Spring 2023

A Qualitative Analysis of Construct Measurement Techniques Used in Industrial/Organizational Research

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Honors Research Project

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Abstract

This project aims to challenge the appropriateness of the methodological strategies and tools utilized within psychological research. We will look at the types of statistical modeling used and the context in which they are used, such as measurement modeling, confirmatory factor analysis, hierarchical confirmatory factor analysis, and bifactor analysis within survey development. The objective of this research is to search for and recognize patterns from the content of some of the top journal articles in the field of industrial and organizational psychology. The information gained from analyzing the content of the journal articles will be used to create a qualitative assessment regarding when and how tools and strategies are being used in the IO field at the moment, and to provide considerations for future research methodologies.

Keywords: Confirmatory Factor Analysis, Bifactor Measurement Model, Hierarchical Construct Factor Analysis, Unit Weighted Composite Score, Industrial / Organizational Psychology, Measurement Model

Introduction

There are an abundant number of statistical tools utilized within the field of Industrial / Organizational (I/O) Psychology. The proper usage of these tools is vital in understanding the research being conducted and understanding the strengths of the relationships between constructs. This paper aims to showcase the appropriateness of the statistical tools being utilized within current I/O research, when they are being used, and if they are being used in proper context. The motivation that prompted this research was the desire to better examine the measurement tools that are currently being used in psychological research that may not be matching the correct research questions with their corresponding research designs. The objective for this research is to complete a targeted analysis of some of the top IO journals to qualitatively assess the different designs being used to determine when and how the tools are currently being used and provide recommendations for future psychological researchers. At the end of this literary review, we believe there will be a significant trend in the use of statistical modeling within the current I/O research.

Methodology

To analyze the type of statistical modeling being used within I/O research, a sample size of 42 journal articles submitted to the Journal of Applied Psychology (JAP) were reviewed. The methodology sections within each journal entry were analyzed by looking for the type of statistical modeling being utilized and the context in which the modeling was being applied. The types of statistical modeling that were of interest when analyzing the JAP articles were Unit

Weighted Composite Models, Exploratory Factor Analysis (EFA), First Order Confirmatory

Factor Analysis (CFA), Hierarchical Confirmatory Factor Analysis (HCFA), and Bifactor

Analysis models (**Figure 1**).

      Prior to analyzing the methodology being used in the JAP articles, the current reasoning

for using each method was broken down into a pros and cons list to determine potential

reasoning behind utilizing specific types of methodology (**Figure 1**). Each journal article was

searched for the use of these statistical models and in the specific case of CFA, whether a path

analysis was conducted afterwards to determine if the CFA was utilized properly. This type of

qualitative analysis allowed us to draw general conclusions from our observations with our

analysis of the journal articles. Not relying on a specific theory to formulate a hypothesis gave us

flexibility with our research compared to a deductive approach, which uses existing theory to

formulate a hypothesis. This methodology allowed us to develop theory and recognize patterns

when studying the content of the JAP articles.

Figure 1

Pros and Cons of Statistical Models of Interest

Statistical Model	Pros:	Cons:
Unit Weighted Composite	Easy, simple to utilize	Assumes equal relevancies for all items
Exploratory Factor Analysis	Exploratory and empirical	Weights are not Stable
Confirmatory factor Analysis (First Order)	Well known, allows for differential weights, and is *a priori*	Ignores general factor variance.
Hierarchical Confirmatory Factor Analysis	Theoretically supported for most theoretical constructs. Subfactor structure	Requires additional model parameters. Takes more effort
Bifactor Analysis	Models both a general factor and more specific factors.	Can alter a priori factor structure.

Note. Pros and Cons of Unit Weighted Composite, Exploratory Factor Analysis, Confirmatory

factor Analysis (First Order), Hierarchical Confirmatory Factor Analysis, and Bifactor Analysis.

The type of methodology used in each article was highlighted and reported into two sets of data tables for review once all the articles had been analyzed (**Figure 2 & 3**). Once all the data regarding the methodology was reported into the data table, the data was analyzed further. The types of models used, frequency of use, and context of use were all analyzed into the data table, providing a greater perspective on the type of modeling frequently being used in I/O.

