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Validation study of a multi-method integrity test in a Peruvian sample[1]

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The present study summarizes the validity of a multi-method integrity test developed to measure integrity and counterproductive work behaviors (CWB) in personnel selection of a Peruvian sample. This instrument has been thoroughly studied in other cultural contexts, establishing its validity in predicting counter-productive behaviors. In order to study external validity, two criteria were used: (a) The Counterproductive Work Behavior Checklist (CWB-C) and (b) a supervisor evaluation questionnaire. The criterion validity of the Peruvian Spanish version was studied with a sample of 194 employed students, 86 male (44.3%) and 108 (55.7%) female. Participants were recruited from a large private Peruvian university. The instrument's overall score correlated with self-reported CWB (r= -.62, p <.01). Regarding the other criterion, only the Ethical Dilemmas sub-scale showed a significant correlation with supervisor-rated CWB (r=.18, p< .05). Female participants reported higher scores than male participants on the Attitudes (U (193) = 3842.5, p<.05), Ethical Dilemmas (U (193) = 3619.5, p<.05), and Past Behaviors (U (193) = 3463.5, p<.01) dimensions of the integrity test (r=.15-.22), as well as on the overall score (U (193) = 3395.5, p<.01). Results support the validity of the multi-method integrity measure to predict counterproductive work behaviors, without adverse gender impact.
Keywords: Counterproductive work behaviors, integrity, personnel selection, measurement.

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Estudio de validación de una prueba de integridad multimétodo en una muestra peruana

El presente estudio evaluó la validez de una prueba de integridad multimétodo desarrollada para medir la integridad y las conductas contraproducentes en el trabajo (CWB) en la selección de personal en una muestra peruana. La prueba ha sido estudiada en otros contextos culturales, habiéndose probado su validez en la predicción de conductas contraproducentes (Fine & Pecker, 2015). Para la validez externa, se usaron dos criterios: (a) La lista de cotejo de conductas contraproducentes en el trabajo/*The Counterproductive Work Behavior Checklist* (CWB-C), y (b) un cuestionario de evaluación dirigido a los supervisores. Para la validez de criterio, según el español que se habla en el Perú, se consideró una muestra de 194 estudiantes que trabajan, 86 hombres (44.3%) y 108 (55.7%) mujeres, quienes fueron reclutados de una universidad privada peruana. El puntaje total de la prueba correlacionó significativamente con el autorreporte de CWB (r=-.62, p<.01). En el segundo criterio solo la dimensión de Dilemas éticos mostró una correlación significativa con la evaluación del supervisor (r=.18, p<.05). Las participantes mujeres reportaron puntajes más altos que los varones para las dimensiones de Actitudes (U (193) = 3842.5, p<.05), Dilemas Éticos (U (193) = 3619.5, p<.05) y Comportamiento Pasado (U (193)= 3463.5, p<.01) de la prueba de integridad (r=.15-.22), así como en el puntaje final (U (193) = 3395.5, p<.01). Los resultados del presente estudio apoyan la validez de la prueba de integridad multi-método para predecir las conductas contraproducentes en el trabajo, sin un impacto adverso de género.

Palabras clave: conductas contraproducentes en el trabajo, integridad, selección de personal, medición, validez.

Estudo de validação de teste multi-método do integridade das amostra peruana

Este estudo avaliou a validade de um teste multi-método desenvolvido para medir a integridade e comportamentos contraproducentes no trabalho (CWB) na seleção de pessoal no Peru. Este teste tem sido estudado extensivamente em outros contextos culturais e foi encontrado válida e eficaz na predição de comportamentos contraproducentes (Fine & Pecker, 2015). Para validade externa, foram utilizados dois critérios. (a) The Counterproductive Behavior Checklist (CWB-C), e (b) um questionário de avaliação dirigido a supervisores. Para estudar a validade de critério da versão em espanhol peruana do teste, uma amostra de 194 estudantes que trabalham foi usado, 86 homens (44,3%) e 108 (55,7%) mulheres, recrutados a partir de uma grande universidade privada no Peru. A pontuação total do teste correlação significativa com CWB auto-reportado (r = -. 62, p <0,01). Sobre o segundo critério, apenas a dimensão de dilemas éticos do teste mostrou uma correlação significativa com a avaliação do supervisor (r = 0,18, p <0,05). Mulheres participantes relataram uma maior pontuação que os homens para as dimensões de Atitudes (U (193) = 3842.5, p<.05), Dilemas Éticos (U (193) = 3619.5, p<.05), e Comportamento passado (U (193)= 3463.5, p<.01) do teste de integridade (r = 0,15-0,22). Os resultados deste estudo reforçam a validade de teste multi-método do integridade de prever comportamentos de trabalho contraproducentes, sem um impacto adverso do género.

Palabras-chave: comportamento contraproducente no trabalho, integridade, seleção de pessoal, medição, validade.

The most important characteristic people seek in a boss is not supportiveness or ambition, but integrity: the ability to tell the truth, to have a moral compass, and to be honest (Furnham, 2015). The same concern was expressed by Warren Buffett, who pointed out that that the three characteristics he looks for when hiring new staff members are integrity, intelligence and energy. As he stated "…if you don't have the first one, the other two will kill you" (Recruiterbox, 2013). Despite the perceived importance of integrity, there has been quite a controversy surrounding integrity measures and testing in organizational environments. Particularly, the debate has focused on whether they provide accurate measures of integrity (reliability), and if they do a good job establishing differences between honest and dishonest individuals (validity), or if self-report methods are sensitive to impression management (Furnham, 2015).

