RESEARCH PAPER

Positive Psychological Capital (PsyCap) Meets Multitrait-Multimethod Analysis: Is PsyCap a Robust Predictor of Well-Being and Performance Controlling for Self-Report Bias?

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Abstract

A growing body of evidence suggests positive psychological capital (PsyCap) strongly predicts well-being and performance at work. However, most of this empirical research has used self-report survey designs, increasing the possibility of self-report and mono-method bias. The current study used a multitrait-multimethod (MTMM) research design and condition-based regression analysis to examine the effect of PsyCap on job well-being and work role performance beyond self-report bias. Findings from 416 full-time employees within 208 coworker pairs showed that self-reported and informant-reported PsyCap were predictive of job well-being and work role performance. However, multitrait-multimethod analyses showed mono-method measures may inflate the strength of association between PsyCap and work outcomes. Implications for future applied positive psychology research controlling for self-report and monomethod bias with multiple data sources are discussed.

Keywords Psychological capital · Well-being · Performance, self-report bias · Positive organizational behavior · Positive organizational psychology, MTMM

At the turn of the twenty-first century, Fred Luthans (Luthans, 2002) introduced Positive Psychological Capital (PsyCap) to the management and organizational behavior literature, inspired by Seligman and Csikszentmihalyi's (2000) positive psychology movement. Two decades later and the role of PsyCap on employee well-being and performance is well-documented. Several systematic reviews, meta-analyses, and PsyCap intervention studies demonstrate a relationship between PsyCap

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and desirable attitudes, behaviors, performance, and well-being (Avey et al., 2011; Dawkins et al., 2013; Donaldson et al., 2019; Newman et al., 2014). The impact of PsyCap on workplace well-being and performance has even been demonstrated across international contexts, including countries such as Australia, France, Italy, and South Africa to name a few (Donaldson et al., 2020a). Still, there is an open debate on how self-report and monomethod bias from survey measures may have influenced previous research findings on PsyCap (Luthans & Youssef-Morgan, 2017). The current study shed light on this major concern for organizational behavior researchers and practitioners working to improve PsyCap in the workplace.

Luthans (2002) defined PsyCap as a "positively oriented human resource strength and psychological capacity that can be measured, developed, and effectively managed for performance improvement in today's workplace" (p. 59). This evidence-based and validated construct has been cited more than 4300 times since 2007 (cf. Luthans et al., 2007). Positive psychological capital is measured by four theory-driven subdimensions sometimes described by the acronym HERO (Luthans & Youssef-Morgan, 2017):

Hope	–	goal-directed agency and planning (Snyder et al., 1996)
Efficacy	–	ability to execute tasks (Parker, 1998)
Resilience	–	overcome adversity and bounce back (Wagnild & Young, 1993)
Optimism	–	positive outlook and explanatory style (Scheier & Carver, 1985)

The relationship between PsyCap and work outcomes is of critical importance to practitioners, human resource managers, leaders, and organizational scholars interested in a positive approach to work. Avey et al. (2011) meta-analyzed PsyCap in the workplace using 51 samples representing more than 12,000 employees. Avey and colleagues found that PsyCap was a significant predictor of work performance, well-being, and negatively related to undesirable work outcomes (e.g., deviance, turnover intentions). Donaldson et al.'s (2019) meta-analysis of positive psychology interventions at work found a similar result for the impact of PsyCap interventions on work outcomes. For instance, PsyCap interventions were particularly effective at reducing undesirable work outcomes (e.g., turnover intentions). Another systematic review and synthesis of PsyCap found a relationship between PsyCap and individual, team, and organizational work outcomes, including absenteeism, team performance, and financial performance (Newman et al., 2014). The impact of PsyCap on well-being and performance has even been demonstrated in international contexts. Donaldson et al. (2020a, b) found that PsyCap was a strong predictor of overall work performance and well-being across 15 nations, some of which included Australia, France, Italy, and South Africa to name a few. Moreover, Adil and Kamal (2018) found that PsyCap was a significant predictor of job-related affective well-being (JAWS) in a sample of 500 Pakistani university teachers.

