, 2018), tendo conduzido à retenção de dois fatores: *Judging Perceiving* – fator agregador dos itens relacionado com a componente racional do potencial empreendedor (ex. “Sou responsável por pensar e planear o negócio”), e *Thinking Feeling* – fator aglutinador dos itens referentes aos aspetos emocionais e motivacionais do potencial empreendedor (ex.: “O desafio de ser bem sucedido é tão importante quanto o dinheiro”). A AFC realizada com a presente amostra mostrou bons índices de ajustamento ao modelo bifatorial previamente obtido, NFI = .822, SRMR = .063, CFI = .845, TLI = .815 e RMSEA = .074 (IC 90 de .070 a .078). A escala apresentou uma boa consistência interna (Nunnally, 1978) para a escala global ( $\alpha$  = .89) e para o Fator 1 – *Judging Perceiving*, ao passo que uma consistência interna aceitável para o Fator 2 – *Thinking Feeling* (ver Quadro 2).

### *Questionário sociodemográfico*

Para além de um conjunto de dados de natureza sociodemográfica (sexo, idade, habilitações literárias, etc.), no presente estudo foram ainda utilizadas algumas questões relativas à vida profissional dos estudantes, designadamente: “Considera-se capaz de criar uma empresa?”, “Se já trabalha por conta de outrem, gostaria de ser trabalhador por conta própria (autónomo)?”, “Já teve alguma ideia de negócio?” e “Já implementou a sua ideia de negócio?” cujas respostas se apresentavam numa escala dicotómica de escolha forçada (0 = Não, 1 = Sim).

### *Procedimentos formais e éticos*

Durante cerca de ano e meio (de setembro de 2016 a janeiro de 2018) os questionários foram aplicados a estudantes do Ensino Superior português por uma equipa constituída por quatro alunos de mestrado devidamente preparados para o efeito, tanto no referente às informações fornecidas e esclarecimento de dúvidas aos respondentes, quanto em termos de procedimentos éticos. Foram cumpridos os pressupostos éticos inerentes a uma investigação, atendendo às recomendações da Ordem dos Psicólogos Portugueses (2011) e foi também obtido parecer favorável à realização do estudo pela CEDI – Comissão de Ética e Deontologia da Investigação da Faculdade de Psicologia e de Ciência da Educação da Universidade de Coimbra (Extrato ATA de 25/01/2018). A confidencialidade das informações recolhidas foi assegurada, assim como o anonimato das respostas de cada participante. Após obtenção do consentimento informado por parte dos respondentes e informação de que poderiam desistir em qualquer altura do preenchimento do inquérito, foram esclarecidas as dúvidas que foram surgindo.

### *Análise de dados*

Os dados foram analisados através da versão 22.0 dos *softwares* SPSS e AMOS (IBM Corp. Released, 2013). Assumiu-se a aleatoriedade dos *missing-values* (*missings completely at random*), inferiores a 2%, que foram substituídos pelo método *Series Mean*. A inspeção dos valores extremos (*outliers*) foi realizada através da distância quadrática de Mahalanobis (Tabachnick & Fidell, 2013). A validade fatorial das medidas em estudo foi assegurada através de análises fatoriais confirmatórias com recurso ao *software* AMOS (Arbuckle, 2013), método de estimação da máxima verosimilhança (*maximum likelihood estimation*; Jöreskog & Sörbom, 2004). A distribuição normal dos itens das escalas foi avaliada através da assimetria e da curtose, tendo-se constatado a inexistência de coeficientes superiores a 1.5 para a assimetria e 2.0 para a curtose, o que nos conduziu à assunção do pressuposto da normalidade (Finney & Distefano, 2006; Kline, 2011).

A qualidade do ajustamento global dos modelos fatoriais foi efetuada pela apreciação dos índices de NFI (*Normed of fit index*; bom ajustamento > .80; Schumacker & Lomax, 2010), SRMR (*Standardized Root Mean Square Residual*; ajustamento apropriado < .08; Brown, 2015), TLI (Tucker-Lewis Index; ajustamento apropriado > .90; Brown, 2015), CFI (*Comparative fit index*; bom ajustamento > .90; Bentler, 1990), RMSEA (*Root Mean Square Error of Approximation*; bom ajustamento < .05, ajustamento aceitável < .08; Kline, 2011; Marôco, 2011; Schumacker

& Lomax, 2010) e  $X^2/\text{gl}$  (ajustamento aceitável  $< 5$ ; bom ajustamento  $< 2$ ; Marôco, 2011; Schumacker & Lomax, 2010). Os índices de modificação (IM; Bollen, 1989) avaliaram o aperfeiçoamento do ajustamento modelo, tendo-se ponderado libertar os parâmetros com maior IM. Neste sentido, optou-se pela proposta de Arbuckle (2013), que defende a análise dos IM através da sua significação estatística, considerando o valor de  $\alpha = .05$ . Para além deste, utilizamos outro critério baseado em Marôco (2011), que recomenda ser mais fiável alterar os parâmetros com IM superiores a 11 ( $p < .001$ ).

Os resultados quanto a possíveis questões influentes nas motivações para empreender e no potencial empreendedor dos estudantes (e.g., “Considera-se capaz de criar uma empresa?”) foram apresentados atendendo às frequências (absolutas e relativas) e ao teste Qui-quadrado para amostras independentes.

A análise multivariada da variância (MANOVA), tomando como VI o sexo e como VDs os quatro fatores da *Escala de Motivações Pessoais e Fatores Facilitadores do Empreendedorismo*, não apresentou qualquer diferença de género,  $\Lambda$  de Wilks = .995,  $F(4, 961) = 1.32$ ,  $p = .260$ , magnitudes do efeito dos testes univariados compreendidas entre  $\eta_p^2 = .000$  e .004. Em termos do *Carland Entrepreneurship Index*, a MANOVA indicou um efeito de  $\eta_p^2 = .017$  para o fator *Judging Perceiving* e de  $\eta_p^2 = .009$  para o *Thinking Feeling*. Devido aos resultados não significativos e às baixas magnitudes do efeito, os dados provenientes de ambos os sexos foram analisados conjuntamente.

Após as estatísticas descritivas e matriz de intercorrelações de Pearson entre os fatores da *Escala das Motivações Pessoais e Fatores Facilitadores do Empreendedorismo* e da *Versão adaptada do Carland Entrepreneurship Index*, os dados foram analisados através de uma análise multivariada da variância (MANOVA, procedimento *General Linear Model*; Hair, Anderson, Tatham, & Black, 2008), após averiguados os requisitos exigidos da independência das observações e da homogeneidade das variâncias de erro. A magnitude da associação entre as variáveis foi avaliada de acordo com Cohen (1988). Foram previamente averiguados os valores de VIF e de tolerância no modelo final de regressão múltipla multivariada, que asseguraram a inexistência de problemas de multicolinearidade entre os preditores. Considerou-se para todas as análises estatísticas uma probabilidade de erro tipo I de  $\alpha = .05$  ( $p < .05$ ).

## RESULTADOS

As estatísticas descritivas da *Escala das Motivações Pessoais e Fatores Facilitadores do Empreendedorismo* e da *Versão adaptada do Carland Entrepreneurship Index*

revelaram pontuações médias próximas da opção de resposta 4 numa escala de medida de 1 a 5 pontos, revelando motivações favoráveis para empreender, bem como um elevado potencial empreendedor (ver pontuações médias no Quadro 2). Dos quatro fatores que constituem a *Escala das Motivações Pessoais e Fatores Facilitadores do Empreendedorismo*, as pontuações média mais elevadas ocorreram nas *Motivações de Aprendizagem e Desenvolvimento* (F1) e *Motivações de Realização Familiar e Societal* (F2), com pontuações acima dos quatro pontos, seguindo-se as *Motivações de Prestígio* (F3) e as *Motivações de Recursos e Rendimentos* (F4), com pontuações aproximadas ao valor 3 da escala de medida. O potencial empreendedor dos estudantes, avaliado através da *Versão adaptada do Carland Entrepreneurship Index* ( $M_{global} = 3.80$ ), recebeu uma pontuação média ligeiramente mais elevada no fator 1 (*Thinking Feeling*), comparativamente ao fator 2 (*Judging Perceiving*).

A matriz de intercorrelações (ver Quadro 2) indicou uma associação de magnitude moderada entre as duas escalas de medida, evidenciando que, no geral, motivações pessoais para empreender e uma perceção mais favorável dos fatores facilitadores do empreendedorismo se associam a um potencial empreendedor mais elevado ( $r = .362$ ;  $R^2 = 13.10\%$  de variância partilhada). As *Motivações de Recursos e Rendimentos* não se mostraram associadas ao fator *Thinking Feeling* do potencial empreendedor ( $p > .05$ ). As motivações associadas ao prestígio decorrente do ato de empreender e as motivações relacionadas com a aprendizagem e desenvolvimento mostraram uma associação de magnitude moderada com o fator *Judging Perceiving* do potencial empreendedor, ao passo que uma associação fraca (apesar de estatisticamente significativa) com o fator *Thinking Feeling*. As *Motivações de Realização Familiar e Societal* e as *Motivações de Recursos e Rendimentos* apresentaram-se pouco associadas com o potencial empreendedor dos estudantes.

Em termos globais, cerca de 65.3% dos estudantes já tiveram alguma ideia de negócio, embora apenas 9.3% a tivessem implementado (cf. Quadro 3). Entre os estudantes que já trabalham por conta de outrem, 68.3% manifestaram vontade de trabalhar por conta própria e 60.6% autopercecionam-se como capazes de criar uma empresa. Os testes de qui-quadrado efetuados à distribuição de frequências destas variáveis em função dos efetivos observados na variável “ter empresários na família” revelou uma contingência significativa em todas as variáveis, indicando uma influência positiva dos familiares empresários (ver Quadro 3).

## Quadro 3

Efetivos das respostas às possíveis questões influentes nas motivações para empreender e no potencial empreendedor em função da presença de empresários na família: Testes Qui-quadrado

|                                                                                               |          | Tem empresários na família? |         |     |         |       |         |                    |
|-----------------------------------------------------------------------------------------------|----------|-----------------------------|---------|-----|---------|-------|---------|--------------------|
|                                                                                               |          | Não                         |         | Sim |         | Total |         | X <sup>2</sup> (1) |
| Questão                                                                                       | Resposta | n                           | % total | n   | % total | n     | % total |                    |
| Já teve alguma ideia de negócio?                                                              | Não      | 185                         | 19.4    | 146 | 15.3    | 331   | 34.7    | 41.62***           |
|                                                                                               | Sim      | 213                         | 22.4    | 409 | 42.9    | 622   | 65.3    |                    |
| Resposta 'Sim' a esta questão em função de ter ou não empresários na família                  |          |                             | 53.5    |     | 73.7    |       |         |                    |
| Já implementou a sua ideia de negócio?                                                        | Não      | 246                         | 35.0    | 391 | 55.7    | 637   | 90.7    | 10.31**            |
|                                                                                               | Sim      | 12                          | 1.7     | 53  | 7.5     | 65    | 9.3     |                    |
| Resposta afirmativa à questão em função de ter ou não empresários na família                  |          |                             | 4.7     |     | 11.9    |       |         |                    |
| Considera-se capaz de criar uma empresa?                                                      | Não      | 230                         | 24.0    | 148 | 15.4    | 378   | 39.4    | 89.68***           |
|                                                                                               | Sim      | 174                         | 18.1    | 407 | 42.4    | 581   | 60.6    |                    |
| Resposta afirmativa à questão em função de ter ou não empresários na família                  |          |                             | 43.1    |     | 73.3    |       |         |                    |
| Se já trabalha por conta de outrem, gostaria de ser trabalhador por conta própria (autônomo)? | Não      | 79                          | 17.2    | 66  | 14.4    | 145   | 31.7    | 29.74***           |
|                                                                                               | Sim      | 88                          | 19.2    | 225 | 49.1    | 313   | 68.3    |                    |
| Resposta afirmativa à questão em função de ter ou não empresários na família                  |          |                             | 52.7    |     | 77.3    |       |         |                    |

\*\* $p \leq .01$ ; \*\*\* $p \leq .001$

Assim, estudantes com empresários na família têm mais ideias de negócio (73.7% vs. 53.5% nos estudantes sem empresários na família), implementam-nas com maior frequência (11.9% vs. 4.7%), consideram-se mais capazes de criar uma empresa (73.3% vs. 43.1%) e gostariam mais de trabalhar por conta própria (77.3% vs. 52.7%). De forma a analisar em que medida ter familiares empresários influencia as motivações empreendedoras dos estudantes, procedeu-se a uma MANOVA, cujos resultados se apresentam no Quadro 4.

#### Quadro 4

*Motivações Pessoais e Fatores Facilitadores do Empreendedorismo e Carland Entrepreneurship Index (versão adaptada) em função de ter empresários da família: testes univariados (F) e magnitude do efeito experimental ( $\eta_p^2$ )*

| Escala de Motivações Pessoais e Fatores Facilitadores do Empreendedorismo | Empresários na família |     |             |     |               |     |           |            |
|---------------------------------------------------------------------------|------------------------|-----|-------------|-----|---------------|-----|-----------|------------|
|                                                                           | Não (n= 406)           |     | Sim (n=560) |     | Total (N=966) |     | F (1,964) | $\eta_p^2$ |
|                                                                           | M                      | DP  | M           | DP  | M             | DP  |           |            |
| F1 - Motivações de Realização Familiar e Societal                         | 4.06                   | .82 | 4.17        | .79 | 4.12          | .80 | 4.52*     | .005       |
| F2 - Motivações de Recursos e Rendimentos                                 | 2.92                   | .77 | 2.84        | .80 | 2.88          | .79 | 2.42      | .003       |
| F3 - Motivações de Prestígio                                              | 3.26                   | .82 | 3.24        | .97 | 3.25          | .91 | .09       | .000       |
| F4 - Motivações de Aprendizagem e Desenvolvimento                         | 4.12                   | .64 | 4.14        | .59 | 4.13          | .61 | .26       | .000       |
| Carland Entrepreneurship Index                                            |                        |     |             |     |               |     |           |            |
| F1 - Judging Perceiving                                                   | 3.65                   | .53 | 3.83        | .48 | 3.76          | .51 | 33.35*    | .033       |
| F2 - Thinking Feeling                                                     | 3.76                   | .72 | 4.03        | .66 | 3.91          | .70 | 35.88*    | .036       |

\* $p \leq .05$

O efeito global multivariado revelou-se estatisticamente significativo,  $\lambda$  de Wilks = .990,  $F(4,961) = 2.45$ ,  $p = .045$ , embora de fraca magnitude,  $\eta_p^2 = .010$ . Os testes univariados decorrentes indicaram uma influência dos familiares empresários nas motivações dos estudantes para empreender apenas no *Fator 1 – Motivações de Realização Familiar e Societal*,  $F(1, 964) = 4.52$ ,  $p = .045$  que, apesar de ser positiva, apresenta baixa magnitude,  $\eta_p^2 = .005$ .

A nova MANOVA efetuada, tomando agora como variáveis dependentes os dois fatores da *Versão adaptada do Carland Entrepreneurship Index*, indicou um resultado multivariado mais significativo,  $\lambda$  de Wilks = 0.951,  $F(2,963) = 25.05$ ,  $p < .001$ ,  $\eta_p^2 = .049$ . Assim, ter empresários na família parece ter um efeito positivo no potencial empreendedor dos estudantes, tanto no *Judging Perceiving* (F1; magnitude do efeito experimental de  $\eta_p^2 = 3.3\%$ ) quanto no *Thinking Feeling* (F2;  $\eta_p^2 = 3.6\%$ ).

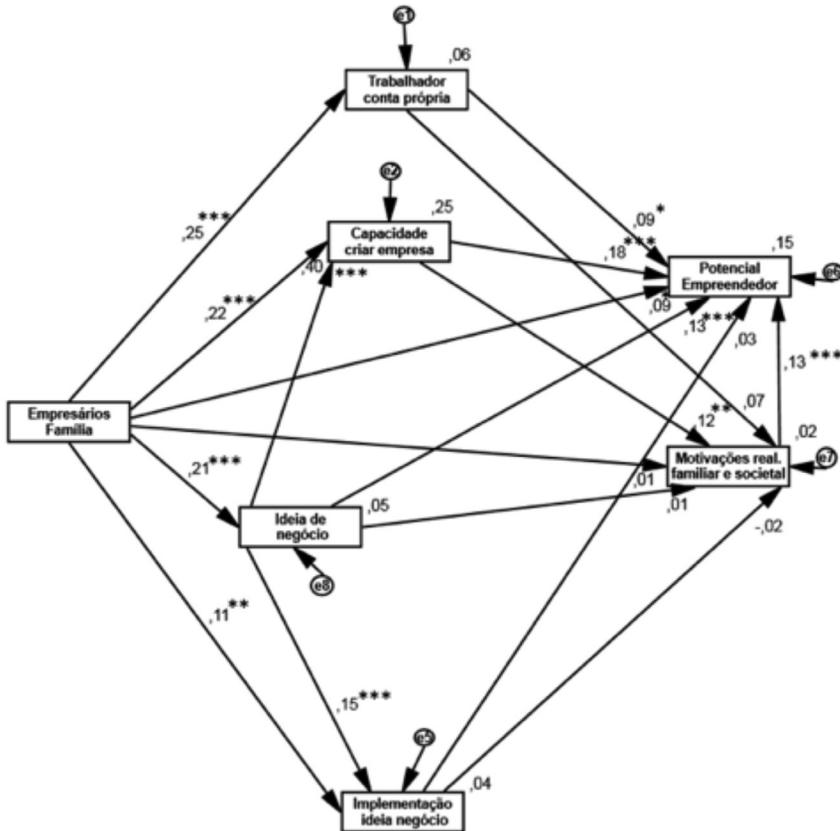


Figura 1. Modelo preditivo do potencial empreendedor e das Motivações de Realização Familiar e Societal a partir da presença de empresários na família: coeficientes de determinação ( $R^2$ ) e de regressão estandardizados ( $\beta$ ). \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

A Figura 1 apresenta um modelo de regressão múltipla multivariada preditivo do potencial empreendedor dos estudantes (pontuação global da *Versão adaptada do Carland Entrepreneurship Index*) e das Motivações de realização familiar e societal para empreender (Fator 1 da *Escala das Motivações Pessoais e Fatores Facilitadores do Empreendedorismo*), em função da variável preditora presença de empresários na família e dos mediadores desejo de trabalhar por conta própria, autopercepção da capacidade de criar uma empresa, presença de ideias de negócio e respectiva implementação (variáveis de tipo *dummy*).

