ABSTRACT

CAMPBELL, CHELSI FAITH. The Association Between Psychological Capital and Self-Reported Organizational Constraints (Under the direction of Dr. Lori Foster).

In today's fast-paced and resource-limited workplaces, leaders must continuously adapt to various job demands, including organizational constraints. The way leaders experience organizational constraints may be influenced not only by the workplace conditions but also by their personal resources, such as Psychological Capital (PsyCap), which consists of hope, self-efficacy, resilience, and optimism. Grounded in the Job Demands-Resources (JD-R) model, this study explores the relationship between PsyCap and perceived organizational constraints. I took both a person and variable-centered approach to examine leader PsyCap, drawing from leaders (N = 509) working across a wide range of organizations. Latent profile analysis (LPA) identified three profiles labeled as "higher," "medium," and "lower" based on mean scores of the four PsyCap facets. However, there were no statistically significant level or shape differences between the profiles. The relationship between aggregate PsyCap scores and perceptions of 16 specific organizational constraints was assessed. PsyCap was significantly related to all organizational constraints, and had a statistically stronger relationship with less tangible constraints, such as workplace culture and training, than with more tangible constraints, such as lack of equipment or supplies. Overall, these findings support measuring organizational constraints at a nuanced facet level. The results suggest that PsyCap is a valuable personal resource and that those with higher PsyCap may either perceive fewer organizational constraints or may manage those organizational constraints more effectively.

The Association between Psychological Capital and Self-Reported Organizational Constraints

by
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A dissertation submitted to the Graduate Faculty of
North Carolina State University
in partial fulfillment of the
requirements for the degree of
Doctor in Philosophy

Psychology

Raleigh, North Carolina
2025

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DEDICATION

To my mom and my grandma for their hope, efficacy, resilience, and optimism.

BIOGRAPHY

Chelsi Campbell was raised in Shelby, Ohio, where she graduated from Shelby High School. She moved to Westerville, Ohio, to attend Otterbein University, majoring in psychology and Spanish. After graduating with honors, Chelsi worked in non-profit fundraising, call center management, and recruiting before being accepted into Xavier University's Industrial Organizational Psychology Master's Program. With the support of her mentors, Chelsi was accepted into North Carolina State University's Doctoral program in the same field. During her time at NCSU, she was a behavior research associate with Duke University's Center for Advanced Hindsight and a behavioral science intern with UNICEF Montenegro. She also was an I/O Psychology Intern, and later an I/O Research Associate with the American Institutes for Research (AIR). She will continue working with AIR as an I/O Researcher upon graduation.

ACKNOWLEDGMENTS

They've long said it takes a village, and I've been privileged to be uplifted by mine. I want to start by offering my deepest gratitude to my advisor, Dr. Lori Foster. Thank you for your patience, guidance, and mentorship. There was a time when working with you seemed like a far-fetched dream. Thank you for making it a reality.

To my committee members, Drs. Bart Craig, Adam Meade, and Jeff Pollack thank you for your guidance in the classroom, throughout the dissertation process, and beyond. I look forward to applying the lessons I learned from each of you and hope our paths cross again soon.

To my friends and colleagues at the Center for Advanced Hindsight, UNICEF, AIR, and SIOP UN, I owe you a debt of gratitude for helping me quickly realize that applied research is exactly where I want to be. I benefitted immensely from the mentorship and partnership of many, but I wanted to give a special thank you to Bharati, Christina, Charlie, David, Gee, and Yuliya from AIR; Swathi, Lyndsay, Judson, and Liz from CAH; Julianne and Mario from UNICEF; and Morrie, Mark, and Sara from SIOP UN. I appreciate all of the doors you have opened for me.

To my NC friends, thank you for making it feel like home. Jenna, Sean Noble, and Alison, you were my first friends and my biggest cheerleaders. Thank you for being my "A1 from Day 1". To Sean Chin, Vanessa, and Grace, thank you for our dinner dates, working sessions, and check-ins. Thank you, Rachel and Lisa, for getting me moving and out of my head. To my book club babes, I know we were technically virtual – but when you're fortunate enough to have a multi-year, multi-time zone group of readers, you don't take that for granted.

To the third-timers, thank you for taking on this whole journey with me. It has been years since I wrote my acknowledgments for that first undergrad thesis. Thank you, Jordan, for being my number two for so long that I'm unsure when or why that joke started. Thank you, Sara, Jex, Kailee, Kenzie, Katie, Sam, Dardio, Mia, and Evan, for showing me that “sisterhood” and “brotherhood” really are for life. Thank you, Stephany, for always being there and ensuring I always consult the literature.

To my family, thank you for reading this far. I am unsurprisingly long-winded. Thank you for helping me channel that energy into something good, for being excited for me even when you don’t understand what I’m excited about, and for reminding me that no matter what happens, I will always have a safe place to land. Salud!

To my dearest puppy, Edamame. You cannot read, but I hope you know you’re loved.

And finally, to my best friend, Parker. Thank you for always “taking a gamble on Campbell.” I would bet on us every single time

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The Association Between Psychological Capital and Self-Reported Organizational Constraints

In today's rapidly evolving work environment, navigating organizational constraints – ranging from insufficient resources to ineffective leadership – can be challenging. These constraints can impede performance (Meyer et al., 2010; Pindek et al., 2019) and affect employee well-being and job satisfaction (Irmer et al., 2019; Pindek & Spector, 2016). While traditional organizational research has explored external strategies to mitigate these constraints (Atkinson & Singer, 2021; Drzewiecka & Roczniewska, 2018), there is a growing recognition of the power of internal resources that employees possess (Newman et al., 2014; Spector et al., 2000; Youssef-Morgan & Sundermann, 2013). Rooted in the job demands-resources model (Schaufeli & Bakker, 2004), I propose that Psychological Capital (PsyCap), with its facets of hope, self-efficacy, resilience, and optimism, is an important individual resource that relates to how individuals perceive and experience organizational constraints in the workplace. The present study takes a person-centered (i.e., profile-based) and variable-centered approach to examine PsyCap. Then, it assesses the relationship between PsyCap and self-reported experiences of organizational constraints.

Understanding the relationship between PsyCap and the self-reported experience of organizational constraints answers three calls for research: 1) to explore unique compositions of PsyCap 2) to assess the extent to which individual differences relate to reports of organizational constraints (Bowling, 2024; Dawkins et al., 2013; Luthans & Youssef-Morgan, 2017), and 3) to take a facet, as opposed to a global approach to studying organizational constraints (Bowling, 2024). By addressing these research needs, we can gain deeper insights into how variations in psychological resources relate to perceived workplace demands.

Psychological Capital

Conceptualized “as an individual’s positive state of development” (Luthans, et al., 2006, p. 388), Psychological Capital is a higher-order construct consisting of four sub-facets: Hope, self-Efficacy, Resilience, and Optimism (referred to as HERO). It is characterized as 1) persisting towards objectives and adapting strategies as needed (hope), 2) believing in one’s ability to engage in and put effort towards completing demanding tasks (self-efficacy), 3) enduring and rebounding from challenges or setbacks to achieve success (resilience), and 4) making positive attributions regarding present and future success (optimism; Luthans et al., 2006).

PsyCap research is rooted in the positive organizational behavior (POB) literature, which focuses on individuals’ strengths and psychological capacities instead of their deficits or pathologies. Early POB literature positioned PsyCap as a higher-order construct composed of factors sharing motivational processes that work together to increase motivation and performance but are also considered empirically distinct (Kersting, 2003). Hope, self-efficacy, resilience, and optimism were initially selected as potential facets of PsyCap because of the unique contributions each has made to the POB field (Bryant & Cvengros, 2004; Peterson, 2000; Seligman, 1998; Snyder, 2002; Stajkovic & Luthans, 1998). They were also selected because they were considered malleable or changeable over time or with intervention.

Empirical tests later supported that measuring hope, self-efficacy, resilience, and optimism as a higher-order PsyCap construct was a stronger predictor of job performance than any single facet independently (Dawkins et al., 2013; Luthans et al., 2007). To this end, the most common approach to measuring PsyCap is to treat self-ratings as a composite higher-order factor such that people receive a single PsyCap score, with higher scores representing more psychological capital (e.g., Luthans et al., 2007). Utilizing this approach, research has supported that people with higher levels of overall PsyCap are more likely to self-report higher levels of job performance (Luo et al., 2022) and be rated as higher performers by their supervisors (Peterson et al., 2011). Additionally, they are more likely to report performing organizational citizenship behaviors (Wu & Nguyen, 2019) and coping with aversive leadership (Fatima et al., 2018), experiencing higher work engagement (Luthans et al., 2008), and less likely to report experiencing burnout (Moyer et al., 2017). Research further supported the malleability of PsyCap by measuring fluctuations of PsyCap over time (e.g., Avey et al., 2010; Peterson et al., 2011) and testing targeted interventions, such as PsyCap training, that led to an increase PsyCap scores of participants when compared to a control group (Luthans et al, 2008).