The most used measure in studies of PsyCap is the psychological capital questionnaire (PCQ-24), including a short version (PCQ-12) that measures each of PsyCap's subdimensions with 2–4 survey items (i.e., 4 items for hope, 3 for

self-efficacy and resilience, and 2 for optimism; Luthans et al., 2007). Luthans et al. (2007) validated the PCQ using four samples and found Cronbach alphas between .66 and .85 for each subscale and alphas above .88 for the overall scale. Dawkins et al. (2013) performed a critical analysis and psychometric review of the PCQ and suggested future research include methodological diversity to further explore convergent and discriminant validity. In another research synthesis of PsyCap, Newman et al. (2014) reported that the majority of studies on Psy-Cap suffer from self-report bias and that alternative measures, such as other-rated measures of PsyCap from partners and supervisors should be considered to control for common method variance.

Multitrait-multimethod (MTMM) research designs use at least two sources of information to measure the constructs of interest. For example, both self-reports and co-worker informant reports of PsyCap, well-being, and performance were used in this study. This allowed us to assess the convergent validity of our measurement approach, and to determine how much our measures were inflated by self-report and mono-methods bias (Campbell & Fiske, 1959; Meade et al., 2007; Podsakoff et al., 2003). Miner and Hulin (2006) suggest workplace studies that rely on self-report measures are prone to social desirability bias. Donaldson and Grant-Vallone (2002) provide four factors that may motivate bias in workplace research: sensitivity of the construct, true state of affairs, dispositional characteristics, and situational characteristics (see Fig. 1). These motivational biases make it difficult for organizational researchers to understand the true relationship between self-reported PsyCap and work performance. To combat possible self-enhancement effects that
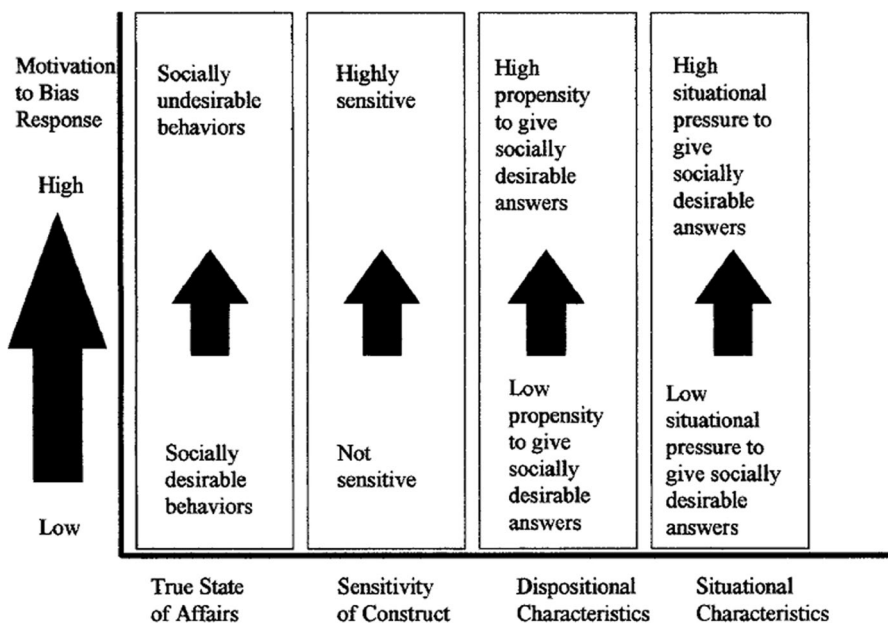

Fig. 1 Four Factors that Influence Self-Report Bias (Donaldson & Grant-Vallone, 2002)

may be influenced by social desirability bias, Humberg et al. (2018) developed a novel approach to allow researchers to detect self-enhancement in their data. This conditioned-based regression analysis mathematically disentangles the relationship between self-reports, informant-reports, and how the discrepancy between self-reports and informant-reports impacts the outcome of interest. Recently, Donaldson, Heshmati, et al. (2020b) examined two positive psychology constructs (PERMA and subjective well-being) using an MTMM research design, and found support for inflated parameter estimates between self-reported and informant-reported well-being.

