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Positive Psychological Capital, Need Satisfaction, Performance, and Well-Being in Actors and Stunt People

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Walden University
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Abstract

Positive Psychological Capital, Need Satisfaction, Performance, and Well-Being in Actors and Stunt People

by

Brian C. Hite

MS, Capella University, 2006

BS, Rutgers University, 2004

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Organizational Psychology

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Abstract

Positive psychological capital (PsyCap), a second-order construct formed from optimism, hope, resilience, and self-efficacy, has predicted the performance and psychological well-being of a variety of full-time workers, and mediators of the relationships between PsyCap and performance and psychological well-being have rarely been examined. Using self-determination theory, broaden-and-build theory, and the conceptual framework of positive psychology, this study was an exploration of (a) the relationships among PsyCap, (b) basic psychological need satisfaction (i.e., autonomy, competence, relatedness), and (c) psychological well-being and performance using a sample of 103 working actors and stunt people. A serial mediation model was proposed whereby PsyCap predicted performance through need satisfaction and psychological well-being. Statistically significant bivariate correlations were found among PsyCap, autonomy, competence, relatedness, psychological well-being, and performance. Multiple regression analyses yielded indirect effects tested for statistical significance using bias-corrected bootstrapping. Results showed a total indirect effect of PsyCap on psychological well-being through need satisfaction and a specific indirect effect of PsyCap on psychological well-being through relatedness. Results showed no total indirect effect for PsyCap on performance through need satisfaction but did show a specific indirect effect of PsyCap on performance through relatedness. No statistically significant indirect effects of autonomy, competence, and relatedness on performance through psychological well-being were found. Theoretical and practical implications for future researchers, independent workers, and organizations supporting independent workers are discussed.

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Dedication

This dissertation is dedicated to my family. Thank you to my parents, Dr. Jim Hite and Ellen Hite, and my sister, Kari Ray, for their unwavering belief in what I could and can accomplish during my lifetime.

This accomplishment is most assuredly shared with my wife, Carrie Brewer, and my two daughters, Octavia and Phoenix. Thank you so much for your patience, encouragement, and support for and belief in my ability to complete what I had started before we even met. I love you all very much, and I look forward to the extra time we'll now be able to spend with each other. Thank you.

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Chapter 1: Introduction to the Study

Introduction

Self-employed individuals make up a significant portion of the workforce and face unique challenges operating without the safety net afforded by traditional employment settings (Jeffri, Iguchi, & Penrose, 2011). In 2011, the Bureau of Labor Statistics reported that there were over 10 million self-employed individuals in the United States, and the U.S. Bureau of the Census (2008) reported 21.4 million firms with no employees, firms made up solely of independent workers. Although they make up an estimated 10.4% of the American workforce (Bureau of Labor Statistics, 2011), independent workers have been all but ignored in organizational psychology literature.

Many individuals who fall into the category of independent worker are employed as artists in the entertainment industry. A 2011 report by the National Endowment of the Arts indicated that there were 2.1 million artists in the United States, including 46,526 actors, 185,675 musicians, and 24,713 dancers and choreographers. Because of the nature of the entertainment industry, most of the people making a living as performers are employed as independent workers, moving from job to job many times on a daily basis (Jeffri et al., 2011). This population works in a highly competitive, volatile industry in which rejection is the rule rather than the exception (Backstage, 2012). Jobs can come up at any moment and can be cancelled with a moment's notice (Aisbett, 2006). Although no researchers have yet examined this particular population's level of productivity or psychological well-being, previous research on other populations has suggested that this type of volatile, uncertain work setting could result in perceived lack of control,

pessimistic attributional styles, hopelessness, and low levels of perseverance (McGann, Moss, & White, 2012), all of which may lead to poor productivity and psychological well-being.

Positive psychology focuses on enhancing people's strengths and using those strengths to improve all facets of their lives (Seligman & Csikszentmihalyi, 2000). Positive psychology has its roots in the humanistic perspectives espoused by such theorists as Maslow (1954, 1970) and Rogers (1961, 1980) and emphasizes not just happiness but holistic well-being (Seligman, 2011). Positive psychology's tenets have been applied in numerous fields including clinical psychology (Layous, Chancellor, Lyubomirsky, Wang ,& Doraiswamy, 2011), education (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009), healthcare (Cohen, Doyle, Turner, Alper, & Skoner, 2003), and work/organizational settings (Avey, Reichard, Luthans, & Mhatre, 2011; Froman, 2010; Harzer & Ruch, 2012). Within the area of work and organizations, positive psychology concepts such as resilience, engagement, meaning, optimism, and hope have been positively related to improved health (Gallup Healthways Well-Being Index, 2008), job satisfaction (Luthans, Avolio, Avey, & Norman, 2007), performance (Luthans, Avolio, Walumbwa, & Li, 2005), organizational commitment (Avey et al., 2011), and psychological well-being (Luthans et al., 2007).

Within the positive psychology framework, there have been calls for more parsimonious theory and model development (Lopez & Gallagher, 2009; Rodriguez-Carvajal et al., 2010), a call that has been addressed by theorists exploring the construct of positive psychological capital (PsyCap; Luthans, Youssef, & Avolio, 2007). PsyCap is

a higher order construct formed by the combination of hope, optimism, resilience, and self-efficacy (Luthans, Avolio, et al., 2007; Luthans, Youssef, et al., 2007). Although research with PsyCap is still in its infancy, there is evidence that when considered together, the combined levels of hope, resilience, optimism, and self-efficacy predict job satisfaction, psychological well-being, performance, positive organizational behaviors, stress and anxiety, turnover intentions, and citizenship behaviors better than any of the PsyCap elements do individually (Avey et al., 2011; Luthans, Avolio, et al., 2007).