Recent research has explored alternative ways to analyze PsyCap facets, including looking at profiles or unique configurations of each facet (Bouckenooghe et al., 2019; Djourova et al., 2019; Ferradás et al., 2019; Gao, 2023; Teng et al., 2023). The profile approach focuses on identifying distinctive subgroups within the sample. The advantage of a profile-based approach is the recognition that individuals are not homogenous and can differ in each facet in meaningful ways. Different compositions could occur because PsyCap facets share overlapping, but distinct characteristics. For example, temporally, hope and optimism are related to positive future expectations, whereas self-efficacy and resilience are related to perseverance in the present, especially in the face of current difficulties (Ferradás et al., 2019; Luthans et al., 2006; Madrid et al., 2018). Additionally, optimism and resilience are characterized by adaptability and positivity, but self-efficacy and hope are characterized by willpower and agency (Luthans & Jensen, 2002; Snyder, 2000). Given this, it is possible that an individual could, for example, have high hope and optimism, but low self-efficacy and resilience. Someone else could be the opposite, with high self-efficacy and resilience but low hope and optimism. A profile-based approach would identify such distinctions, differentially categorizing these two individuals rather than treating them both as if they had an average amount of PsyCap. Once profiles are identified, researchers can understand how each relates to important workplace outcomes.

Five published studies have already taken a profile-based approach to examine PsyCap with a worker population, producing varying numbers and types of profiles (Bouckenooghe et al., 2019; Djourova et al., 2019; Ferradás et al., 2019; Gao, 2023; Teng et al., 2023). Gao (2023) and Teng et al. (2023) found profiles that were distinctive in the level of PsyCap, but did not vary across the PsyCap facets. That is, profiles were distinguished by having high ratings across all facets, medium ratings across all facets, or low ratings across all facets. For the other three studies, each used its own naming conventions to label the profiles that emerged. These studies had profiles that were distinguished by differing in shape. That is, profiles were higher on some facets and lower on others. The studies below illustrate the kinds of PsyCap profiles identified and how they relate to relevant workplace outcomes.

One of the first published examples is Bouckenooghe et al.'s (2019) analysis of PsyCap profiles of two separate populations: 1) clerical staff from Pakistan and 2) Ukrainian professionals. Using the 24-item Psychological Capital Questionnaire (PCQ-24; Luthans et al., 2007), the same six profiles were identified across both populations. Four of the profiles reported similar strengths across all facets, such that the facet scores tended to vary across but not within profiles. One profile, however, was characterized by dominant low resilience, and another by dominant low optimism. Individuals in the dominant low resilience profile were marginally less engaged and were lower performers than individuals in all other profiles. One possible explanation of the emergence of a dominant low resilience profile is that individuals who have lived with certain privileges could be high in hope, self-efficacy, and optimism as things have traditionally “gone their way” but low in resilience as they have not had to encounter or overcome the same number of hurdles as others (Dóci et al., 2022).

In the same year, Djourova et al. (2019) published a latent profile analysis on the PsyCap of 1,752 Spanish employees across multiple organizations, measured by the shortened PCQ-12 (i.e., three items per facet; Luthans et al., 2007). The authors identified four profiles. One profile consisted of individuals who were low in self-efficacy and hope, but high in resilience and optimism. Another profile was the opposite: it contained individuals high in self-efficacy and hope, but low in resilience and optimism. A third profile was characterized by low hope and self-efficacy, but high resilience and optimism. The final profile contained individuals with high scores across all PsyCap facets. Profiles were compared concerning intrinsic satisfaction, organizational citizenship behavior, and performance. Relative to the high resilience/optimism profile, the high hope/efficacy profile reported higher levels of job satisfaction and organizational citizenship behaviors, but similar job performance. Those scoring high across all facets reported the highest level of organizational citizenship behaviors and job satisfaction. These results provide additional support for how the four PsyCap resources can work in tandem to reinforce one another, while highlighting how unique PsyCap configurations (e.g., high hope/efficacy, low resilience/optimism) differentially relate to important workplace outcomes.

Ferradás et al. (2019) also looked at the PsyCap of the Spanish workforce but focused exclusively on teachers and measured it with the Spanish language version of a PsyCap scale (CapPsi scale; Omar et al., 2014, as cited in Ferradás et al., 2019). In this instance, they identified seven profiles. Like Djourova et al. (2019), one profile was highly resilient and optimistic. One profile was higher in hope and optimism than efficacy and resilience. Another profile was the opposite: higher efficacy and resilience and lower hope and optimism. Finally, the remaining profiles were characterized as relatively equal across all PsyCap facets, but to different extents (e.g., high on all, low on all). Individuals who scored uniformly low across all facets reported the highest levels of emotional exhaustion and depersonalization and the lowest levels of personal accomplishment. There were also statistically significant differences between profiles with varying levels of PsyCap facets. Specifically, along with teachers who were high across all facets, scoring high in at least two facets (regardless of which two) was related to reporting lower levels of depersonalization than scoring uniformly low across all facets. Of note is that the profile characterized by high resilience and optimism, but low hope and efficacy, reported the same level of emotional exhaustion as those low in all facets. This supports the idea that different PsyCap facets can help teachers combat some aspects of burnout while leaving them susceptible to other aspects.

The examples above demonstrate how different compositions of PsyCap (i.e., profiles) provide another way of understanding PsyCap beyond the traditional aggregate score. Specifically, there were differences between profiles on reported engagement, performance, satisfaction, emotional exhaustion, and feelings of personal accomplishment. However, the studies above focus primarily on how PsyCap, a personal resource, relates to workplace outcomes. What about workplace demands? Theoretically, resources and demands operate in tandem to affect workplace outcomes. Examining how PsyCap relates to the experience of workplace demands is an important step in fully understanding how it manifests in organizational settings.

Psychological Capital and the Job Demands-Resource Model

The Job Demands-Resources (JD-R) model offers a framework for understanding how people experience and perceive workplace demands and why individual differences, such as PsyCap, can influence these perceptions. The JD-R model is a unifying job design theory that integrates various job stress and motivational perspectives, such as the conservation of resources theory and the stressor-strain model, to comprehensively understand the relationship between job characteristics and employee well-being (Bakker et al., 2014). It considers individual and organizational-level variables to explain how job demands and resources affect job performance through employee well-being (e.g., burnout, work engagement). It also describes how employees use proactive and reactive work behaviors to manage those demands and resources (Demerouti et al., 2011).

In the JD-R model, job demands are aspects of the job that require sustained physical or psychological effort. Demands drain employees' energy, leading to strain or stress, and ultimately to burnout or physical harm (Bakker et al., 2014). Job demands have a reciprocal relationship with job resources, or aspects of the job that help workers achieve work goals, reduce job demands, and stimulate personal growth and development. In the JD-R model, stressors are a type of job demand. The amended job demands-resources model (Crawford et al., 2010; Van den Broeck et al., 2010) suggests that not all stressors are created equally. Specifically, recent changes to the JD-R model integrate the Challenge-Hindrance Stress Model. The amended jobs demands-resources model expands the definition of job demands to differentiate stressors as either hindrance stressors (i.e., demands that interfere with performance) or challenge stressors (i.e., demands that require effort, but can benefit employees). Examples of challenge stressors include time pressure, workload, and job responsibility (Cavanaugh et al., 2000). Hindrance stressors include workplace politics, role conflict, and organizational constraints (Bowling, 2024; Cavanaugh et al., 2000).

In the JD-R model, PsyCap is an individual-level resource that workers can draw from to overcome job demands in less-than-ideal working conditions (Grover et al., 2018). Those with increased PsyCap elements are potentially better equipped to manage demands. For example, research has supported that PsyCap moderated the relationship between demands and burnout, such that the relationship was weaker when PsyCap was higher (Min et al., 2015). Despite this initial evidence, limited research explores the relationship between individual-level resources, such as PsyCap, and specific job demands, such as organizational constraints.

Organizational constraints are a specific hindrance job demand worthy of investigation. Previous literature has found a weaker-than-expected relationship between organizational constraints and job performance (Pindek & Spector, 2016b), leading researchers to explore the reasons for this finding. One proposition is that individual differences are related to how constraints are perceived and experienced in the workplace (Pindek & Spector, 2016b). For example, Pindek and Spector (2016b) argued that classifying constraints as a hindrance stressor is “too simplistic” because some constraints could be viewed as more hindering while others might be more challenging. They joined other researchers (e.g., Min et al., 2015; Webster et al., 2011) in calling for additional studies on the individual differences related to appraisals of organizational constraints.

Psychological Capital and Organizational Constraints

Organizational constraints include “any workplace condition that undermines a worker’s ability to perform job tasks” (Pindek & Spector, 2016, p. 7). Examples include poor training, disruptive coworkers, insufficient work supplies, and staffing shortages (Bowling et al., 2024). In the United States, organizational constraints contribute to work being a significant source of stress for around 66% of employed Americans (American Psychological Association, 2021). Specifically, the average American worker is likely to report encountering some form of organizational constraints around once or twice a month (Spector & Jex, 1998), making it a common occurrence in the workforce.