Findings

Once all JAP articles were reviewed and analyzed for their methodology, the observational data were inputted into the data table below to organize observations for further analysis. The first data table represents the observations from at the time of this publication, the latest 2 issues from the most recent volume of JAP (**Figure 2**). The second data table represents a larger sample of observations from JAP articles published within the past year in Volume 107 (**Figure 3**).

Within the 18 JAP articles analyzed in Volume 108, 16 of the articles were quantitative studies, while the remaining 4 were qualitative / review studies (**Figure 2**). Within the 14 quantitative studies, there was a trend of the authors either only utilizing CFA for their methodology or a lack of mentioning the type of modeling being used. Of the 14 JAP articles in Volume 108 analyzed, 8 of the articles utilized CFA as their statistical model. The remaining 6 quantitative studies had no mention of any of the statistical models of interest. From this data table there was a significant trend in the use of CFA as the model of choice within the articles. If CFA was not utilized there was a trend within the methodology reports of lacking clarity within

the articulation of the methodological process behind the utilization of the specific statistical

tools used in the studies. Of the 8 articles that utilized CFA in their methodology, 6 of them

conducted a path analysis following their use of CFA.

To see if the high usage of CFA and lack of written clarity within the methodology

sections in JAP were consistent, articles published within the past year in volume 107 were

analyzed for similar trends. In total, 24 journal articles were reviewed for trends in Volume 107

of JAP spanning across Issues 4,5,8 and 9 (**Figure 3**). In a similar manner to how the articles in

Volume 108 were treated, the observations pertaining to the modeling used in the articles in

Volume 107 were inputted into a data table and were analyzed for trends after the data for all the

articles were inputted (**Figure 3**).

Of the 24 articles reviewed across Volume 107, 22 of the articles were quantitative

studies, and 2 were qualitative / review articles. Of the 22 quantitative studies, CFA was

explicitly mentioned in the methodology sections of 11 articles. There was a slight alteration

within the previous trend of CFA being the sole statistical model being used. In 3 of the articles

reviewed within Volume 107, other statistical models of interest were explicitly stated within the

methodology sections such as: Exploratory factor analysis, Bifactor analysis, and Hierarchical

confirmatory factor analysis. The remaining 8 articles reviewed provided no explicit

explanations pertaining to the models of interest in this review article, providing further evidence

that the articulation of the models being used in studies is not being explicitly stated, causing the

appropriateness of these models in these contexts to be challenged. Of the 11 articles in Volume

107 that explicitly stated their process of using CFA, 5 of the articles conducted a path analysis

or multi-level path analysis along with the use of CFA to conduct a deeper understanding of the

relationships between variables.

Figure 2.

Data table for JAP Articles in Volume 108

Article Title with link	Type of study	Use of models
Volume 108 Issue 3		
Multiple, Speeded Assessments Under Scrutiny: Underlying Theory, Design Considerations, Reliability, and Validity.	Quantitative	Therefore, we averaged instructor ratings into an overall performance measure (see Viswesvaran et al., 2005). A confirmatory factor analysis via Mplus 7.4 (Muthén & Muthén, 1998–2015) using the maximum likelihood parameter (MLR)estimator provided support for a one-factor model, $\chi2(df) = 4.45(2)$, p = .108, comparative fit index (CFI) = .984, standardized root mean square residual (SRMR) = .024, although the RMSEA was poor (.113, 90% CI [.000–.259]). No mention of Path Analysis
Makeup Calls in Organizations: An Application of Justice to the Study of Bad Calls	Quantitative	No mention of models of interest
Feeling Possessive, Performing Well? Effects of Job-Based Psychological Ownership on Territoriality, Information Exchange, and Job Performance	Quantitative	Stage 4 uses confirmatory factor analysis (CFA) to confirm the distinctiveness of territorial expanding relative to prior measures. We applied path analysis to test the overall model
Walking on Eggshells: A Self-Control Perspective on Workplace Political Correctness	Quantitative	We then ran a confirmatory factor analysis to confirm the distinctiveness of our study variables (other orientation, self-concern, political correctness, cognitive resource depletion, and angry and withdrawn marital behavior). We used group-mean centering for the daily predictors and modeled hypothesized paths with random slopes (w hile using