What is absent in the literature involving PsyCap, however, is the inclusion of potential mediating or moderating variables. Basic psychological need satisfaction (Deci & Ryan, 2000) has been shown to predict employee performance and well-being in many different organizational settings (Baard, Deci, & Ryan, 2004; Burton, Lydon, Alessangdro, & Koestner, 2006; Gagne & Deci, 2005; Gagne, Ryan, & Bargmann, 2003; Miserandino, 1996) and has been shown to mediate relationships between constructs related to work performance. For example, Greguras and Diefendorff (2009) reported that the relationship between person-environment fit and affective commitment and performance was mediated by psychological need satisfaction. Similiarly, Kovjanic, Schuh, Jonas, Van Quaquebeke, and Van Dick (2012) found that psychological need satisfaction mediated the relationship between transformational leadership and job satisfaction. Therefore, it is possible that basic psychological need satisfaction may play an important role in the relationships between PsyCap and performance and psychological well-being.

Although typically treated as an outcome variable, psychological well-being has also been researched as a predictor variable (Brien, Hass, & Savoie, 2012; Lyubomirsky, King, & Diener, 2005; Wright, 2010; Wright, Cropanzano, & Bonett, 2007). Fredrickson's (1998, 2001) broaden and build theory was a contention that positive emotions result in a broadening of thought-action repertoires that lead to a build-up of physical, intellectual, social, and psychological resources important for individuals to flourish in all areas of their lives. Using broaden and build theory as a framework, Wright et al. (2007) showed that psychological well-being moderated the relationship between job satisfaction and performance, and Lyubomirsky et al. (2005), in an extensive meta-analysis, reported evidence supporting the contention that positive emotions predict work performance.

What is conspicuously absent in the positive psychology literature pertaining to work and the organizational psychology literature in general are studies pertaining to workers who are either self-employed or are independent contractors. Because over 10% of the U.S. workforce is made up of independent workers (Bureau of Labor Statistics, 2011) and because the benefits and challenges associated with independent contractor status differ from those of regularly employed workers, this population deserves to be addressed.

Some research has shown that independent workers perceive high levels of autonomy as a result of their ability to move from job to job (Maahs, 2004; Prottas & Thompson, 2006). Other research, however, has shown that the inherent instability faced by independent workers can lead to lower levels of perceived autonomy and control that

can negatively impact physical health and psychological well-being (McGann et al., 2012). This study is intended to be an exploration of this apparent inconsistency by examining a model wherein PsyCap predicts basic psychological need satisfaction, psychological need satisfaction predicts psychological well-being, and psychological well-being predicts the perceived productivity of independent workers employed as actors and stunt people. The vast majority of artists and entertainers fall into the category of independent worker (Jeffri et al., 2011; National Endowment for the Arts, 2011), and currently little to no information is currently available about psychological constructs that contribute to the success and well-being of workers who serve as the face of the entertainment industry.

Background

From its inception, the World Health Organization (WHO) defined health as "a state of complete physical, mental, and social well-being and not merely the absence of disease" (WHO, 1946). However, the goal of enhancing health and well-being, and not simply alleviating dysfunction, seems to have been misplaced somewhere along the way (Seligman, 2011). This is evidenced by the fact that in 1998, the ratio of negative to positive psychological research was 17 to 1 (Achor, 2010). Positive psychology, pioneered by Martin Seligman while he was president of the American Psychological Association (APA), provides a lens through which future research studies targeting psychological constructs might be viewed in an effort to balance out the aforementioned ratio of research targeting positive to research targeting negative psychological constructs (Achor, 2010; Seligman & Csikszentmihalyi, 2000).

The focus of positive psychology theorists and researchers has been on the development of individual strengths and talents in an effort to foster growth and maximize human potential and well-being in all facets of life (Lopez & Snyder, 2009; Seligman & Csikszentmihalyi, 2000). Positive psychology practitioners and researchers do not seek to ignore or downplay the importance of problems that need to be addressed but emphasize the importance of recognizing and developing positive emotions, traits and strengths, and institutions (Park & Peterson, 2003; Seligman & Csikszentmihalyi, 2000).

Positive emotions such as joy, gratitude, serenity, interest, hope, pride, amusement, inspiration, awe, and love are important foci of positive psychology and have been empirically demonstrated to play a key role in performance and overall well-being (Fredrickson, 2001; Lyubomirsky et al., 2005; Seligman, 2011). For example, a recent meta-analysis showed that happiness played a pivotal role in marriage, health, friendship, community involvement, health, work, marriage, friendship, and creativity (Lyubomirsky et al., 2005). Cohen et al. (2003) demonstrated that positive emotions predicted which research participants would contract a cold. Other studies have demonstrated that positive emotions broaden attentional and cognitive processing and build physical, intellectual, and social resources (Fredrickson, 1998; 2001; Fredrickson & Branigan, 2005), resulting in better performance (Wright et al., 2007). Taken together, these studies suggest that happiness often precedes many aspects of optimal performance and overall well-being (Lyubomirsky et al., 2005).