O modelo explicou 15% ( $R^2$ ) da variância explicada do potencial empreendedor e apenas 2% das Motivações de Realização Familiar e Societal. De acordo com o modelo, ter empresários na família apresenta um efeito positivo explicativo de  $R^2$

= 25% na autoperceção da capacidade de criar uma empresa,  $R^2 = 6\%$  no desejo de trabalhar por conta própria, 5% nas ideias de negócio e  $R^2 = 4\%$  na implementação das mesmas. Por seu turno, o efeito direto da presença de empresários na família no potencial empreendedor dos estudantes é baixo ( $\beta = .09$ ,  $p < .05$ ) e nulo nas Motivações de Realização Familiar e Societal ( $\beta = .01$ ,  $p > .05$ ). Quando temos em conta o efeito indireto da presença de empresários na família no potencial empreendedor dos estudantes, apuramos resultados não significativos ( $\beta$ s de .00 a .04). Assim, verificamos que esta presença apenas exerce um efeito direto significativo ao nível do desejo do estudante trabalhar por conta própria ( $\beta = .25$ ), sentir-se capaz de criar uma empresa ( $\beta = .22$ ), ter ideias de negócio ( $\beta = .21$ ) e, em menor magnitude, ao nível do potencial empreendedor ( $\beta = .09$ ). Na previsão deste potencial apresenta-se sobretudo como variável explicativa a autoperceção da capacidade de criar uma empresa ( $\beta = .18$ ), seguida da presença de ideias de negócio ( $\beta = .13$ ). Por último, refira-se que as Motivações de Realização Familiar e Societal apenas foram significativamente previstas pela autoperceção da capacidade de criar uma empresa ( $\beta = .12$ ).

## DISCUSSÃO E CONCLUSÕES

No passado recente a família constituía-se como um modelo motivacional de referência no fomento do potencial empreendedor dos seus descendentes. Tendo em conta que no período de pós- crise económica europeia ocorreram mudanças e transformações a diversos níveis, avaliar o efeito da presença de empresários na família no potencial e nas motivações empreendedoras dos seus descendentes torna-se algo importante de analisar e compreender. Genericamente, os resultados evidenciam que, apesar de ocorrer uma tendência para um decréscimo da influência da família nas motivações empreendedoras dos estudantes, ainda encontramos uma influência positiva desta sobre o desejo de empreender dos seus descendentes. Este decréscimo da influência do modelo da família empreendedora nos descendentes, por comparação à sua maior influência no passado, poderá dever-se às vivências com casos de insucesso motivados pela crise financeira que assolou Portugal e a Europa (Criaco et al., 2017; Mungai & Velamuri, 2011).

Interessante notar que ter empresários na família parece criar nos estudantes um efeito positivo pela opção do trabalho por conta própria, pela criação de ideias de negócio e pela capacidade de implementação dessa ideia e da capacidade percebida para a criação dessa empresa. Tais conclusões também se sustentam nos estudos de Altinay et al. (2012) ao assinalarem uma relação positiva entre a tradição empresarial

familiar e a intenção de criar novos negócios (inclusive no mesmo setor ou similar), o que parece reforçar a tese de que a presença de empreendedores na família pode influenciar a decisão de vir a trabalhar por conta própria. Tais resultados também são corroborados por Mueller (2006) ao evidenciar que sujeitos cujos pais eram trabalhadores autônomos apresentavam aproximadamente 1.5 vezes maior propensão para iniciarem um negócio, seguindo os passos dos seus parentes. A presença de familiares empresários parece servir de modelo/referência, despertando assim crenças e atitudes positivas sobre a carreira empreendedora dos filhos, motivando-os para serem futuros empreendedores.

Ter empresários na família apresentou no entanto um efeito no potencial empreendedor baixo e nulo nas motivações de realização familiar e societal. Tais resultados poderão indiciar novas pistas no que concerne às experiências vivenciadas pelos empresários (pais destes estudantes). Assim, vivências de insucesso por parte dos pais, dificuldades, ou experiências vivenciadas em situações de perda (percepção de que ser empresário foi uma má opção mais do que uma realização de um sonho), culmina num efeito nulo nas motivações de realização familiar e societal para empreender. Em suma, parece plausível aceitar que a presença de empresários na família pode influenciar as percepções de opção para o futuro dos seus filhos tendo por referência as vivências anteriores experienciadas pelos seus pais.

Dado que não se avaliaram as experiências dos pais em termos de positiva/negativa e tendo em conta que o período de recolha de dados se reporta a um período maioritariamente negativo, parece ser razoável admitir que ter empresários na família possa ter um efeito residual no potencial empreendedor dos filhos.

No entanto, ter empresários na família fomenta a criação de *mais ideias de negócio*, tende à *implementação dessas ideias*, criando ainda uma autopercepção de *maior capacidade para a criação de uma empresa e expressão de mais desejo de trabalhar por conta própria*. Os resultados obtidos revelaram ainda que ter empresários na família parece ter um efeito positivo no potencial empreendedor dos estudantes (em ambos os fatores do potencial empreendedor [*Judging Perceiving* – que correspondendo à componente racional do fator e *Thinking Feeling* – que correspondendo à componente emocional e motivacional do fator]), embora ténue.

Face a tais resultados, poderemos avançar como modelo explicativo que a família parece funcionar como papel motivador, cabendo depois à academia o papel de formador. Com efeito, a presença de empresários na família, tal como outros autores referem (e.g., Altinay et al., 2012; Mueller, 2006; Mustapha & Selvaraju, 2015; Parreira et al., 2018a; Parreira et al., 2011; Shanker & Astrachan, 1996), continua a ser um modelo de referência para os estudantes empreenderem, pese embora com um efeito bem menor (motivado pela crise). Advogamos que a família possa ter um

efeito inicial motivacional para criação da ideia, nomeadamente pela partilha de ideias e do processo de criação de uma empresa com os seus familiares estudantes, condição criadora de um estado de alma “*open mind*”. Daí que possamos hipotetizar que neste período pós-crise a academia possa ter assumido um papel mais preponderante no que respeita ao desenvolvimento do potencial empreendedor, pois o empreendedorismo pode ser ensinado, aprendido e desenvolvido (Drucker, 1993; Parreira et al., 2017; Parreira et al., 2011; Testas & Moreira, 2014). Daí que as instituições de ensino superior (IES), enquanto responsáveis pela produção e implementação do conhecimento, tenham assumido um papel preponderante no desenvolvimento do empreendedorismo. Como referem Farhangmehr et al. (2016), o peso crescente que outros fatores parecem ter no incentivo ao empreendedorismo, como por exemplo, *o papel da academia e os fatores impulsioneiros do meio ambiente*, mais do que a influência familiar, poderá explicar parte dos resultados que obtivemos neste estudo.

Face aos múltiplos problemas que a economia ainda enfrenta, associados a uma consciencialização política da necessidade em investir na formação em empreendedorismo com vista à promoção do crescimento económico, consideramos ter ocorrido um peso crescente da participação das IES com uma oferta cada vez maior de formação em empreendedorismo (West, Gatewood, & Shaver, 2009).

Assinale-se que de entre as motivações para empreender (médias da Escala de Motivações Pessoais e Fatores Facilitadores do Empreendedorismo), os motivos que mais se destacam na presente investigação reportam-se aos motivos associados à *Aprendizagem e Desenvolvimento* (por exemplo, ser inovador, estar a par das novas tecnologias, continuar a aprender, desenvolver ideias para produtos e negócios, aceitar desafios), sendo estes resultados similares aos encontrados noutros estudos (e.g., Altinay et al., 2012; Mueller, 2006; Mustapha & Selvaraju, 2015; Parreira et al., 2018a; Parreira et al., 2011). Com efeito, o desejo de inovar, criar, arriscar, aceitar desafios, contribuir para o desenvolvimento pessoal, dar segurança e proporcionar bem-estar/segurança são algumas das características inerentes à própria definição de empreendedorismo (Lobato & Carmo, 2009; Parreira et al., 2016; Parreira et al., 2017; Parreira et al., 2018b), ou seguirem um modelo familiar (Mustapha & Selvaraju, 2015), representam ainda motivações válidas para os estudantes empreenderem, apresentando um papel muito importante ao nível social e económico na criação e desenvolvimento das empresas, pois os negócios são uma das principais fontes de criação de postos de trabalho nas economias de mercado (Almeida, & Teixeira, 2014; Altinay et al., 2012; Criaco et al., 2017; Laranjeira, 2018; Mueller, 2006; Mungai & Velamuri, 2011; Parreira et al., 2017; Parreira et al., 2018b; Parreira et al., 2011; Shanker & Astrachan, 1996; Silva, 2018; Zellweger et al., 2011). Acresce referir que os resultados obtidos com o presente estudo suscitaram-nos uma

reflexão acerca do quanto a crise económica pode ter influenciado as motivações e os fatores facilitadores do empreendedorismo, bem como a repensar o papel que alguns agentes e *stakeholders* (e.g., governo, sociedade civil, empresas, academia, família, indivíduos) têm neste domínio (Herrington & Kew, 2017; Parreira et al., 2011), suscetíveis de condicionar o comportamento empreendedor dos estudantes. Acreditamos que, em termos gerais, o conhecimento gerado por este tipo de estudos pode contribuir para levantar pistas para reflexão que ajudem a delinear algumas políticas e programas de fomento ao empreendedorismo e ao desenvolvimento de uma cultura mais empreendedora, em Portugal e na Europa.

Propõe-se em futuras investigações controlar o efeito da presença de familiares empresários com experiências positivas *versus* experiências menos positivas, em conjunto com o papel das IES em termos da formação proporcionada, de modo a avaliar o seu contributo para o desenvolvimento do potencial empreendedor. Assinala-se como limitação o facto de haver um desequilíbrio na tipologia dos estudantes (universitário/politécnico), a amostra não ter sido aleatória e termos utilizado unicamente como instrumento de recolha de dados – o inquérito por questionários – no qual o efeito da desejabilidade social poderá ter introduzido algum viés.

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## Decent work expressing universal values and respecting cultural diversity: propositions for intervention

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### Abstract

Decent work is a comprehensive concept expressing people's aspirations for their working lives. This concept has had great legitimacy since it was proposed by the International Labour Organization, the United Nations agency for labour issues, which is the well-established institutional world forum for cooperation. Furthermore, decent work has joined various research subjects in labour-related disciplines, gaining a central role as a research subject and intervention compass. This paper aims to discuss the consequences of societies' cultural complexity for decent work intervention. After highlighting previous research subjects in labour-related disciplines that are closely related to the decent work dimensions, the consequences of cultural complexity for intervention are pointed out. The tension between universal human values, cultural diversity and culture as an evolving social phenomenon is the trigger for proposing a balance expressed in several propositions concerning culture-sensitive intervention in decent work.

**Keywords:** Decent Work; cultural differences; Decent Work Questionnaire; intervention

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## **Trabalho digno expressando valores universais e respeitando diversidade cultural: Proposições para a intervenção**

### **Resumo**

Trabalho digno é um conceito abrangente que expressa as aspirações das pessoas para a sua vida profissional. Este conceito tem tido elevada legitimidade na medida em que foi proposto pela Organização Internacional do Trabalho, a agência da Organização das Nações Unidas para as questões laborais, que é o fórum mundial institucional mais bem estabelecido para a cooperação. Além disso, o trabalho digno agregou diversos temas de investigação das várias disciplinas que abordam as questões laborais, assumindo assim um papel central como objeto de investigação e como bússola orientadora para a intervenção nesta área. Este artigo visa discutir as consequências para a intervenção sobre trabalho digno da complexidade cultural nas sociedades atuais. Após realçar questões de investigação prévias que têm sido tratadas nas disciplinas ligadas aos assuntos laborais e que se encontram próximas das dimensões do trabalho digno, as consequências da complexidade cultural são trazidas para a discussão. É proposto um equilíbrio entre valores humanos universais, diversidade cultural e cultura como um fenómeno social evolutivo, equilíbrio esse expresso em várias proposições sobre intervenção em trabalho digno culturalmente sensível.

**Palavras-chave:** Trabalho Digno; diferenças culturais; Questionário de Trabalho Digno; intervenção

## **INTRODUCTION**

This paper aims to discuss cultural issues related to intervention in decent work and presents subsequent propositions. Firstly, the strength of the decent work concept is pointed out through its legitimacy and its integrative characteristic. Secondly, cultural differences regarding the various dimensions of decent work are shown through previous research. Cultural complexity is approached through multiple cultural anchors and the evolving nature of culture, which make it difficult to find a balance between the universal values behind the decent work concept and the diverse expressions of those values in each specific culture. Nevertheless, some propositions for culture-sensitive intervention focused on improving labour conditions to achieve decent work as much as possible are presented.

### *Legitimacy of the concept*

The concept of *Decent Work* was coined by the International Labour Organization (ILO) in 1999 in an attempt to express in the labour field the principles and values behind the Universal Declaration of Human Rights approved by the United Nations (1948). The origin of this concept goes back to the efforts made to avoid war through promoting social justice, first with the Treaty of Versailles and the International Labour Organization foundation in 1919. That idea was reinforced in 1946 through the ILO constitution amendments (Ferraro, dos Santos, Pais, & Mónico, 2016). Several landmarks show a path of improvement in the way Decent Work has become explicit and included in formal statements regarding aspects that should guide labour issues worldwide.

The ILO Declaration on Fundamental Principles and Values at Work in 1998 and the United Nations Global Compact in 1999 should be highlighted. Afterwards, Decent Work was configured in four strategic objectives in 1999 by Juan Somavia (at that time, the ILO Director General), and was included in 2015 in the 2030 Agenda for Sustainable Development. The United Nations' repeated inclusion of Decent Work in formal documents such as declarations, treaties and others demonstrates the legitimacy of the concept, since that institution has been the world forum for the coordination of nations. The ILO, being the United Nations agency for labour issues, has that legitimacy and brings it to the Decent Work concept. Therefore, we can consider this concept as the broad expression of people's aspirations for their working lives. No other concept in the field can be claimed to have that statute. Moreover, Decent Work meets potentially core universal human needs, namely survival, connectedness and self-determination (Blustein, Kenny, Di Fabio, & Guichard, 2019).

Justification of the use of the Decent Work concept also comes from being an expression of the Human Rights Declaration in the labour field. If human rights are values, it is not necessary to demonstrate that other positive outcomes arise from applying them. If we continue to seek empirical evidence that applying human rights as expressed in the Decent Work concept brings other positive outcomes to justify its relevance, we should be aware that our values are those outcomes instead of Decent Work values *per se*. Therefore, the first consequence is that empirical research on Decent Work looking for positive outcomes of putting the concept into practice, although relevant, does not match the cornerstone of the concept. That research is useful to reinforce understanding of its nomological network but not to justify dissemination of the concept. Concerning intervention projects in favour of Decent Work, the legitimacy of the concept also gives the same legitimacy to those projects as long as they comply with other requirements, as presented below.

The various components of the Decent Work concept were described in several public documents. The detailed description of the corresponding content was synthesized in the 10+1 substantive elements according to experts' perspectives. In the field of work, organizational and personnel psychology, Ferraro, Pais, dos Santos and Moreira (2018) presented the most comprehensive operationalization of the concept. Their model expresses the configuration of workers' perception of Decent Work, based on the substantive elements defined by the ILO. The resulting model of seven dimensions has been extensively obtained in diverse samples and countries (Ferraro et al., 2018) reinforcing the idea that Decent work is a robust concept when measured through workers' perception. Despite the novelty of the concept as a whole, its components have long research traditions in the wider field of labour-related sciences.

### *Decent Work: Integrating research*

Decent Work was defined as “opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men” (International Labour Organization, 2019a). That definition was expanded to include all types of discrimination, not only gender-centred, according to some measures of the substantive element named “equal opportunity and treatment in employment” (International Labour Organization, 2008). As mentioned above, how workers perceive Decent Work is organized in seven dimensions, covering the full range of substantive elements of the concept (Ferraro et al., 2018).