Organizational constraints affect workers and the workforce negatively. For example, individuals who report higher numbers of organizational constraints are more likely to experience higher stress levels, burnout, and other adverse health outcomes (Bowling, 2024; Irmer et al., 2019; Pindek & Spector, 2016). Relatedly, they are also less likely to report performing organizational citizenship behaviors, and more likely to report performing counterproductive work behaviors and organizational withdrawal (Fox et al., 2018; Pindek & Spector, 2016). The adverse outcomes related to organizational constraints may stem from both the constraints themselves, which limit an employee's ability to perform their job, and from the negative emotions associated with perceiving or experiencing these constraints (Bowling, 2024). Arguably, individual differences, such as differences in PsyCap, can impact how many constraints are perceived and how those constraints are experienced.

PsyCap elements may be related to self-reports of organizational constraints in two ways: 1) a decrease in the objective existence of organizational constraints and 2) a differential subjective perception of the workplace and its related organizational constraints. This paper does not intend to tease apart whether associations between PsyCap ratings are a result of perceptions, reality, or both. Nevertheless, it is still important to consider the ways in which PsyCap could shape workplace experiences.

First, having more PsyCap elements could decrease the objective existence of organizational constraints such that those with more PsyCap elements are more likely to have fewer demands (Grover et al., 2018). Research supports that people with high PsyCap are more employable (Elsey et al., 2022) and, therefore, could have more opportunities to self-select into environments with fewer organizational constraints. Once on the job, those high in PsyCap are more likely to leverage problem-solving strategies, including job crafting and utilizing social support to change their environment (Cenciotti et al., 2017; Miraglia et al., 2017), decreasing organizational constraints. For example, suppose an employee is constrained due to spending too much time in meetings. In that case, those with more PsyCap elements may be more likely to rearrange their schedule to remove unnecessary meetings or find ways to improve the meetings themselves (e.g., enhancing meeting agendas).

Second, in addition to potentially working in environments with fewer organizational constraints, those with more PsyCap elements may be less likely to perceive an organizational constraint as a job demand. A study of Australian nurses in the same hospital work environment reported a direct relationship between having higher PsyCap and reporting fewer job demands (Grover et al., 2018). Additionally, Min et al. (2015) propose PsyCap as a specific individual difference that contributes to whether demands are appraised as either a challenge stressor or a hindrance stressor. This could be because individuals with more PsyCap elements either perceive the stressor as a positive challenge to overcome or view themselves as having more to manage the situation (Avey et al., 2011; Grover et al., 2018; Min & Kim, 2021). For example, in a three-wave study of Chinese employees, higher PsyCap moderated the relationship between experiencing a hindrance stressor and appraising the stressor as actually hindering job performance (Feng et al., 2022). Adding to this, hope and optimism contribute to a positive outlook even in stressful situations (Djourova et al., 2022), suggesting that these two PsyCap facets could be significantly related to how a stressor is perceived.

Measuring Organizational Constraints: Taking a Facet Approach

Understanding the relationship between PsyCap and self-reported organizational constraints is shaped, in part, by how such constraints are measured. Traditionally, organizational constraints have been measured globally and self-reported to capture various environmental factors impeding job performance. Spector and Jex’s (1998) global measure of organizational constraints has been used in around 70% of all published studies on the topic (Bowling et al., 2024). It assesses the frequency of eleven constraints (e.g., poor equipment or supplies, inadequate help from others, conflicting job demands) by calculating one overall score.

Taking a facet approach to measuring organizational constraints could increase our understanding of constraints. A facet approach allows for a better understanding of the fundamental characteristics of organizational constraints and their related outcomes. It is possible that some constraints, especially those over which employees have limited control, could be perceived as more hindering than others (Pindek & Spector, 2016) and, therefore, have stronger relationships with organizational outcomes.

In developing the multi-facet organizational constraints scale (MOCS), Bowling et al. (2024) compared how sixteen discrete organizational constraints relate to relevant workplace outcomes. The facets measured encompassed both more and less tangible organizational constraints, including 1) physical conditions, 2) workplace culture, 3) poor training, 4) incorrect information, 5) coworkers disrupting work, 6) supervisor fails to give help, 7) lack of equipment, 8) lack of supplies, 9) budget shortages, 10) policies and procedures, 11) lack of authority to do job, 12) conflicting work demands, 13) work scheduling problems, 14) staffing shortages, 15) inadequate information technology, and 16) excessive time spent in meetings. Bowling et al. found different relationships between specific constraints and organizational outcomes. For example, a constraining workplace culture had the strongest negative correlation with job satisfaction of all the constraints measured. Just as organizational constraint facets vary with respect to their relationship with organizational outcomes, so too may they differentially relate to PsyCap.

Research Questions

Based on the job demands-resource model, I posit that PsyCap is an important personal resource related to how U.S. managerial workers report experiencing organizational constraints. I focus on U.S. managers because previous research has shown that leaders' PsyCap contributes to the development and management of PsyCap for both the leader and the follower (Luthans & Youssef-Morgan, 2017; Youssef-Morgan & Luthans, 2013). Despite the stated importance of leaders' PsyCap, limited PsyCap research focuses specifically on leaders' experiences (i.e., managers; for an exception, see Vogelgesang et al., 2014). Exploring managers' PsyCap and their relationship with self-reported organizational constraints provides insight into how PsyCap presents itself at the leadership level and which constraints different leaders are most likely to report experiencing. With that in mind, I propose the following research questions.

- Research Question 1: How many distinct profiles of psychological capital exist in a sample of U.S. managerial workers?
- Research Question 2: What are each profile's characteristics (level and shape), and what proportion of the sample is classified in each profile?
- Research Question 3a-3p: How does psychological capital relate to perceptions of the following organizational constraints: a) physical conditions, b) workplace culture, c) poor

training, d) incorrect information, e) coworkers disrupting work, f) supervisor failure to give help, g) lack of equipment, h) lack of supplies, i) budget shortages, j) policies and procedures, k) lack of authority to do the job, l) conflicting work demands, m) work scheduling problems, n) staffing shortages, o) inadequate information technology, and p) excessive time spent in meetings.

There are two ways to look at the linkage between PsyCap and organizational constraints. The first is to test whether workers with different PsyCap profiles systematically vary in their self-reported organizational constraints. The second is to look at PsyCap as a higher-level variable and assess its correlation with self-reported organizational constraints. If meaningful profiles exist, then Research Question 3 will be tested in both ways. If they do not, then Research Question 3 will be tested solely using the second, correlational approach.

Method

Sample

The final sample size for this study included 509 U.S. managerial workers. This meets the a priori minimum sample of 500, which was determined based on power analysis for a series of ANOVAs and Pearson correlations following Cohen's (1992) guidelines and research on LPA sample size recommendations ((Nylund-Gibson & Choi, 2018; Tein et al., 2013). To be eligible for this study, participants had to meet the following criteria: 1) be at least 18 years old, 2) reside in the United States, 3) be fluent in English, 4) be employed full-time, and 5) have experience managing direct reports. These requirements were pre-set in Prolific so that only those meeting all requirements were asked to participate. Participants were compensated $3.00 for completing the survey. The average completion time was 9.72 minutes. The average participant age was 41.37 (SD = 10.53). On average, participants had been in their position for 7.26 years (SD =

5.78), directly supervised 10 team members (M = 10.32, SD = 26.93), and had 9.65 years of supervisory experience (SD = 7.00). See Table 1 for additional sample demographics.

Design

This study measures participants' standing on two overarching constructs: psychological capital (PsyCap) and organizational constraints. The first variable, PsyCap, is subdivided into four dimensions: hope, self-efficacy, resilience, and optimism. The second variable, organizational constraints, comprises the 16 facets identified by Bowling et al. (2024) as described above.

Procedure

Participants were recruited through Prolific, a crowdsourcing internet marketplace. After being recruited through Prolific, participants completed an online survey on their computer, tablet, phone, or other internet-enabled device. The survey started by having participants provide informed consent. They then used a 6-point agreement scale to complete a measure of self-reported psychological capital (i.e., PCQ-24). Next, participants were given instructions for the organizational constraints scale, which is rated on a 7-point agreement scale. Prior to rating these items, instructions explicitly drew their attention to the response scale, which was different from the one they used previously, as it included a neutral midpoint. Participants were asked to consider their experiences at their full-time job (i.e., not Prolific) when answering organizational constraints questions. Subsequently, they completed the organizational constraints items, followed by workplace and demographic questions. The survey ended with participants getting a unique completion code that was submitted to their Prolific account for payment. Responses to all questions were required. Additionally, the survey included three instructed response items to test careless responding (e.g., "Please select 'Strongly agree' for this item").

Measures

Psychological Capital.