At the institutional level, positive psychology principles may be able to transform the culture and overall success rates of entire groups of people (Connelly, 2002; Seligman

et al., 2009). Schools (Seligman et al., 2009) and corporations (Connelly, 2002) that have committed to implementing the principles of positive psychology have successfully altered their attitudes and organizational cultures and significantly improved the organizations' bottom lines, bottom lines that began to include measures of well-being and not only dollars and cents.

Many studies support the efficacy of positive psychology implementation in the workforce. These studies showed that workers in organizational settings who had higher levels of constructs often associated with positive psychology (e.g., optimism, hope, resiliency, PsyCap) also had higher levels of life satisfaction, job performance, job satisfaction, and overall well-being (Avey et al., 2011; Harzer & Ruch, 2012; Seligman, Steen, Park, & Peterson, 2005). Researchers have also shown basic psychological need satisfaction to be related to psychological well-being (Gagne et al., 2003; Stenling & Tafvelin, 2014) and performance (Baard et al., 2004; Brien et al., 2012). Therefore, perceived satisfaction of basic psychological needs may mediate the relationships between PsyCap and productivity and between PsyCap and psychological well-being. Moreover, because relationships have been reported between psychological well-being and performance (Cropanzano & Wright, 1999; Lyubomirsky et al., 2005; Wright et al., 2007), psychological well-being may mediate the relationship between psychological need satisfaction and performance. To elaborate upon previous research targeting full-time workers, this study was an exploration of individuals who work not under the umbrella of an organization, but as self-employed workers or independent contractors. In an effort to further elucidate relationships among PsyCap, psychological well-being,

basic psychological need satisfaction, and performance, a mediation model was tested. Structural equation modeling was used to examine a model wherein PsyCap predicts basic psychological need satisfaction that predicts psychological well-being and the self-reported productivity of actors and stunt people.

Problem Statement

The last decade has seen the emergence of positive psychology and a new emphasis on accentuating positive characteristics and attributes in an effort to improve overall well-being and performance in individuals and institutions (Seligman, 2011; Seligman & Csikszentmilhalyi, 2000). However, positive psychology research has produced some impressive correlational results with regard to relationships between positive constructs such as hope, optimism, and resilience and psychological well-being and performance (Abbot, Klein, Hamilton, & Rosenthal, 2009; Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Particularly in the workplace (Froman, 2010; Harzer & Ruch, 2012; Larson & Luthans, 2006; Stajkovic & Luthans, 1998), parsimonious theories tying together similar positive constructs and concepts and linking them to such outcomes as performance and psychological well-being have been relatively few (Lopez & Gallagher, 2009; Rodriguez-Carvajal et al., 2010). For this reason, Lopez and Gallagher (2009), "…recommend[ed] testing theories and constructs in unison" (p. 5), and Rodriguez-Carvajal et al. (2010) stated that there is a "relative lack of theory building" (p. 246) and that "many concepts and constructs have been raised…but it is common to find vague definitions or lack of consensus in relation to them" (p. 246).

Researchers have shown that PsyCap predicts performance, job satisfaction, organizational commitment, psychological well-being, citizenship, cynicism, turnover intentions, job stress, and anxiety (Avey et al., 2011; Luthans, Avolio, et al., 2007) in organizational employees, but to date no studies using PsyCap have targeted independent contractors or the self-employed. Moreover, few researchers have examined possible mediators or moderators of the above-mentioned relationships. Because basic psychological need satisfaction (Deci & Ryan, 2000), such as PsyCap, has been shown to be related to both psychological well-being and performance in various settings (Baard et al., 2004; Burton et al., 2006; Gagne & Deci, 2005; Grouzet, Vallerand, Thill, & Provencher, 2004), it is possible that perceived basic psychological need satisfaction mediates the relationship between PsyCap and psychological well-being; however, no studies to date have addressed this potential relationship. Based on the predictions of broaden and build theory (Fredrickson, 1998, 2001) and empirical results (Cropanzano & Wright, 1999; Lyubomirsky et al., 2005; Wright et al., 2007), it is possible that psychological well-being mediates the relationship between basic psychological need satisfaction and self-reported productivity.

Independent contractors and the self-employed make up approximately 10.4% of the workforce (Bureau of Labor Statistics, 2012) and operate without the job and financial security enjoyed by workers consistently employed by one organization (Jeffri et al., 2011). This job arrangement, though it can result in increased levels of perceived autonomy, can also result in increased levels of stress and anxiety (McGann et al., 2012; Prottas & Thompson, 2006). Very few researchers have examined the psychological

predictors of performance and psychological well-being in independent workers, and no studies have included basic psychological need satisfaction in those analyses. Thus, this study was an implementation of the construct of PsyCap (Luthans, Youssef, et al., 2007), self-determination theory (Deci & Ryan, 2000), broaden and build theory (Fredrickson, 1998, 2001), and the conceptual framework of positive psychology to elucidate some of the variables (e.g., hope, resilience, optimism, self-efficacy, autonomy, competence, relatedness, and psychological well-being) that may contribute to the productivity of independent contractors and the self-employed.