The first dimension of the Ferraro et al. (2018) model, labelled “principles and values at work”, measures to what extent workplace comply with values such as interactional justice, procedural justice, dignity, participation, freedom, non-discrimination, and trust. Several literature reviews of the corresponding content were found, such as discrimination (Campos-Serna, Ronda-Pérez, Artazcoz, Moen, & Benavides, 2013; Ghumman, Ryan, Barclay, & Markel, 2013), organizational justice (Chang & Dubinsky, 2005), dignity in the workplace (Parandeh, Khaghanizade, Mohammadi, & Mokhtari-Nouri, 2016), trust among workers and managers (Østergaard, 2015), and participation (Bolden, 2011). Overall, these reviews confirm the relevance of “principles and values at work” for workers and for the quality of the work they do. Moreover, the values expressed in this dimension are worthy by themselves, since they are in tune with the Universal Declaration of Human Rights.

Concerning “working time and workload” (second dimension), Ferraro et al. (2018) defined this as being focused on working time, workload, work-life balance and pace of work. Some literature reviews are found in databases on workload (Arts, Kerkstra, van der Zee, & Abu-Saad, 2001; Neill, 2011), work-life balance (Bagtasos, 2011), and shift work (Dall, Ball, Recio-Saucedo, & Griffiths, 2016). The research related to these topics has a long history and shows, on the one hand, concern for workers’ health, and, on the other, the effort to optimize workers’ contribution to organizational goals.

The third dimension of the model, labelled “fulfilling and productive work”, has content related to innovation and intrinsic work motivation, which has also been the subject of literature reviews (e.g., Seeck & Diehl, 2017). Other subjects within the content of this dimension are satisfaction and recognition (Zeb, Rehman, Saeed, & Ullah, 2014), meaningful work (Bendassolli, Coelho-Lima, de Araujo Pinheiro, & de Siqueira Gê, 2015; Chalofsky, 2003) and commitment (Gilbert, Holdsworth, & Kyle, 2017), to name but a few. Ferraro, Pais, Moreira and dos Santos (2017) have shown the strong correlation between this Decent Work dimension and autonomous forms of work motivation, namely identified and intrinsic work motivation types as defined (and measured) by Self-determination theory (Gagné et al., 2015). Fulfilling and productive work is a valuable concept since it joins the positive aspects of work for workers and positive organizational results.

The fourth dimension, labelled “meaningful remuneration for the exercise of citizenship”, is related to benefits and earnings perceived as fair and sufficient to be a full citizen in society. Although the way this concept is configured within the broader concept of Decent Work is distinct and new, related contents have been the subject of literature reviews, as is the case of compensation (Nazir, Shah, & Zaman, 2014), health programmes for low-wage workers (Stiehl et al, 2018), salary in higher education (Park, 2012), and pay for performance (de Bruin, Baan, & Struijs, 2011). The main idea of this dimension is to consider remuneration as a source of freedom for workers and their families through which they can play a full role as citizens. Therefore, although a long research tradition exists regarding compensation, salary, wages and related concepts, the configuration of this third dimension brings some novelty to the field.

The fifth dimension, labelled “social protection”, refers to social protection resulting from the condition as a worker, concerning possible illness or unemployment, and future retirement. This dimension includes the worker’s family within social protection mechanisms. The various components of the social protection dimension, despite being studied mainly in other disciplines (e.g., law and economics), were also studied widely and literature reviews have been published in the field of work, organizational and personnel psychology (Burke & Maramaldi,

2016; Zhang, Bartram, McNeil, & Dowling, 2015). The main concern relates to the design of mechanisms able to join together the worker's social protection and organizational competitiveness. The related concept of flexicurity has been examined in some studies too (e.g., Sultana, 2013).

The sixth dimension, named "opportunities", focuses on alternative jobs available, allowing a worker to have a choice, as well as professional progress. That progress means both prospects to improve remuneration and professional development (as an employee or entrepreneur). Several literature reviews were undertaken and are available in databases. The content of this dimension is negatively related to unemployment, which often represents a lack of opportunities (Reneflot & Evensen, 2014). Other authors carried out literature reviews on topics related to professional development, such as career development (Barto, Lambert, & Brott, 2015) and entrepreneurship (Cadar & Badulescu, 2015). This dimension is fundamental in a developmental conception of human nature.

Finally, the seventh dimension of "health and safety" focuses on health protection, safety and the comfort of the work context and environment. It is a well-established research subject expressed, among others in Huet (2015), Laberge and Ledoux (2011), and Leitão and Greiner (2016). This dimension depends on the state of the art of scientific knowledge and technology, which allows workers to be protected from dangerous jobs and unsafe environments, on the one hand, and appropriate management of the work context, on the other.

Taken together, those literature reviews cover at least a major part of all seven dimensions of the Ferraro et al. (2018) model and demonstrate the vitality of research on the components of Decent Work. The novelty is the fact that this concept joins dispersed research subjects around a coherent idea. This integrative power of Decent Work makes it a core concept of the field allowing it to be used as an anchor for research and practice worldwide. The advantage of having an integrative concept is, on the one hand, its contribution to building a comprehensive view and understanding of the related phenomena. On the other hand, the practical implications of being integrative help in designing cross-effective human resource policies and strategies, as well as public policy able to include wide, harmonized processes instead of partial and competing solutions. Therefore, Decent Work intervention projects are much more powerful and relevant as they pay attention to the various dimensions of the concept instead of ignoring some of them. That does not mean that interventions of a narrower scope can be discarded, but where possible they can be replaced by interventions with a broader scope.

Intervention is understood here as a complex or simple intentional action aiming to manage a problem (preventing or dealing with it, as described by Beehr, 2019), or improving a condition even if it is not a problem. Within the

subject of this paper, intervention refers to Decent Work issues. That action can be made at the individual, team, organizational, inter-organizational or societal level. Moreover, the aim of the action is defined and scheduled, and resources are allocated, despite those elements sometimes being fuzzy and incorporated in a wider plan of change. Intervention can be the definition of public policy, inter-organizational and organizational projects, or even individual counselling, mentoring, coaching or other structured action of intentional development (as defined by dos Santos and Pais, 2015). For example, organizational intervention projects aimed at stress reduction include changes in the job or work role, as well as replacing managers (Pignata, Boyd, Winefield, & Provis, 2017). Concerning public policy intervention, Dammert, de Hoop, Mvukiyehe and Rosati (2018) synthesize the effect of public policy on decreasing child labour. They found, for instance, that public policy programmes addressing child labour are effective when the vulnerability of households is reduced.

In summary, the legitimacy of the Decent Work concept as argued above and its integrative characteristic of joining disperse research topics reveal the strength of this concept for both research and practice, and, therefore, intervention. Since it is claimed to be a concept applicable worldwide, cultural diversity must be considered in terms of what should be the same cross-culturally and what should be adapted to each specific culture. Cultural diversity is the issue addressed in the present paper, specifically concerning intervention in Decent Work.

### *Cultural diversity meeting universal values*

Culture has been conceptualized by several authors as values, assumptions, norms and practices shared by people belonging to a social group or category, organization or community (regardless of its dimension) providing references which configure ways of perceiving, feeling, understanding, sensemaking, expecting and behaving. Some of those components are more internal and enduring and others more peripheral and changeable (e.g., Gomes, 1994; Hofstede, Hofstede, & Minkov, 2010; Schein, 1996). Cultures can be related to occupations (Schein, 1996), organizations (Gomes, 1994), nations (Hofstede et al., 2010) and to other social categories. Cultures help in describing, explaining and intervening in social phenomena since they are always present in people's daily life (Gomes, 1994). Decent Work, as a social phenomenon, is also the result of specific common aspects among cultures. Since it is grounded on universal and shared values, it is expected to be expressed through equivalent actions within different cultures. However, diverse cultural backgrounds may determine different ways of expressing those universal values.

Ferraro, Pais and dos Santos (2015) pointed out that some Decent Work aspects are universal while others are culturally specific. That means Decent Work is expected to show common cross-cultural aspects and at the same time different ways of being expressed according to each specific culture. For instance, Hofstede (1984) argues that the quality of life depends on several cultural dimensions. Likewise, the way Decent Work dimensions such as “fulfilling and productive work”, “opportunities”, “principles and values at work”, and others, are put into practice worldwide might vary.

Looking at the first Decent Work dimension of the Ferraro et al. (2018) model, how workers perceive “fundamental principles and values at work” is expected to depend on power distance (Hofstede et al., 2010). The same objective condition will be perceived in a lower power distance culture as a deficit in principles and values at work while in a higher power distance culture it can be considered acceptable. For example, asymmetric treatment between leader and subordinate can be viewed as respectful by the subordinate in a high power distance culture but disrespectful in a low power distance culture. Also, Yang, Kitchen and Bacouel-Jentjens (2017) argue that a leader’s humour has a stronger relationship-building role in leadership in the US than in China. Other cultural dimensions can be relevant for cultural variation in interpreting clues from events as acceptable or not, and, consequently, as higher or lower deficit in the Decent Work dimension mentioned. Intervention projects aiming to improve fundamental principles and values at work must consider both the universal values expressed in the dimension and the variation in how those values are expressed cross-culturally.

The second dimension (working time and workload) is also culturally sensitive. Johnson and Widyanti (2011) found differences between Indonesian and Dutch workers in evaluating mental workload. Moreover, the figures released by the International Labour Organization (2019b) show that in 2017 the mean weekly hours actually worked per employed person range from 32 in the Netherlands to 49 in Qatar. This type of difference is expected to correspond to different perceptions regarding the same objective working time since the comparison terms vary greatly, expressing cultural differences and diverse economic conditions. Interventions aiming to improve this Decent Work dimension must consider the cultural context where the intervention will be undertaken and the minimum standards required for a healthy life, after overcoming possible economic constraints.

The third Decent Work dimension (fulfilling and productive work) also depends on cultural aspects. Furnham and Rajamanickam (1992) found differences between the UK and India regarding the “protestant work ethic”. Similarly, other authors argue that there are cultural differences concerning the meaning of work (e.g., Bendassolli, 2017; Sharma, 2015). Strauch (2010) found a cultural

influence on team performance, which leads to the expectation that the perception of having productive work will vary accordingly. Therefore, we can expect the same objective condition to be perceived differently by people from different cultures, determining in part to what extent that condition is perceived as meeting Decent Work standards. Intervention focused on improving the quality of work to reach appropriate fulfilling and productive work must consider the cultural differences that determine the effectiveness of such interventions and should be respected.

Regarding the fourth dimension, “meaningful remuneration for the exercise of citizenship”, once again cultural differences influence the standard of living and consequently what is considered the required resources to enjoy an acceptable standard of living. Mamman, Sulaiman and Fadel (1996) found cultural differences in preferences concerning payment for work. Wang (2014) found differences in cultural citizenship between China and Taiwan. The differences among cultures in how citizenship is understood are evident in learning a new way of understanding it, as described by Ginieniewicz (2008) concerning migrants in Canada. If conceptions of citizenship are different among cultures and the standard of living too (as shown in the Human Development Index (e.g., UNDP, 2017)), a variation in the subjective perception of the appropriateness of remuneration for exercising citizenship can be expected. One important challenge for research and intervention is to discriminate cultural differences in citizenship and earnings that must be accepted from those that should be fought against.

Concerning “social protection” systems for the unemployed, Ouwenel (2002) found significant differences across 42 countries. Comparing the country profiles, there are great differences in social security systems (International Social Security Association, 2019). Considering the cultural dimensions of Hofstede et al. (2010), we can expect that in long term cultures compared to short term ones, there will be more concern about preparing for the future. Furthermore, high versus low uncertainty avoidance cultures can be expected to be more sensitive to the weaknesses of social security systems. Finally, highly individualistic cultures, compared to collectivist ones, create different expectations of social protection systems. Interventions aiming to improve the social security dimension can consider the flexibility required to design different solutions that match the specificity of each culture.

“Opportunities”, another dimension of Decent Work, refers to developmental opportunities for workers, alternative jobs allowing them to choose, as well as their perception regarding the possibility of creating their own business. Studying 84 nations in a literature review, Dheer (2017) found a moderating role of individualism-collectivism on the relationships between education, corruption and political freedom, on the one hand, and entrepreneurial activity, on the other hand. The author

found individualism positively moderates the effect of political freedom, and the effect of education, but the moderation regarding the effect of corruption is negative. Paul, Hermel and Srivastava (2017) carried out a comparative study of Japan, USA, France and India, regarding entrepreneurial intentions. They found support for the idea that variation in entrepreneurial intentions is determined by the joint effect of personality traits and country culture. The “opportunities” dimension also has to do with economic vigour and the alternative jobs workers can find in the labour market, which varies across countries and cultures. Therefore, intervention projects that target improvement of the “opportunities” dimension of Decent Work, whether at the societal or organizational level, should be sensitive to the cultural context. In some cultures, entrepreneurship is more anchored on entrepreneurs’ individual initiative, while in others it is more dependent on collective initiatives. Moreover, in some cultures, the link between employee and employer seems to be more family-type while in others more market-type (Hofstede et al., 2010). Those differences determine different expectations of career development and the balance of responsibility for this between employer and employee.

Regarding “health and safety”, Cottini and Lucifora (2013) found that mental health and working conditions vary across countries (and cultures). Likewise, the data released on safety and health at work by the International Labour Organization (2019c) show great differences among countries. Those differences make it obvious that the comparison terms of workers from different countries vary greatly when assessing health and safety in their work. Furthermore, following cultural dimensions as defined by Hofstede et al. (2010), higher uncertainty avoidance cultures can be more sensitive to weak health and safety conditions at work than lower ones. Since the health and safety dimension is sensitive to stress-inducing contexts, it is expected that the same objective conditions will be perceived as different regarding health and safety. Therefore, even in this dimension, the distinction between objective conditions and subjective perception is important, since divergences are expected and require different types of interventions. Intervention projects in this dimension have to balance the objective conditions required to reach health and safety work environments considering the state of the art of technological and scientific advancements, and the subjective perception of those conditions requiring culturally effective ways of communicating with people about them.

To sum up, cultural diversity is found in all seven Decent Work dimensions, and interventions to promote Decent Work must be sensitive to this, designing projects that combine respect for universal values and suit the specificities of that culture. Furthermore, it is critical to consider both objective and subjective measures. The objective indexes may have the appearance of hard data, but they hide its subjective meaning within a specific cultural context.

### *Decent Work: integrating cultural complexity*

Although cultural differences must be considered, we are aware that more and more paradoxical issues related to cultural identity have arisen in recent decades. Nowadays, people have a global context enabling and eliciting a global identity and global citizenship. That phenomenon has been highlighted previously (e.g., Jimenez, Lerch, & Bromley, 2017; Reysen & Katzarska-Miller, 2013) and is a core concern of public policy worldwide as defined by international fora such as the United Nations. We can mention, for example, the 2030 Agenda for Sustainable Development, which states the importance of global citizenship in the 4.7 goal (United Nations, 2015). At the same time, we witness today the demand to respect cultural diversity (e.g., Lozano & Escrich, 2017). That diversity is often viewed as a social asset, as a value on its own where mutual respect is the norm, as expressed in the discussion on this issue by Bennett (2016), and Franěk (2017). Cultural diversity expands the repertoire of responses available in society as a whole, enabling human beings to adapt to unpredictable conditions and contributing to an enriched expression of human nature. We also witness today the extreme expression of national identities and the claim for the right to keep and even strengthen regional or local cultural traditions.

Therefore, interventions to promote Decent Work must consider the tension between the idea of a global cultural identity anchored on global citizenship and on universal values, the idea of respect for cultural diversity, and the perspective that cultural diversity is an asset of society that should be preserved or even reinforced. The balance between those trends can be reached by bringing together superordinate values and diverse ways of expressing them. The possible ways of combining them deserve reflection, continuous discussion and negotiation among those closely involved in specific contexts and the distal stakeholders who are gatekeepers of universal human rights and values. This kind of problem should therefore involve all human beings since it touches the inner meaning of common life.

That reflection becomes more complex when considering unavoidable cultural evolution (e.g., Greenfield, 2009, 2015; Zeng & Greenfield, 2015). Although traditionally culture is viewed as an enduring characteristic, today high cultural interaction and fast technological and scientific evolution cause great turbulence in institutions and require strong intercultural competence (Sandell & Tupy, 2015). Cultures are evolving aspects of human groups, organizations, communities and societies, and, therefore, intervention projects to promote Decent Work must be sensitive to that change over time.

Furthermore, cultural anchors have changed greatly over the last decades, mainly as the result of technological development, allowing people to connect worldwide

in real time and fostering social ties with others, regardless of the geographical distance involved. Fast social development has also led to intergenerational cultural conflicts (Liu, Liang, Nguyen, & Melo, 2019). Within that context, people keep communicating with others from their early developmental path and build identities based on mixed effects, whether from those with whom they live or with whom they communicate significantly and join for leisure or work. The traditional anchors of culture – family, school, work and everyday social interaction – have expanded. Other cultural sources have been added to the context in which people grow and geographical constraints no longer play the only crucial role. Consequently, interventions to promote decent work must consider the complex patterns of multiple cultural identity anchors and the evolving nature of culture.