Psychological capital was measured using Luthans et al.'s. (2007) 24-item psychological capital questionnaire (PCQ-24). The PCQ-24 dimensions were developed using pre-existing measures of hope (Snyder et al., 1996), self-efficacy (Parker et al., 1998), resilience (Wagnild & Young, 1993), and optimism (Scheier & Carver, 1985). The PCQ-24 modified the original scales by contextualizing the items to focus on the workplace. The final scale includes six items for each of the four dimensions. For this study, the Cronbach's alphas were: hope (.86), self-efficacy (.86), resilience (.77), and optimism (.76). The scale was designed so that each dimension can be assessed either at the facet level or as an overall PsyCap score. To enable Latent Profile Analysis, this study analyzed the mean of each dimension individually.

PsyCap items were measured on a scale from 1 (strongly disagree) to 6 (strongly agree), with no neutral midpoint. While copyright constraints preclude a complete listing of items for each dimension, example items are "I feel confident analyzing a long-term problem to find a solution" (efficacy), "If I should find myself in a jam at work, I could think of many ways to get out of it" (hope), and "When I have a setback at work, I have trouble recovering from it, moving on" (resilience; reversed coded). One item in the resilience dimension was reversed coded. Two items in the optimism dimension were reverse-coded.

The PCQ-24 is copyrighted by Luthans and colleagues and published by Mind Garden Inc. (2007). Permission to use the PCQ-24 was obtained from Mind Garden. See Appendix A for copyright information and permission to use.

Organizational Constraints.

Organizational constraints were measured using Bowling et al.’s (2024) multi-facet organizational constraints scale (MOCS), which is provided in Appendix B. Across 48 items, the MOCS measures 16 discrete organizational constraints that can be analyzed at both the facet and global levels. For this study, each facet was analyzed individually using the average of its items. Cronbach’s alphas ranged from .91 to .98 and are provided in Table 3.

Each organizational constraint was assessed using three items. The item opening remained constant within each constraint and was paired with one of three endings, as Appendix B shows. An example item is “Because of the workplace culture where I am employed, my job is needlessly difficult” (workplace culture). Items were measured on a scale from 1 (strongly disagree) to 7 (strongly agree).

Workplace and Demographic Items.

Participants were asked to self-report demographic characteristics, including age, gender, race, ethnicity, and education level. Job-related variables such as the participants’ job titles, tenure, and industry were also collected. Participants were also asked why they participate in studies via Prolific. For a complete list of workplace and demographic items and response options, see Appendix C.

Results

Data Cleaning

Analyses began by evaluating the data for signs of careless response. This assessment involved three methods. First, I examined the answers to three instructed response items, which prompted participants to choose a particular answer (e.g., 'Please select “Strongly Agree”'). Respondents had to correctly answer two of the three instructed response items to qualify for this study. This aligned with the view of Ward and Meade (2023), who argued that even diligent respondents might still miss a single instructed response item. Of the 585 participants who completed the survey, 35 were removed for missing two or more of the instructed response items.

Second, I determined page-level response time across the survey. The survey had seven pages: 1) instructions and informed consent, 2) PCQ-24 questionnaire, 3) instructions explaining the difference between the PCQ-24 rating scale and the MOCS rating scale, 4) MOCS questionnaire, 5) a question asking participants their reasons for participating in Prolific surveys, 6) organizational demographics, 7) individual demographics. Following recommendations from Huang et al. (2012), respondents who averaged less than two seconds per item on two or more survey pages were removed from further analysis. An additional 29 respondents were removed for not meeting this page-level response time criterion.

Finally, participants were removed from the analysis for long string responses. The long string cut-off was determined using the “longstring” function of the dplyr package in R to identify the maximum length of consecutive identical responses for the MOCS and PCQ24 separately (Wickham et al., 2023). The inflection point was determined using the elbow method approach to visualize and determine the threshold at which the frequency of long string responses sharply increased, indicating a potential drop in data quality. For the 48-item MOCS questionnaire, the identified cut score was 42 items. The 10 participants endorsing the same response option 42 times or more were removed from the data. For the 24-item PsyCap questionnaire, the identified cut score was 18 items. Two additional participants were removed for endorsing the same response option 18 times or more. The remaining sample consisted of 509 participants.

Confirmatory Factor Analysis

After cleaning the data, I performed confirmatory factor analyses (CFAs) – first to test whether the PsyCap items loaded onto their appropriate latent construct (i.e., hope, self-efficacy, resilience, optimism) and then to test whether the organizational constraints items loaded onto their corresponding organizational constraint. CFAs were completed using R's Lavaan package (Rosseel, 2012). Latent variables were allowed to covary.

Fit was assessed using Hu and Bentler's (1999) guidelines for the following fit indices: $\chi 2$, CFI, TLI, RMSEA, and SRMR. According to these recommendations, the $\chi 2$ should not be statistically significant, CFI and TLI should be 0.95 or higher, RMSEA should be .06 or lower, and SRMR should be .08 or lower. Hu and Bentler (1999) emphasized that these thresholds are not strict cutoffs but should be used as a framework for evaluating model fit. Furthermore, research suggests complex, multifactorial models often result in lower fit indices (Marsh, 2004; Shi et al., 2019). Therefore, fit indices were used as guidelines for interpretation rather than as rigid criteria.

Some but not all of Hu and Bentler's (1999) thresholds were met for the PsyCap scale with the a priori four-factor model ($\chi 2(246) = 759.71$, $p < .001$, CFI = .91, TLI = .90, RMSEA = .06, SRMR = .05). The PsyCap model was deemed to have marginal fit, as the $\chi 2$ was significant and the CFI and TLI were both slightly lower than the recommended 0.95 cut score. An alternative model, where all items loaded onto one higher-order PsyCap construct was tested as a competing model ($\chi 2(252) = 1070.25$, $p < .001$, CFI = .86, TLI = .85, RMSEA = .08, SRMR = .06). A Chi-square difference test revealed that the four-factor model was a significantly better fit ($\Delta\chi^2(6) = 310.53$, $p < .001$). Because of this, the four-factor model was retained for analysis.

The second CFA evaluated the fit of the MOCS. The data demonstrated marginal fit for the a priori sixteen-factor model ($\chi 2(960) = 4072.08$, $p < .001$, CFI = .91, TLI = .90, RMSEA = .08, SRMR = .02) as the model had a significant $\chi 2$, lower than recommended CFI and TLI, and fell above the recommendations for RMSEA (Hu & Bentler, 1999). An alternative fifteen-factor model, where two highly correlated scales (equipment and supplies, r =.64) were combined into one subscale was also tested ($\chi 2(975) = 4446.88$, $p < .001$, CFI = .90, TLI = .89, RMSEA = .08, SRMR = .03). A Chi-square difference test revealed that the sixteen-factor model was a significantly better fit ($\Delta\chi^2(15) = 374.80$, $p < .001$). Finally, a third alternative one-factor model, where all items were loaded onto the same dimension, was also tested ($\chi 2(1080) = 22440.011$, $p < .001$, CFI = .39, TLI = .36, RMSEA = .20, SRMR = .11). A Chi-square difference test supported that the sixteen-factor model was a significantly better fit (($\Delta\chi^2(120) = 18367.90$, $p < .001$)). The original sixteen-factor model was retained for analysis.

Normality, Correlations, and Descriptive Statistics

Once the CFAs were completed, composite variables for the PsyCap and organizational constraint dimensions were created. Variables were tested for normality (i.e., skewness, kurtosis). One PsyCap facet, efficacy, produced a kurtosis value 2.47, which fell outside the recommended kurtosis range of -2 to +2 (George & Mallory, 2010). Because of this, data were analyzed using both the original variable and a log transformation of the variable. The transformed variable did not meaningfully change the results and conclusions; therefore, results are reported using the original variable.

Means, standard deviations, Cronbach’s alphas, and correlations were calculated for PsyCap and organizational constraints and are reported in Tables 2 and 3. As shown in Table 2, means were relatively high across all PsyCap facets. The lowest mean was optimism, with an average of 4.40 (SD = .81) on a six-point scale, followed by hope (M = 4.84, SD = .75), resilience (M = 4.91, SD = .66), and self-efficacy (M = 5.03, SD = .71). All four PsyCap facets were significantly correlated with each other, with correlations ranging from .65 to .75 ($p < .05$).

Turning to organizational constraints, means were relatively low across all organizational constraints. They ranged from a low of 2.15 (SD = 1.48) for poor training to a high of 3.09 (SD = 1.88) for staffing shortages on a seven-point scale. All organizational constraint facets were significantly related, with correlations ranging from .27 to .90 ($p < .05$).

Research Questions 1 and 2: Identification and Characteristics of PsyCap Profiles

Research Question 1 asked how many distinct profiles of PsyCap exist in a sample of U.S. managerial workers. To test this, I conducted a Latent Profile Analysis (LPA) in R using the “mclust” package (Scrucca et al., 2016). The mean scores for each PsyCap facet (Table 2) were entered into an LPA to test the emergence of any naturally occurring configurations of PsyCap. Fit indices were compared across fourteen different model types that varied in parametrization constraints (e.g., equal vs. varying volume, equal vs. varying size, equal vs. varying shape). The results indicated that a three-factor model using the “ellipsoidal, equal shape and orientation” (abbreviated in “mclust” output as the “VEE” model) configuration best fits the data based on descriptive fit criteria (BIC = -3129.49, ICL = -3228.32).