In addition, Palanski & Yammarino (2007, 2009)especially with regard to leadership. The study of integrity, however, suffers from three significant problems: too many definitions, too little theory, and too few rigorous empirical studies. The purpose of this article is to attempt to address the first problem by (1 listed three problems regarding integrity. First, there is little agreement in the literature about the meaning of integrity as a construct. Second, there is sparse theory about integrity in the management literature. And third, there are relatively few empirical studies related to integrity. Moreover, the development of integrity measures has rarely been reported in scientific journals, and is scarcely found in the relevant literature (MacLane & Walmsey, 2010). In the present study, we will address a few of the previously listed concerns by providing the results of an empirical validation study of a multimethod integrity test. This test is an accurate measure for predicting counterproductive work behaviors according to a personnel selection perspective.

Counterproductive work behaviors

Counterproductive work behaviors (CWBs) are a set of volitional acts that harm organizations and their stakeholders, that include abusive behavior against others, aggression (both physical and verbal), purposely doing work incorrectly, sabotage, theft, and withdrawal (e.g., absence, lateness, and turnover) (Spector & Fox, 2005). The common defining element among CWBs is a harm effect that can be observed, rather than non-observable antecedents (Marcus, Taylor, Hastings, Sturm, & Weigelt, 2013). It is estimated that the financial losses produced by CWBs total several billion dollars annually for companies worldwide (Vardi & Weitz 2004 in Bowling & Burns, 2015).

This type of behavior is related to various antecedents, such as interpersonal conflict, organizational constraints, organizational justice, work satisfaction and negative emotions (Spector et al. 2006). Moreover, the literature revealed that the lack of vocational fit generated CWB, with an incremental validity for the prediction of CWB over established predictors, such as personality traits and affects (Iliescu, Ispas, Sulea, & Ilie, 2015). CWBs are negatively related to psychological well-being within an organization, and the acts of interpersonal aggression and boastfulness are particularly detrimental in a context of high interdependence (Aubé, Rousseau, Mama, & Morin, 2009). Also, it is negatively related to team performance, and mediated by less collaboration among members. This in turn affects the functioning and effectiveness of the team as a whole (Aubé & Rousseau, 2014).

Regarding sex differences, Spector and Zhou (2013) found that (a) gender moderated the relationship between work stressors, personality and CWB; (b) the tendency for males to report CWB was greater at high levels of interpersonal conflict, organizational constraints, trait anger and hostile attribution bias; and (c) the tendency for males to report CWB was reported at low as opposed to high levels of agreeableness, conscientiousness, and emotional stability. Moreover, Bowling and Burns (2015) reported that men had higher ratings of CWB than women, and that job satisfaction, interpersonal conflict,

and organizational constraints had a stronger relationship with CWB in male workers when compared with women. Nevertheless, it was found that CWB had a relatively lower reliability in women than in men, and it moderated the relationships between the predictor - CWB relationships (Bowling & Burns, 2015).

Most of the work on CWB has roots in the study of human aggression. The frustration-aggression hypothesis (Dollard, Doob, Miller, Mowrer & Sears, 1939 in Spector & Fox, 2005) provided the foundation for much of the modern work on aggression, suggesting that frustration, the interference with a person's goals or ongoing activity, might lead to aggression (Spector & Fox, 2005). Furthermore, the literature distinguishes two forms of aggression: (a) hostile, which is associated with negative emotions, most typically anger, is often impulsive, and has harm as its primary motive; and (b) instrumental, which is associated with cognitive predictors such as perceptions of injustice and moral beliefs and has some additional goal beyond harm (Bowling & Gruys, 2010; Spector & Fox, 2006).

Spector & Fox (2005) proposed a stressor-emotion model of CWB based on integrating human aggression and occupational stress. It considers aggression as a response to negative affect (Folger & Baron 1996). Moreover, situations perceived as intentionally unfair or unwarranted, might induce high levels of negative emotions and more likely lead to aggressive responses (Spector & Fox, 2005). Following the theoretical framework of the stressor-emotion model, Fida, Paciello, Tramontano, Fontaine, Barbaranelli, & Farnese (2015)in the organizational context, may intervene in the process leading from stressors to counterproductive work behavior (CWB found that moral disengagement mediated the relation between negative emotions in reaction to perceived stressors and CWB in a sample of Italian workers. When negative emotions were experienced, workers became morally disengaged and enacted CWB.

In order to understand instrumental CWB, the Theory of Planned Behavior (Ajzen & Fishbein, 1977) focuses on the individual's intention to perform a given behavior. Intentions are assumed to capture

the motivational factors that influence behaviors. As a general rule, the stronger the intention to engage in a behavior, the more likely it is that the behavior will be performed (Ajzen, 1991).

In the past two decades several CWB models have been developed. They vary according to their context and dimensionality. For instance, there is a two-dimension model (Bennett and Robinson 2000), five-dimension model (Spector et al. 2006) and eleven-dimension model (Gruys & Sackett, 2003).