Social comparison processes concerning the use of others as a comparison term for self-evaluation (Festinger, 1954) can play a role in evaluating decent work conditions. People tend to compare with others whether upward or downward in ranking dimensions (Gerber, Wheeler, & Suls, 2018). Comparisons are made of contents beyond those originally proposed by Festinger, i.e., abilities and opinions, and include life satisfaction, standard of living, wages, opportunities and others (Kruglanski & Mayseless, 1990). Social comparison is expected to be upstream in the process of forming subjective perceptions of Decent Work: when anyone is asked to what extent they have decent work conditions, their subjective perception is the result, among other determinants, of comparison with others. The comparison is made especially with others who are psychologically close, meaning people from the same culture. Therefore, subjective perception is influenced by the person's standard of living (and work conditions) compared to others within a specific economic and social context. The International Labour Organization recognized the importance of that economic and social context in Decent Work and included it as the 11th substantive element. The increase in social interactions, as described above, fostered by technological evolution has brought complexity to social comparison processes. Consequently, the subjective perception of Decent Work increasingly concerns a complex network with which the worker relates, which is no longer limited to a geographical criterion. Intervention in Decent Work must preferably include objective and subjective measures, and consider the complexity described here regarding cultural phenomena.

## CONCLUSION

Decent Work is a concept grounded on a proposal by the International Labour Organization, able to respond to universal human needs, and expressing people's

aspirations for their working lives. This gives great legitimacy to the concept and contributes to the legitimacy of intervention projects to establish Decent Work worldwide. The strength of the concept also comes from being integrative concerning many research traditions in labour-related sciences. Therefore, Decent Work intervention projects are much more powerful and relevant as they pay attention to the various dimensions of the concept instead of only some of them.

While the concept is based on universal values and expresses Human Rights at work, cultural diversity implies a variation in how those values are put into practice. Consequently, interventions aiming to improve the different dimensions of Decent Work must consider both the universal values expressed in the specific dimensions and the differences in how those values are put into practice cross-culturally. Being culturally sensitive means paying attention to cultural specificities that are decisive for the effectiveness of the intervention and in tune with the universal values behind the concept. Furthermore, evidence-based standards related to some Decent Work dimensions, namely those focused on wages, social security, and health and safety at work, must consider the minimum standards required for a healthy life regardless of cultural specificities and extant economic constraints. Moreover, culture has become an increasingly complex phenomenon no longer limited to geographical proximity. Multiple anchors of culture and its evolving nature must be considered in designing and implementing intervention projects aiming to disseminate Decent Work across the globe.

The appropriate combination of objective and subjective measures and indicators can provide a more accurate portrayal of Decent Work conditions in a specific group at a specific time. That portrayal is the departure point for effective intervention in pursuing culturally sensitive Decent Work.

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VÁRIA

(Página deixada propositadamente em branco)

## Cambios horarios y diarios en la motivación laboral: ¿Influye el tiempo objetivo en la motivación en el trabajo?

Fernando Curioso<sup>1</sup> & José Navarro<sup>2</sup>

### Resumen

Se pretende conocer los cambios en nuestra motivación laboral según los días de la semana y las horas del día en una jornada laboral convencional. Usando la técnica de diarios, obtuvimos seis registros diarios durante 21 días laborables consecutivos. Setenta trabajadores registraron su motivación (6499 registros) usando tres variables: motivación, creencias de auto-eficacia e instrumentalidad. Junto a la carta de consentimiento, se recogió también información sobre variables socio-demográficas y motivacionales que fueron objeto de análisis. La comparación de medias encontró diferencias significativas en función de las horas: a las 16:00 mayor que a las 12:00; y a las 14:00, 15:00 y 16:00 mayor que a las 13:00 ( $F_{(13,6485)} = 2.863$ ;  $p < 0.01$ ). Por contra, no se observaron diferencias significativas en la motivación laboral en función de los días de la semana. Los hallazgos sugieren la presencia de un *Efecto Comida*, o reparador fisiológico-social que explica el incremento de la motivación laboral post-ingesta de alimentos. Se advierte también la presencia de una dinámica motivacional con forma de doble “U” invertida que se da a lo largo de las horas de la jornada laboral, así como en los días de la semana en función de algunas de las variables socio-demográficas estudiadas.

**Palabras clave:** motivación laboral; dinámica motivacional; estudio longitudinal intra-sujeto; efecto comida

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## Hourly and daily changes in work motivation: Does the objective time influence on motivation at work?

### Abstract

It was intended to know how work motivation changes over days of the week and over hours of the day in a conventional work schedule. Using the diary technique, we obtained six daily registers during 21 consecutive working days. Seventy workers registered their motivation (6499 registers) using three variables: motivation, self-efficacy beliefs and instrumentality perceptions. Jointly with the consent letter, other information about socio-demographic and motivational variables was also collected. Means comparison found significant differences according to the hours: at 04:00 p.m. higher than at 12:00; and at 2:00 p.m., 3:00 p.m. and 4:00 p.m. higher than at 1:00 p.m. ( $F_{(13,6485)} = 2.863$ ;  $p < 0.01$ ). On the contrary, no significant differences were observed depending on the days of the week. These findings suggest the presence of a *Food Effect*, or physiological-social restorative that explains the increment in motivation post-meal food. An inverted double “U” form also appeared in the motivational dynamic that occurs throughout the hours of the working day, as well as on the days of the week based on some of the socio-demographic variables studied.

**Keywords:** work motivation; motivational dynamics; intra-subject longitudinal study; food effect

## Mudanças horárias e diárias na motivação do trabalho: O tempo objetivo influencia a motivação no trabalho?

### Resumo

Pretende-se conhecer as mudanças que a motivação sofre no trabalho, em função dos dias da semana e das horas ao longo de um dia de trabalho. Usando a técnica de diários, obtivemos seis registros por trabalhador, durante 21 dias úteis consecutivos. Setenta trabalhadores registraram a sua motivação laboral (6499 registros), operacionalizada através de três variáveis: motivação, crenças de auto-eficácia e instrumentalidade. Juntamente com o consentimento informado, também foram recolhidas informações sobre variáveis sociodemográficas e motivacionais que foram analisadas. A análise de comparação de médias evidenciou diferenças significativas em função do horário: às 16:00 era maior

do que às 12:00; às 14:00, 15:00 e 16:00 era maior do que às 13:00 ( $F_{(13,6485)} = 2.863$ ;  $p < 0.01$ ). Pelo contrário, não se registaram diferenças significativas na motivação laboral em função dos dias da semana. Os resultados sugerem a presença do que chamamos de *Efeito Alimentar*, ou reparador fisiológico-social, que explica o aumento da motivação laboral após a ingestão de alimentos. Nota-se também a presença de uma dinâmica motivacional semelhante à forma de um duplo “U” invertido que ocorre ao longo de toda a jornada laboral, assim como nos dias da semana, em função de algumas das variáveis sociodemográficas estudadas.

**Palavras-chave:** motivação laboral; dinâmica motivacional; estudo longitudinal intra-sujeito; efeito alimentar

## INTRODUCCIÓN

La motivación laboral ha sido un proceso psicosocial ampliamente estudiado desde distintas perspectivas. Sin embargo, en la actualidad hay dos focos de atención que actúan como pivotes sobre los cuales se realiza gran parte de su investigación: el primero de ellos es su aspecto dinámico, es decir cambiante o fluctuante en el tiempo, en el cual esta última variable en sí misma juega un rol fundamental para entender su variabilidad independientemente de los contenidos y contextos sobre los que han sido analizado (e.g., Kanfer, Frese, & Johnson, 2017); el segundo pivote está referido más a la metodología de la investigación del proceso y sus métodos de medición, pero implica en sí mismo una revisión desde su origen mismo como constructo teórico y la reformulación de nuestros paradigmas recuperando las diferencias intra-individuales como base para su entendimiento (e.g., Sackett, Lievens, Van Iddekinge, & Kuncel, 2017).

Partiendo de estos dos aspectos, el presente estudio se plantea conocer qué ocurre con la motivación laboral a lo largo del tiempo, específicamente a qué se debe dicha variabilidad específicamente a nivel intra-individual. Navarro, Curioso, Gomes, Arrieta y Cortés (2013), en un estudio que sirve de antecedente inmediato al presente, han determinado que las tareas y actividades que realizamos como parte de nuestro trabajo no son las que generan dichas fluctuaciones motivacionales en el tiempo. Por otra parte, al ser el trabajo una actividad cíclica con un inicio y fin previamente determinado, esto nos sugiere un punto de partida para cuestionarnos si luego de una pausa sea dentro del horario laboral (e.g., interrupciones, horario de comida, etc.) o al terminar la jornada (i.e., diaria o semanal) estas situaciones generan cambios o fluctuaciones en nuestra motivación. A ello sumamos algunos mitos socialmente compartidos como que al inicio de cada jornada (más aún si es diurna), o al comenzar la semana, uno tiene menor disposición para el trabajo.

A partir de todas estas consideraciones el presente estudio pretende conocer específicamente si los cambios producidos en la motivación laboral son debidos a las cuestiones cronológicas en las cuales ésta se enmarca y con ello si es posible describir qué ocurre con el proceso motivacional en una jornada laboral tradicional occidental.

### *La motivación laboral como proceso cambiante*

Entendemos la motivación laboral como el proceso psicológico que determina (o dinamiza) la dirección, intensidad y persistencia de la acción dentro del flujo continuo de experiencias que caracterizan a la persona en relación con su trabajo (Kanfer, Chen, & Pritchard, 2008). Según diferentes estudios (e.g., Guastello, Johnson, & Rieke, 1999; Navarro, Arrieta, & Ballén, 2007; Navarro et al., 2013), nuestra motivación en el trabajo fluctúa a lo largo del tiempo. Así se ha encontrado cambios en el esfuerzo atencional en mili-segundos, minutos y horas (e.g., Credé & Dalal, 2002); cambios a través de días, semanas y meses en la dirección y persistencia de la asignación de nuestros recursos motivacionales (e.g., Navarro, Ceja, Curioso, & Arrieta, 2014); finalmente, cambios también durante años, décadas y a lo largo de la vida en los motivos, rasgos motivacionales y habilidades (e.g., Kanfer, 2009). Y todo esto se ha demostrado mediante rigurosos estudios desde el tipo correlacional y de campo hasta diseños experimentales (e.g., Credé & Dalal, 2002; Kanfer, 2012).

El fenómeno de la fluctuación no es exclusivo de la dinámica de la motivación laboral. En efecto, diversa bibliografía sobre comportamiento organizacional nos revela la existencia de fluctuaciones en los afectos y estados emocionales (e.g., Ilies, Scott, & Judge, 2006; Miralles, Navarro, & Unger, 2015; Zohar, Tzischinski, & Epstein, 2003), en la auto-percepción física en el trabajo (e.g., Feuerhahn, Sonnentag, & Woll, 2014; LePage & Crowther, 2010; Reis, Sheldon, Gable, Roscoe, & Ryan, 2000), en el tipo de liderazgo transaccional y transformacional de los managers (e.g., Breevaart et al., 2014), en el compromiso organizacional (e.g., Bakker, 2014; Sonnentag, Binnewies, & Mojza, 2010; Xanthopoulou, Bakker, & Ilies, 2012) o en el rendimiento laboral (e.g., Beal, Weiss, Barros, & MacDermid, 2005). Es importante señalar hasta aquí que todos los estudios citados han analizado sus datos de forma longitudinal y, en su mayoría, usando diseños intra-sujeto o intra-participante.

En este sentido cada vez aparecen más publicaciones sobre las fluctuaciones estudiadas a nivel intra-sujeto de los procesos psicosociales en las organizaciones. El modelo tradicional, muy extendido e incluso plenamente vigente en la psicología actual, ha privilegiado los estudios de tipo inter-participante con un corte transversal en los que se evalúa un asunto particular en momentos específicos, o

durante un período corto de tiempo, bajo la premisa que en el lapso transcurrido en dichas evaluaciones los cambios no eran significativos. En muchas de estas investigaciones se asume que la motivación es un proceso ergódico, es decir, que muestra estacionariedad y por ello el momento de la evaluación no es un asunto de especial relevancia (ver Molenaar, 2004). Estas investigaciones se han centrado casi en exclusiva en el estudio de la variación inter-individual en detrimento de la variación intra-sujeto (i.e., del sujeto únicamente comparado consigo mismo) a lo largo del tiempo, variación que sin duda es también relevante si atendemos a la habitual no ergodicidad de muchos procesos psicológicos (e.g., Molenaar, 2004).

Bajo este nuevo paradigma centrado en los cambios intra-sujeto, el objetivo final es analizar la dinámica motivacional, es decir, en lo que ocurre en ella a lo largo del tiempo colocando como eje central a la variable “tiempo” en cada participante como sujeto individual y como una única forma de poder entender la motivación desde una perspectiva temporal (Arrieta & Navarro, 2008).

Así, entender lo que ocurre con la motivación laboral a lo largo del tiempo resulta un campo novedoso, pero a partir de lo expuesto podemos inferir que ya se ha trazado la direccionalidad tanto a nivel teórico como metodológico de la forma de abordarla, a partir del paradigma que la enmarca como un proceso complejo (Munné, 2005; Waldrop, 1992) con particularidades entendidas y generalizables solo a nivel intra-individual (Molenaar & Campbell, 2009). Dicha complejidad debe ser estudiada y analizada longitudinalmente para descubrir porqué la dinámica motivacional laboral muestra esas fluctuaciones y cambios temporales (e.g., Arrieta, Navarro, & Vicente, 2008; Guastello et al., 1999; Navarro & Arrieta, 2010), cambios que, por otro lado, se ha demostrado son de naturaleza no lineal (e.g., Navarro et al., 2007).

Sin embargo, quedan aún inquietudes acerca de las causas que generan dicha complejidad, su relación con otros procesos psicosociales vinculados al comportamiento organizacional (e.g., clima organizacional, comunicación, liderazgo, etc.), aspectos intrínsecos del trabajador (e.g., edad, género, experiencia laboral, etc.) y/o extrínsecos (e.g., interrupciones laborales, *feedback* recibido, etc.), entre otros. Ante ello, la presente investigación se centrará en estudiar las causas de la fluctuación en la motivación laboral, exclusivamente centrándose en conocer dicha dinámica a lo largo de los días de la semana y de las horas del día durante la jornada laboral, que aunque presenta explicaciones variopintas como el mito del *Efecto Lunes* sumamente difundido, apenas ha sido un tema abordado desde el estudio realizado por Guastello (1985).

Como decimos, existen estudios previos que han demostrado la existencia de fluctuaciones en los procesos psicosociales, en especial a los vinculados al comportamiento organizacional (e.g., Bakker, 2014; Navarro et al., 2007; Watson, 2000). Pero no se han encontrado aún las causas que provocan estas fluctuaciones. En este punto, el antecedente más inmediato del presente estudio lo encontramos en Navarro

et al. (2013), quienes concluyeron la no relación entre las tareas o actividades que realizamos en el trabajo como generadoras de las fluctuaciones en la motivación laboral. Este resultado puede generar cierta sorpresa por cuanto podríamos esperar que nuestra motivación es mayor o menor dependiendo de las tareas que realizamos. Sin embargo, lo que Navarro et al. (2013) encontraron es que, aún cuando el nivel promedio de motivación pueda ser distinto según las tareas que se realicen, sigue existiendo fluctuaciones en la motivación (i.e., cambios en el corto plazo en este caso) que no son atribuibles a las tareas que se realizan.

### *¿Influyen los días y las horas en el comportamiento organizacional?*

Si bien son múltiples los estudios que han buscado entender desde una perspectiva dinámica el comportamiento organizacional, son pocos los que han intentado explicar particularmente las fluctuaciones que aparecen en los mismos, destacándose en este grupo notoriamente las investigaciones sobre el afecto. Específicamente, Watson (2000) presentó una recopilación de estudios e investigación propia dirigida fundamentalmente a estudiantes universitarios donde se encontró una dinámica particular que se da en los procesos del estado ánimo a lo largo de una jornada laboral (o académica) relacionada directamente con las horas y días de la semana. Así, los estados de ánimo positivos empiezan en un nivel bajo al iniciar la semana, pero están al máximo al final de la misma (día Viernes); mientras que los afectos negativos tienen una dinámica inversa, siendo mayores al inicio de la semana (día Lunes). Por otra parte, en estos estudios al tomar en cuenta las horas, se registra una curva de tipo “U” invertida a lo largo del día cuando se evalúa el estado de ánimo positivo, teniendo su punto máximo entre las 15:00 y 16:00 horas. Los estudios no llegan a dar más luces sobre este aspecto porque son estudios de multi-registro por día (seis por día en promedio) pero solamente durante una o dos semanas, o de un registro o dos por semana a lo largo de seis meses, lo cual les lleva a quedarse en el aspecto meramente descriptivo. Complementando estos hallazgos, McFarlane, Martin y Williams (1988) revelaron que las fluctuaciones del estado de ánimo tanto en hombres como en mujeres fueron máximas y elevadas los viernes, aunque no se evidenciaron los llamados *Blue Monday* (Lunes Negro o *Efecto Lunes*); sin embargo, estudios posteriores (e.g., Fritz & Sonnentag, 2005) sí hallaron alta afectividad negativa asociada a mayor nivel de *burnout* los días lunes.

Al margen del estudio de los afectos, en psicología del trabajo y, particularmente, en motivación laboral, es poco lo investigado a su relación con respecto a las horas y los días de la semana, aún cuando el estudio de la influencia de estas variables tiene larga tradición en las ciencias humanas y sociales. En nuestro contexto occidental,

el horario laboral habitual tiene un ciclo de inicio mayormente horario diurno y de fin nocturno, desde los días lunes con culminación los viernes. Si bien esto resulta obvio es el punto de partida de nuestro estudio tanto a nivel teórico y metodológico.