The second research question asks about each profile's characteristics and prevalence within the population. This was examined by calculating the mean of each PsyCap facet for each profile, its interpretability, and the percentage of the sample belonging to each profile (Table 4).

Each profile had its own mean and standard deviation for the four PsyCap facets. Facet means for each profile were graphed to visually examine differences within and between profiles (Figure 1). As noted, the overall sample reported high scores across all PsyCap sub-facets (Table

2). These high scores extended to the profiles where the lowest score within any profile was optimism, with a mean of 3.61 in Profile 3.

Profiles were labeled based on Figure 1's graph showing differences between profiles while also considering that each facet's average score was relatively high across all profiles. Relying on these visual - not statistical - differences, profiles were labeled as "lower" (Profile 1), "medium" (Profile 2), and "higher" (Profile 3) as opposed to "low," "medium," and "high." Profile 2, medium PsyCap, was the largest in terms of membership, with 441 participants belonging to that group (88.64%). Profile 1, lower PsyCap, was next, with 49 participants (9.63%). Finally, Profile 3, higher PsyCap, was the smallest, with 19 participants (3.74%).

Profiles were visually assessed to look for differences in level and shape. Level differences look across profiles to assess if there are variations in the mean level or overall magnitude of facets (Spurk et al., 2020). Visually, Profile 1 appears lower in all PsyCap facets compared to Profile 2, which in turn appears lower in all facets compared to Profile 3.

Next, shape differences evaluated whether each profile had its own distinct pattern of high and low scores across facets (Spurk et al., 2020). If shape differences existed, the facets within the profile would not be uniformly high or low. Instead, a profile would show a unique combination of higher values on some facets and lower values on others when compared to the sample mean. For example, a profile with higher-than-average optimism and hope but lower-than-average resilience and self-efficacy would indicate shape differences. A visual scan of Figure 1 shows that facet means were similar in Profiles 2 and 3. However, this shape does not appear to extend to Profile 1, where optimism looks notably lower than the other three facets.

While differences across profiles are typically evaluated through a visual examination of the data patterns (e.g., Qin et al., 2022; Spurk et al., 2020), there is value in evaluating whether such differences are statistically significant. To determine this, a mixed-model ANOVA was carried out. PsyCap facets were the within-subject factors, and PsyCap profile was the between-subject factor. In this model, level differences would be indicated by a significant main effect for the PsyCap profile, demonstrating that a certain profile reported higher or lower aggregate PsyCap compared to other profiles. Shape differences would be indicated by a significant interaction, demonstrating that scores' patterns across facets differed between profiles. For example, the interaction tested whether Profile 3's visual drop in optimism significantly differs from the other three facets.

The mixed-method ANOVA was conducted using the "aov" function in Base R. As shown in Table 5, the main effect of the PsyCap profile was not significant, $F(1, 2024) = 0.86$, $p = 35$. This suggested that there were no significant level differences. Additionally, the interaction between PsyCap facets and PsyCap profiles was not significant, $F(3, 2024) = 0.06$, $p = .98$, which indicated no significant shape differences. Incidentally, there was a small, but statistically significant main effect for PsyCap facets, $F(3, 2024) = 6.55$, $p = < .001$, Partial $\eta^2 = .01$, indicating that the four PsyCap facets varied significantly in their scores across all profiles. As shown in Table 6, optimism was significantly lower than hope, resilience, and self-efficacy. In addition, the sample demonstrated significantly lower hope than self-efficacy, though all facets were quite high in absolute terms. In sum, the ANOVA results indicated that the profiles did not vary significantly in either their overall levels or shape.

Research Question 3: Relationship between PsyCap and Organizational Constraints

The third research question asked how PsyCap was related to ratings of organizational constraints. As noted earlier, there were two ways to look at this. The first was to evaluate the degree to which PsyCap profiles differ regarding perceptions of organizational constraints. The second was to assess the correlation between overall PsyCap and organizational constraints. Given that the Lower, Medium, and Higher profiles in Figure 1 did not produce meaningful shape differences, the first approach offered little additional value over and above the information more precisely provided through correlations. Comparing profiles in this case would effectively test whether managers with non-significantly higher PsyCap report different levels of organizational constraints than those with non-significantly lower PsyCap – a matter better handled through correlations that allow the full range of PsyCap to be analyzed. Accordingly, profiles were not compared. Rather, Research Question 3 was examined solely by calculating correlations between PsyCap and perceptions of each of the sixteen organizational constraints.

As shown in Table 7, all of the organizational constraints were significantly negatively correlated with PsyCap. While all significant, a visual scan of the correlations suggests variance concerning the strength of the associations. For example, PsyCap appears more strongly associated with perceptions of workplace culture ($r = - .52$) than a lack of equipment ($r = - 28$). Further inspection of the correlations led to questions about whether these differences in magnitude were meaningful or due to chance. A series of Steiger's z-tests tested the differences in the correlations between each organizational constraint and PsyCap. Steiger's z-tests were employed because they can compare the strength of two correlations when they share one standard variable (i.e., PsyCap), accounting for the shared variance between the correlations (Steigler, 1980). In this instance, Steiger's z-tests were used to compare 120 pairs of correlations. Specifically, PsyCap's correlation with a given organizational constraint was compared with PsyCap's correlation with every other organizational constraint, enabling the matrix shown in Table 7. A Bonferroni-adjusted threshold of $p < .0004$ was used to determine statistical significance. Cells that are bolded and highlighted in gray in Table 7 indicate two correlations that were significantly different from one another.

Findings from the z-test revealed that PsyCap was more strongly correlated with certain organizational constraints, such as workplace culture, training, and lack of authority to do the job, than with others, such as lack of supplies and inadequate information technology. In total, 28 of the 120 pairwise comparisons were significant. For example, the correlation between policies and procedures and PsyCap was significantly stronger than the correlation between excessive time in meetings and PsyCap ($p < .004$).

Discussion

The overarching purpose of this study is to examine the Psychological Capital (PsyCap) of a sample of U.S. managerial workers and to explore PsyCap's relationship with perceptions of individual organizational constraints. By doing so, I address gaps in the literature, calling for nuanced examinations of PsyCap and facet-level analyses of organizational constraints (Bowling et al., 2024; Min et al., 2015; Min & Kim, 2021; Pindek & Spector, 2016), providing insights into how PsyCap may differentially relate to workplace experiences.

This study advances previous research by conducting facet-level analyses of organizational constraints, as opposed to taking the traditional approach of measuring organizational constraints as a unidimensional construct (e.g., Spector 1998). Exploring specific facets allows a deeper understanding of how individual organizational constraints (e.g., budget shortages, physical conditions) relate to psychological resources like PsyCap, contributing to research on the relationship between individual-level resources and environmental-level demands in the Job Demands-Resources (JD-R) model.

Findings indicate three distinct PsyCap profiles within the sample, which I labeled lower, medium, and higher, noting that even the lower profile group was characterized by average levels of PsyCap at the top half of the six-point scale. While visually different, the three profiles do not statistically vary in level or shape. That is, there are no significant quantitative or qualitative differences between profiles. These results contradict three previous workplace-based PsyCap LPAs that reported differences between profiles (Bouckenooghe et al., 2019; Djourova et al., 2019; Ferradás et al., 2019). However, this study's results are not without precedent. First, the lack of shape differences aligns with Luthans et al.'s initial conceptualization of PsyCap as a single higher-order construct wherein having a high amount of one facet should relate to having a high amount of the other facets (Luthans et al., 2007). It also aligns with two of the five previously published workplace-related PsyCap LPAs which also revealed lower, medium, and higher profiles that did not differ in terms of shape (Gao et al., 2023; Teng et al., 2023).

A key question was whether managers reporting lower levels of PsyCap also perceive more organizational constraints in their workplaces. Despite the range restriction on PsyCap and organizational constraints, results support a negative correlation between all sixteen organizational constraints and PsyCap, such that lower PsyCap is related to significantly higher reports of each organizational constraint. However, the strength of the relationship between PsyCap and specific organizational constraints varies. For example, PsyCap is more strongly related to self-reports of poor training than inadequate information technology. This further supports Bowling et al.'s (2024) calls to study the differential relationships of individual organizational constraints.