It might be difficult to achieve an accurate measurement of CWB-related behaviors due to the illegal nature of these acts, which has led to an almost exclusive use of self-report questionnaires. Nevertheless, even with the use of anonymous reports, CWB is under-reported. Some individuals will be less honest in responses than others, thus introducing error into assessment. Therefore, the relationship between CWB and other variables might be a result of some shared biases among scales, response sets, unmeasured environmental factors, or unrecognized personal characteristics (Spector & Fox, 2005). Bolton et al. (2010) used the measure developed by Spector et al. (2006) to compare the predictive validity of the Big Five traits of personality in relation to counter productive work behaviors. It was found that lower agreeableness and conscientiousness predicted more reports of CWB. Furthermore, low agreeableness was associated with interpersonally-directed behaviors, while low conscientiousness was associated with organizationally-directed behaviors, particularly with sabotage and withdrawal. Additionally, it was found that low extraversion predicted theft, while higher openness to experience predicted more production deviance (Bolton, Becker, & Barber, 2010).

Fine, Horowitz, Weigler, & Basis (2010) proposed a simple alternate typology of predictors based on the CWB nomological networks established by Robinson & Greenberg (1998) and Sackets & Devore (2001). Fine et al. (2010) categorized the CWB antecedents according to their nature. They suggest three broad types of CWB predictors: (a) personal variables, (b) job attitudes, and (c) organizational norms. Personal antecedents of CWB include two main types of variables:

personality-based variables and demographic variables. The relationship between personality-based variables and CWB can be described in terms of individual traits and attitudes which have been empirically correlated with CWB. Although some new theories conceptualize integrity as a value (Palanski & Yammarino (2007)especially with regard to leadership. The study of integrity, however, suffers from three significant problems: too many definitions, too little theory, and too few rigorous empirical studies. The purpose of this article is to attempt to address the first problem by (1, it has been used for a long time as a personality-based variable. Among these variables, the most widely used personal assessment tools to predict CWB among job applicants and employees are integrity tests (U.S. OTA, 1990; Fine et al., 2010).

Integrity tests

Integrity tests are used to predict various job-related criteria, and CWB is the core target; Ones & Viswesvaran (2001) describe integrity tests as the prototype of what they labeled Criterion-Focused Occupational Personality Scales (COPS): Personality measures that tap into individual differences beyond the domain of cognitive abilities by means of standardized psychometric measurement. COPS aim to predict work-related criteria; therefore, the focus is on predicting specific target criteria rather than on measuring theoretical personality constructs (Marcus et al. 2007).

Integrity tests are based on the idea that attitudes towards a specific behavior are predictors of that behavior, like in the Theory of Planned Behavior (Ajzen & Fishbein, 1977). Test items assess dependability, social conformity, thrill-seeking, conscientiousness, and trouble with authority (Wanek, 1999). Despite the prominent role attributed to integrity tests in a number of fundamental issues surrounding the use of personality measures for personnel selection, little research has directly addressed the theoretical link between the constructs measured by integrity tests and the target behavior (Marcus et al. 2007).

A common type of integrity test, known as 'overt' tests, demonstrates problems with validity and a high percentages of false positives (Karren & Zacharias, 2007). These tests are based on the rationale that individuals who have fantasies, leniencies, justifications, or loyalties towards CWB are more likely to engage in such behaviors (Fine et al., 2010). The transparent nature of the overt items is probably responsible for the relative ease in which individuals are able to manipulate their answers in order to increase their test scores (Alliger & Dwight, 2000; Fine & Gottlieb, 2013).

Relevant to construct validity, the personality constructs: Conscientiousness, Stability, and Agreeableness a best explain the variance within each type of counter-productivity test (Ones & Viswesvaran, 2003 in MacLane & Walmsey, 2010). In a study about criterion validity of overt and personality based integrity tests, Marcus et al. (2007) stated that the Honesty-Humility dimension (belonging to the HEXACO personality test) was more important than the Big Five dimensions of personality in accounting for the validity of overt integrity tests, whereas the Big Five was more important in explaining the validity of personality based integrity tests. One relatively new method to prevent malingering in tests is conditional reasoning testing (CRT). Originally proposed by James (1998), CRTs can be designed to implicitly measure certain latent personality traits using test items disguised to appear as if they are measuring logical reasoning ability. Similar to overt integrity tests, CRTs tap rationalization toward individual behaviors, known as justification mechanisms (JM). JMs are influenced by one's learned social experiences, and shape one's interpretations of these behaviors, even when they are undesirable (James, 1998 in Fine & Gottlieb, 2013).

In order to improve the assessment of integrity and counterproductive work behaviors during the process of personnel selection, the Risk Indicator (RI) was developed as a pre-employment integrity test which uses a multi-method approach for predicting CWB and is designed to be predictive of a variety of CWBs, unlike typical overt tests (Fine & Pecker, 2015). It was developed based on a comprehensive review of the

professional literature, and was initially validated based on a sample of 196 employed students at a large Israeli university (Fine & Pecker, 2015).

The most compelling line of research on integrity tests is based on the predictive-validity model. There have been two basic approaches to validation research using external criteria: studies using detected theft as the criterion and studies using other external criteria, such as absenteeism, turnover, and supervisors ratings (OTA, 1990). Findings from the latter are reported in primarily two ways: (1) in terms of correlation coefficients that serve as a measure of association between integrity test scores and indicators of counterproductive behavior and (2) in terms of proportions of the honest and dishonest individuals who are correctly identified by the tests (OTA, 1990).