A partir de este marco básico a nivel de ciencias sociales se ha encontrado en ciencias económicas-financieras un *Efecto Lunes* (e.g., French, 1980; French & Roll, 1986), donde la rentabilidad de las empresas tenía una tendencia inferior o negativa en estos días en comparación con el resto de los días de la semana. Este *Efecto Lunes* se ha caricaturizado en occidente a partir de un mito que los trabajadores están menos motivados los lunes y que la motivación va aumentando progresivamente hasta acercarse el fin de semana.

Si bien el *Efecto Lunes* no ha sido demostrado en la Psicología, hay un hecho que no podemos soslayar: la jornada laboral es un ciclo de días de actividad precedido de días de descanso, en los cuales el desconectar de la actividad laboral y dedicarse a otras actividades vinculadas con el ocio genera un esfuerzo adicional cuando llega el día de retomar de nuevo el trabajo (mayormente el lunes en nuestra cultura). Sobre este aspecto, sí hay investigaciones como la de Lozano (2000) que se ha ocupado del denominado *Síndrome Post-vacacional*, señalando que luego de un descanso como el verano, se experimenta estrés y reducción de la productividad por la falta de motivación hasta que se vuelve a dar un proceso de re-adaptación laboral; o que dependiendo de la actividad laboral puede presentar particularidades como la baja productividad en la construcción al iniciar la semana que es conocido en ese sector laboral como “el absentismo de los días lunes” (e.g., Arcudia, Solis, & Cuesta, 2007).

Todo esto nos sugiere que en occidente la jornada laboral presenta una temporalidad con un ciclo muy claro que tiene un inicio, desarrollo y finalización (de lunes a viernes) precedido de un período de descanso (sábado y domingo) a nivel de la semana, hecho que se repite a lo largo de las horas del día. Esta temporalidad, por tanto, podría estar influyendo en la motivación laboral.

Por otra parte, el mismo ciclo anterior, pero con un período de descanso, ocurre dentro de cada día; es decir, considerando las horas dentro del día también podemos observar un ciclo parecido al sucedido cuando consideramos los días dentro de la semana. El estudio de los turnos de trabajo, por ejemplo, ha mostrado como turnos de trabajo nocturnos no solamente son percibidos por los trabajadores de forma nefasta (e.g., Miró, Cano, & Buela, 2005) sino que reportan alternaciones del sueño, mayores niveles de estrés y fatiga crónica (e.g., Ahumada & Ortega, 2005; Barahona, Vidaurre, Sevilla, Rodríguez, & Monge, 2013), deterioro familiar y social del trabajador (e.g., Fernández & Piñol, 2000) e incluso desde la nosogenia encuentra relación con patologías que van desde la obesidad hasta accidentes cerebro-vasculares (eg., Barahona et al., 2013) e incluso el cáncer de mama (e.g., Fresneda, Gómez, & Bascopé, 2013). Pero la nocturnidad laboral no solo tiene un efecto negativo en la vida del trabajador,

sino que, tal como lo confirmó la O.I.T. (1998), es donde se presenta el mayor número de bajas laborales e incluso se dan diferencias productivas inferiores hasta en 15% en comparación al turno matutino (e.g., Martín, Martínez-Arias, & Pereda, 1989).

Además, debemos considerar que hay actividades laborales que se ven afectadas por su dinámica misma, como también por el público usuario al que se dirige. Así, por ejemplo, el mayor número de accidentes hospitalarios (e.g., Tomasina, Gómez, & Tchearne, 2001) o de consultas de urgencia (e.g., Díaz & Guinart, 2007) se da en las primeras horas de la mañana, por lo que el personal sanitario tendrá una mayor carga laboral en esos horarios y, por lo tanto, se supone que esto afectará a su motivación laboral. Así, la carga laboral puede ser excesiva en determinados períodos, como ocurre en horas vespertinas a nivel policial, donde por ejemplo se registra la mayor incidencia delictiva de violaciones sexuales (e.g., De la Garza & Mitchel, 1997). A partir de lo mencionado, queremos señalar únicamente que hay indicios importantes que nos llevan a suponer la importancia del tiempo para entender estos comportamientos y, por ende, todas las actividades y procesos psicosociales entre los que subyacen la motivación laboral que es objeto de nuestro estudio.

Retomando nuestro asunto específico sobre las fluctuaciones y cambios en la motivación laboral, es interesante retomar el antecedente más remoto de Guastello (1985) quien, en un estudio longitudinal sobre motivación y rendimiento laboral, encontró que los riesgos de cometer mayores errores entre pintores y especialistas del color en la industria de selección de colores y pintura eran los días martes y viernes, mientras los días lunes y jueves fueron los de menor, sugiriendo una doble curva “U” invertida para una gráfica cartesiana de riesgo *vs.* performance laboral a lo largo de la semana; dicho hallazgo corroboró la investigación de Colquhoun (1971), quien determinó que los riesgos para un peor desempeño industrial es mayor el lunes.

Frente a estos hallazgos nos hemos planteado la siguiente pregunta de investigación: ¿Cómo influyen los días de la semana y las horas del día en las fluctuaciones y cambios de la motivación laboral?

## MÉTODO

### *Participantes*

La muestra constó de 70 personas, con amplia diversidad laboral; siendo 50% mujeres, con una media de 34 años (mínimo 20, máximo 57); 30% españoles y 70%

costarricenses. Un 27% tenían estudios pre-universitarios, mientras el 73% tenían estudios de nivel técnico o superior universitario. Todos estaban laboralmente activos, con una media de 7.9 años trabajando para su compañía (mínimo 0.2 y máximo 20 años), con 4.7 años como media ocupando el mismo puesto (mínimo 0.2 y máximo 24 años), dedicando una media de 8.6 horas de trabajo diarias (mínimo 6, máximo 12 horas) y una media de 47.13 horas por semana (mínimo 30 y máximo 72).

La muestra fue intencional dado las características del diseño de investigación (intensivo longitudinal), procurando alcanzar una diversidad elevada en cuanto a género, edad y profesión. Los participantes fueron reclutados por los investigadores o bien a través de terceras personas.

El diseño de recogida de datos utilizó la técnica de diario basado en tiempo y señal contingente (Bolger, Davis, & Rafaeli, 2003). La utilización de este tipo de técnicas permite, según Bolger et al. (2003), registrar el comportamiento a lo largo de un tiempo lo suficientemente extenso para asegurar que se obtenga un registro adecuado del mismo. De otro lado, también permite capturar el comportamiento y su experiencia de una manera espontánea y en el contexto natural en el que éste se produce (Ohly, Sonnentag, Niessen, & Zapf, 2010). En la aplicación de la técnica del diario se utilizaron dispositivos electrónicos (PDA's) que los participantes llevaban consigo a lo largo de la investigación.

Los participantes debían contestar el diario seis veces al día durante un período de al menos 20 días laborales con el fin de conseguir largas series temporales. Estas respuestas se programaron a intervalos aleatorios con el fin de lograr una distribución de registros en la que estuvieran representadas la mayor parte de tareas que desempeñaba el participante en su trabajo. Se realizaron sesiones de formación inicial y entrenamiento con los participantes tanto en el uso del dispositivo electrónico como en el entendimiento del instrumento de evaluación utilizado (ver siguiente apartado).

### *Instrumentos*

Se utilizó un breve diario con cuatro preguntas relativas a la variable de interés. En concreto las preguntas fueron: 1) ¿Qué tarea estoy realizando ahora?; 2) ¿Cuánto me motiva esta tarea?; 3) ¿Hasta qué punto me considero capaz de hacer bien esta tarea?; y 4) Si realizo bien esta tarea, ¿alcanzaré mis metas personales? La primera pregunta recoge información textual y concreta de la tarea que se ejecuta siendo útil para situar a la persona temporal y contextualmente acerca de cómo contestar el resto de preguntas. Por su lado, las preguntas 2, 3 y 4 miden la motivación de manera directa, las creencias de auto-eficacia y las percepciones de instrumen-

talidad, respectivamente. Estas tres preguntas fueron medidas en un formato de barra continua (*slider*) entre extremos: Poco–Mucho (pregunta 2), Poco Capaz–Muy Capaz (pregunta 3) e Improbable–Probable (pregunta 4). El participante marcaba en la barra y se obtenía directamente una puntuación de 0 a 100 puntos según la distancia de cada anclaje. Las variables estudiadas fueron registradas automáticamente en el PDA, quedando guardada además la fecha y hora en el dispositivo.

Las preguntas 2, 3 y 4 se agregaron en una sola puntuación de motivación laboral que será la tenida en cuenta para los análisis sucesivos. Las tres preguntas mostraron unos valores de correlación altos, positivos y significativos en relación con dicha medida agregada:  $r_{\text{pregunta2-motivación laboral}} = .41, p < .01$ ;  $r_{\text{pregunta3-motivación laboral}} = .60, p < .01$ ; y  $r_{\text{pregunta4-motivación laboral}} = .85, p < .01$ , si nos referimos a las correlaciones a nivel intra-sujeto ( $N = 6499$ ). Y  $r_{\text{pregunta2-motivación laboral}} = .32, p < .01$ ;  $r_{\text{pregunta3-motivación laboral}} = .69, p < .01$ ; y  $r_{\text{pregunta4-motivación laboral}} = .89, p < .01$ , si nos referimos a las correlaciones a nivel inter-sujeto ( $N = 70$ ).

Además, al instante mismo que el participante firmaba su consentimiento para aceptar ser parte del estudio, se aplicó un cuestionario con preguntas socio-demográficas (e.g., antigüedad en el puesto y en la organización, tipo de supervisión, carga laboral) y otras relacionadas con variables motivacionales (e.g., tipo de motivación intrínseca o extrínseca, *feedback* recibido, etc.).

## Análisis

Se tuvo especial cuidado en el procesamiento de los datos del PDA eliminando lo que llamamos registros dobles (i.e., aquellos que se registraban en un período inferior a 15 minutos y que no habían sido programados), además de aquellos que se registraron sábados y domingos o en la franja horaria 21:00–6:00 horas. En total fueron eliminados el 3% de los registros acumulados, cantidad que resultó no significativa del total. Como hemos dicho, la puntuación final de motivación laboral se obtenía del promedio de los tres ítems antes mencionados (preguntas 2, 3 y 4).

Sobre las variables socio-demográficas obtenidas en el cuestionario inicial, algunas de ellas fueron analizadas tal como se registraron de forma directa como en el caso de edad, horario de trabajo diario y semanal. En el caso de nacionalidad, género, *feedback* por trabajo realizado o al final del ciclo, interrupciones, calidad de trabajo dependiente de uno mismo o del grupo, así como nivel educativo, se realizó una conversión de los datos a números o variables nominales. Sin embargo, en el caso de metas personales la respuesta fue cualitativa, por lo cual fueron dos jueces quienes conjuntamente por consenso en todos los casos establecieron según su criterio si las metas eran intrínsecas, extrínsecas o mixtas y luego de lo cual se realizó como en la situación anteriormente citada, una conversión de datos a valores numéricos.

Finalmente, la estadística comparativa entre cada registro motivacional con la hora y día en que fue registrado, así como con cada una de las variables socio-demográficas y motivacionales estudiadas se realizó mediante una comparación de medias utilizando la prueba *t* de *Student* a dos colas.

## RESULTADOS

Se obtuvieron 6499 registros de los 70 participantes (promedio de 92.84 registros por participante). Dividiremos la presentación de los resultados en: 1) exposición de los cambios motivacionales laborales que ocurren en función de días y horas; y 2) variables socio-demográficas que han aparecido relacionadas con dichos cambios motivacionales.

### *Cambios en la motivación a través de las horas y los días*

Si consideramos la jornada laboral de 7:00 a 20:00 horas, encontramos que el horario cercano a la comida, entre 12:00 y 13:00 horas, es el punto más bajo de la motivación laboral; sin embargo, la misma tiene su cima máxima entre 15:00 y 16:00 horas. Aún cuando el horario de 9:00 a 10:00 horas no es estadísticamente significativo, la Figura 1 revela una dinámica similar al patrón de tipo doble “U” invertida encontrado por Guastello (1985) sobre motivación laboral. Esta dinámica ocurre tanto en la motivación general como en cada uno de los tres componentes estudiados por separado.

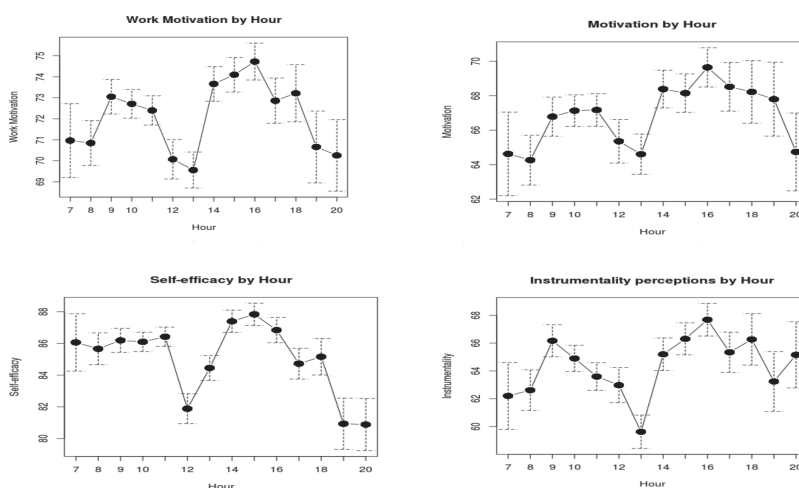


Figura 1. Cambios en la motivación laboral según las horas del día.

Haciendo una comparativa dos a dos entre todos los horarios posibles en la Tabla 1 se presentan los resultados significativos en la medida de motivación laboral general.

Tabla 1  
*Diferencias significativas en la motivación laboral según las horas del día*

| Horas del día | Diferencia de Medias | Nivel Inferior Intervalo Confianza (95%) | Nivel Superior Intervalo Confianza (95%) | p (Método Tukey) |
|---------------|----------------------|------------------------------------------|------------------------------------------|------------------|
| 16:00-12:00   | 4.65                 | 0.27                                     | 9.04                                     | < 0.02           |
| 14:00-13:00   | 4.10                 | 0.14                                     | 8.06                                     | < 0.01           |
| 15:00-13:00   | 4.54                 | 0.61                                     | 8.47                                     | < 0.01           |
| 16:00-13:00   | 5.16                 | 1.10                                     | 9.23                                     | < 0.01           |

Es decir, se encontraron las siguientes diferencias significativas: a las 12:00 horas se presenta menor motivación laboral que a las 16:00 horas; las 13:00 horas presentan menor nivel de motivación laboral que las 14:00, las 15:00 y las 16:00 horas.

En relación a los días de la semana no se presentaron diferencias significativas a lo largo del tiempo. Sin embargo, es importante aquí visualizar la Figura 2 en la que se sugiere también la presencia de un patrón de doble “U” invertida con un primer pico el día lunes y un pico más alto el día jueves, los cuales sí resultan significativos cuando se analiza lo que ocurre en los días de la semana en función de algunas variables socio-demográficas o motivacionales que hemos estudiado.

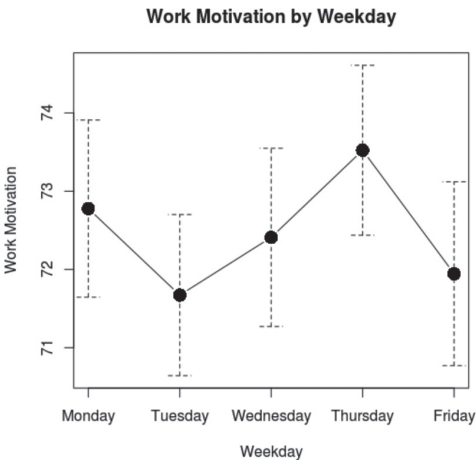


Figura 2. Cambios en la motivación laboral en función de los días de la semana.

### *Influencia de variables socio-demográficas en los cambios horarios y diarios de la motivación*

Por razones de espacio no presentaremos los extensos cuadros y gráficos sobre las diferencias significativas encontradas de los cambios en la motivación laboral entre las distintas horas de la jornada laboral y días de la semana, según las variables socio-demográficas estudiadas. En su lugar, resumiremos a continuación los principales hallazgos.

Aparece una dinámica de doble “U” invertida a lo largo de las horas de la jornada laboral con picos a las 10:00 horas y en el denominado efecto comida en quienes tienen un nivel educativo no universitario, en quienes trabajan más de 9 horas al día, en quienes trabajan más de 35 horas a la semana, en quienes perciben que la calidad de su trabajo depende de ellos mismos, y en quienes refieren tener metas extrínsecas.

El que hemos denominado efecto comida aparece solo en los trabajadores de Costa Rica, en las mujeres, en quienes tienen un nivel educativo superior o universitario, en los que trabajan hasta un máximo de 9 horas diarias, en quienes no reciben *feedback* durante el proceso de trabajo, en quienes reciben *feedback* al finalizar el proceso de trabajo, y en quienes perciben constantes interrupciones en su trabajo.

La presencia significativa del horario 9:00-10:00 horas como motivación más alta ocurre en quienes no reciben *feedback* al finalizar el proceso de trabajo y en quienes perciben que la calidad de su trabajo no depende de ellos sino del entorno.

La presencia de la doble “U” invertida con motivación máxima los días lunes y jueves aparece entre los que trabajan como máximo 35 horas a la semana.

Por último, la presencia significativa solamente del día jueves como el más alto aparece entre los que trabajan hasta un máximo de 9 horas diarias.