1 Current Study

The purpose of the current study was to apply the MTMM research design implemented in Donaldson et al. (2020a, b) to investigate PsyCap, job-related affective well-being (JAWS), and work role performance. This is one of the first empirical studies to examine PsyCap using employee self-reports and employee informant-reports simultaneously. The following hypotheses were tested:

1. The relationship between the subdimensions of PsyCap (HERO), JAWS, and work role performance will be statistically significant for self-reports and informant-reports.
2. A multitrait-multimethod matrix of PsyCap, JAWS, and work role performance will demonstrate the desideratum criteria of convergent and discriminant validity proposed by Campbell and Fiske (1959). That is:

a) Convergence correlations between self-reported and informant-reported PsyCap, JAWS, and work role performance should be statistically significant.
b) Values in the validity diagonals should be higher than the values in the heterotrait-heteromethod blocks.
c) Values in the validity diagonals should be higher than the values in the heterotrait-monomethod blocks.
d) The relationship between PsyCap, JAWS, and work role performance should show the same pattern across all of the heterotrait and monomethod triangles.

3a PsyCap will be associated with self-enhancement, meaning higher values in the discrepancy between self-reports and informant-reports of PsyCap will predict higher values in JAWS and work role performance (i.e., calculated as the average score between self- and informant-reports).
3b PsyCap will be associated with positive self-reports, meaning higher values in self-reports will be predictive of higher values in JAWS and work role performance.

2 Method

The data reported in this manuscript were collected as part of a larger MTMM study focused on understanding the effects of self-report and mono-method bias in positive organizational behavior research. Donaldson et al. (2020a, b) published a paper on PERMA and subjective well-being which appeared in the *Journal of Positive Psychology*, and have another manuscript in press focused on the relationship between PERMA+4 and work role performance. However, the hypotheses and constructs analyzed in this paper are original and have not been published or presented prior to this submission.

2.1 Participants

Participants consisted of 416 full-time employees, including 208 coworker pairs. The average age was 40 ($SD = 12.5$). Six participants did not report their age. Most employees reported their gender identity as female (56%, $n = 231$) or male (43%, $n = 181$). Three employees did not report their gender. The majority of participants were White (63%, $n = 260$), Black (11%, $n = 46$), and Asian (10%, $n = 41$). In terms of educational attainment, Bachelor's degree (39%, $n = 158$), Master degree (26%, $n = 105$), Associate degree (20%, $n = 83$) were the most common. Nine participants did not report their highest degree. Represented work industries included Food and Beverage (19%, $n = 78$), Banking (13%, $n = 54$), and Media & Entertainment (13%, $n = 55$). Seven participants did not report their work industry. Approximately 70% of participants reported an annual income between 25 and 99 thousand dollars. Two participants did not report their income. Table 1 presents participants demographic characteristics.

2.2 Procedure

Qualtrics panels recruited a sample of full-time employees in the U.S. Participants received an email with survey instructions and were incentivized to complete the survey with a gift card. In the first part, incumbents completed the Psychological Capital Questionnaire (PCQ), JAWS, and the organizational-level items on the Work Role Performance Scale (Griffin et al., 2007; Luthans et al., 2007; Van Katwyk et al., 2000). The second part of the study included a transition between the incumbent and their closest coworker. The instructions read, "For the next stage of the survey, we ask that you please answer the questions about your closest coworker. Thank you for your participation." The close coworker then completed the items about their colleague. Demographic characteristics were included at the end of survey, such as gender, ethnicity, education, and income.

Table 1 Participant demographic Characteristics

Demographic variable	*n*	Mean (SD) or %
Age	410	40 (12.5)
Gender		
Female	231	56%
Male	181	44%
Other	1	<1%
Race/Ethnicity		
NH-White	260	63%
NH-NHOPI	2	<1%
NH-Multiple race	48	12%
NH-Black	46	11%
NH-Asian	41	10%
NH-AI/AN	4	<1%
Hispanic	15	4%
Degree		
Associate	83	20%
Bachelors	158	39%
Masters	105	26%
Doctorate	32	8%
Other	29	7%
Income		
Less than 25 k	28	7%
25-49 k	102	25%
50-74 k	96	23%
75-99 k	90	22%
100-150 k	80	19%
150 k+	18	4%
Industry		
Banking & Financial Services	54	13%
Education	12	3%
Food & Beverage	78	19%
Government	50	12%
Healthcare	19	5%
Manufacturing	40	10%
Media & Entertainment	55	13%
Retail, Wholesale, & Distribution	39	10%
Software & IT Services	7	2%
Non-Profit	27	6%
Other	28	7%