Purpose of the Study

The purpose of this research was to propose and test a structural equation model of perceived productivity in a sample of independent workers employed as actors and stunt people. The direct and indirect relationships among PsyCap, basic psychological need satisfaction, psychological well-being, and self-reported productivity was examined. To date, PsyCap has only been researched using full-time employees who work for organizations, so research involving independent contractors and self-employed individuals provided more information regarding the generalizability of PsyCap to this population as well as informed efforts to develop effective psychological interventions with self-employed workers and independent contractors. Further, if support was found for the path model, interventions targeting basic psychological need satisfaction that have proven successful with other populations (Chirkov & Ryan, 2001; Deci & Ryan, 2008; Deci et al., 2001; Gagne & Deci, 2005; Jiang, Yau, Bonner, & Chiang, 2011; Pelletier, Fortier, Vallerand, & Briere, 2001; Vansteenkiste, Zhou, Lens, & Soenens, 2005) might

be applied with independent workers to provide more efficient and effective increases in psychological well-being and, in turn, performance.

Research Questions and Hypotheses

The primary purpose for this study was to evaluate the effect of the independent variables (i.e., PsyCap, basic psychological need satisfaction, psychological well-being) on the perceived productivity of independent workers employed as actors and stunt people. The secondary purpose of this study was to evaluate the interrelationship among PsyCap, basic psychological need satisfaction, and psychological well-being among independent workers employed as actors and stunt people. Therefore, the following research questions guided this study:

RQ1: Does PsyCap relate positively to basic psychological need satisfaction, psychological well-being, and performance?

$H_0$1: PsyCap does not relate positively to basic psychological need satisfaction, psychological well-being, and performance.

H_a1: PsyCap does relate positively to basic psychological need satisfaction, psychological well-being, and performance.

RQ2: Does basic psychological need satisfaction relate positively to psychological well-being and performance?

$H_0$2: Basic psychological need satisfaction does not relate positively to psychological well-being and performance.

H_a2: Basic psychological need satisfaction does relate positively to psychological well-being and performance.

RQ3: Does psychological well-being relate positively to performance?

$H_0$3: Psychological well-being does not relate positively to performance.

H_a3: Psychological well-being does relate positively to performance.

RQ4: Does psychological well-being mediate the relationship between basic psychological need satisfaction and performance?

$H_0$4: Psychological well-being does not mediate the relationship between basic psychological need satisfaction and performance.

H_a4: Psychological well-being mediates the relationship between basic psychological need satisfaction and performance.

RQ5: Does basic psychological need satisfaction mediate the relationship between PsyCap and psychological well-being?

$H_0$5: Basic psychological need satisfaction does not mediate the relationship between PsyCap and psychological well-being.

H_a5: Basic psychological need satisfaction mediates the relationship between PsyCap and psychological well-being.

Theoretical and Conceptual Framework for the Study

The primary conceptual framework on which this research is based is *positive psychology* defined as "the 'scientific' study of what makes life worth living" (Lopez & Snyder, 2009, p. XXIII) with the goal of shifting

> the emphasis away from what is wrong with people to what is right with people-to focus on strengths (as opposed to weaknesses), to be interested in resilience (as opposed to vulnerability), and to be concerned with enhancing and developing

> wellness, prosperity and the good life (as opposed to the remediation of pathology. (Luthans, 2002a, p. 697)

These emphases have included exploration into subjective experiences like happiness, traits such as strengths and talents, and institutions such as the workplace. Although positive psychology has been shown to be beneficial in reducing dysfunction, the primary focus of positive psychology is not on minimizing or eradicating mental, physical, and/or emotional challenges, but on growing and maximizing human well-being and potential. Positive psychology principles have been used with great success in the work arena (Achor, 2010; Froman, 2010; Harzer & Ruch, 2012; Rodriguez-Carvajal et al., 2010) and have led to unique approaches to successfully maximizing traditional bottom lines as well as emphasizing the importance of including job satisfaction, happiness, psychological well-being, and health as additional bottom lines. One of the specific constructs falling under the purview of positive psychology used to examine this success is PsyCap (Luthans, Youssef, et al., 2007).

Self-determination theory (SDT) is a macro theory that addresses motivation across all domains of life (Deci & Ryan, 2000). In SDT, human beings are assumed to naturally seek growth, challenge, and new experiences (Standage & Ryan, 2012). Within SDT are several minitheories, one of which is basic psychological needs theory. Basic psychological needs theory (Deci & Ryan, 2000) is a contention that growth and well-being are tied directly to the perceived satisfaction of three basic, universal psychological needs: autonomy (experiencing activities as self-endorsed and engaged in of one's own volition), competence (feeling as though one is effective), and relatedness (feeling as

though one is an accepted and valued member of a group; Ryan & Deci, 2000).

Broaden and build theory (Fredrickson, 1998, 2001) is a proposal that positive emotions lead to the expansion of thought-action repertoires resulting in increases in social, psychological, and physical resources. This increase in available personal resources allows individuals to foster friendships, develop skills, or recover energy as needed in an effort to further progress in goal pursuits (Fredrickson & Brannigan, 2005; Lyubomirsky et al., 2005).

Psychological resource theories postulate that individuals possess certain resources that are valued in and of themselves (e.g., self-esteem, health) or that facilitate the obtainment of valued ends (e.g., money, social support; Hobfoll, 2002). In his review of various psychological resource theories, Hobfoll argued that self-efficacy, optimism, resilience, and goal target and pathways (i.e., hope) are important resources; however, he pointed out that it is not at all clear that these resources function solely as independent constructs. Hobfoll concluded that "the task of future research to examine the extent to which key resources overlap or are derived from a central developmental source" (p. 310).