		fixed slopes for controls to reduce model complexity; Wangetal.,2011). As is the standard for these analyses (e.g., Hill et al., 2021; Jennings, Lanaj, & Koopman, et al., 2022; Lennard et al., 2019), and preferred to listwise deletion (Newman, 2014), missing data—which are allowable only on either outcome variables or lagged controls in Mplus—were handled using the full information maximum-likelihood estimator (which is Mplus' default setting in these instances).
Toward a Holistic Perspective of Congruence Research With the Polynomial Regression Model	Qualitative	
Stopping Surface-Acting Spillover: A Transactional Theory of Stress Perspective	Quantitative	We also conducted a multilevel confirmatory factor analysis (CFA) to analyze measurement fit. Given the unidimensional structure of all our study constructs, we conducted a CFA with each of the items of our core variables serving as first-order factors and each construct serving as a second order factor. This model adequately fit the data, $\chi2 = 1660.02$, df = 384, comparative fit index (CFI) =.92, Tucker–Lewis index (TLI)= .91, root-mean-square error of approximation (RMSEA) = .05, standardized root-mean-square residual [SRMR] (within) = .06. Specifically, we conducted a multilevel path analysis with fixed effects in MPlus 8.7 (Múthen & Múthen, 2021). Given our theoretical focus on our moderators, we followed past work in specifying our full model at the within-person level, and therefore not controlling for the intervention condition at Level 2 (Schabram &Heng,2022)

		To test our hypothesized relationships. Specifically, we conducted parametric bootstrapping using the estimated coefficients from our analyses to test the significance of our hypothesized indirect effects. This approach allowed us to estimate the sampling distribution for the f irst-, second-, and third-stage coefficients using a Monte Carlo simulation (20,000 replications).
The Organizational Psychology of Gig Work: An Integrative Conceptual Review	Qualitative	
Toward a Better Understanding of the Causal Effects of Role Demands on Work–Family Conflict: A Genetic Modeling Approach	Quantitative	No mention of models of interest
Volume 108 Issue 2		
Understanding Racism in the Workplace	Qualitative	
When Thriving Requires Effortful Surviving: Delineating Manifestations and Resource Expenditure Outcomes of Microaggressions for Black Employees	Quantitative	To first assess the fit of our hypothesized measurement model ,we conducted confirmatory factor analysis (CFA) in MPlus (Muthén& Muthén,1998–2017) . To test study hypotheses ,we then conducted observed variable path analysis using structural equation modeling (SEM) in MPlus with maximum likelihood estimation (Kelloway, 2014). We chose this approach as "the goal of path analysis is to test a 'structural' model, that is, a model comprising theoretically based statements of relationships among constructs"
The Cost of Managing Impressions for Black Employees: An Expectancy Violation Theory Perspective	Quantitative	Step1 involves the evaluation of the measurement model. We sought to establish convergent and discriminant validity of our measures by running a confirmatory factor analysis To examine if the moderated mediation hypotheses were full mediation or partial mediation, we included direct paths from employee race to performance

		rating, P-Ofit, and developmental i-deals to our hypothesized model in Figure1.
The Missing Middle: Asian Employees' Experience of Workplace Discrimination and Pro-Black Allyship	Quantitative	We conducted confirmatory factor analyses to confirm our measures were unique from one another. Analyses revealed that the four-factor model had significantly better fit than nested three-factor models or the one-factor model ($\Delta\chi2 =$ 226.61–1080.64), supporting the distinctiveness of the four measures (see Supplemental Materials, for details). Finally, for completeness, we conducted a path analysis testing all of our hypotheses (Hypotheses 1–5) in one model, with workplace discrimination as the independent variable, group similarity with Black employees as the mediator, pro-Black allyship as the outcome variable, employee race as a first-stage moderator, and zero-sum beliefs as a second-stage moderator (Model 21 in process macro using SPSS; Hayes, 2017).
Challenging Racism as a Black Police Officer: An Emergent Theory of Employee Anti-Racism	Qualitative	
Asians Don't Ask? Relational Concerns, Negotiation Propensity, and Starting Salaries	Quantitative	No mention of Models of Interest
A Matter of When, Not Whether: A Meta-Analysis of Modesty Bias in East Asian Self-Ratings of Job Performance	Quantitative	No mention of models of interest.
The Ethics of Diversity Ideology: Consequences of Leader Diversity Ideology on Ethical Leadership Perception and Organizational Citizenship Behavior	Quantitative	Confirmatory factor analysis revealed that items that were reverse-coded exhibited lower factor loadings and/or highly correlated error terms see Schmitt & Stults(1985)for a discussion of this common problem. Following previous research in which a similar issue was identified (Piccolo&Colquitt,2006) we omitted reverse-coded items from the ethical leadership(6-items)and institutional discrimination(1-item)