The results align with the Job Demands-Resources (JD-R) model, which conceptualizes organizational constraints as a hindrance stressor and proposes that individuals with greater psychological resources (i.e., PsyCap) may perceive fewer demands (i.e., organizational constraints) or may manage those demands more effectively. Conversely, those with lower PsyCap may perceive more organizational constraints or may have a more difficult time reframing or reducing those constraints when they arise. This aligns with Bowling's (2024, p. 14) proposal that specific organizational constraints have “somewhat distinct” antecedents and outcomes. Pindek and Spector (2016) propose that employees might find the constraints they cannot control to be more hindering than those they can. The strongest negative correlations are between PsyCap and less tangible organizational constraints, such as the workplace culture, poor training, lack of authority to do one’s job, and policy and procedures. Conversely, PsyCap appears less important for organizational constraints such as lack of supplies, equipment, and information technology, which are more material in nature.

Limitations and Future Directions

Although this study provides important information about the relationship between PsyCap and organizational constraints, it is not without limitations. A CFA for PsyCap and organizational constraints indicates marginal fit based on Hu and Bentler’s (1999) fit indices recommendation. Competing models were tested for both PsyCap and organizational constraints, with the proposed initial models indicating the best fit. However, it is still important to acknowledge marginal fit's potential consequences on analyses and interpretation as these models may not capture the underlying data structure data as well as they should. This marginal fit limits the precision of the relationships derived from the data and the potential generalizability of the findings. In this particular case, the derived profiles may have been less distinct than what exists in the actual population, resulting in overlap between groups. Additionally, the correlations between PsyCap and organizational constraints may be overestimated or underestimated.

Another concern in this data set is range restriction. Range restriction in PsyCap seemed possible based on the high sample means across all four facets, and it is further reflected in the LPA results. The "higher" profile is characterized by mean scores ranging from 5.87 to 5.98 on a six-point scale. Range restriction in organizational constraints also seemed possible based on the lower means across all sixteen facets. Participants did not report organizational constraints as particularly hindering, with means scores ranging from 2.15 to 3.09 on a seven-point scale.

There are multiple reasons why range restriction can occur. Two are particularly relevant to this sample. First, it is possible that this group of participants responded in a socially desirable way, perceiving having higher PsyCap and fewer organizational constraints as the appropriate social norm (Fisher & Katz, 2000). Second, although this study removed long string respondents, it is possible that some participants endorsed the highest option most of the time, but not every time. It is feasible that a larger range of both PsyCap and organizational constraints exists in the world and that, despite being statistically significant, the correlations in this study are underestimated.

Next, previous researchers have proposed that PsyCap can influence both real and perceived job demands, such as organizational constraints (e.g., Grover et al., 2018). My results provide important insights into this relationship. However, this study's cross-sectional and non-experimental nature precludes causal interpretations. This study does not, and cannot, parse out if higher PsyCap affects real or perceived organizational constraints or if the correlations between PsyCap and organizational constraints occur for some other reason. For example, causality may go in the other direction: Perhaps having fewer organizational constraints raises managers'

PsyCap. Alternatively, it is possible that there is not a causal relationship between the two and the results are due to another, unmeasured third variable. For example, perhaps a personality variable such as agreeableness of negative affectivity causes ratings of PsyCap and organizational constraints to correlate. Results should be interpreted with this limitation in mind.

Future research can build on the current findings by trying to determine if there is a causal relationship between PsyCap and organizational constraints. This can be done by leveraging longitudinal data collection methods and field experiments, among other approaches. For example, a multi-wave study could track changes over time, including if PsyCap at Time 1 predicts reports of organizational constraints at Time 2 and vice versa. A field experiment could implement PsyCap training for one group (e.g., Luthans et al., 2008; Luthans et al., 2010) while using the other as a waitlist control group. Researchers could then assess if the intervention led to differential reports of organizational constraints.

Additionally, future research should consider if the relationship between PsyCap and organizational constraints is based on differences in perception, reality, or both. This could be assessed by recruiting participants within the same workplace to measure how individuals in the same environment might differentially report their experiences of organizational constraints.

Next, this study highlights the need for more research explaining why PsyCap has a stronger relationship with certain organizational constraints than others. As discussed, it is possible that perceived tangibility influences the relationship between PsyCap and specific constraints, with there being a stronger relationship between PsyCap and less tangible constraints such as workplace culture. Similarly, the relationship between specific organizational constraints and PsyCap may be related to perceived or actual control over specific organizational constraints, an idea that could be explored further through theory-driven research based on the JD-R model, which considers organizational constraints to be a hindrance stressor.

Finally, future studies could explore whether certain environmental factors, such as job type, organizational culture, or remote work status, moderate relationships between PsyCap and organizational constraints. For example, individuals high in PsyCap may be more able to change their circumstances in a less constraining environment, such as remote jobs or jobs with flexible working hours, compared to a more rigid environment, such as highly monitored office jobs or jobs with rigid working hours.

Theoretical and Practical Implications

This study uses the JD-R model to frame PsyCap as a personal resource and organizational constraints as a demand. According to the JD-R model, there is a reciprocal relationship between job demands and job resources. There have been growing calls to research the relationship between personal resources, as opposed to job resources, and job demands (Dawkins et al., 2013; Min et al., 2015; Webster et al., 2011). These findings contribute to this body of research by demonstrating a significant negative relationship between organizational constraints (job demands) and PsyCap (personal resources). That is, it aligns with the JD-R model's proposal that those higher in resources should report lower job demands and vice versa.

The current study focuses on leaders, as their PsyCap has the potential to influence not only their work experience but also that of their followers (Luthans & Youssef-Morgan, 2017; Youssef-Morgan & Luthans, 2013). Results support that leaders in this sample, across various contexts and roles, generally report having high overall PsyCap consisting of high hope, self-efficacy, resilience, and optimism. Organizations should be mindful of the relationship between leader PsyCap and follow PsyCap and strive to create environments that protect the cognitive resources of their leaders, which in turn will hopefully help cultivate positive environments for frontline staff and other direct reports.

This is one of the first studies to use a facet-level measurement of organizational constraints (Bowling et al., 2024). The results are promising in that there were significant differences in PsyCap's relationship with specific organizational constraints, providing nuances that would not have been identified if organizational constraints had been measured as one overarching construct. These results suggest that PsyCap could be especially important for overcoming some of the arguably thorniest organizational constraints. As such, it is possible that certain organizational constraints could be addressed through interventions to increase PsyCap, whereas others might be addressed in other ways. That said, employers should take responsibility for lowering constraints irrespective of the psychological makeup of their workforce, striving to decrease organizational constraints and increase or protect employees' PsyCap for the benefit of all.

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Table 1. Sample characteristics.

Characteristic	Sample (*N* = 509)	
	N	%
Gender		
Female	206	40.5
Male	298	58.5
Non-binary/third gender	3	0.6
I prefer not to say	1	0.2
Ethnicity		
Native American/Alaskan Native	3	0.6
Asian/Asian American	24	4.7
Black/African American	80	15.7
Hawaiian/Pacific Islander	1	0.2
Hispanic/Latino	21	4.1
Non-Hispanic White/Caucasian	335	65.8
Multi-racial/Multi-ethnic	37	7.3
Write-in	6	1.2
Prefer not to respond	2	0.4
Education		
High school or GED	34	6.7
Some college/technical school	67	13.2
Associate degree	52	10.2
Bachelor’s degree	212	41.7
Advanced degree	144	28.3
Organization Size		
1-9	59	11.6
10-49	97	19.1
50-99	55	10.8
100-499	118	23.2
500-999	35	6.9
1,000 or more	142	27.9
I have no idea	2	0.4
Computer use during work		
I use a computer or mobile device for 75% or more of my work	311	61.1
I use a computer or mobile device for 50% to 74% of my work	95	18.7
I use a computer or mobile device for 25% to 49% of my work	62	12.2
I use a computer or mobile device for less than 25% of my work	40	7.9

Table 1 (continued).

Work-from-home frequency in the past month		
Never	132	25.9
Once or twice	95	18.7
About once a week	99	19.4
3-4 times a week	107	21.0
I always worked from home	75	14.7
Hours worked in a typical week		
Less than 20 hours	6	1.2
20 - 29 hours	5	1.0
30 - 34 hours	26	5.1
35 - 40 hours	81	15.9
40 - 44 hours	269	52.8
45 - 50 hours	50	9.8
50 - 54 hours	33	6.5
55 - 59 hours	17	3.3
60 - 64 hours	15	2.9
65 - 69 hours	3	0.6
70 hours or more	3	0.6
Industry		
Manufacturing, mining, construction, agriculture, forestry, fishing and hunting	70	13.8
Health care and social assistance	69	13.6
Information/Technology	66	13
Banking, finance, accounting, real estate, or insurance	57	11.2
Retail and trade	56	11
Professional, scientific, and technical services	48	9.4
Other	43	8.4
Education	35	6.9
Hospitality, service, arts, entertainment and recreation	29	5.7
Government, public administration, or military	23	4.5
Transportation	13	2.6
Role within organization		
Owner	31	6.1
CEO or C-suite Executive	12	2.4
President	2	0.4
Partner	6	1.2
Vice President	10	2.0
Director/Associate Director	51	10.0
Senior Manager	68	13.4

Table 1 (continued).