Nature of the Study

Participants of this study were stunt people and actors who were members of the American Federation of Radio and Television Artists-Screen Actor's Guild (AFTRA-SAG) and/or Actor's Equity Association (AEA), over the age of 18, and identified acting or stunts as their primary profession. Potential participants were solicited via email, phone, social media, and in-person pitches at monthly stunt-groups (e.g., International

Stuntmen's Association) meetings. Individuals who met the above-mentioned criteria and agreed to participate were asked to log into SurveyMonkey and complete four questionnaires. PsyCap was measured using the PsyCap Questionnaire (PCQ; Luthans, Avolio, et al., 2007). Perceived productivity was measured using a self-report productivity measure (Zelenski, Murphy, & Jenkins, 2008). Psychological well-being was measured using the Subjective Well-Being-Short Scale (Roysamb, Harris, Magnus, Vitterso, & Tambs, 2002). Basic psychological need satisfaction was measured using the Basic Psychological Needs Scale for Work (Baard et al., 2004; Deci et al., 2001; Leone, 1995). Data were analyzed using structural equation modeling, specifically path analysis.

Structural equation models allow for the examination of complex, indirect, and intermediate effects among variables (Ullman, 2007). Path analysis allows for the examination of interrelationships among several independent and dependent variables and allows for the exploration of causal structures (Ullman, 2007). The goal of this study was to use the data collected to demonstrate causal relationships. Path analysis analyzes paths between variables using multiple regression equations; however, path analysis explicitly computes the impact of error allowing for more accurate assessment of interactions among variables (Ullman, 2007). Observed variables are either endogenous (i.e., paths lead to them) or exogenous (i.e., independent of causes).

Path analysis was chosen for this study because more simplistic correlation and regression models might miss or oversimplify the relationships among PsyCap, basic psychological need satisfaction, psychological well-being, and performance. The intent was to explore relationships among the variables using path analysis within a structural

equation model to provide evidence for the hypothesized theoretical model (Figure 1). Some strengths of using a causal model approach to address the research questions in this study included the ability to identify possible reasons for observed variations, evaluate patterns of causation among variables, and more easily visualize, conceptualize, and summarize the hypothesized relationships among variables (Ullman, 2007).

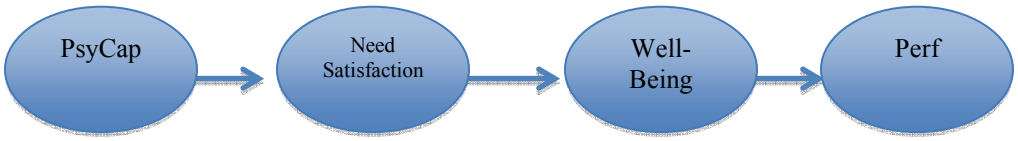

Figure 1. Hypothesized structural equation model.

The statistical analysis program used was SPSS. The relative influence of the independent variables (i.e., PsyCap, basic psychological need satisfaction, and psychological well-being) on the perceived productivity of independent workers employed as actors and stunt people was evaluated.

Definitions

Autonomy: This term is defined as "the need to experience activities as self-endorsed and choicefully enacted" (Standage & Ryan, 2012, p. 237).

Basic psychological needs satisfaction: This term refers to three basic, universal needs (i.e., autonomy, competence, relatedness) that self-determination theory posits are essential for personal growth, health, and overall well-being (Deci & Ryan, 2000).

Broaden and build theory: This theory posits that positive emotions "broaden" our

thought-action repertoires and "build" an individual's intellectual, physical, psychological, and social resources (Fredrickson, 1998, 2001).

*Competence :*This term is defined as "the need to interact effectively within the environment" (Standage & Ryan, 2012, p. 237).

Conservation of resources theory: This theory defines resources as "those objects, personal characteristics, conditions, or energies that are valued in their own right, or that are valued because they act as conduits to the achievement or protection of valued resources" (Hobfoll, 2001, p. 339) and predicts that stress occurs as the result of the threatened loss of resources, the actual loss of resources, or the failure to augment resources following the investment of resources.

Hope: This term is defined as "a positive motivational state that is based on an interactively derived sense of successful (a) agency (goal-directed energy) and (b) pathways (planning to meet goals)" (Snyder, Irving, & Anderson, 1991, p. 287)

Independent worker: This term refers to individuals who are either independent contractors or are self-employed and do not employ other workers (Prottas & Thompson, 2006).

Optimism: This term is defined as "both a positivity-oriented future expectation that can be developed and an attributional style that interprets positive events through personal, permanent, and pervasive causes and negative events through external, temporary, and situation-specific ones" (Youssef & Luthans, 2010, p. 278).

Performance/Productivity: This term refers to how well individuals feel they have executed the requirements of their job over the past week (Luthans, Avolio, et al., 2007).

Positive Psychological Capital (PsyCap): This term refers to the second-order construct consisting of hope, resilience, optimism, and self-efficacy (Luthans, Youssef, et al., 2007).

Positive psychology: This term refers to the field of psychology focused on developing and accentuating facets of our lives that make them most worth living (Seligman & Csikszentmihalyi, 2000).

Psychological resources: This term refers to "entities that either are centrally valued in their own right (e.g., self-esteem, close attachments, health, and inner peace) or act as a means to obtain centrally valued ends (e.g., money, social support, and credit)" (Hobfoll, 2002, p. 307).

Psychological well-being: This term is defined as "a subjective and global judgment that one is experiencing a good deal of positive and relatively little negative feelings or emotions" (Wright, 2010, p. 144).