Other = I identify my gender in another way or I prefer not to answer; NH = Non-Hispanic, AI/AN = American Indian or Alaska Native, NHOPI = Native Hawaiian and Other Pacific Islander

3 Measures

Psychological Capital Questionnaire The PCQ measures the four dimensions of PsyCap – hope, self-efficacy, resilience, and optimism. Two items on each construct were adapted for the current study. Example items include "I feel confident representing my work in a meeting with management," and "If I should find myself in a jam at work, I could think of many ways to get out of it." These items were modified for the informant-reports. For example, "My colleague feels confident representing his/her work in a meeting with management." Luthans et al. (2007) found support for the reliability and validity of the PCQ, and found predictive validity with job performance and well-being.

Job-Related Affective Well-Being The 10-item short version of the JAWS scale was used to measure well-being (Van Katwyk et al., 2000). The JAWS scale is comprised of four subdimensions: high pleasurable-high arousal emotions (HPHA; e.g., energetic, excited), high pleasurable-low arousal emotions (HPLA; e.g., at-ease, calm), low pleasurable-high arousal emotions (LPHA; e.g., angry, anxious), and low pleasurable-low arousal (LPLA; e.g., bored, depressed) emotions. A wealth of research supports the validity of the JAWS scale in various populations (Van Katwyk et al., 2000). Responses are measured on a five-point Likert-type scale from 1 (*Never*) to 5 (*Extremely Often*). Example items include "My job made me feel angry," and "My job made me feel fatigued." These items were modified for informant-reports.

Work Role Performance Organizational proactivity, organizational proficiency, and organizational adaptivity were measured using the work role performance measure developed by Griffin et al. (2007). Griffin and colleagues reported a nine-factor structure (i.e., each dimension at the individual, team, and organizational level) fit best with excellent internal consistencies (alpha ranging from 83 to 93). Using three items on each construct, participants reported their organizational proficiency, organizational proactivity, and organizational adaptivity in the workplace on a 7-point Likert-type scale from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). An example item includes "I cope with changes in the way the organization operates." These items were modified for informant-reports.

3.1 Analytic Strategy

All analyses were conducted in R (version 3.6.1, R Foundation for Statistical Computing, 2019) using the psych (Revelle, 2019), Hmisc (Harrell, 2019), QuantPsyc (Fletcher, 2010), and lavaan (Rosseel, 2012) packages. Pearson's linear correlation coefficients and Cohen's *D* were computed between PsyCap, JAWS, and work role performance. For the conditioned-regression analysis, coefficients and their standard errors were computed from the linear regression eq. $Z = c_0 + c_1 S + c_2 R + \varepsilon$. Z corresponds to JAWS and work role performance, S and R reflect self-reported and informant-reported PsyCap, respectively, *c* refers to

their parameters, and e represents measurement error. The second part of the computation is the parameter for self-enhancement of abs: $|c_1$-$c_2| - |c_1 + c_2|$ and the standard error of those terms calculated using lavaan in R (Rosseel, 2012). The more the parameter $abs > 0$, the higher the self-enhancement effect is in the data. A significant c_1 parameter provides support for the positive self-view hypothesis, which states that higher self-reports are related to higher values in an outcome of interest. A significant c_2 parameter suggests that controlling for self-reports, informant-reports are predictive of an outcome of interest. Example R code and open science framework materials were used to compute the condition-based regression analysis (see https://osf.io/e8p5r/).

4 Results

4.1 Initial Data Analysis

Exploratory data analyses showed that PsyCap, JAWS, and organizational adaptivity, proactivity, and proficiency were normally distributed with no significant skewness or kurtosis statistics. The initial sample consisted of 221 coworker pairs with 100% completed self-reports on PsyCap, JAWS, and work role performance. Thirteen pairs had incomplete informant-reports on either measure of PsyCap, JAWS, or work role performance and were dropped from further analyses. This resulted in an analytic sample of 416 employees nested in 208 coworker pairs.