Role within organization (continued)		
Manager	209	41.1
Supervisor	79	15.5
Other	10	2.0
Selected Multiple	31	6.1

Note: The average participant age was 41.37 (*SD* = 10.53). On average, participants had been in their position for 7.26 years (*SD* = 5.78), directly supervised 10 team members (*M* = 10.32, *SD* = 26.93), and had 9.65 years of supervisory experience (*SD* = 7.00). Percentages may not sum to 100% due to rounding and non-response from one participant.

Table 2. Means, standard deviations, and correlations among psychological capital facets.

		Mean	*SD*	1	2	3	4
1	Hope	4.84	.75	(.86)			
2	Self-efficacy	5.03	.71	.77	(.86)		
3	Resilience	4.91	.66	.66	.65	(.77)	
4	Optimism	4.40	.81	.75	.66	.64	(.76)

Note: Means were measured on a six-point scale. $N = 509$, Values on the diagonal represent Cronbach's alpha reliability coefficients for each scale. All correlations were significant at the $p < .001$ level. .

Table 3. Means, standard deviations, and correlations among organizational constraints facets

		Mean	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Workplace culture	2.51	1.61	(.94)															
2	Poor training	2.15	1.48	.56	(.96)														
3	Lack of authority to do job	2.36	1.61	.63	.51	(.96)													
4	Policies and procedures	2.48	1.63	.64	.45	.58	(.95)												
5	Physical conditions	2.27	1.38	.57	.48	.49	.47	(.91)											
6	Conflicting work demands	3.00	1.70	.62	.48	.55	.56	.44	(.94)										
7	Supervisor fails to give help	2.74	1.78	.56	.56	.61	.48	.43	.58	(.96)									
8	Staffing shortages	3.09	1.88	.49	.40	.48	.41	.44	.52	.47	(.95)								
9	Incorrect information	2.83	1.76	.59	.58	.52	.48	.41	.59	.68	.47	(.95)							
10	Work scheduling problems	2.55	1.59	.50	.46	.54	.50	.44	.60	.52	.54	.52	(.95)						
11	Budget shortages	2.88	1.80	.43	.45	.46	.40	.47	.48	.48	.62	.50	.53	(.96)					
12	Coworkers disrupt work	2.77	1.64	.44	.47	.47	.43	.48	.53	.53	.48	.54	.50	.45	(.94)				
13	Excessive time spent in meetings	2.75	1.77	.42	.38	.46	.47	.33	.56	.39	.46	.46	.54	.38	.44	(.96)			
14	Inadequate information technology	2.68	1.78	.39	.45	.42	.45	.43	.43	.47	.45	.48	.50	.46	.43	.40	(.97)		
15	Lack of supplies	2.40	1.65	.38	.49	.38	.40	.49	.44	.52	.42	.54	.52	.63	.47	.27	.58	(.97)	
16	Lack of equipment	2.57	1.74	.40	.50	.42	.42	.51	.49	.57	.44	.58	.52	.62	.51	.32	.62	.90	(.98)

Note: Means were measured on a seven-point scale. $N = 509$. Values on the diagonal represent Cronbach's alpha reliability coefficients for each scale. All correlations were significant at the $p < .001$ level. .

Table 4. Latent profile means and interpretability.

Profile	Name	Size (Interpretability)	Average Hope	Average Efficacy	Average Resilience	Average Optimism
Profile 1	Lower	49 (9.63%)	4.22	4.54	4.38	3.61
Profile 2	Mediu m	441 (86.64%)	4.90	5.08	4.96	4.48
Profile 3	Higher	19 (3.73%)	5.98	5.98	5.97	5.87

Note. *N* = 509. Interpretability is the percentage of the sample belonging to each profile. Items were measured on a six-point scale.

Table 5. Results of the mixed-method ANOVA examining the effects of PsyCap profile and PsyCap facets.

	df	SS	MS	F	*p*	Partial η^2
Intercept						
Between Subjects						
PsyCap Profile	1	.40	.45	.86	.35	< .001
Within Subjects						
PsyCap Facet	3	10.10	3.38	6.55	< .001	.01
Interaction						
PsyCap Profile* PsyCap Facet	3	.10	.03	.06	.98	< .001
Residual	2024	1044.70	.52			

Note: *N* = 509. *df* = degrees of freedom. SS = sum of squares, MS = mean square

Table 6. Mixed-method ANOVA post-hoc pairwise comparisons for PsyCap facets

Comparison	Mean Difference	*p*-value
Hope vs. Self-efficacy	-.19	< .001*
Hope vs. Resilience	-.07	.80
Hope vs. Optimism	.44	< .001*
Self-efficacy vs. Resilience	.12	.05
Self-efficacy vs. Optimism	.63	<.001*
Resilience vs. Optimism	.51	<.001*

Note: N = 509. * = Significant difference between correlations. A Bonferroni correction was applied to account for multiple comparisons (p < .004).

Table 7. Differences in correlations between individual organizational constraints and PsyCap.

			Differences between Correlations															
	Organizational Constraint	Correlation w. PsyCap	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Workplace culture	-0.52	.00															
2	Poor training	-0.47	.05	.00														
3	Lack of authority to do job	-0.47	.05	.00	.00													
4	Policies and procedure	-0.46	.07	.01	.01	.00												
5	Physical conditions	-0.43	.09	.04	.04	.03	.00											
6	Conflicting work demands	-0.43	.09	.04	.04	.03	.00	.00										
7	Supervisor fails to give help	-0.43	.10	.05	.05	.03	.01	.00	.00									
8	Staffing shortages	-0.36	**.16***	.11	.11	.10	.07	.07	.06	.00								
9	Incorrect information	-0.35	**.18***	.12	.12	.11	.08	.08	.08	.01	.00							
10	Work scheduling problems	-0.35	**.18***	.13	.12	.11	.08	.08	.08	.02	.00	.00						
11	Budget shortages	-0.33	**.20***	.15	.14	.13	.10	.10	.10	.04	.02	.02	.00					
12	Coworkers disrupt work	-0.31	**.21***	**.16***	**.16***	.15	.12	.12	.12	.05	.04	.04	.02	.00				
13	Excessive time spent in meetings	-0.30	**.22***	**.17***	**.17***	**.16***	.13	.13	.13	.06	.05	.05	.03	.01	.00			
14	Inadequate information technology	-0.30	**.23***	**.17***	**.17***	**.16***	.13	.13	.13	.06	.05	.05	.03	.01	.00	.00		

Table 7 (continued).

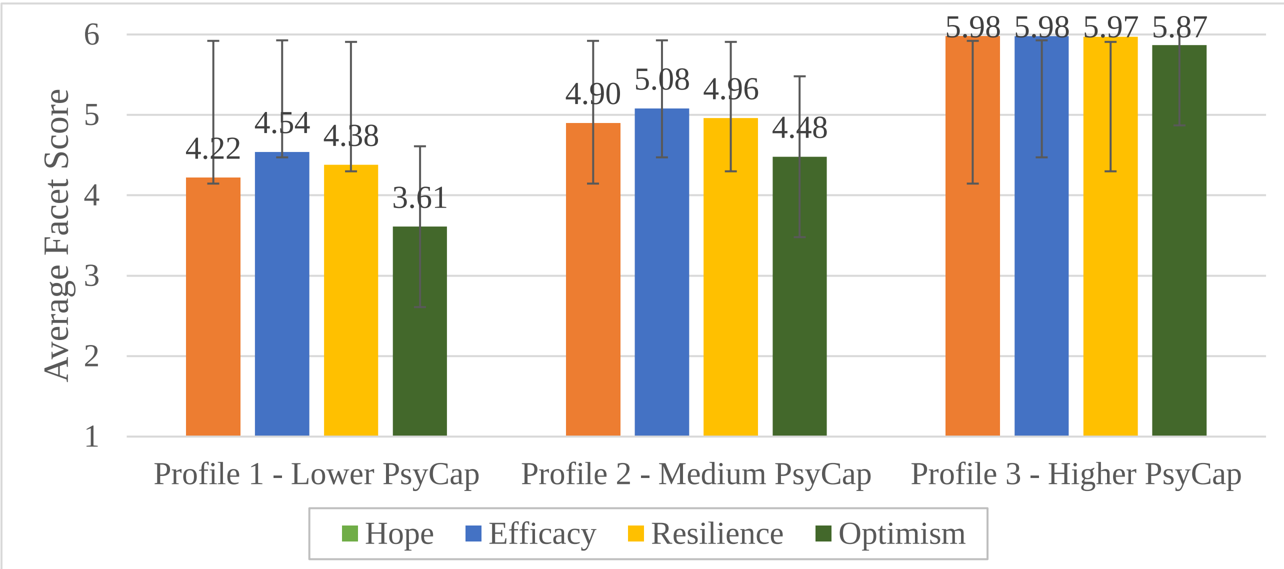
15	Lack of supplies	-0.28	**.24 ***	**.19 ***	**.19 ***	**.18 ***	**.15 ***	.15	**.15 ***	.08	.07	.07	.05	.03	.02	.02	.00	
16	Lack of equipment	-0.28	**.25 ***	**.20 ***	**.20 ***	**.18 ***	**.16 ***	**.16 ***	**.15 ***	.09	.07	.07	.05	.04	.03	.02	.01	.00

Note: This is not a correlation matrix. Rather, cell values represent the absolute difference between two correlations. Higher numbers indicate a greater discrepancy between PsyCap's relationship with two organizational constraint facets. Follow-up A series of Steiger *z*-tests compared the correlation between PsyCap and every possible pairing of organizational constraints. $N = 509$.