Relatedness: This term is defined as "the need to feel close, connected, and cared for with important others" (Standage & Ryan, 2012, p. 237).

Resilience: This term is defined as "the capacity to rebound or bounce back from adversity, conflict, failure, or even positive events, progress, and increased responsibility (Luthans, 2002a, p. 702).

Self-determination theory: This theory posits that motivation exists on a continuum from controlled to autonomous and that where one falls on that continuum is a function of the perceived satisfaction of three basic psychological needs: autonomy, competence, and relatedness (Deci & Ryan, 2000).

Self-efficacy: This term is defined as a belief held by an individual about his or her ability to successfully perform the behaviors necessary for producing a desired outcome (Bandura, 1997).

Social cognitive theory: This theory proposes that environment, behavior, and cognition operate in a reciprocal, triadic fashion to shape human adaptation and change (Bandura, 1986).

Assumptions

It was assumed that performer unions (e.g., SAG-AFTRA) and stunt groups (e.g., Stuntmen's Association, International Stuntmen's Association) would cooperate with the dissemination of the research information, and performers who met the designated criteria would agree to complete and follow through with the completion of the assessment battery honestly, thoroughly, and without bias. Challenges contacting large numbers of the target population without the help of these organizations make the first assumption necessary. The second assumption is necessary because compliance cannot be guaranteed.

Scope and Delimitations

When examined with full-time workers, PsyCap (Luthans, Avolio, et al., 2007), has been shown to be related to both psychological well-being (Avey, Luthans, Smith, & Palmer, 2010) and performance in several different worker populations (Avey et al., 2011; Luthans et al., 2005; Luthans, Avey, & Patera, 2008; Peterson, Park, & Castro, 2011; Walumba, Luthans, Avey, & Oke, 2011; Zamahani, Ghorbani, & Rezaei, 2011). To date, however, the relationship of PsyCap to well-being or performance in independent

workers has not been studied. Independent workers experience a unique set of challenges, such as job insecurity, difficulty developing relationships, no vacation or sick leave, and health issues directly related to a fear of lost wages that have the potential to dramatically impact psychological well-being and performance (de Jonge, Bosma, & Siefrist, 2000; McGann et al., 2012). The majority of working actors and stunt people fall into the independent worker category (Jeffri et al., 2011) and as such are vulnerable to the unique challenges faced by that population (Aisbett, 2006; Backstage, 2012). A population of working actors and stunt people were chosen for this study because they accurately represented independent workers with all of their unique, potentially positive and negative qualities.

This research was focused solely on independent workers employed as stunt people or actors and not full-time, steadily employed workers. Previous research examining relationships between PsyCap and well-being and performance with workers employed full-time (Luthans, Avey, Avolio, & Peterson, 2010; Luthans, Avolio, et al., 2007; Walumbwa et al., 2011) might be more applicable when examining that population.

Limitations

Internal validity may be limited in several ways. One was sample size. Although requests for participation were distributed in a number of different ways (i.e., through unions, professional groups, social networking, and word of mouth), there was no way to ensure an adequate number of individuals meeting the criteria for participation would agree to participate. Because of the correlational nature of the study, a second limitation

was that causality cannot be determined. Furthermore, it was possible that a variable not included and not controlled for might contribute to any relationships found.

External validity might be impacted because data were only collected from individuals in the entertainment industry; thus, results may not generalize to workers in other industries. Because independent workers face many of the same challenges as steadily employed workers regardless of the specific work they do (McGann et al., 2012; Prottas & Thompson, 2006), any relationships found in this study would most likely generalize to other independent worker populations; however, the results may or may not generalize to the small percentage of entertainment professionals employed full-time. Moreover, due to nonrandom, snowball sampling, results may not generalize to other actors and stunt people.

Biases that may impact these findings include self-report and social desirability. It is possible that questions on the assessment might have been answered by participants in ways that the participants believed the questions should be answered or that would increase their social desirability in the eyes of the researcher or other industry professionals. This bias was addressed by making it abundantly clear that the results would be confidential and that not even I would know which participant was associated with which data set. It is also possible that, due to a self-report bias, participants may have trouble accurately assessing themselves.

Significance of the Study

Independent workers make up a significant portion of the workforce, and yet, very little research has addressed the factors that contribute to their productivity and overall

well-being. Understanding how positive psychology may facilitate growth, development, and the realization of potential can substantially increase the well-being of independent workers and mitigate much of the stress and anxiety inherent in this oftentimes unstable career choice (McGann et al., 2012). This study may help illuminate challenges and possible intervention directions for the performers who serve as the face of the multibillion dollar entertainment industry. Very little research has focused on this particular population, so this study could expand the organizational psychology literature related to independent workers, but might provide some foundational knowledge about what factors contribute to the well-being and job performance of entertainers, a population that makes up a significant portion of independent workers (Jeffri et al., 2011). Results might also benefit the overall field of positive psychology and further the research into self-determination theory by testing a model of relationships among PsyCap, basic psychological need satisfaction, psychological well-being, and perceived productivity with populations and construct interactions not yet examined within the positive psychology literature (Lopez & Gallager, 2009; Rodriguez-Carvajal et al., 2010) and rarely examined in the organizational psychology literature (Prottas & Thompson, 2006).