4.2 Convergence between PsyCap, JAWS, and Work Role Performance

The convergence correlations between self-reported and informant-reported PsyCap, JAWS, and work role performance were significant and strong, ranging from $r = .58$ to .82. Table 2 presents descriptive statistics and convergence (r) between self-reported and informant-reported PsyCap, JAWS, and work role performance. Table 2 also shows mean differences between self-reports and informant-reports on study variables using Cohens D. All mean differences were small.

Table 3 shows convergence correlations between self-reported hope, self-efficacy, resilience, optimism, and self- and informant-reported JAWS and work role performance. All correlations in Table 3 were strong, ranging from $r = .58$ to .81. Self-reported correlations between hope, self-efficacy, resilience, and optimism and work outcomes were systematically higher than correlations between self-reported hope, self-efficacy, resilience, and optimism for informant-reported work outcomes. These findings provide support for *Hypothesis 1*.

4.3 Multitrait-Multimethod Matrix

Hypothesis 2a stated that convergence correlations should be statistically significant and warrant future attention. Table 4 shows strong positive correlations (all

Table 2 Means, SDs, Zero-Order Correlations, and Mean Differences between Self-Reported and Informant-Reported Psychological Capital, JAWS, and Work Role Performance

Variables	Self-reports		Informant-reports		Convergence (r)	Cohens (D)
	M	SD	M	SD		
Psychological Capital	5.16	1.14	5.06	1.17	.75**	.09 [−0.04, .23]
Hope	5.15	1.21	5.10	1.24	.68**	.05 [−0.09, .18]
Self-Efficacy	5.18	1.34	5.10	1.31	.58**	.06 [−0.07, .20]
Resilience	5.23	1.22	4.99	1.32	.59**	.18 [0.05, .32]
Optimism	5.10	1.25	5.04	1.22	.70**	.05 [−0.09, .18]
JAWS	3.38	0.95	3.38	0.93	.82**	0.0 [−0.14, .14]
Work Role Performance						
Organizational adaptivity	5.25	1.22	5.06	1.22	.71**	.15 [.01, .28]
Organizational proactivity	5.18	1.22	5.07	1.25	.68**	.11 [−0.02, .25]
Organizational proficiency	5.17	1.25	5.04	1.24	.74**	.10 [−0.04, .24]

Convergence indicates Pearson correlation coefficients between self-reports and informant-reports for each of the study variables; ** = $p < .01$; $N = 416$

correlations > .68) for PsyCap, JAWS, and work role performance. Thus, the significant validity diagonals provide support for *Hypothesis 2a. Hypothesis 2b* suggested the values in the validity diagonals should be higher than the values in its column and row heterotrait-heteromethod triangles. This evaluation criterion was supported for PsyCap, JAWS, organizational adaptivity, organizational proactivity, and organizational proficiency, but not for the relationship between PsyCap and organizational proficiency ($r = .74$).

Hypothesis 2c stated that the values in the validity diagonals should be higher than the values in the heterotrait-monomethod blocks. As shown in Table 4, *Hypothesis 2c* was only supported for JAWS. The validity diagonal for PsyCap, organizational adaptivity, organizational proactivity, and organizational proficiency were unanimously smaller than the heterotrait-monomethod triangles.

Table 3 Correlation Coefficients of Self-Reported Psychological Capital Subdimensions with Self-Reported and Informant-Reported JAWS and Work Role Performance

Variables	Hope		Self-Efficacy		Resilience		Optimism	
	Self	Inform	Self	Inform	Self	Inform	Self	Inform
JAWS	.68	.59	.64	.54	.67	.60	.72	.62
Organizational adaptivity	.81	.69	.71	.60	.76	.68	.79	.67
Organizational proactivity	.76	.68	.67	.58	.70	.66	.74	.68
Organizational proficiency	.76	.70	.71	.61	.70	.67	.78	.70

Convergence indicates Pearson correlation coefficients between self-reports and informant-reports for each of the study variables; JAWS = job-related affective well-being; Self = self-reports; Inform = informant-reports; All correlation coefficients were significant at p < .01; $N = 416$

Table 4 A Multitrait-Multimethod Matrix of Psychological Capital, JAWS, Work Role Performance (N=416).