## DISCUSIÓN

Como se ha señalado, aunque es significativamente menor la motivación laboral entre las 12:00-13:00 horas comparada a la obtenida a las 16:00 horas donde es su punto más alto, encontramos que desde las primeras horas de la mañana hacia aproximadamente las 10:00 de la mañana un ligero ascenso, de allí hasta las 13:00 horas hay un descenso significativo de la motivación el cual puede ser atribuido a un efecto cansancio o desgaste que tiene su punto más bajo justamente en horario cercano al de la comida. En los países que sirvieron de investigación aproximadamente entre las 13:00 y 14:00 horas se realiza este descanso, luego del cual la motivación laboral registra una pendiente ascendente hasta las 16:00 horas donde se ubica su punto más

elevado. Dado el punto de quiebre entre las 13:00 y 16:00 horas en que generan los extremos motivacionales y la manera metodológica para entender este efecto desgaste-recuperación, lo que hemos decidido llamar *Efecto Comida*, en tanto produce una recuperación de nutrientes y fisiológica (descanso), además en este período hay una desconexión del trabajo a fin de reponer fuerzas para continuar motivados nuestra labor, que después de las 16:00 horas vuelve a presentar un descenso motivacional por la fatiga de la carga laboral diaria. También puede considerarse como un desgaste y recuperación psicosocial, por lo que en realidad entre las 15:00 y 16:00 horas la motivación laboral adquiere sus máximos valores debido a una doble recuperación tanto fisiológica como psicosocial, la misma que en la actualidad viene siendo estudiada por diferentes autores (e.g., Beckers et al., 2004; Demerouti, Bakker, Sonnentag, & Fullagar, 2012). Ello explicaría todo este patrón de doble “U” invertida que sufre la motivación en el trabajo a lo largo de la jornada laboral.

En el caso de los días de la semana, se presenta el mismo patrón de doble “U” invertida encontrado a lo largo de un día de jornada laboral, aunque no de forma significativa iniciando en el punto medio-alto los días lunes, con caída máxima los martes, después una pendiente ascendente hasta una motivación alta los jueves y un ligero descenso el viernes. Esta dinámica se contradice con el mito ampliamente difundido del *Efecto Lunes*, como día de desmotivación. Este mito tuvo soporte científico en los reportes de las ciencias económicas sobre los rendimientos diarios de acciones en el período 1953-1977 (e.g., French, 1980; French & Roll, 1986), pero la realidad organizacional es dinámica y ello quedó corroborado en los estudios de Agrawal y Tandon (1994) y de Kamara (1997), quienes, dos décadas después, encontraron resultados de rentabilidad financiera negativa tanto para los lunes como para los martes. Es más, Steeley (2001) llegó a firmar que el llamado *Efecto Lunes* desapareció en el Reino Unido en la década de los 90 del siglo pasado con los nuevos modelos macro-económicos, conclusión que compartimos en su totalidad. La globalización y revolución tecnológica de la década de los 90 no solamente implica de nuevas formas de producción, sino de nuevos paradigmas que modifican desde nuestra forma de concebir el ambiente del trabajo, el comportamiento del consumidor hasta los procesos psicosociales mismos que subyacen a la vida laboral, entre ellos la motivación del trabajador. Frente a esta nueva realidad que nos plantea esa onda de doble “U” invertida en los ciclos de nuestra motivación laboral se requieren nuevas y más profundas investigaciones para comprender qué ocurre con ella a lo largo del tiempo. Siendo en este momento un tema novedoso, nos limitamos solamente describir el fenómeno, apuntamos el hecho, pero no nos atrevemos a sugerir hipótesis explicativas del porqué el jueves registra un nivel de motivación laboral que destaca del resto de días en función de algunas variables como en los que trabajan como máximo de 9 horas por jornada laboral.

Sin embargo, sí podemos concluir y afirmar la existencia de un patrón de doble “U” invertida encontrada en la motivación laboral según nuestros resultados tanto a lo largo de la jornada laboral diaria como en la semanal, el mismo encontrado en la relación del riesgo de errores y rendimiento laboral en especialistas del color (Guastello, 1985) y que además se reproduce en otros procesos psicosociales involucrados en el trabajo como el citado en las fluctuaciones en los estados ánimo positivo a lo largo del día (Watson, 2000) que nos revelan la existencia de una dinámica motivacional laboral similar en el tiempo. Unos resultados similares han sido encontrados por Monk et al. (1997) en un estudio experimental de 36 horas continuas con 17 participantes encontrando un patrón de doble “U” invertida igual al nuestro que se reproducía al medir rendimiento cognitivo. Lo interesante de esta última investigación es que este patrón de desempeño, que los autores llamaron “desempeño circadiano”, demostró estar influido por los ritmos circadianos de la temperatura corporal. Lamentablemente la bibliografía sobre este tema es realmente escasa, pero la rigurosidad y potencia del estudio de Monk et al. (1997) apunta a un tema poco estudiado en el comportamiento organizacional: los ritmos circadianos. Todo apunta a que estos ritmos parecen tener fuerte influencia en nuestros procesos psicológicos y psicosociales más allá del mero horario marcador del reloj cronológico, que en situaciones y trabajos con horarios convencionales de turno diurno y con un período de sueño promedio de 8 horas permitiría explicar el patrón fractal de doble “U” invertida en la motivación laboral y en los otros procesos previamente citados.

Todo lo anterior nos llevaría a concluir que no es el tiempo objetivo, el tiempo de nuestros relojes, el que incide en la motivación laboral, sino el tiempo interno y subjetivo que tanto individuos como culturas han creado y que marca nuestros ritmos de trabajo.

### *Contribuciones científicas e implicaciones prácticas*

El principal aporte de la presente investigación no es el establecer el día y/o la hora específica donde se registran nuestros niveles más elevados de nuestra motivación laboral, sino que bajo determinadas condiciones que ocurren en la dinámica de trabajo de occidente y ante la presencia de algunas variables se genera producto de éstas una franja horaria en la cual nuestra motivación laboral se incrementa significativamente, a la cual hemos llamado *Efecto Comida*.

Tomando como base los datos proporcionados por los participantes en la encuesta, así como la comparación de nuestros resultados con los del estudio de Monk et al. (1997) sobre ritmos circadianos, además de lo que deducimos de nuestro estudio,

es importante señalar las variables condicionantes sobre las cuales ocurre lo que hemos denominado *Efecto Comida*:

1. Hora de inicio de trabajo alrededor de las 7:00 y 8:00 horas.
2. Pausa para comer entre las 13:00 y 14:00 horas: es importante aquí señalar un dato que ha pasado inadvertido pero que es importante a tomar en cuenta, entre las 12:00 y 13:00 horas se registra el menor nivel motivación laboral, ello debido a un desgaste o fatiga resultado de la carga horaria acumulada hasta ese momento. Esta pausa otorga no solamente un período de descanso de trabajo sino además proporciona un lapso para la ingesta de alimentos, que permite la recuperación de nutrientes para mantener alerta al organismo en las horas subsiguientes.
3. Jornada laboral entre 8 y 10 horas: que es la registrada por casi la totalidad de nuestra muestra estudiada, la misma por las leyes laborales de la mayoría de los países occidentales rigen a nuestros trabajadores; exceder estos períodos afecta nuestros ritmos circadianos y, por ende, nuestro desempeño laboral (Monk et al., 1997).
4. Período de sueño promedio de 8 horas: dato importante no solamente extraído de la muestra aquí recogida, sino que a partir del estudio de Monk et al. (1997) se demuestra que la alteración del período de sueño y vigilia afecta todos nuestros rendimientos cognitivos y desempeño en general.
5. Presencia de un periodo de recuperación social: por todo lo anteriormente expuesto no cabe duda que el *Efecto Comida* es resultado de un proceso de recuperación de energía para continuar la actividad laboral. No obstante, hasta este punto nos hemos centrado en la recuperación fisiológica, pero también hay una recuperación social que tiene que ver más con aspectos afectivo-emocionales. Recordemos que en nuestras sociedades occidentales los trabajadores mayormente tienen un horario común de almuerzo y un comedor donde interactúan socialmente. Este espacio, y el acto de compartir la comida, nos ha hecho y continúa haciendo desarrollar filogenética y ontogenéticamente como especie gregaria (López, 1981). Esa hora aproximadamente de almuerzo permite compartir experiencias, descargar tensiones, crear vínculos afectivos y desarrollar el grupo informal de trabajo que proporcionan un soporte emocional que da seguridad, bienestar en el trabajo y, por ello, se incrementan el desempeño y la motivación laboral (e.g., Trougakos & Hideg, 2009).

A partir de todas estas consideraciones, sostenemos que las implicaciones prácticas de nuestros hallazgos son de gran utilidad porque si los gestores, directivos y jefes

tienen en cuenta estos aspectos pueden tomar medidas para que la fatiga en el horario señalado del mediodía afecte menos al rendimiento de los trabajadores, además de generar un espacio propicio de recuperación en el almuerzo y sacando el máximo partido del *Efecto Comida* pueden no solamente mejorar su productividad organizacional en su conjunto sino contribuir al bienestar y satisfacción laboral del trabajador.

### *Limitaciones del estudio y futuras líneas de investigación*

La principal limitación del presente estudio radica en la heterogeneidad de la muestra en cuanto al tipo de trabajo, porque al haber recolectado información de labores bastante disímiles, desde un granjero o vigilante hasta un profesor universitario o gestor, resulta difícil uniformizar criterios mínimos como por poner ejemplo el tipo de interrupción laboral que sufre cada trabajador, el cual en función de su tarea tiene una naturaleza particular que afectará de una forma diferente en su motivación laboral.

Por ello para próximas investigaciones se sugiere uniformizar la muestra centrándose en una actividad laboral, lo que permitiría controlar todas las variables que hemos señalado, pero en especial la referida al horario de trabajo y sobretodo de almuerzo para replicar o no la existencia del *Efecto Comida* como determinante del incremento de la motivación laboral.

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## A. Duarte Gomes & revista *Psychologica*: Building the WOP Psychology in Portugal

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### Abstract

The aim of this paper is to analyze the set of contributions of A. Duarte Gomes to the journal *Psychologica*. Specifically, his co-authors, the impact of his publications on other researchers, and the topics that have been the subject of his interest are analyzed. The search resulted in a total of 17 articles, published between 1991 and 2016, signed by him and in co-authorship. In this journal, A. Duarte Gomes reaches the highest levels of visibility in 2005, with a total of five articles of various kinds. The largest number of publications co-authored in *Psychologica* was with Leonor Pais and Teresa Rebelo, with five collaborations, and with Carla Carvalho, with four. Focusing on the topics covered in the different articles, it can be observed that A. Duarte Gomes' scientific interest has focused on the organizational level of analysis, with the most relevant topic being that of organizational culture. The total number of citations received by the analyzed papers is 123, which means 7.2 citations per paper. Four of the articles have been cited in five articles published in JCR/SJR journals. The results have allowed us to empirically verify the role of A. Duarte Gomes building the work and organizational, and personnel psychology in Portugal.

**Keywords:** *Psychologica*; Work and organizational psychology; citations; co-authors

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## **A. Duarte Gomes & Revista *Psychologica*: Construindo a Psicologia do Trabalho, das Organizações e dos Recursos Humanos em Portugal**

### **Resumo**

O objetivo deste artigo é analisar o conjunto de contribuições de A. Duarte Gomes para a revista *Psychologica*. Especificamente, os seus co-autores, o impacto das suas publicações noutros investigadores e os tópicos que têm sido alvo do seu interesse. A pesquisa resultou num total de 17 artigos, publicados entre 1991 e 2016, assinados por ele e em co-autoria. Nesta revista, A. Duarte Gomes atinge os mais altos níveis de visibilidade em 2005, com um total de cinco artigos de vários tipos. O maior número de publicações em co-autoria na *Psychologica* foi com Leonor Pais e Teresa Rebelo, com cinco colaborações, e com Carla Carvalho, com quatro. Centrando-nos nos tópicos abordados nos diferentes artigos, observa-se que os interesses de investigação de A. Duarte Gomes se centraram no nível organizacional de análise, sendo o tema mais relevante o da cultura organizacional. O número total de citações recebidas pelos artigos analisados é 123, o que significa 7,2 citações por artigo. Quatro dos artigos foram citados em cinco artigos publicados em revistas JCR/SJR. Os resultados permitiram verificar empiricamente o papel de A. Duarte Gomes na construção da Psicologia do trabalho, das Organizações e dos recursos humanos em Portugal.

Palavras-chave: *Psychologica*; Psicologia do Trabalho e Organizacional; citações; co-autores

## **INTRODUCTION**

It is a real honor to contribute to the monograph dedicated to A. Duarte Gomes. The University of Barcelona, and very especially, the group of colleagues that sign this article, are especially tied scientifically, professionally and affectively to him. When Leonor Pais proposed our participation in this special issue of *Psychologica*, we had no doubts.

The first contact of members of the University of Barcelona with A. Duarte Gomes started in 1997, within the framework of the Congress of the European Association of Work and Organizational Psychology (EAWOP) in Verona. There, A. Duarte Gomes and Santiago D. de Quijano met in the presentation of their respective researches. As a result of this interesting and very pleasant meeting, in which they shared knowledge and laughs with other colleagues, and where they

spoke about organizational culture, friendship and the mutual interest for a common work arose. Afterward, when A. Duarte Gomes held the position of Dean of the Faculty of Psychology of the University of Coimbra (1995-1999), he invited Santiago D. de Quijano to participate in a symposium on the culture of organizations, thus facilitating our friendship and bonding.

Later, in 2004, the relationship with A. Duarte Gomes intensified, participating with his Coimbra team in the Leonardo Project, Human System Audit for the Health Care Sector (E/04/B/F/PP-149162). Santiago D. de Quijano, professor of Social Psychology at the University of Barcelona, led this ambitious international project with universities and hospitals in four European cities (Mataró-Spain, Coimbra-Portugal, Katowice-Poland, and Birmingham-United Kingdom). The main objective of the project was the development of a training course for people with responsibility in the management of the different hospitals, to analyze the impact of this training on the quality of service.

Different publications can be seen as a result of this collaboration, such as the book edited by A. Duarte Gomes, *Organizações em Transição. Contributo da Psicologia do Trabalho e das Organizações* (2000), or the monographic in the journal *Psychology and Lifes Sciences* (2013), as well as various collaborations in the doctorate program.

Undoubtedly, the start-up of the Erasmus Mundus Master on Work, Organizational, and Personnel Psychology, in 2006, led to a closer relationship with A. Duarte Gomes. These were the initial years of an ambitious and challenging project that asked all of us for effort, ability to adapt to one another, collaborate in a common task, respecting the different peculiarities of each of the five universities we were involved in, and attention to the diversity of the students who participated. Progressive adjustments were required, and we shared them in the regular sessions of the Coordinating Committee of the Erasmus Mundus Master. The contribution of A. Duarte Gomes to building the common project was very valuable. In addition, we established friendly ties, which, in the end, are the most imperishable with the inexorable passage of time.

### *Aim and structure*

The aim of this paper is to analyze the set of contributions of A. Duarte Gomes in the journal *Psychologica*. Specifically, his co-authors, the impact of his publications on other researchers, and the topics that have been the subject of his interest are analyzed. It will allow us to empirically verify the role of A. Duarte Gomes in building the work and organizational psychology in Portugal.

## Method

We have used as sources of information the website of the journal *Psychologica* from 1988 to 2016, as well as *Psychologica Online*, with numbers published from 2009 to the present. The PsicoDoc database has been used in parallel as a means of external validation of our search.

For the analysis of the articles under study, various databases were used. Firstly, to establish the number and type of citations received for each article Google Scholar was used. Likewise, if the citations came from a scientific journal, they were checked to see if they were indexed in the Journal Citation Report (JCR) of the Web of Science (WoS), in the Scimago Journal Rank (SJR) of Scopus, and/or in the Latindex catalog.

## Results

The search resulted in a total of 17 articles, published in *Psychologica* between 1991 and 2016, signed by A. Duarte Gomes and in co-authorship. In Figure 1 the frequency of publication by years can be seen.

In 2005, A. Duarte Gomes reached the highest level of visibility, with a total of five articles of various kinds. Specifically, we found two articles of validation of scales, one theoretical review, one discourse analysis, and another intervention-action research. In general terms, the frequency of publication is one article per year, except in 2000 and 2008, when two papers were published. One of the articles of the year 2000 was part of the thematic volume on Organizational Psychology organized by A. Duarte Gomes.

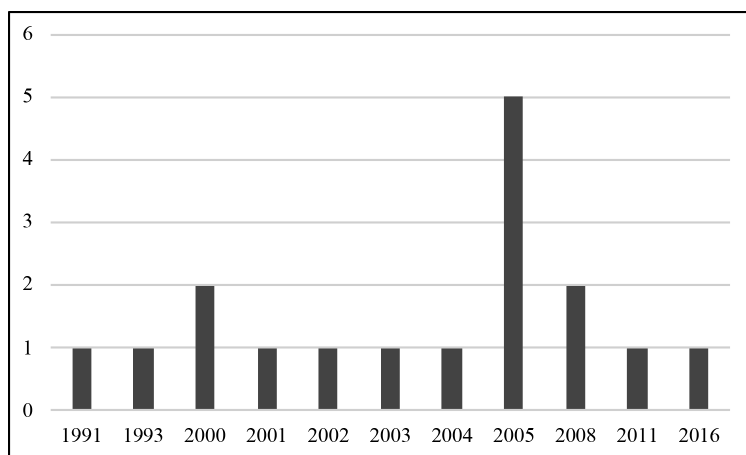


Figure 1. Papers per Year published in *Psychologica*.