Finally, this study may provide some insight and guidance to union leaders representing independent workers, other organizations that support independent workers, and independent workers themselves. A better understanding of the factors that contribute to psychological well-being and workplace success can help union leaders better train and equip their union members to handle the various challenges experienced by most

independent workers (McGann et al., 2012). Further, knowledge of the relationships discussed in this study might help independent workers and those who provide support and guidance to these workers create better plans and interventions that target independent workers' overall levels of success and well-being.

Summary

Independent workers have not had a significant presence in the organizational psychology literature. This is a population of over 10 million workers that constitutes at least 10.4% of the workforce (Bureau of Labor Statistics, 2012). It is also a population that faces unique challenges resulting from its volatile, unstable nature (Jeffri et al., 2012; McGann et al., 2012). Positive psychology, with its focus on developing and improving the aspects of living (Seligman & Csikszentmihalyi, 2000), is in a unique position to provide insight that might better independent worker job environments, productivity, and overall well-being. This research may provide information toward those goals by examining a mediation model describing relationships among PsyCap, basic psychological need satisfaction, psychological well-being, and self-reported performance in a sample of independent workers employed primarily as either stunt people or actors. In addition to answering the call for more parsimonious model development (Rodriguez-Carvajal et al., 2010) and clarifying relationships among PsyCap, basic psychological need satisfaction, psychological well-being, and performance, the results may have social change implications that include providing guidance to entertainment unions and professional groups as to how they can better support their members and provide guidance to entertainers and other independent workers as to how they might maximize

their potential and create the conditions for success in the challenging, self-motivating world of independent work.

Chapter 2 contains a review of the existing literature on positive psychology, positive psychological capital (PsyCap), self-determination theory and basic psychological need satisfaction, psychological well-being, and independent workers and entertainers. Chapter 3 is a discussion of the methodology used to address the research questions and includes descriptions of the sample population, statistical and data analysis techniques, and the ethical issues involved.

Chapter 2: Literature Review

Introduction

In this chapter, I reviewed the literature pertaining to (a) positive psychology, (b) positive psychological capital (PsyCap), (c) basic psychological need satisfaction, (d) psychological well-being, and (d) performance. The literature search strategy employed is also discussed.

The literature review begins with an introduction of the conceptual framework of positive psychology. Then, the higher order construct of PsyCap and the four constructs comprising it (i.e., hope, optimism, resilience, self-efficacy) will be discussed. Basic psychological need satisfaction (i.e., autonomy, competence, relatedness) and psychological well-being will then be presented. Arguments for the hypothesized relationships among these variables will be made. The target population, independent workers, will then be discussed, and finally, issues related to two segments of that population, stunt people and actors, will be highlighted.

Literature Search Strategy

Scholarly, peer-reviewed sources were located using Google Scholar, Academic Search Complete, Business Source Complete, Education Research Complete, PsycARTICLES, PsycINFO, PsycBOOKS, PsycCRITIQUES, PsycEXTRA, SocINDEX databases, and online libraries with relevant journals and books. Keyword searches were conducted using *psychology, positive psychology, psychological capital, independent contractor, self-employed, entrepreneurs, performers, entertainers, actors, self-efficacy, hope, optimism, resiliency, basic psychological need satisfaction, self-determination*

theory, autonomy, competence, relatedness, performance, productivity, well-being, psychological well-being, and *subjective well-being*.

Conceptual Framework

Positive Psychology

Although the WHO has emphasized holistic mental health from its earliest days (1946), health care fields in general, and psychology specifically, have tended toward an approach focused on minimizing or eliminating dysfunction as opposed to fostering human development, growth, and potential (Seligman, 2011; Seligman & Csikszentmihalyi, 2000). In fact, results from a recent meta-analysis showed that 94% of articles published in the Journal of Occupational Health Psychology addressed negative issues such as aggression, burnout, harassment, stress, discrimination, and turnover (Luthans, Youssef, et al., 2007). The persistent emphasis on the negative facets of our existence has been at the expense of effort toward understanding and realizing human potential (Diener, 2009). Through empirical research and evidence-based intervention, positive psychology researchers seek to balance out this historically negative focus by addressing the positive aspects of life that foster growth, development, potential, and well-being for the approximately 80% of people not currently dealing with a mental disorder (Lopez & Gallagher, 2009; Seligman & Csikszentmihalyi, 2000).

History of positive psychology. Although positive psychology in its current form is relatively new, positive psychology dates back as far as Aristotle (Robbins, 2008). Aristotle's idea of eudaimonic well-being, as opposed to a more pleasure-based well-being (i.e., hedonism), is generally

> understood to be a reflection of a person who is flourishing in terms of his or her character strengths and virtues, including among other things: autonomy, mastery of the environment, personal growth, positive interpersonal relationships, purpose in life, and self-acceptance. (Robbins, 2008, p. 100)

The concept of a holistic well-being that encompasses all facets of existence was echoed centuries later by theorists such as Maslow (1954) and Rogers (1961). Maslow (1954), who first used the term "positive psychology," stated that psychology:

> has been far more successful on the negative than on the positive side. It has revealed to us much about man's shortcomings, his illness, his sins, but little about his potentialities, his virtues, his achievable aspirations, or his full psychological height. It is as if psychology has voluntarily restricted itself to only half its rightful jurisdiction, the darker, meaner half. (p. 354)

This idea that human potential and well-being was just as valid a focus for psychology as dysfunction led Maslow to develop one of psychology's most well-known theories.