Nearly all of the reported knowledge in integrity testing has been derived from North American samples, with very little work coming from other countries (Fine, 2010, 2013). It is important to validate integrity tests because the attitudes toward employee theft, fraud and bribery, as measured by overt integrity tests, may exhibit cultural bias (Husted, 1999; Fine, 2010). Although Fine (2010, 2013), as well as Marcus, Lee, & Ashton (2007) provide evidence of the universality of integrity testing, Fine (2010) mentions that despite possible normative differences in cross-cultural test scores, criterion-oriented validity may still be well retained overall between countries, and that mean country-level scores from an overt integrity test should be a good indicator of those countries' cultural integrity levels. Regardless, practitioners, foundations, and test providers should adopt cultural specific norms for overt integrity tests, especially when tests developed in low power distance countries are administered in high power distance countries (Fine, 2010, 2013), such as Peru.

Following Hofstede's cultural dimensions, Husted (1999) found a strong correlation between a country's power distance scores (r=.72) and collectivism scores (r=.72) with corruption. Thus, individuals from high power distance and/or collectivistic cultures may more easily justify corrupt behaviors, be more lenient and loyal toward offenders, and perceive corruption to be normative (Fine, 2010).

Power Distance is defined as the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally. As mentioned before, Peru has a high Power Distance score. In Peru, subordinates perceive superiors as difficult to access and do not trust them, while superiors delegitimize subordinates and demand respect (Hofstede Centre, 2016). Meanwhile, the Individualism dimension assesses the degree of interdependence a society maintains among its members. Peru ranks as a collectivist country, where people find large companies attractive and the involvement with the company is moral. Also, managers endorse more traditional points of view and in general workers aspire to conform. The country also scores high on Uncertainty Avoidance, where people show a strong need for rules and elaborate legal systems in order to structure life. The citizen needs to obey these laws, but the law is weak and corruption is widespread (Hofstede Centre, 2016).

In Peru, corruption is responsible for the financial loss of S/. 33 800 million (approximately $11 260 million) annually, constituting probably the main problem associated with the legitimization of institutions in the country (Vega, 2016). Also, it is associated with a decrease of $380 on per capita income and consequently on quality of life (Gestión, 2016). Particularly, CEOs of extractive industries such as mining, construction and oil, report that corruption represents a significant threat. These industries are based mainly in developing countries (Gestión, 2016), such as Peru, where more than 60% of businessmen are involved in acts of corruption (Diario Correo, 2016).

Due to the heavy teaching load of professors in universities, organizations not demanding research and the government not applying legal pressure, there is very little research in industrial and organizational psychology in Peru (Flores & Salas, 2011). Therefore, I-O psychology is almost exclusively devoted to professional practice in this country and there are few articles, cases, and textbooks in the field (Flores & Salas, 2011). According to León (2013), the main cause is a lack of research tradition inside the universities, few connections between businesses and universities, and a lack of material resources to

conduct research. Consequently, no previous research has been found in scientific journals regarding integrity testing or counterproductive work behaviors in Peru.

The main goal of this study is to assess the criterion validity of the Spanish version of the Risk Indicator (RI) in a Peruvian sample of employed students from a large private Peruvian university, with the use of measures of self-reported CWB and supervisor-reported CWB as external criteria.

It is expected that the self-reported and the external criteria will present medium or large correlation coefficients with the RI. Also, the scores of the measures are expected to be inversely related to the multi-method integrity test. Adverse Impact for gender will also be tested, and female students are expected to present higher scores on the RI than male students.

Method

This study employs a cross-sectional correlational design in order to review the criterion validity of the Spanish version of the RI in a Peruvian context. Following this, the data were collected simultaneously and correlations were established between the study variables.

Participants

The initial sample included 214 working college students. After data screening, 12 participants were rejected due to missing data on two of the applied measures: RI scale, CWB-C and/or Supervisor ratings, and 8 participants were rejected because they presented less than 3 months of work experience. Thus, the final sample consisted of 194 college students, 86 male (44.3%) and 108 (55.7%) female. In regard to working experience, participants reported 3-108 months total work experience ($M_{workexp}$=22.78; $SD_{workexp}$=19.85). 46.4% were engineering students (n=99), 20.6% Psychology students (n=40), and 10.8% management students (n=21). The other participants belonged

to Education, Liberal Arts and Humanities (Linguistics, Geography, and History), Communication, Law, Accounting, and Scenic Arts Faculties (see Appendix).

A total number of 153 supervisor responses were collected. Following data screening, 9 ratings were rejected due to missing data on the RI for the ratees, thus the analyses were undertaken on 144 cases. Of these, 70 (48.6%) were female and 74 (51.4%) were male. Two (1.4%) reported a secondary school level of education, 99 (68.8%) reported a college education and 43 (29.9%) had a postgraduate degree. They reported a total time in the position between 0 (probably not in the same position they were when they worked with the participant) and 588 months (M=64.90; SD=87.77). Forty nine (25.3%) supervisors reported working in the education industry, 12 (6.2%) in the construction industry, 8 (4.1%) in commerce, 8 (4.1%) in the public sector, and 6 (3.1%) in consulting firms. (See appendix).