As previously indicated, some of the articles have been published in co-authorship. Figure 2 shows the co-authorship relationships of A. Duarte Gomes. As can be seen, the largest number of publications co-authored in *Psychologica* was with Leonor Pais and Teresa Rebelo, with five collaborations, and with Carla Carvalho, with four. They are all professors at the University of Coimbra. The rest of collaborations have taken place with students and alumni of the Erasmus Mundus on Work, Organizational, and Personnel Psychology (WOP-P) Master's Degree, and from the local master's degree and doctorate.

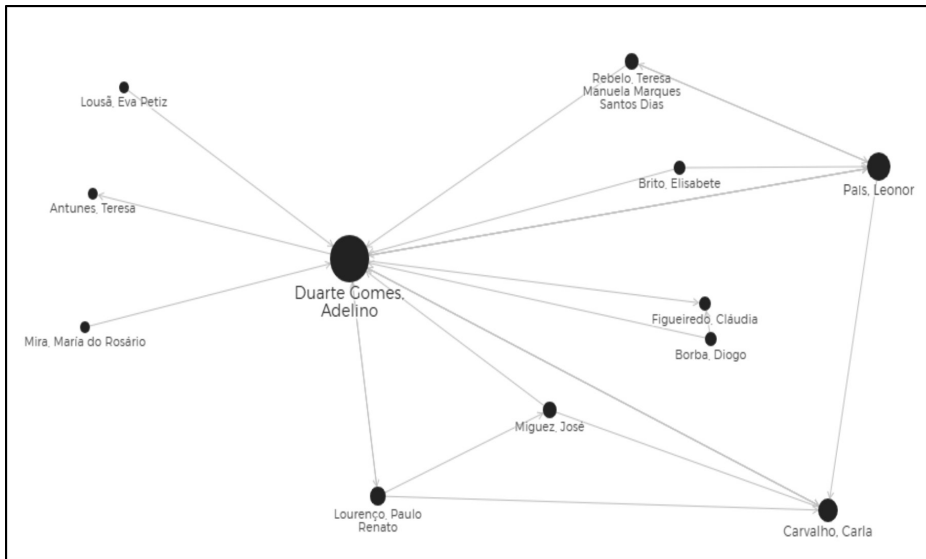


Figure 2. Co-authors relationships in *Psychologica*. Note 1. The size of the spheres indicates the number of relationships that each author maintains with others. Note 2. Leonor Pais signed her articles in the period analyzed as Leonor Cardoso, although we have chosen to include her in the analyses with the name with which she currently signs her papers.

Focusing on the topics covered in the different articles under analysis in *Psychologica*, it can be observed that A. Duarte Gomes' scientific interest has focused on the organizational level of analysis, with the most relevant topic being that of organizational culture (Figure 3). The papers published on this topic have focused on the theoretical conceptualization of the construct, reflecting on the existence of a single culture or the coexistence of different cultures in the organizational context (*locus*), as well as on the processes that generate and maintain culture (*focus*). Likewise, in other articles, he validated scales to measure the organizational culture, such as the Organizational Culture Assessment (Reigle, 2001) or the Denison Organizational Culture Survey (Denison, Nieminen, & Kotrba, 2014).

In addition, other articles analyze the learning culture as a facilitating condition of organizational learning, as well as other organizational processes related to it, such as knowledge management, and organizational development. This point highlights the theoretical and operational development of a tool for the measurement of Knowledge management (Questionário de Gestão do Conhecimento – QGC).

At a second level, it is interesting to review the works focused on the conceptual and dimensional analysis of the effectiveness of the groups, as well as the analysis of the discourses of managers in relation to stakeholder management.

Other topics, less frequent but not less important, are organizational commitment, organizational change, job involvement, organizational effectiveness, participation, or organizational management.



Figure 3. The most relevant topics on the papers published in *Psychologica*.

To analyze the impact of publications on the scientific community, it was decided to classify the citations that they have received according to the type of source. The total number of citations received by the 17 analyzed papers is 123, which means 7.2 citations per paper. The distribution of citations can be seen in Figure 4. Three papers have received more attention from the scientific community: *Para uma conceptualização e operacionalização da gestão do conhecimento* (2005), with 18 citations; *Aprendizagem organizacional e cultura: relações e implicações* (2001), with 17 citations; and *Discursos de Liderança: o que faz sentido faz-se* (2000), with 14 citations.

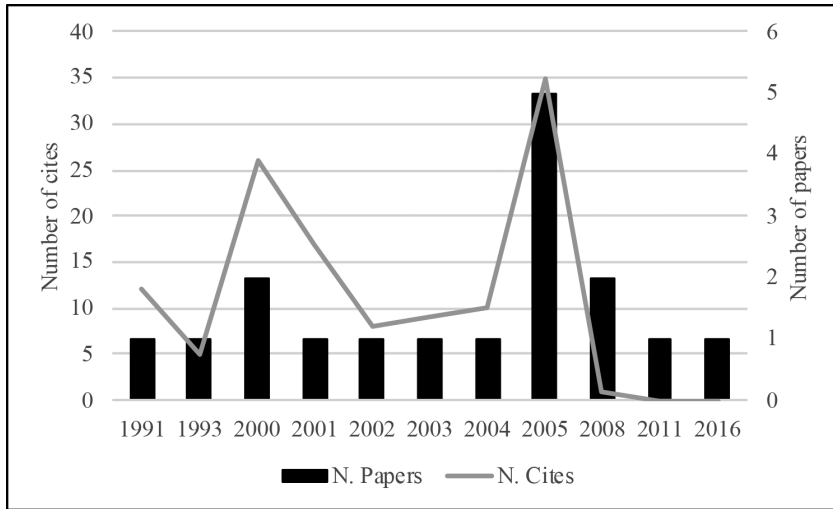


Figure 4. Number of papers published in *Psychologica* and cites per year. *Note.* Please note that we refer to the citations received in different years by articles published in the year indicated in the figure. Thus, for example, in 1991, one article was published and it was cited in successive years a total of 12 times.

Regarding the sources citing the work of A. Duarte Gomes in *Psychologica*, they are mainly doctoral and master thesis (Figure 5). In addition to the influence of their work on young researchers, the impact on academic of recognized standing can be seen in the citations made in various journals, some of them indexed in indexes such as the Journal Citation Report (JCR) and the Scimago Journal Rank (SJR).

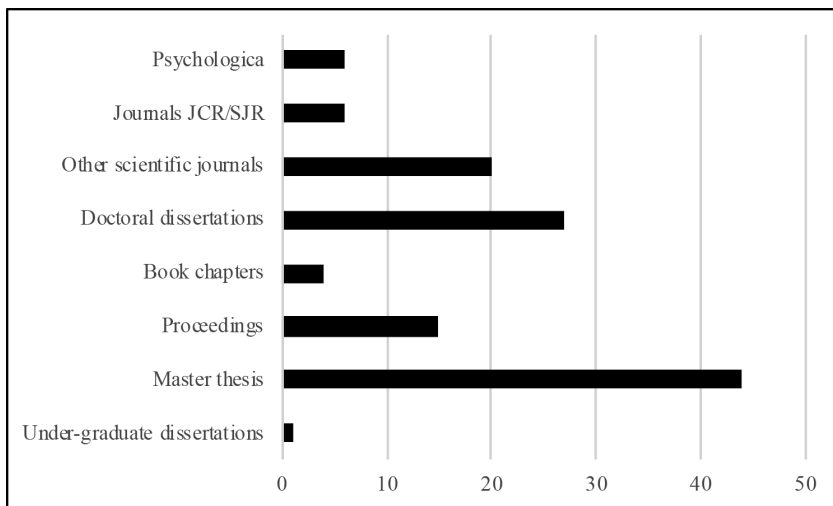


Figure 5. Total times cited in different sources.

Specifically, four of the articles published by A. Duarte Gomes in the journal *Psychologica* have been cited in five articles (with a total of six citations) published in JCR/SJR journals. The journals citing are *Journal of Knowledge Management*, *Revista Brasileira de Enfermagem*, *Psihologija*, *Journal of Workplace Learning*, and *Journal of Managerial Psychology* (Table 1).

Table 1  
*Psychologica* Cited Papers on JCR and SJR Journals, and Sources Quality Indicators

| PAPER                                                                                                                                                                             | JOURNALS CITING                                                                                                                                                                                                         | SOURCE QUALITY INDICATORS                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| Cardoso, L., Gomes, A. D., & Rebelo, T. (2005). Para uma conceptualização e operacionalização da gestão do conhecimento. <i>Psychologica</i> , 38, 23-44.                         | Dos Santos, N. R., Pais, L., Mónico, L., Rebelo, L., & Moliner, C. (2017). Organizational cooperation and knowledge management in research and development organizations. <i>Psihologija</i> , 50(1), 1-20.             | SJR: Q3<br>IF=0.235                              |
|                                                                                                                                                                                   | Cruz, S. G., & Ferreira, M. M. F. (2016). Knowledge management in Portuguese healthcare institutions. <i>Revista Brasileira de Enfermagem</i> , 69(3), 492-499.                                                         | SJR: Q3<br>IF=0.211                              |
|                                                                                                                                                                                   | Cardoso, L., Meireles, A., & Ferreira Peralta, C. (2012). Knowledge management and its critical factors in social economy organizations. <i>Journal of Knowledge Management</i> , 16(2), 267-284.                       | JCR: Q1<br>IF=1.1474<br>-<br>SJR: Q1<br>IF=0.959 |
| Rebelo, T., Gomes, A. D., & Cardoso, L. (2005). Cultura de aprendizagem: A (bi) dimensionalidade da escala OCA. <i>Psychologica</i> , 38, 191-208.                                | Rebelo, T. M., & Gomes, A. D. (2011). Conditioning factors of an organizational learning culture. <i>Journal of Workplace Learning</i> , 23(3), 173-194.                                                                | SJR: Q2<br>IF=0.298                              |
| Lourenço, P. R., Míguez, J., Gomes, A. D., & Carvalho, C. (2004). Eficácia grupal: análise e discussão de um modelo multidimensional. <i>Psychologica, Extra-Série</i> , 611-621. | Gil, F., Alcover, C. M., & Peiró, J. M. (2005). Work team effectiveness in organizational contexts: Recent research and applications in Spain and Portugal. <i>Journal of Managerial Psychology</i> , 20(3/4), 193-218. | JCR: Q2<br>IF=2.150<br>-<br>SJR: Q2<br>IF=0.89   |
| Lourenço, P. R., & Gomes, A. D. (2003). Da pluralidade à bidimensionalidade da eficácia dos grupos/equipas de trabalho. <i>Psychologica</i> , 33, 7-32.                           |                                                                                                                                                                                                                         |                                                  |

In addition, Table 2 highlights the 14 citations received in articles published in journals included in the Latindex catalog, as well as the number of criteria met by each of them.

Table 2

Psychologica Cited Papers on Journals Included on Latindex Catalogue, and Quality Criteria

| PAPER                                                                                                                                                                                 | JOURNALS CITING                                                                                                                                                                                                                                                                                                           | LATINDEX |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Carvalho, C., & Gomes, A. D. (2008). Saliência de stakeholders: Construção e validação da escala de gestão de stakeholders. <i>Psychologica</i> , 47, 201-218.                        | Parreira, P., Lopes, A., Salgueiro, F., Carvalho, C., Oliveira, A. S., Castilho, A., ... & Fonseca, C. (2015). Papéis de liderança de Quinn: Um Estudo realizado em Serviços de Saúde Portugueses com recurso à análise fatorial confirmatória. <i>Revista Ibero-Americana de Saúde e Envelhecimento</i> , 1(2), 178-202. | 34/36    |
| Cardoso, L., Gomes, A. D., & Rebelo, T. (2005). Para uma conceptualização e operacionalização da gestão do conhecimento. <i>Psychologica</i> , 38, 23-44.                             | Marques, D. V., Cardoso, L., & Zappalá, S. (2008). Knowledge sharing networks and performance. <i>Comportamento Organizacional e Gestão</i> , 14(2), 161-192.                                                                                                                                                             | 26/33    |
| Lourenço, P. R., Miguez, J., Duarte Gomes, A., & Carvalho, C. (2004). Eficácia grupal: análise e discussão de um modelo multidimensional. <i>Psychologica, Extra-Série</i> , 611-621. | Marques, F., Lourenço, P. R., Dimas, I. D., & Rebelo, T. (2015). The Relationship Between Types of Conflict, Conflict Handling Strategies and Group Effectiveness. <i>Journal of Spatial and Organizational Dynamics</i> , 3(1), 58-77.                                                                                   | 36/36    |
|                                                                                                                                                                                       | Marques, I. R., Dimas, I. D., & Lourenço, P. R. (2014). Eficácia, emoções e conflitos grupais: a influência do coaching do líder e dos pares. <i>Gerais: Revista Interinstitucional de Psicologia</i> , 7(1), 67-81.                                                                                                      | 36/36    |
| Rebelo, T., Gomes, A. D., & Cardoso, L. (2002). Orientações culturais para a aprendizagem nas organizações: homogeneidade e/ou heterogeneidade. <i>Psychologica</i> , 30, 345-363.    | Schmitz, S., Rebelo, T., Gracia, F. J., & Tomás, I. (2014). Learning culture and knowledge management processes: To what extent are they effectively related? <i>Revista de Psicología del Trabajo y de las Organizaciones</i> , 30(3), 113-121.                                                                          | 33/33    |
|                                                                                                                                                                                       | Pina, M., & Lopes, M. P. (2005). Rumo a uma adaptação contínua às tecnologias de informação: o papel da identidade organizacional empreendedora. <i>Revista Gestão &amp; Tecnologia</i> , 5(1). doi: 10.20397/2177-6652/2005.v5i1.146                                                                                     | 36/36    |
|                                                                                                                                                                                       | Palma, P. J. T. M. D., & Lopes, M. P. (2005). Em busca de uma aprendizagem organizacional eficaz: O papel do tipo e da abrangência cultural. <i>Comportamento Organizacional e Gestão</i> , 11(2), 133-157.                                                                                                               | 26/33    |

|                                                                                                                                                 |                                                                                                                                                                                                                                                                            |       |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Rebelo, T., Gomes, A. D., & Cardoso, L. (2001). Aprendizagem organizacional e cultura: relações e implicações. <i>Psychologica</i> , 27, 69-89. | Cardoso, L., Gomes, A. D., & Rebelo, T. (2003). Gestão do conhecimento: Dos dados à informação e ao conhecimento. <i>Comportamento organizacional e Gestão</i> , 9, 55-84.                                                                                                 | 26/33 |
|                                                                                                                                                 | Ferreira, L., Rebelo, T., Lourenço, P. R., & Dimas, I. D. (2016). Efeitos da cultura de aprendizagem na satisfação no trabalho, no bem-estar e no comprometimento organizacional. <i>Revista E-Psi</i> , 6(2), 67-95.                                                      | 35/36 |
|                                                                                                                                                 | Loiola, E., & Neris, J. (2014). Aprendizagem organizacional: potencialidades e limites do uso de metáforas. <i>Desenvolve: Revista de Gestão do Unilasalle</i> , 3(1), 11-30.                                                                                              | 30/36 |
|                                                                                                                                                 | Lima, B. C. C., de Lima, T. C. B., & de Aquino Cabral, A. C. (2013). Estilos de funcionamento e mecanismos de aprendizagem em uma indústria criativa de publicidade e propaganda. <i>Revista de Carreiras e Pessoas (ReCaPe)</i> , 3(3), 2-18.                             | 35/36 |
| Carvalho, C., & Gomes, A. D. (2000). Eficácia Organizacional: determinantes e dimensões. <i>Psychologica</i> , 25, 179-202.                     | Pedro, M. A. D., Paípe, G., González-García, R. J., & Carvalho, M. J. (2017). O esporte e a eficácia organizacional: Uma revisão da literatura Sports and organizational effectiveness: A literature review. <i>Revista de Gestao e Negocios do Esporte</i> , 2(1), 64-80. | 32/36 |
|                                                                                                                                                 | Fernandes, M. N., Barale, R. F., Santos, T. R. C., Costa, T. P. A., & Gomide Júnior, S. (2007). Percepção de efetividade organizacional: development and validity of a measure of construct. <i>Revista Psicologia Organizações e Trabalho</i> , 7(2), 115-132.            | 36/36 |
| Gomes, A. D. (1993). Gestão de impressões, gestão de organizações. <i>Psychologica</i> , 10, 5-28.                                              | Oliveira, L. C. V., Kilimnik, Z. M., & Fornaciari, I. R. V. (2012). Discurso, ethos e gerenciamento de impressões. <i>Revista Pretexto</i> , 13(4), 11-31.                                                                                                                 | 32/33 |

## DISCUSSION AND CONCLUSION

The present paper has shown the set of contributions of A. Duarte Gomes in *Psychologica*, as well as their impact in the scientific field. Although the scientific contributions of A. Duarte Gomes are much more diverse and extensive than those included in this article, we have found it entirely appropriate to focus on *Psychologica*, as it is the only journal of the Faculty of Psychology and Science of Education of the University of Coimbra dedicated to promoting the dissemination and advancement of scientific knowledge in the field of Psychology within the national and international academic community.