		awareness scales. In addition, given the length of our scales relative to the sample size, and that our primary interest was in the interrelations of constructs rather than the interrelations of items within constructs (Littleetal., 2002),we created parcels from our remaining items to be used as manifest indicators of our constructs (Russelletal.,1998). No mention of Path Analysis In addition, future research could examine other pathways that link leader diversity ideologies to outcomes of interest, focusing, for example, on how followers' trust in the leader (Ng & Feldman, 2015) relates to followers' reactions to leader ideologies.
Are Leaders Still Presumed White by Default? Racial Bias in Leader Categorization Revisited	Quantitative	No mention of models of interest
Challenging Conclusions About Predictive Bias Against Hispanic Test Takers in Personnel Selection	Quantitative	Meta-analysis, no mention of models of interest

Figure 3.

Data table for JAP articles in Volume 107

Article With Link	Type of Study	Use of Statistical Models
Volume 107 Issue 8		
A Comprehensive Examination of the Cross-Validity of Pareto-Optimal Versus Fixed-Weight Selection Systems in the Biobjective Selection Context	Quantitative	No mention of models of interest

Multiple Jobholding Motivations and Experiences: A Typology and Latent Profile Analysis	Qualitative	
Beyond Targets and Instigators: Examining Workplace Incivility in Dyads and the Moderating Role of Perceived Incivility Norms	Quantitative	We also conducted confirmatory factor analysis to examine the distinctiveness of descriptive and injunctive incivility norm perceptions in Samples 2 and 3. Results showed that a two-factor model fit better than a one-factor model in both samples (p < .01). Results are available upon request.
Too Much to Know? The Cognitive Demands of Daily Knowledge Seeking and the Buffering Role of Coworker Contact Quality	Quantitative	Table 2 displays the means, standard deviations (within- and between-person), and intercorrelations of the variables. Before testing our hypotheses, we first conducted multilevel confirmatory factor analysis (CFA) to confirm the distinctiveness of our study variables (coworker contact quality, knowledge seeking, knowledge overload, perceived learning, resource depletion, and goal attainment), as well as controls (time pressure at work and negative affect). We tested the hypothesized eight-factor model by loading items on their respective latent factors. Results showed that the hypothesized model fit the data well ($\chi2 =$ 426.88,df = 245,CFI = .98,TLI = .98,RMSEA = .02, SRMR within = .03 and SRMR between = .04). Before proceeding, we tested several alternative models. Table 3 displays the descriptive statistics of these alternative CFA models' f it indices. First, to assess the potential existence of common variance attributable to simultaneous measurement, we tested three alternative CFA models that collapsed latent factors based on the timing of measurement. One alternative model specified items of coworker contact quality and time pressure (measured at baseline) to load on the same factor, one alternative model specified items of knowledge seeking, knowledge overload, and We thus modeled the positive path of knowledge seeking on daily goal attainment via perceived learning and subsequent resource depletion. Given the potential simultaneous existence of negative and positive paths that link knowledge seeking and daily goal attainment, it seems worthwhile to explore whetherhetotal indirect effect is positive or negative. This analysis sheds light on the relative strength of the opposing indirect effects and clarifies whether the positive path from knowledge seeking via perceived learning and resource depletion or the negative path via knowledge overload and resource depletion is more influential for daily goal attainment. This document is copyrighted by the American Psychological Association or one of its allied publishers. This article is intended solely for the personal use of the individual user and is not to be disseminated broadly. Research Question: Is the total indirect effect of an employee's knowledge seeking on daily goal attainment positive or negative, considering the negative path via knowledge overload and resource depletion and positive path via perceived learning and resource depletion?
Automated Video Interview Personality Assessments: Reliability,	Quantitative	Regression Estimates Predicting Academic Outcomes:Sample 2 Cross-Sample AVI-PA Scores (Interviewer-ReportModels). Hierarchical regression conducted but no CFA, or Bifactor methodology