Measures

Integrity. Integrity measures were derived from scores from the Risk Indicator (RI), a measure composed of 148 multiple choice items divided between one composite overall score and four domain scores: (1) Attitudes, which consists of overt opinions and attitudes towards CWB, including justifications, perceived normativity, punitiveness towards offenders, and personal attitudes; (2) Dilemmas, consisting of behavioral decisions made in simulated ethical dilemmas at work; (3) Personality, which measures the dispositional traits related to CWB including agreeableness, reliability, emotional stability, and honesty; and (4) Past Behavior, which consists of biodata based on prior involvement in a variety of both organizational and interpersonal related CWB (Fine & Pecker, 2015). The RI was initially validated on a sample of 196 employed students at a large Israeli university where the test's overall score and its sub-scores were found to be internally reliable (α = .92, .71-.85 per scale) and valid (Fine & Pecker, 2015).

In the present study, the RI was administered randomly in one of two modes: a matrix mode (5-7 test items on each screen), and a one item per screen mode. The matrix mode was applied to 106 (54.6%) students, and the one item-mode to 88 (45.4%) students.

Counterproductive Work Behaviors. For this measure two criteria were used. The first one is the Spanish version of the Counterproductive Work Behavior Checklist (CWB-C) (Spector et al., 2006), validated by Moreno-Velasquez (2014). It includes 45 self-report items of the frequency of involvement in a variety of counterproductive behaviors, including minor, serious, organizational and interpersonal behaviors. For this study, the CWB-C was divided into two categories: CWB-O towards the organization (α=.84) and CWB-I towards the individual (α=.93).

The second measure was a supervisor rating questionnaire developed by Fine (2009) to measure 10 facets of workplace integrity: honesty, morality, compliancy, loyalty, accountability, humility, fairness, tolerance, self-control and overall performance. These 10 facets added to an overall score. The questionnaire's reliability in this study was .92. Also, 3 additional items were added: (a) Grade of reprimand after breaking the rules in the organization, (b) Grade of recommendation to other companies and (c) if the worker would be hired again in the future.

Procedure

Students were recruited via e-mail or by advertisements that were distributed throughout the campus of a university in a large city in Peru. Tests were administered online and taken during the participant's leisure time. Demographic information (sex, age, working time and academic field) was collected during registration along with contact information for participant's supervisors. An incentive consisting of 2 movie tickets and a combo (large popcorn and two medium sodas) were offered for participation. The supervisor ratings were collected by phone interviews or by e-mail. An online informed consent containing the purpose of the study, duration of the assessment and handling of

the data was required to be filled out by the participants prior to taking the questionnaires. Also, a print version of the same informed consent was signed before distributing the incentive. Supervisors that filled out the supervisor rating form were informed of the nature of the study online or by telephone.

Data Analysis

The statistical package SPSS v. 23 was used for data analyses. Item analyses were carried out on all tools, and RI Scores were correlated with the two main criteria. Non parametric analyses (Spearman correlations) were employed after the normality tests showed that most of the ratings didn't have a normal distribution. Descriptive analyses were employed for students' and supervisors' demographical information. Also, Median differences and regression analyses were employed in order to assess the adverse impact for gender.

Results

In terms of the relationship with the self-report measure, integrity scores were highly and inversely correlated with counterproductive work behaviors towards the organization (CWB-O): r = -.54,-.48,-.20,-.60 for Attitudes, Personality, Ethical dilemmas and Past behaviors dimensions, respectively. The correlation between the RI Overall Score and CWB-O was significant and strong $r(151)$=-.60, p<.01. (See table 1)

High and inverse correlations were also found between the RI dimensions and counterproductive behaviors towards the individual (CWB-I): -.41, -.36,-.47,-.45 for Attitudes, Personality and Past behaviors. There was an exception for the Ethical dilemmas dimension, as it didn't show a significant correlation with CWB-I. The correlation between the RI Overall Score and CWB-O was also significant and strong $r(153)$=-.45, p<.01. (See table 1)

Table 1

Correlations between RI, CWB-C and Supervisor evaluation questionnaire

	1	2	3	4	5	6	7	8	9	10	11	12
1. Attitudes	–											
2. Personality	.54**	–										
3. Ethical Dilemmas	.26**	.15*	–									
4. Past Behaviors	.62**	.56**	.34**	–								
5. RI Overall Score	.77**	.71**	.61**	.82**	–							
6. Grade of Reprimand	-.18*	-.18*	-.10	-.08	-.15	–						
7. Grade of Recommendation	.09	-.08	.03	-.01	-.01	-.27**	–					
8. Hire Again	.11	.03	.01	.08	.04	-.33**	.79**	–				
9. Supervisor Rating Score	.05	.03	.18*	.12	.10	-.30**	.70**	.66**	–			
10. CWBO	-.54**	-.48**	-.20*	-.60**	-.60**	.03	.04	-.02	-.10	–		
11. CWBI	-.41**	-.36**	-.10	-.47**	-.45**	.01	.15	-.06	.02	.60**	–	
12. Overall CWB	-.55**	-.49**	-.20*	-.63**	-.62**	.04	.06	-.05	-.09	.96**	.76**	–

**p<.01; *p<.05.

Relationships between the Overall CWB measure and RI were similar to those found with the sub-dimensions of CWB: -.55, -.49, -.20,-.63, for Attitudes, Personality, Ethical dilemmas and Past behaviors dimensions, respectively. The correlation between the criteria and the RI Overall Score was inverse and high $r\ (149)$=-.62, p<.01. (See table 1)

Regarding the Supervisor rating questionnaire, there were no significant correlations with any dimension of the RI, except the one found with Ethical dilemmas $r(\ 144)$=.18, p<.05. Regarding the 3 general questions, the Grade of Reprimand item showed inverse relationships with the RI dimensions of Attitudes and Personality $r(144)$=-.18, p<.05 (See table 1).