A. Duarte Gomes has played an important role in building the WOP Psychology in Portugal. His scientific and academic work started in 1979, as director of the

Work and Organizational Psychology Unit – Núcleo de Estudo e Formação em Organização e Gestão (NEFOG) of the Faculty of Psychology and Education Sciences of the University of Coimbra.

The analysis of the publications of A. Duarte Gomes in *Psychologica* has allowed us to show his scientific production, with an average of 1.6 articles per year of publication. These papers have generated interest in the scientific community, as evidenced by the total number of citations received, 123, which represents 7.2 citations of media per paper published.

In addition, his publications show his central and nuclear role in the research team, highlighting especially his collaborations with Leonor Pais, Teresa Rebelo, and Carla Carvalho. Likewise, A. Duarte Gomes has encouraged collaboration among researchers from different institutions, facilitating the professional development of young researchers in the field of Psychology of organizations. Many of these former students are currently practicing their teaching and research at various universities such as Aveiro or Porto.

Regarding the topics in the analyzed articles, the most relevant is organizational culture. His interest in the subject began in the framework of his doctoral dissertation, entitled *Cultura Organizacional. A Organização Comunicante e a Gestão da sua Identidade*, and defended in 1991. The same year he published the first paper on *Psychologica*, on this topic, and the last one, in 2016, entitled *Avaliação da cultura organizacional: adaptação e validação da versão portuguesa do Denison Organizational Culture Survey*.

Finally, we cannot ignore that A. Duarte Gomes has also contributed to the development of the field of Work and Organizational Psychology at the University of Barcelona, building ties of collaboration and friendship that go beyond the academic field. We hope this paper will show our friendliness to and admiration for A. Duarte Gomes.

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- Rebelo, T., Gomes, A. D., & Cardoso, L. (2005). Cultura de aprendizagem: A (bi) dimensionalidade da escala OCA. *Psychologica*, 38, 191-208.
- Reigle, R. F. (2001). Measuring organic and mechanistic cultures. *Engineering Management Journal*, 13(4), 3-8.

*Annex 1*

Summary Table

| PAPER                                                                                                                          | YEAR | AUTHORS                                                | CITES | CITES SOURCES          | JOURNALS CITING                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------|-------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Avaliação da cultura organizacional: adaptação e validação da versão portuguesa do Denison Organizational Culture Survey       | 2016 | Lousã, Eva Petiz Gomes, Adelino Duarte                 | 0     | -                      | -                                                                                                                                                                                                                                                                                                                         |
| Rigor e Relevância: que papel num modelo de referência para a Psicologia das Organizações, do Trabalho e dos Recursos Humanos? | 2011 | Gomes, Adelino Duarte Antunes, Teresa                  | 0     | -                      | -                                                                                                                                                                                                                                                                                                                         |
| Comprometimento organizacional, envolvimento na tarefa e participação: relações, diferenças e implicações                      | 2008 | Borba, Diogo Gomes, Adelino Duarte Figueiredo, Cláudia | 0     | -                      | -                                                                                                                                                                                                                                                                                                                         |
| Saliência de stakeholders: construção e validação da escala de gestão de stakeholders                                          | 2008 | Carvalho, Carla Gomes, Adelino Duarte                  | 1     | 1 Other journal (DOAJ) | Parreira, P., Lopes, A., Salgueiro, F., Carvalho, C., Oliveira, A. S., Castilho, A., ... & Fonseca, C. (2015). Papéis de liderança de Quinn: Um Estudo realizado em Serviços de Saúde Portugueses com recurso à análise fatorial confirmatória. <i>Revista Ibero-Americana de Saúde e Envelhecimento</i> , 1(2), 178-202. |

|                                                                                     |      |                                                                 |    |                                      |                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------|------|-----------------------------------------------------------------|----|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gestão do conhecimento: adaptação e validação da escala GC para o sector autárquico | 2005 | Brito, Elisabete<br>Gomes, Adelino<br>Duarte<br>Cardoso, Leonor | 10 | 1 Psychologica                       | Cardoso, L., & Peralta, C. F. (2011). Gestão do conhecimento em equipas: Desenvolvimento de um instrumento de medida multidimensional. <i>Psychologica</i> , 55, 79-93.                                    |
|                                                                                     |      |                                                                 |    | 1 Other journals                     | Cardoso, L., Gomes, A. D., & Rebelo, T. (2005). Construção e avaliação das qualidades psicométricas do questionário de gestão de conhecimento (GC). <i>Psicologia, Educação e Cultura</i> , 9(2), 535-555. |
|                                                                                     |      |                                                                 |    | 2 Doctoral dissertations             |                                                                                                                                                                                                            |
|                                                                                     |      |                                                                 |    | 4 International congress proceedings |                                                                                                                                                                                                            |
|                                                                                     |      |                                                                 |    | 2 Master thesis                      |                                                                                                                                                                                                            |

| PAPER                                                                   | YEAR | AUTHORS                                                                          | CITES | CITES SOURCES                        | JOURNALS CITING                                                                                                                                                                                             |
|-------------------------------------------------------------------------|------|----------------------------------------------------------------------------------|-------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Para uma conceptualização e operacionalização da gestão do conhecimento | 2005 | Cardoso, Leonor Gomes, Adelino Duarte Rebelo, Teresa Manuela Marques Santos Dias | 18    | 1 Psychologica                       | Cardoso, L., & Peralta, C. F. (2011). Gestão do conhecimento em equipas: Desenvolvimento de um instrumento de medida multidimensional. <i>Psychologica</i> , 55, 79-93.                                     |
|                                                                         |      |                                                                                  |       | 3 JCR/SJR journals                   | Cardoso, L., Meireles, A., & Ferreira Peralta, C. (2012). Knowledge management and its critical factors in social economy organizations. <i>Journal of Knowledge Management</i> , 16(2), 267-284.           |
|                                                                         |      |                                                                                  |       |                                      | Cruz, S. G., & Ferreira, M. M. F. (2016). Knowledge management in Portuguese healthcare institutions. <i>Revista Brasileira de Enfermagem</i> , 69(3), 492-499.                                             |
|                                                                         |      |                                                                                  |       |                                      | Dos Santos, N. R., Pais, L., Mónico, L., Rebelo, L., & Moliner, C. (2017). Organizational cooperation and knowledge management in research and development organizations. <i>Psihologija</i> , 50(1), 1-20. |
|                                                                         |      |                                                                                  |       | 3 Other journals                     | Marques, D. V., Cardoso, L., & Zapalá, S. (2008). Knowledge sharing networks and performance. <i>Comportamento Organizacional e Gestão</i> , 14(2), 161-192.                                                |
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|                                                                         |      |                                                                                  |       | 3 Doctoral dissertations             |                                                                                                                                                                                                             |
|                                                                         |      |                                                                                  |       | 7 International congress proceedings |                                                                                                                                                                                                             |
|                                                                         |      |                                                                                  |       | 1 Master thesis                      |                                                                                                                                                                                                             |

|                                                                                                                                   |      |                                                              |   |                          |
|-----------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------|---|--------------------------|
| Análise discursiva da gestão de stakeholders: emergência e implicações dos discursos dos gestores no comportamento organizacional | 2005 | Carvalho, Carla Gomes, Adelino Duarte Lourenço, Paulo Renato | 2 | 2 Doctoral dissertations |
|-----------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------|---|--------------------------|

| PAPER                                                                                                                              | YEAR | AUTHORS                                                                                                     | CITES | CITES SOURCES                                                                                                   | JOURNALS CITING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Investigação-<br>acção e desen-<br>volvimento<br>organizacional:<br>uma estratégia<br>de intervenção<br>num projecto<br>de mudança | 2005 | Mira, María<br>do Rosário<br>Gomes,<br>Adelino<br>Duarte                                                    | 1     | 1 Doctoral dissertations                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Cultura de<br>aprendizagem:<br>a (bi)dimen-<br>sionalidade da<br>escala<br>OCA                                                     | 2005 | Rebelo,<br>Teresa<br>Manuela<br>Marques<br>Santos Dias<br>Gomes,<br>Adelino<br>Duarte<br>Cardoso,<br>Leonor | 4     | 1 JCR/SJR<br>journals<br><br>1 Other<br>journals<br><br>1 Doctoral dissertations<br>1 Book chapter              | Rebelo, T. M., & Duarte Gomes,<br>A. (2011). Conditioning factors<br>of an organizational learning<br>culture. <i>Journal of Workplace<br/>Learning</i> , 23(3), 173-194.<br><br>Cardoso, L., Gomes, A. D., &<br>Rebelo, T. (2005). Construção<br>e avaliação das qualidades<br>psicométricas do questionário de<br>gestão de conhecimento (GC).<br><i>Psicologia, Educação e Cultura</i> ,<br>9(2), 535-555.                                                                                                                                                                                                                                                                                                                                                       |
| Eficácia<br>grupal: análise<br>e discussão de<br>um modelo<br>multidimen-<br>sional                                                | 2004 | Lourenço,<br>Paulo<br>Renato<br>Miguez,<br>José<br>Gomes,<br>Adelino<br>Duarte<br>Carvalho,<br>Carla        | 10    | 1 JCR/SJR<br>journals<br><br>2 Other<br>journals<br><br>1 International congress proceedings<br>6 Master thesis | Gil, F., Alcover, C. M., & Peiró, J.<br>M. (2005). Work team effective-<br>ness in organizational contexts:<br>Recent research and applications<br>in Spain and Portugal. <i>Journal of<br/>Managerial Psychology</i> , 20(3/4),<br>193-218.<br><br>Marques, F., Lourenço, P. R.,<br>Dimas, I. D., & Rebelo, T. (2015).<br>The Relationship Between Types<br>of Conflict, Conflict Handling<br>Strategies and Group Effective-<br>ness. <i>Journal of Spatial and Orga-<br/>nizational Dynamics</i> , 3(1), 58-77.<br><br>Marques, I. R., Dimas, I. D., &<br>Lourenço, P. R. (2014). Eficácia,<br>emoções e conflitos grupais: a<br>influência do coaching do líder e<br>dos pares. <i>Gerais: Revista Inter-<br/>institucional de Psicologia</i> , 7(1),<br>67-81. |

| PAPER                                                                                          | YEAR | AUTHORS                                                                                                  | CITES | CITES SOURCES                                                                     | JOURNALS CITING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------|------|----------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Da pluralidade à bidimensionalidade da eficácia dos grupos/equipas de trabalho                 | 2003 | Lourenço, Paulo<br>Renato<br>Gomes,<br>Adelino<br>Duarte                                                 | 9     | 1 JCR/SJR journals                                                                | Gil, F., Alcover, C. M., & Peiró, J. M. (2005). Work team effectiveness in organizational contexts: Recent research and applications in Spain and Portugal. <i>Journal of Managerial Psychology</i> , 20(3/4), 193-218.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                                                                |      |                                                                                                          |       | 1 Book chapter<br>2 Doctoral dissertations<br>5 Master thesis                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Orientações culturais para a aprendizagem nas organizações: homogeneidade e/ou heterogeneidade | 2002 | Rebelo, Teresa<br>Manuela<br>Marques<br>Santos Dias<br>Gomes,<br>Adelino<br>Duarte<br>Cardoso,<br>Leonor | 8     | 3 Other journals                                                                  | Schmitz, S., Rebelo, T., Gracia, F. J., & Tomás, I. (2014). Learning culture and knowledge management processes: To what extent are they effectively related? <i>Revista de Psicología del Trabajo y de las Organizaciones</i> , 30(3), 113-121.<br><br>Pina, M., & Lopes, M. P. (2005). Rumo a uma adaptação contínua às tecnologias de informação: o papel da identidade organizacional empreendedora. <i>Revista Gestão &amp; Tecnologia</i> , 5(1). doi: 10.20397/2177-6652/2005.v5i1.146<br><br>Palma, P. J. T. M. D., & Lopes, M. P. (2005). Em busca de uma aprendizagem organizacional eficaz: O papel do tipo e da abrangência cultural. <i>Comportamento Organizacional e Gestão</i> , 11(2), 133-157. |
|                                                                                                |      |                                                                                                          |       | 3 Doctoral dissertations<br>1 Book chapter<br>1 Under-graduate final dissertation |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| PAPER                                                                                    | YEAR | AUTHORS                                                                                                        | CITES | CITES SOURCES                        | JOURNALS CITING                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------|------|----------------------------------------------------------------------------------------------------------------|-------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aprendi-<br>zagem<br>organi-<br>zacional<br>e cultura:<br>relações e<br>impli-<br>cações | 2001 | Rebelo, Te-<br>resa Manue-<br>la Marques<br>Santos Dias<br>Gomes,<br>Ade-<br>lino Duarte<br>Cardoso,<br>Leonor | 17    | 1 Psycho-<br>logica                  | Lourenço, P. R., Miguez, J., Gomes, A. D., & Carvalho, C. (2004). Eficácia grupal: análise e discussão de um modelo multidimensional. <i>Psychologica, Extra-Série</i> , 611-621.                                                              |
|                                                                                          |      |                                                                                                                |       | 5 Other<br>journals                  | Carvalho, R. G. G. (2006). Cultura global e contextos locais: a escola como instituição possuidora de cultura própria. <i>Revista Iberoamericana de Educación</i> , 39(2), 5.                                                                  |
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|                                                                                          |      |                                                                                                                |       |                                      | Ferreira, L., Rebelo, T., Lourenço, P. R., & Dimas, I. D. (2016). Efeitos da cultura de aprendizagem na satisfação no trabalho, no bem-estar e no comprometimento organizacional. <i>Revista E-Psi</i> , 6(2), 67-95.                          |
|                                                                                          |      |                                                                                                                |       |                                      | Loiola, E., & Neris, J. (2014). Aprendizagem organizacional: potencialidades e limites do uso de metáforas. <i>Desenvolve: Revista de Gestão do Unilasalle</i> , 3(1), 11-30.                                                                  |
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|                                                                                          |      |                                                                                                                |       | 5 Doctoral dissertations             |                                                                                                                                                                                                                                                |
|                                                                                          |      |                                                                                                                |       | 2 International congress proceedings |                                                                                                                                                                                                                                                |
|                                                                                          |      |                                                                                                                |       | 4 Master thesis                      |                                                                                                                                                                                                                                                |

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|----------------------------------------------------|------|---------------------------------------|----|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eficácia organizacional: Determinantes e dimensões | 2000 | Carvalho, Carla Gomes, Adelino Duarte | 12 | 1 Psychologica           | Lourenço, P. R., Miguez, J., Gomes, A. D., & Carvalho, C. (2004). Eficácia grupal: análise e discussão de um modelo multidimensional. <i>Psychologica, Extra-Série</i> , 611-621.                                                                                          |
|                                                    |      |                                       |    | 3 other journals         | Carvalho, C., & Gomes, A. D. (2002). Eficácia organizacional: construção de um instrumento de medida e questões em torno de sua avaliação. <i>Revista Psicologia e Educação</i> , 1(1), 15-37.                                                                             |
|                                                    |      |                                       |    |                          | Pedro, M. A. D., Paipe, G., González-García, R. J., & Carvalho, M. J. (2017). O esporte e a eficácia organizacional: Uma revisão da literatura Sports and organizational effectiveness: A literature review. <i>Revista de Gestao e Negocios do Esporte</i> , 2(1), 64-80. |
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|                                                    |      |                                       |    | 2 Doctoral dissertations |                                                                                                                                                                                                                                                                            |
|                                                    |      |                                       |    | 6 Master thesis          |                                                                                                                                                                                                                                                                            |

| PAPER                                                                | YEAR | AUTHORS                                               | CITES | CITES SOURCES       | JOURNALS CITING                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------|------|-------------------------------------------------------|-------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Discursos de Liderança: o que faz sentido faz-se                     | 2000 | Gomes, Adelino Duarte Cardoso, Leonor Carvalho, Carla | 14    | 1 Psycho-<br>logica | <p>           Lourenço, P. R., Miguez, J., Gomes, A. D., &amp; Carvalho, C. (2004). Eficácia grupal: análise e discussão de um modelo multidimensional. <i>Psychologica, Extra-Série</i>, 611-621.         </p> <hr/> <p>           2 Doctoral dissertations<br/>           11 Master thesis         </p>                            |
| Gestão de impressões, gestão de organizações                         | 1993 | Gomes, Adelino Duarte                                 | 5     | 1 Other<br>journals | <p>           Oliveira, L. C. V., Kilimnik, Z. M., &amp; Fornaciari, I. R. V. (2012). Discurso, ethos e gerenciamento de impressões. <i>Revista Pretexto</i>, 13(4), 11-31.         </p> <hr/> <p>           1 Doctoral dissertation<br/>           1 International congress proceedings<br/>           2 Master thesis         </p> |
| Cultura organizacional: Estratégias de integração e de diferenciação | 1991 | Gomes, Adelino Duarte                                 | 12    | 1 Psycho-<br>logica | <p>           Cardoso, L. (2000). Aprendizagem organizacional. <i>Psycho-<br/>logica</i>, 23, 95-117.         </p> <hr/> <p>           3 Doctoral dissertations<br/>           1 Book chapter<br/>           7 Master thesis         </p>                                                                                            |

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## Normas de Colaboração

A revista *Psychologica* aceita artigos do âmbito da Psicologia, incluindo trabalhos de natureza empírica, artigos breves, revisões teóricas e avaliações críticas.

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