	Traits	Self-Reported					Informant-Reported				
		PsyCap	JAWS	ADAPT	PRO	PROF	PsyCap	JAWS	ADAPT	PRO	PROF
Self-Reported	PsyCap	(.93)									
	JAWS	.74	(.96)								
	ADAPT	.84	.69	(.91)							
	PRO	.79	.67	.82	(.91)						
	PROF	.82	.70	.86	.81	(.89)					
Informant-Reported	PsyCap	**.74**	.67	.70	.67	.70	(.95)				
	JAWS	.64	**.82**	.60	.58	.62	.75	(.96)			
	ADAPT	.72	.65	**.71**	.68	.72	.88	.74	(.91)		
	PRO	.71	.64	.68	**.68**	.68	.87	.75	.89	(.91)	
	PROF	.74	.66	.68	.66	**.73**	.87	.74	.87	.90	(.89)

Note. Reliability diagonals = monotrait-monomethod Cronbach's alpha values in red; Monomethod block = orange heterotrait-monomethod triangles; Heteromethod block = purple heterotrait-heteromethod purple; Validity diagonals = monotrait-heteromethod values in bold; PsyCap = psychological capital; ADAPT = organizational adaptivity; PRO = organizational proactivity; PROF = organizational proficiency; All correlation coefficients were significant at p < .01.

Finally, *Hypothesis 2d* tested the pattern of trait interrelationships shown in both the monomethod and heteromethod blocks. The interrelationships in the monomethod blocks compared to the heteroblocks were comparable. Thus, these findings provide support for *Hypothesis 2d*.

4.4 Effects of Self-Enhancement and Positive Self-Reports of PsyCap on JAWS and Work Role Performance

Hypothesis 3a suggested PsyCap scores will be self-enhanced, meaning larger differences would exist between self-reported and informant-reported PsyCap relative to JAWS and work role performance. As demonstrated in Table 5, and in concordance

Table 5 Self-Reported and Informant-Reported PsyCap Predicting Averaged Self-Reported and Informant-Reported JAWS and Work Role Performance

Work Outcomes	c_1	c_2	$c_1 + c_2$	$c_1 - c_2$	*abs*
JAWS	.31	.34	.65	−.03	−.62
Organizational adaptivity	.47	.47	.94	0.0	−.95
Organizational proactivity	.44	.48	.92	−.04	−.89
Organizational proficiency	.44	.51	.95	−.07	−.89

All *c* parameters are significant at $p < .05$; According to the CRA approach, an effect of self-enhancement exists if abs: $|c_1 - c_2| - |c_1 + c_2|$ is significantly positive; N=416

with the self-enhancement theorem, *abs* was not significant for JAWS and work role performance. Thus, *Hypothesis 3a* was not supported. However, c_1 and c_2 were > 0 providing support for *Hypothesis 3b*. Thus, increases in self-reported PsyCap were associated with increases in averaged JAWS and work role performance, even if true PsyCap scores varied. Likewise, controlling for self-reports, there was a positive relationship between informant-reported PsyCap and averaged JAWS and work role performance. While there was no significant self-enhancement effect, the c_1-c_2 parameter showed that increases in self-enhancement were associated with lower JAWS and work role performance.

5 Discussion

This study examined PsyCap beyond self-report bias using an MTMM research design, including a conditioned-based regression analysis to examine self-enhancement from self-reported data. Several theoretical and practical implications emerged: a) strong positive correlations were observed between PsyCap's subdimensions (HERO), JAWS, and work role performance with a small decrease observed between self-reported and informant-reported work outcomes, b) monomethod correlations between PsyCap, JAWS, and work role performance were higher than heteromethod correlations, and c) there was no self-enhancement effect found between PsyCap, JAWS, and work role performance. However, self-reported and informant-reported PsyCap were significantly associated with JAWS and work role performance. All together, these findings suggest that PsyCap is a strong predictor of employee well-being and performance, and future research should consider multiple measures to obtain the most accurate parameter estimates when interpreting PsyCap's impact on work outcomes.

As displayed in Table 3, each subdimension of PsyCap was strongly correlated with JAWS and work role performance, providing support for *Hypothesis 1*. When examining the relationship between self-reported PsyCap and informant-reported JAWS and work role performance, the correlation coefficients dropped between .03–.12 for each work outcome, respectively. Dawkins et al. (2013) suggested the relationship between each component of PsyCap and work outcomes should be calculated in addition to an overall PsyCap score. We found convergent validity between HERO and work outcomes, controlling for informant-reports. Future research would benefit from several types of informant-reports in addition to close colleagues, such as supervisors, clients, and subordinates.