There were no significant correlations found between the two external criteria overall scores, dimensions or additional items. Correlations between the RI and each item of the supervisor rating questionnaire can be found in Table A1.

Adverse Impact

In terms of gender, females surpass males in the following dimensions: (a) Attitudes (U (193) = 3842.5, p<.05), the female median (Me_{female}=.09, IR_{female}=104.92) is higher than the males´ (Me_{male}=-.22, IR_{male}=88.18); (b) Ethical Dilemmas (U (193) = 3619.5, p<.05), the female median (Me_{female}=.13, IR_{female}=102.53) is higher than the males´ (Me_{male}=-.13, IR_{male}=85.59) and (c) Past Behaviors (U (193)= 3463.5, p<.01) the female median (Me_{female}=.33, IR_{female}=105.83) is higher than the males´ (Me_{male}=.08, IR_{male}=83.75). Furthermore, in the Overall Score (U (193) = 3395.5, p<.01) the females (Me_{female}=.14, IR_{female}=108.27) exhibit better results than the males (Me_{male}=-.14, IR_{male}=82.98). The effect size was small in all cases: $r_{Rosenthal}$= -.15 - -.22.

In order to further assess the relationship between the RI test and gender, a regression analysis was carried out, showing a small effect size (R^2 =.24), as seen on Table 2.

Table 2

*Gender*RI test regression analysis*

	B	SE	beta	F	R^2
Gender	-.31	.09	-.24**	11.94	.24

**p<.01

Discussion

As it was hypothesized by Fine et al. (2010), integrity scores were inversely related to CWB scores and CWB is consistently low when integrity is high. This is consistent with previous findings regarding the RI and CWB criteria, which show similar results for criterion-related validity (Fine & Pecker, 2015). Correlations between the measures of the RI, CWB-O, CWB-I and the Overall CWB Score were of medium-high effect according to Cohen's criteria (except for the Ethical Dilemmas dimension), which supports the criterion-related validity of the RI dimensions and its use in the Peruvian context.

The Ethical Dilemmas dimension exhibits a significant relationship with the CWB overall score (r=-.20, p<.05) and its CWB-O dimension (r=-.20, p<.05). No relationship was found with the CWB-I dimension and the RI. A positive relationship with the Supervisor Ratings was observed (r=.18, p<.05). These findings are consistent with those reported by Fine & Gottlieb (2013) who also found weak correlations between the CWB reports and the Conditional Reasoning test they developed under the Honesty condition. The absence of relationships between this dimension and the CWB-I dimension could be due to the more organization-oriented nature of the Ethical Dilemmas items whereas the CWB-I dimension focuses on the behaviors directed to a specific person.

Even though it has been reported before that self-reported measures of CWB admissions tend to yield higher validities than externally

driven criteria, concluding that CWB has a low detection rate for external criteria (Fine, 2013), the absence of an association between the RI and the supervisor ratings, except for the Ethical Dilemmas dimension, was not expected. Supervisor ratings are expected to be a reliable predictor of typical performance (Bernd Marcus, Goffin, Johnston, & Rothstein, 2007; Schwager et al., 2014). Also unexpected was the non-significant correlation between the two predictors: the CWB-C and the supervisors' ratings.

Results can be explained due to the small variance found in the supervisory ratings. This could be due to the supervisors' lack of commitment to the study, lack of interest in the employees, or social desirability. Given that the participants were college students, most of them were working at different organizations. The university often calls the supervisors for ratings in order to grade the students, so supervisors usually provide a good review of them. As the supervisor ratings were provided by telephone or by e-mail, supervisors could have missed the nature of the study and thought they were providing a regular evaluation of their subordinates, thus causing an unwanted effect on the data.

The high Power Distance scores of Peru could also play a part in these findings, as superiors are perceived as difficult to access and untrustworthy (Hofstede Centre, 2016), creating a gap of misinformation between supervisors and subordinates. This could be an area of interest for future research. Peer ratings could be a better rating source than supervisor ratings, with increased opportunity to observe CWB. This may be a valuable source of information that supervisors may not directly observe (Meriac & Gorman, 2016). Also, supervisor ratings could be collected in a face-to-face manner in an attempt to make the intent of the study clear and supervise the application.

Gender differences found in this study agree with the scientific literature. Therefore, it was expected for men to score higher in CWB ratings than women (Bowling & Burns, 2015; Spector & Zhou, 2013), since women are expected to score slightly higher than men on integrity related tasks. Therefore, somewhat higher score for females

was expected in the RI. Both, the effect size of the differences found (r= .15 - -.22) and the regression effect size (R^2=.24) were small. Spector & Zhou (2013) discuss the possibility that the small gender differences generally found are due to reporting bias and to gender roles, as women are less inclined to admit aggressive behaviors than men (Vandello et al., 2009 in Spector & Zhou, 2013), so women might tend to minimize reporting the extent to which they perform behaviors which are unacceptable for them (Spector & Zhou, 2013).