Validity, and Generalizability Investigations		
A Multirater Perspective on Personality and Performance: An Empirical Examination of the Trait–Reputation–Identity Model	Quantitative	Analyses for all TRI models were conducted using confirmatory factor analysis (CFA) and structural equation modeling (SEM) in Mplus version 7.4 (Muthén & Muthén, 1998–2012). The TRI Model is an application of a bifactor structure (Holzinger & Swineford, 1937; Reise, 2012) in which each item simultaneously loads on the trait factor and one source factor (see Figure 1). The TRI Model is an application of a bifactor structure (Holzinger & Swineford, 1937; Reise, 2012) in which each item simultaneously loads on the trait factor and one source factor All CFA and SEM models were specified to include relevant constraints where implied. In addition, for all SEM models, we accounted for method variance in supervisor ratings of performance by using a bifactor structure such that each item was specified to load on a general supervisor rated performance factor and one rater-specific factor (Supervisor A or B).

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Figure 1
Trait–Reputation–Identity (TRI) Model. Error Terms Are Omitted for Clarity

Model fit estimates for all CFA and SEM models were subject to these adjustments where implied .

Table 2
Model Fit Statistics for I-SAT Adjusted Trait–Reputation–Identity (TRI) Models (CFA = Confirmatory Factor Analysis; SEM = Structural Equation Modeling)

Big Five Trait/ Model	$Y-B \chi^2_{ADJ}$ (df_{ADJ})	CFI	RMSEA	SABIC
Extraversion				
CFA	296.77 (109)	.965	.064 [.054, .073]	1591.90
SEM	1074.42 (585)	.954	.045 [.034, .054]	3974.79
Agreeableness				
CFA	374.58 (145)	.937	.061 [.051, .070]	1974.11
SEM	1139.44 (661)	.946	.041 [.030, .051]	4493.56
Conscientiousness				
CFA	414.98 (143)	.945	.067 [.057, .076]	2020.25
SEM	1177.34 (659)	.950	.043 [.032, .053]	4537.21
Neuroticism				
CFA	411.69 (111)	.878	.080 [.070, .090]	1701.07
SEM	1092.11 (587)	.934	.045 [.034, .055]	3986.76
Openness				
CFA	787.02 (189)	.879	.087 [.076, .097]	2713.92
SEM	1679.75 (744)	.909	.055 [.045, .064]	5513.44

Note. $N = 422$. I-SAT = interchangeable saturated model (Olsen & Kenny, 2006). $Y-B \chi^2_{ADJ}$ = adjusted Yuan-Bentler scaled χ^2 (Yuan & Bentler, 2000). CFI = comparative fit index; RMSEA = root mean square error of approximation [90% CI]; SABIC = sample adjusted Bayesian information criterion. The $Y-B \chi^2_{ADJ}$ statistic, df_{ADJ} and other fit statistics based on the $Y-B \chi^2$ and df have been adjusted by subtracting out the corresponding values estimated in the I-SAT model for each trait. Data were clustered within training groups ($k = 27$); all models were estimated in Mplus v. 7.4 (Muthén & Muthén, 1998–2012) using procedures for clustered survey data and robust maximum likelihood estimation. Small negative factor loadings were constrained to zero for all TRI models.