Convergent and discriminant validity of PsyCap, JAWS, and work role performance was examined using an MTMM correlation matrix (Campbell & Fiske, 1959). Internal consistency for all study variables were in the excellent range (Cronbach, 1951). However, the high alpha values < .90 may suggest that items on the subscales were redundant (Tavakol & Dennick, 2011). Table 4 shows that the convergence correlations (i.e., self-reported and informant-reported correlations for each study variable) ranged from .68 to .82 with the adjacent heteromethod triangles being smaller than the convergence correlations. This demonstrates support for *Hypothesis 2a* and *Hypothesis 2b*. However, a comparison of the convergence correlations and the monomethod triangles shows higher correlations between different

traits using the same method. This suggests that common method variance may have inflated the correlation coefficients. Newman et al. (2014) warned that common method variance influenced PsyCap and work outcomes in prior meta-analytic research. Interestingly, the convergence correlation for JAWS was higher than monomethod and heteromethod triangles with different traits. A review of studies using JAWS demonstrates reliable and valid measurement across several populations, including primary health care physicians, office workers, and bus drivers to name a few (Machin & Hoare, 2008; Uncu et al., 2007; Wilkerson et al., 2008). As a result, we did not find support for PsyCap in *Hypothesis 2c*. Finally, *Hypothesis 2d* was supported with strong positive relationships between PsyCap, JAWS, and work role performance for monomethod and heteromethod triangles.

Humberg et al. (2018) created a regression analysis that separates the effects of self-enhancement from the effects of positive of self-view. For example, the approach examines the discrepancy between self-reports and informant-reports on work outcomes in addition to the role of self-reports and informant-reports alone. In the current study, self-reported PsyCap was a significant predictor of JAWS and work role performance, providing support for *Hypothesis 3b.* We found no self-enhancement effect of PsyCap in our data. Still, Donaldson and Donaldson (in press) found that more than half of employees agreed that their self-reports may be inaccurate and that they had some concern their answers could get back to their supervisor. As shown in Table 5, controlling for self-reports, informant-reports were predictive of work outcomes. Likewise, controlling for informant-reports, self-reports were predictive of work outcomes. Future studies will need to explore the role of self-enhancement in more validation samples.

Furthermore, Fox et al. (2007) recognize methodological issues may exist within informant-reported data. For example, Horn errors may occur in informant-reports where a rater gives a higher or lower assessment based on a global judgment of their coworker. Donaldson and Grant-Vallone (2002) discussed using self-reported and informant-reported data as a yardstick for the confidence interval between the true score. This recommendation was used to estimate the reality criterion in the current regression analysis. Future research on PsyCap would benefit from using multiple data sources to explore the role of self-report and monomethod bias on well-being and performance.

6 Limitations and Future Directions

While this study examined PsyCap's effect on well-being and performance beyond self-report methodology, several limitations deserve further attention. First, we asked employees to recruit their closest coworker. It is possible that employees chose coworkers who had the highest propensity of giving desirable feedback. Fox et al. (2007) suggests coworkers may fear retribution for reporting a fellow coworker's job performance. Second, the data collected was cross-sectional. Future research using MTMM designs would benefit from test-retest reliability, longitudinal data, and using reliable scale measures with modest Cronbach's alpha values to avoid redundant items. Finally, because self-report and informant-report instruments

are vulnerable to inflated or deflated ratings, objective or archival data like absenteeism would further help us understand the relationship between PsyCap and an objective reality criterion.

7 Conclusion

The current study found support for the relationship between PsyCap, job-related well-being, and work role performance using multitrait-multimethod analyses. While PsyCap was a significant predictor of work outcomes, inflated correlations due to monomethod bias may overestimate the effect of PsyCap on work outcomes. More research is needed to investigate the role of self-report and monomethod bias on PsyCap, and explore alternative statistical and design control methods. Finally, we are hopeful that these research findings will spur methodological developments to advance the measurement of this seminal construct in the area of positive organizational behavior.

Declarations

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval This article does not contain any studies with human participants or animals performed by any of the authors.

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