Counterproductive employees not only harm the image and the effectiveness of an organization, but also conspire against their peers' wellbeing (Omar, Vahamonde & Delgado, 2012). Due to the importance of these behaviors, more organizations in the region are showing interest in assessing the frequency and the types of CWB that occur within them. Furthermore a strong cultural component characterizes CWB; it is important to count with emic, or in this case, adapted psychological instruments to assess them, in order to reflect the work behavior of a determined social group with the highest possible fidelity (Omar et al., 2012).

The RI provides more than a single measure of integrity, providing, among others, both overt and personality-based integrity measures, which relate to different constructs. Thus, a more comprehensive integrity profile of an individual can be obtained. As a conclusion, the results of the present study support the criterion validity of the RI to predict counterproductive behaviors in the Peruvian context without an adverse impact for gender.

Among the limitations found in the study are the small variance in the supervisor ratings, which was previously discussed, and the fact that the sample was composed entirely of students, who are not representative of the countries' whole population of workers. This study should be replicated in a sample of workers from a public or private organization to further assess the performance of the RI in the prediction of counterproductive work behaviors. Consequently, the work of providing the organizations with efficient research-based tools for an adequate human resources management will be continued.

It is also recommended to consider the additional influence of situational variables in integrity and CWB assessment, such as employee engagement, security control norms (Fine et al., 2010) or work satisfaction, especially in a context where few organizational psychology or human resources management studies have been developed. This is based on findings that imply that these situational antecedents should be assessed and managed to help identify and minimize the risk of CWB, especially when integrity is low (Bazzy & Woehr, 2017; Fine et al., 2010).

References

Ajzen, I. (1991). The theory of planned behavior. *Orgnizational Behavior and Human Decision Processes*, *50*, 179-211. http://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I. & Fishbein M. Attitude-Behavior Relations: A Theoretical Analysis and Review of Empirical Research. *Psychological Bulletin*, *84*(5), 888-918.

Alliger, G. M., & Dwight, S. A. (2000). A meta-analytic investigation of the susceptibility of integrity tests to response distortion. *Educational and Psychological Measurement*, *60*, 59-72.

Aubé, C., Rousseau, V., Mama, C., & Morin, E. M. (2009). Counterproductive behaviors and psychological well-being: The moderating effect of task interdependence. *Journal of Business and Psychology*, *24*(3), 351-361. http://doi.org/10.1007/s10869-009-9113-5

Aubé, C., & Rousseau, V. (2014). Counterproductive behaviors. *Team Performance Management: An International Journal*, *20*(5/6), 202–220. http://doi.org/10.1108/TPM-05-2013-0014

Bazzy, J. & Woehr, D. (2017). Integrity, ego depletion, and the interactive impact on counterproductive behavior. Personality and individual differences, *105*(1), 124-128. http://dx.doi.org/10.1016/j.paid.2016.09.037

Bolton, L. R., Becker, L. K., & Barber, L. K. (2010). Big Five trait predictors of differential counterproductive work behavior dimensions. *Personality and Individual Differences*, *49*(5), 537-541. http://doi.org/10.1016/j.paid.2010.03.047

Bowling, N. A., & Burns, G. N. (2015). Sex as a Moderator of the Relationships Between Predictor Variables and Counterproductive Work Behavior. *Journal of Business and Psychology*, *30*(1), 193-205. http://doi.org/10.1007/s10869-013-9342-5

Bowling, N.A., & Gruys, M. (2010). Overlooked issues in the conceptualization and measurement of counterproductive work behavior. *Human Resources Management Review*, *20*(1), 54-61. http://doi.org/10.1016/j.hrmr.2009.03.008

Diario Correo, (2016). *"Más del 60% de empresas en el Perú cometen actos de corrupción"*. [online] Diario Correo. Available at: http://diariocorreo.pe/politica/mas-del-60-de-empresas-en-el-peru-cometen-actos-de-corrupcion-684454/

Fida, R., Paciello, M., Tramontano, C., Fontaine, R. G., Barbaranelli, C., & Farnese, M. L. (2015). An integrative approach to understanding counterproductive work behavior: The roles of stressors, negative emotions, and moral disengagement. *Journal of Business Ethics*, *130*(1), 131–144. http://doi.org/10.1007/s10551-014-2209-5

Fine, S. (2009). Employee integrity appraisal manual. Technical Report, Midot, Ltd.

Fine, S. (2010). Cross-Cultural Integrity Testing as a Marker of Regional Corruption Rates. *International Journal of Selection and Assessment*, *18*(3), 251-259. http://doi.org/10.1111/j.1468-2389.2010.00508.x

Fine, S., Horowitz, I., Weigler, H., & Basis, L. (2010). Is good character good enough? The effects of situational variables on the relationship between integrity and counterproductive work behaviors. *Human Resource Management Review*, *20*(1), 73-84. http://doi.org/10.1016/j.hrmr.2009.03.010

Fine, S. (2013). A look at cross-cultural integrity testing in three banks. *Personnel Review*, *42*(3), 266-280. http://doi.org/http://dx.doi.org/10.1108/00483481311320408

Fine, S., & Gottlieb-Litvin, Y. (2013). Justifying counterproductive work behaviors and an integrity-based conditional reasoning test: Back to the drawing board? *International Journal of Selection and Assessment*, *21*(3), 328–333. http://doi.org/10.1111/ijsa.12042

Fine, S., & Pecker, G. (2015). The RI -Multiple Integrity Inventory manual. Tel-Aviv, Israel: Midot.