Volume 107 Issue 9		
[The Role of Fairness Perceptions in Patient and Employee Health: A Multilevel, Multisource Investigation]	Quantitative	A confirmatory factor analysis demonstrated that the two factors were indeed separate (the two-factor model with Comparative Fit Index (CFI) = 0.99, Tucker Lewis Index (TLI) = 0.98, Root Mean Squared Error of Approximation (RMSEA) = 0.06, Standardized Root Mean Square Residual (SRMR) = 0.02), and in particular better fit than a one-factor model [CFI = 0.79, TLI = 0.69, RMSEA = 0.22, SRMR = 0.09; difference in chi-squared = 37,303 (1df); p < .001]. In addition, discriminant validity was confirmed using Fornell and Larcker's (1981) test, which showed average variance extracted of 0.56 and 0.66 for psychological safety and voice, respectively, clearly exceeding the squared correlation of 0.40. Table 1 also includes the aggregated version of organizational fairness, as this was used in some of the analyses with individual health as an outcome.
[You Are What You Eat: How and When Workplace Healthy Eating Cultivates Coworker Perceptions and Behaviors]	Quantitative	We conducted a confirmatory factor analysis to assess the discriminant validity of perceived selfcontrol, citizenship behavior, and social undermining. We utilized an item parceling technique (Little et al., 2002; Sass & Smith, 2006) due to the high number of items we used to measure each construct (see Little et al., 2013), which has been done previously by scholars testing models with trait self-control (e.g., Fehr et al., 2017). This technique involves pairing the highest and lowest loading items together to form parcels, which is appropriate when the relationships between (rather than within) constructs are of interest (Little et al., 2013). We present the results of our path analysis in Table 4. The path analysis revealed that our model accounted for an additional 10%, 12%, and 7% of the individual-level variance in self-control, citizenship behavior, and social undermining, respectively.
[Managing My Shame: Examining the Effects of Parental Identity Threat and]	Quantitative	Second, we conducted a multilevel CFA with six factors within person (work-to-family conflict, family-to-work conflict, parental identity threat, shame, work productivity, investment in parenting) and eight factors between person (work-to-family conflict, emotional stability).

Emotional Stability on Work Productivity and Investment in Parenting		We tested our hypotheses via a multi-level path analysis model with observed variables in Mplus8.4(Muthén&Muthén,19982017). Level-1predictorsweregroup-meancenteredandLevel-2 predictors were grand-mean centered(Hofmannetal.,2000).By group-mean centering Level-1predictors,we are able to effectively control for possible between-person methodological confounds such as social desirability and assess purely within-person relationships (Enders&Tofighi,2007).
I Know How I Feel but Do I Know How You Feel? Investigating Metaperceptions to Advance Relationship-Based Leadership Approaches	Quantitative	No mention of models of interest
Inclined but Less Skilled? Disentangling Extraversion, Communication Skill, and Leadership Emergence	Quantitative	No mention of models of interest
When Leader Self-Care Begets Other Care: Leader Role Self-Compassion and Helping at Work	Quantitative	We conducted multilevel confirmatory factor analyses to investigate the factor distinctiveness of our variables. At Level 1, we modeled the items for positive affect, negative affect, leader identity, task-related helping, personal helping, leader competence, and leader civility, all loading on their respective factors. Factors were allowedto covary, as is the default in Mplus. We tested all hypotheses simultaneously using multilevel path analyses in Mplus 7.4 (Muthén & Muthén, 1998–2013). A null model revealed that there was a considerable amount of variance at the within-person level for all our endogenous variables (leader identity = 42.4%, task-related helping = 56.8%, personal helping = 52.0%, competence = 64.1%, and civility = 67.9%), supporting the use of multilevel modeling. In our analyses, we person-mean centered our Level-1 predictors, which removes between-person variance and allows for appropriate interpretation of within-person associations
Volume 107: Issue 5		
Disaster or Opportunity? How COVID-19-Associated Changes in Environmental Uncertainty and Job Insecurity Relate to Organizational	Quantitative	No mention of models of interest