* = Significant difference between correlations. Significance was determined using Steiger's *Z*-test to test the difference between correlations and a Bonferroni correction to account for multiple comparisons ($p < .0004$).

Figure 1

PsyCap Variable Means for Each Latent Profile.



Note: Numbers above each bar indicate the variable mean as measured on a six-point scale.

Profile 2, medium PsyCap, was the largest, with 441 participants belonging to that population (88.64%). Profile 1, lower PsyCap, was next, with 49 participants in that group (9.63%). Finally, Profile 3, higher PsyCap, was the smallest, with 19 participants in that group (3.74%).

APPENDICES

Appendix A

Psychological Capital Scale – PCQ 24

Due to the license agreement with Mind Garden, Inc., I am unable to share the PCQ24 questions in this report. Copyright information and permission to use the PCQ are provided below.

Permission Letter

mind garden

www.mindgarden.com

To Whom It May Concern,
The above-named person has made a license purchase from Mind Garden, Inc. and has permission to administer the following copyrighted instrument up to that quantity purchased:

Psychological Capital Questionnaire

The license holder has permission to administer the complete instrument in their research, however, only three sample items from this instrument as specified below may be included in the research write-up, thesis, or dissertation. Any other use must receive prior written permission from Mind Garden. The entire instrument form may not be included or reproduced at any time in any other published material. Please understand that disclosing more than we have authorized will compromise the integrity and value of the test.

Citation of the instrument must include the applicable copyright statement listed below.

Sample items:
Self-Rater Form :

> I feel confident analyzing a long-term problem to find a solution.
>
> If I should find myself in a jam at work, I could think of many ways to get out of it.
>
> When I have a setback at work, I have trouble recovering from it, moving on.

Other Rater Form:

> This person feels confident analyzing a long-term problem to find a solution.
>
> If this person should find him/herself in a jam at work, he/she could think of many ways to get out of it.
>
> When this person has a setback at work, he/she has trouble recovering from it, moving on.

Sincerely,

Robert Most
Mind Garden, Inc.
www.mindgarden.com

Appendix B

Multi-facet organizational constraints scale (MOCS)

Please indicate the extent to which you agree with the following statements on the scale provided. Scale: 1 (*Strongly disagree*), 2 (*Disagree*), *3* (*Somewhat disagree*), 4 (*Neither agree nor disagree*), 5 *(Somewhat Agree*), 6 (*Agree)*, 7 (*Strongly agree*).

MOCS Items

MOCS Facet	Opening Part	Closing Part
Physical conditions	Because of the **<u>physical conditions</u>** where I work (e.g., the temperature, lighting, and noise levels in my workspace) . . .	a) … my job is needlessly difficult. b) …it is impossible for me to perform at my best. c) …my job performance suffers.
Workplace culture	Because of the **<u>workplace culture</u>** where I'm employed . . .	a) … my job is needlessly difficult. b) …it is impossible for me to perform at my best. c) …my job performance suffers.
Poor training	Because I am **<u>poorly trained</u>** to do my work . . .	a) … my job is needlessly difficult. b) …it is impossible for me to perform at my best. c) …my job performance suffers.
Incorrect information	Because I often receive **<u>incorrect information</u>** to do my work . . .	a) … my job is needlessly difficult. b) …it is impossible for me to perform at my best. c) …my job performance suffers.
Coworkers disrupt work	Because my **<u>coworkers often disrupt my work</u>** . . .	a) … my job is needlessly difficult. b) …it is impossible for me to perform at my best. c) …my job performance suffers.

Supervisor fails to give help	Because my **<u>supervisor often fails to give me the help I need</u>** . . .	a) … my job is needlessly difficult. b) …it is impossible for me to perform at my best. c) …my job performance suffers.
Lack of equipment	Because I often don't have the **<u>necessary work equipment</u>** . . .	a) … my job is needlessly difficult. b) …it is impossible for me to perform at my best. c) …my job performance suffers.
Lack of supplies	Because I often don't have the **<u>necessary work supplies</u>** . . .	a) … my job is needlessly difficult. b) …it is impossible for me to perform at my best. c) …my job performance suffers.
Budget shortages	Because of **<u>budget shortages</u>** where I work . . .	a) … my job is needlessly difficult. b) …it is impossible for me to perform at my best. c) …my job performance suffers.
Policies and procedures	Because of my employer's **<u>policies and procedures</u>** (e.g., rules on how to behave in the workplace, guidelines for work tasks and processes) . . .	a) … my job is needlessly difficult. b) …it is impossible for me to perform at my best. c) …my job performance suffers.

Lack of authority to do job	Because I have **<u>too little authority</u>** at work . . .	a) … my job is needlessly difficult. b) …it is impossible for me to perform at my best. c) …my job performance suffers.
Conflicting work demands	Because I often have **<u>conflicting work demands</u>** . . .	a) … my job is needlessly difficult. b) …it is impossible for me to perform at my best. c) …my job performance suffers.
Work scheduling problems	Because of **<u>work scheduling problems</u>** . . .	a) … my job is needlessly difficult. b) …it is impossible for me to perform at my best. c) …my job performance suffers.
Staffing shortages	Because of **<u>staffing shortages</u>** where I work . . .	a) … my job is needlessly difficult. b) …it is impossible for me to perform at my best. c) …my job performance suffers.
Inadequate information technology	Because of problems with **<u>information technology</u>** where I work (e.g., computer software, reliable internet access) . . .	a) … my job is needlessly difficult. b) …it is impossible for me to perform at my best. c) …my job performance suffers.

Excessive time spent in meetings	Because I have to spend **<u>too much time in work meetings</u>** . . .	a) … my job is needlessly difficult. b) …it is impossible for me to perform at my best. c) …my job performance suffers.

Appendix C

Workplace and Demographic Items

Why do you participate in Prolific Studies?

Please consider your full-time position outside of Prolific when responding.

1. Job title: ____
2. Which of the following best describes your role? Select all that apply.

   Owner

   CEO or C-Suite Executive

   President

   Partner

   Vice President

   Director/Associate Director

   Senior Manager

   Manager

   Supervisor

   Other (please specify)
3. Length of time in current positions

   Years: _____

   Months: _____
4. In a typical week, how many hours do you work at your position outside of Prolific?

   Less than hours

   20 – 29 hours

30 – 34 hours

35 – 39 hours

40 – 44 hours

45 – 49 hours

50 – 54 hours

55 – 59 hours

60 – 64 hours

65 – 69 hours

70 hours or more

5. Which industry best describes your current organization?

Hospitality, service, arts, entertainment and recreation

Health care and social assistance

Manufacturing, mining, construction, agriculture, forestry, fishing and hunting

Retail and trade

Education

Banking, finance, accounting, real estate, or insurance

Transportation

Government, public administration, or military

Information/technology

Professional, scientific, and technical services

Other: _____

6. Including all its locations and work sites, not just your own, about how many people are employed by your company or organization, including yourself? Just your best guess is fine.

    1 – 9

    10 – 49

    50 – 99

    100 – 499

    500 – 999

    1,000 or more

    I have no idea

7. Which of the following best describes how you conduct your work?

    I use a computer or mobile device for 75% or more of my work

    I use a computer or mobile device for 50% to 74% of my work

    I use a computer or mobile device for 25% to 49% of my work

    I use a computer or mobile device for less than 25% of my work

8. How often did you work from home as part of your job in the past month?

    Never

    Once or twice

    About once a week

    3 – 4 times a week

    I always worked from home

9. How many people do you currently directly supervise?: ____

10. How many years have you managed at least one subordinate?

Drop-down options ranged from “I’ve never managed a subordinate” to “40 years or more.”

Please answer the following demographic questions:

1. What is your age: ____
2. How do you identify?

   Male

   Female

   Non-binary

   Write-in: ___________

   Prefer not to respond
3. How would you describe yourself? Select all that apply.

   Native American/Alaskan Native

   Asian/Asian American

   Black/African American

   Hawaiian/Pacific Islander

   Hispanic/Latino

   Non-Hispanic White/Caucasian

   Multi-racial/Multi-ethnic

   Write-in __________________

   Prefer not to respond
4. What is the highest level of education you have attained?

   Some high school

High school diploma or GED

Some college/Technical school

Associate degree

Bachelor’s Degree

Advanced Degree (Master’s, Ph.D.)