Flórez, J. & Salas, E. (2011). Industrial and organizational psychology in Latin America: The Peruvian story. *The IndustrialOrganizational Psychologist, 4*.

Furnham, A. (2015). *Can you really test someone for integrity?*. [online] Fortune. Available at: http://fortune.com/2015/08/11/hiring-integrity-test/

Gestion. (2016). *Corrupción: Estas son las empresas que la consideran una 'amenaza significativa'*. [online] Available at: http://gestion.pe/empresas/corrupcion-estas-son-empresas-que-consideran-amenaza-significativa-2161990

Gruys, M. L., & Sackett, P. R. (2003). Investigating the Dimensionality of Counterproductive Work Behavior. *International Journal of Selection & Assessment*, *11*(1), 30-42. http://doi.org/10.1111/1468-2389.00224

Hofstede Centre (2016). *Peru - Geert Hofstede*. Available at: https://geert-hofstede.com/peru.html

Husted, B. (1999). Wealth, Culture, and Corruption. *Journal of International Business Studies*, 30(2) pp. 339-359.

Iliescu, D., Ispas, D., Sulea, C., & Ilie, A. (2015). Vocational fit and counterproductive work behaviors: A self-regulation perspective. *Journal of Applied Psychology*, *100*(1), 21-39. http://doi.org/http://dx.doi.org/10.1037/a0036652

Karren, R. J., & Zacharias, L. (2007). Integrity tests: Critical issues. *Human Resource Management Review*, *17*, 221-234.

León, F. (2013). Las psicologías del área social-organizacional en Perú: 2003-2012. *Revista de Psicología*, *31*(2), 179-126.

MacLane, C. & Walmsley, P. (2010). Reducing counterproductive work behavior through employee selection. *Human Resource Management Review, 20*(1). 62-72. http://doi.org/10.1016/j.hrmr.2009.05.001

Marcus, B., Goffin, R. D., Johnston, N. G., & Rothstein, M. G. (2007). Personality and Cognitive Ability as Predictors of Typical and Maximum Managerial Performance. *Human Performance*, *20*(3), 275-285. http://doi.org/10.1080/08959280701333362

Marcus, B., Lee, K., & Ashton, M. C. (2007). Personality dimensions explaining relationships between integrity tests and counterproductive behavior: Big five, or one in addition? *Personnel Psychology*, *60*(1), 1-34. http://doi.org/10.1111/j.1744-6570.2007.00063.x

Marcus, B., Taylor, O. a., Hastings, S. E., Sturm, a., & Weigelt, O. (2013). *The Structure of Counterproductive Work Behavior: A Review, a Structural Meta-Analysis, and a Primary Study*. *Journal of Management, XX*. http://doi.org/10.1177/0149206313503019

Meriac, J. P., & Gorman, C. A. (2016). Work Ethic and Work Outcomes in an Expanded Criterion Domain. *Journal of Business and Psychology*. http://doi.org/10.1007/s10869-016-9460-y

Omar, A., Vaamonde, J. & Delgado H. (2012). Comportamientos contraproducentes en el trabajo:diseño y validación de una escala. *Diversitas, 8*(2), 249-265.

Palanski, M. E., & Yammarino, F. J. (2007). Integrity and Leadership: Clearing the Conceptual Confusion. *European Management Journal*, *25*(3), 171-184. http://doi.org/10.1016/j.emj.2007.04.006

Palanski, M. E., & Yammarino, F. J. (2009). Integrity and leadership: A multi-level conceptual framework. *Leadership Quarterly*, *20*(3), 405-420. http://doi.org/10.1016/j.leaqua.2009.03.008

Recruiterbox (2016). *What Warren Buffett Wants to Know Before He Hires You.* Available at: http://recruiterbox.com/blog/what-warren-buffett-wants-to-know-before-he-hires-you/

Schwager, I. T. L., Helsheger, U. R., Lang, J. W. B., Klieger, D. M., Bridgeman, B., & Wendler, C. (2014). Supervisor ratings of students' academic potential as predictors of citizenship and counterproductive behavior. *Learning and Individual Differences*, *35*, 62-69. http://doi.org/10.1016/j.lindif.2014.07.005

Spector, P. E., & Fox, S. (2005). The Stressor-Emotion Model of Counterproductive Work Behavior. *Counterproductive Work Behavior: Investigations of Actors and Targets*, 151-174. http://doi.org/10.1037/10893-007

Spector, P. E., & Zhou, Z. E. (2013). The Moderating Role of Gender in Relationships of Stressors and Personality with Counterproductive Work Behavior. *Journal of Business and Psychology*, 1-13. http://doi.org/10.1007/s10869-013-9307-8

U.S. Congressional Office of Technology Assessment (1990). The use of integrity test for pre-employment screening (Report No. OTA SET-442). Washington, D.C.: U.S. Government Printing Office.

Vardi, Y., & Weitz, E. (2004). Misbehavior in organizations. Mahwah, NJ: Lawrence Erlbaum.

Vega, E. (2016). *Corrupción hace perder al Perú unos S/33.800 millones al año*. El Comercio. Available at: http://elcomercio.pe/economia/dia-1/corrupcion-hace-perder-al-peru-s33800-millones-al-ano-noticia-1907067

Wanek, J. E. (1999). Integrity and honesty testing: What do we know? How do we use it? *International Journal of Selection and Assessment, 7*, 183-195.

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