Identification and Performance		
The Push-and-Pull of Frenemies: When and Why Ambivalent Relationships Lead to Helping and Harming	Quantitative	No mention of models of interest To address the fact that the study design involved individuals nested within dyads and account for the nonindependence of observations that arose because of interactions in those dyads, we tested our hypotheses in a path model in which we clustered standard errors by dyad to account for nonindependence (Angrist & Pischke, 2008). In this path model, we created two dummy-coded variables using indicator coding: the first had positive relationships coded as a 1, and the ambivalent and negative conditions coded as a 0. I
Organizational Political Affiliation and Job Seekers: If I Don't Identify With Your Party, Am I Still Attracted?	Quantitative	We used confirmatory factor analysis (AMOS 23, Arbuckle, 2014) to examine the structure of the multiple-item survey measures (Anderson & Gerbing, 1988). Table 4 shows that most items loaded strongly on their respective scales. In addition, the model demonstrated an acceptable fit: $\chi2(305) = 727.35$ (p < .01), comparative fit index; CFI = .94, Tucker-Lewis index; TLI = .93, root mean square error of approximation; RMSEA = .06, standardized root mean residual; SRMR = .05. Table 5 presents fit statistics for several alternative models, including the null model, a single-factor model, and a model that constrains the correlation between liking and ITP to unity (to test the discriminant validity of these two correlated variables). These models did not fit as well as our hypothesized model. **Table 4** *Standardized Factor Loadings From Confirmatory Factor Analysis of the Measurement Model (Study 3)*<table><tr><td>Construct</td><td>Item</td><td>Factor loading</td></tr><tr><td>Political identification</td><td>When someone criticizes the Democratic (Republican) party, it feels like a personal insult. I am very interested in what others think about the Democratic (Republican) party. When I talk about the Democratic (Republican) party, I usually say "we" rather than "they." When someone praises the Democratic (Republican) party, it feels like a personal compliment. If a story in the media criticized the Democratic (Republican) party, I would feel embarrassed.</td><td>.85 .52 .81 .90 .77</td></tr><tr><td>Political disidentification</td><td>I would be embarrassed to be part of the Democratic (Republican) party. The Democratic (Republican) party does shameful things. I find the Democratic (Republican) party to be disgraceful. I want people to know that I disagree with how the Democratic (Republican) party behaves. I have been ashamed of what goes on in the Democratic (Republican) party.</td><td>.90 .86 .92 .84 .86</td></tr><tr><td>Overall similarity <i>HBA organization and I ...</i></td><td>... are similar in terms of our outlook and perspective. ... see things in much the same way. ... think alike in many ways. ... are alike in a number of areas. ... have similar values.</td><td>.82 .88 .87 .87 .73</td></tr><tr><td>Organizational liking</td><td>I like this organization. Working at this organization would be a pleasure. I would enjoy working at this organization. I would likely get along well with the people of this organization. I think I would make good friends at this organization.</td><td>.80 .94 .94 .69 .62</td></tr><tr><td>Intentions to pursue employment</td><td>I would accept a job offer from this company. I would make this company one of my first choices as an employer. If this company invited me for a job interview, I would go. I would exert a great deal of effort to work for this company. I would recommend this company to a friend looking for a job.</td><td>.79 .83 .58 .69 .71</td></tr></table>
A Meta-Analytic Investigation of the Antecedents, Theoretical Correlates, and Consequences of Moral Disengagement at Work	Quantitative	Next, we conducted exploratory analyses of the proposed D factor structure underlying the dark traits(Moshagenetal.,2018).Our analyses are exploratory because Moshagenetal.(2018) proposed a bifactor model, where items load simultaneously on the latent D factor and the specific dark trait. We are unable to test a bifactor model since we do not have meta-analytically derived item-level data. Instead, we specified a CFA model where the dark traits loaded onto a latent,D factor. As shown in Table8 ,moral disengagement is negatively related to moral awareness ($\rho=-.24$) and moral judgment ($\rho=-.49$).Path analyses using the correlation matrix in Table4 show that

		moral awareness mediates the effect of moral disengagement on misconduct (ρ=.02,95%CI=[.01,.03]),supporting Hypothesis15a.
The Nonlinear Relationship Between Atypical Applicant Experience and Hiring: The Red Flags Perspective	Quantitative	No mention of models of interest
A Meta-Analytic Review of Identification at Work: Relative Contribution of Team, Organizational, and Professional Identification	Quantitative	Meta analysis was conducted. No mention of models of interest
Conquering Unwanted Habits at the Workplace: Day-Level Processes and Longer Term Change in Habit Strength	Quantitative	No mention of CFA, but mention of path analysis Specifically, for these hypotheses' tests, we used multilevel path analysis (Preacher et al., 2010) in which we specified the hypothesized paths both at the day and the person level. This approach of partitioning all day-level variables into within-person and between-person component implies that the day-level variables are implicitly centered at the person level (Preacher et al., 2010, p. 210), removing all between-person variance from the within person part of the model.
Volume 107: Issue 4		
Variable Work Schedules, Unit-Level Turnover, and Performance Before and During the COVID-19 Pandemic	Quantitative	I used Hierarchical Linear Modeling (HLM), treating units as Level 2 and unit-month observations as Level 1. Also, I included a Level 3 variable to account for the nesting of units within U.S. states. For Hypotheses 4a and 4b testing, I used discontinuous growth curve modeling (Bliese & Lang, 2016; Singer & Willett, 2003) to test temporal trajectories of unit performance over different phases of the pandemic.
Indexing Dynamic Collective Constructs Using Computer-Aided Text Analysis: Construct Validity Evidence and Illustrations	Quantitative	As such, we performed a more rigorous test of the measurement properties using a series of nested confirmatory factor analyses (CFAs) of the MTMM correlations shown in Table 2 following Widaman's (1985) study. Note that Table 2 includes correlations with some team demographic composition variables for completeness that we do not consider further. We show a summary of our model comparisons in Table 3.

Featuring Team Processes		
Work–Leisure Blending: An Integrative Conceptual Review and Framework to Guide Future Research	Qualitative	
It's Not Only What You Do, But Why You Do It: How Managerial Motives Influence Employees' Fairness Judgments	Quantitative	We conducted a CFA (Hu & Bentler, 1999) to establish the distinctiveness of our variables. We used random item parceling to reduce the number of indicators to three parcels for motives factor that included more than five items (Little et al., 2013). In addition, we used the scale means of the four justice facets as indicators of justice (e.g., Liao, 2007; Sherf et al., 2019). For Study 1a, the 7-factor model (justice, prosocial [faceted], self-interest [faceted], power, effecting compliance, identity maintenance, and establishing fairness) fit the data well χ2 [N = 146, df = 356] = 561.98, p < .001, CFI = .93, RMSEA = .06, SRMR = .06) and all indicators loaded significantly on their intended factors.
Vocational Interests and Adverse Impact: How Attraction and Selection on Vocational Interests Relate to Adverse Impact Potential	Quantitative	To investigate how subgroup differences on predictors vary across primary interest job types and application ratios for each predictor, we first obtain estimates of the relationships between race and each predictor while accounting for range restriction (Sackett & Yang, 2000). We are treating vocational interests as the application restriction variable, z, where individuals enter the applicant pool on the basis of their vocational interests. The relevant range restriction scenario is Thorndike's Case 3 (Sackett & Yang, 2000; Thorndike, 1949). Newman and Cottrell (2015, p. 148) adapted the indirect range restriction formula by combining it with Dobson's (1988) formula for variance of a truncated normal distribution (Schmidt et al., 1976) and formula for the ordinate (height) of a normal curve, to yield the equations:

Implications

The trends found in this scholarly review conducted on 42 JAP articles published within

the past year have shown that there is a significant lack of written clarity and reliance on less

complex structures for their simplicity rather than their appropriateness found in the studies of

top journal entries in I/O. This lack of detail causes conceptual confusion amongst the readers

and leaves the process between the desired construct measurements and the actual models being

used to measure those constructs unclear. Of the articles that did implement what was considered

thorough detail and clarity within their methodology sections, such as those that utilized CFA,

most of these studies implemented CFA on a first order factor level instead of implementing

more complex structures such as a hierarchical or bifactor analysis. Outside of CFA, some

articles in our findings implemented a bifactor analysis within their methodology, however this

was only present in a few of the articles analyzed. This finding suggests that the field seems to be

reluctant to utilize more complex structures in their methodology even though they may be more

appropriate to use in their studies. In our findings, after reviewing and analyzing the

methodology in over 40 JAP articles within I/O, we encourage future researchers to provide

more written clarity within their methodology section that provides a more detailed explanation

of why they utilized the type of statistical modeling that they did in their studies. On top of

providing a clear explanation of the structures used within studies, we suggest that researchers

also consider in more detail which statistical model to utilize based on best fit for their study,

rather than its simplicity.

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