Maslow (1954) proposed that there exists a hierarchy of needs leading to self-actualization. This hierarchy consists of five levels. The first level consists of basic human need satisfaction. This refers to physiological needs such as food, clothing, and shelter. Once these needs are adequately met, people move to the second level in which the needs of security and safety are addressed. The third level involves relationships and belonging. The fourth level involves the need for self-esteem and respect and the need to recognize others. Finally, self-actualization, or the desire and ability to achieve personal growth, peak experience, and a genuine appreciation of life, occurs. Maslow asserted that

each level of hierarchy must be met before the succeeding levels can be attained, and those achieving self-actualization experience not only peak moments but also plateau moments characterized by happiness and satisfaction with one's current situation (Maslow, 1970). Maslow's ideas and theories have often been recognized as essential precursors to the modern day version of positive psychology (Lopez & Gallagher, 2009; Seligman & Csikszentmihalyi, 2000).

Another theorist whose work contributed to the development of positive psychology was Rogers (1961). Rogers proposed that human beings possess a phenomenological field that dictates their realities through their perceptions of day-to-day experiences. Rogers posited that the "fully functioning person" (p. 122), very similar conceptually to Maslow's self-actualization (Maslow, 1954), exists when the sense of self is integrated with sensory aspects of experience. The fully functioning person, according to Rogers, lives in the moment and is open to new experiences, is creative and constructive, trusts in his or her ability to function successfully in the world, and recognizes his or her own freedom and the benefits and responsibilities associated with that freedom.

Modern positive psychology. Based on the work of Maslow (1954, 1970) and Rogers (1961), Seligman and Csikzentmihalyi (2000) proposed a psychological framework known as positive psychology. Positive psychology is characterized by an overall, holistic, eudaimonic approach to well-being. What separates positive psychology from much of the humanistic literature, however, is its laser focus on empirically proven data (Seligman & Csikszentmihalyi, 2000). Positive psychology was defined as "the

'scientific' study of what makes life worth living" (Lopez & Snyder, 2009, p. XXIII). Well-being, or flourishing, in positive psychology, much like Rogers's (1961) concept of the fully functioning person, is purported to stem from the interaction of positive emotions, engagement (i.e., being fully in the moment), personal relationships, meaning (i.e., feeling as though one is contributing to something larger than him- or herself), and achievement/accomplishment (Seligman, 2011). Positive psychology theorists, researchers, and practitioners seek to foster growth, realization of potential, and well-being by focusing on three primary areas: positive subjective experiences (e.g., joy, optimism, hope, and flow), personality traits of high-functioning individuals (e.g., wisdom, perseverance), and institutional qualities that promote and sustain both individual and organizational development and growth (Seligman & Csikszentmihalyi, 2000).

Positive psychology research and application has increased substantially over the past decade and is currently one of the fastest growing areas in psychology (Hart & Sasso, 2011; Schui & Krampen, 2010). In the 8 years following Seligman and Csikszentmihalyi's (2000) official introduction of positive psychology, 1,128 publications on positive psychology were written by 1,993 different authors (Schui & Krampen, 2010), and a current search of the Academic Search Complete, PsycARTICLES, PsycINFO, PsycBOOKS, PsycCRITIQUE, and PsycEXTRA databases using the key words *positive psychology* yielded 4,333 peer-reviewed articles.

Diener (2009) argued that although other movements within the field of psychology have had a positive focus in the past, positive psychology has exploded in

popularity as a result of two factors: a solid empirical, scientific foundation and the state of the current social environment. Whereas the humanistic approach is weak with regard to empirical data supporting its theoretical perspectives (Seligman & Csikszentmihalyi, 2000), positive psychology theorists and practitioners place a great deal of importance on empirically driven theory development and evidence-based interventions (Lopez & Snyder, 2009; Luthans, 2002a, 2002b; Seligman, 2011). The science inherent in and so strongly emphasized by positive psychology researchers is the backbone of all theory and applications in this area. Furthermore, Diener (2009) asserted that society is much better off than at many times throughout history. Democratic governance and life expectancy are up, hunger is down, and education levels are at an all-time high. Therefore, in line with Maslow's (1954) hierarchy of needs, in the current zeitgeist, it seems that many people are at the point of searching for self-actualization and so are ready and open to explore what the "good life" means and how to achieve it. As a result, the positive psychology movement that began in 2000 is primed to blossom, and its focus on positive experiences, traits and strengths, and positive institutions provides a structure for how to maximize well-being and achieve self-actualization at a time in history when society is receptive of that knowledge.

Conservation of Resources Theory and Psychological Capital

In conservation of resources theory (Hobfoll, 2001), resources are defined as "those objects, personal characteristics, conditions, or energies that are valued in their own right, or that are valued because they act as conduits to the achievement or protection of valued resources" (p. 339). Conservation of resources theory predicts that

stress occurs as the result of the threatened loss of resources, the actual loss of resources, or the failure to augment resources following the investment of resources. The primary tenets of conservation of resources theory are that resource loss is more salient than resource gain, individuals with greater resources are less vulnerable to resource loss than individuals with fewer resources, and individuals with fewer resources will become defensive in an effort to conserve the resources they possess.

Conservation of resources theory (Hobfoll, 2001) also posits that resources tend to aggregate such that the availability of one resource predicts the availability of other resources. For example, data presented by Turner, Lloyd, and Roszell (1999) showed that the personal resources of mastery and self-esteem correlate with the social resource of occupational level, and Thoits (1994) showed that mastery and self-esteem correlate with problem solving strategies. Hobfoll (2001, 2002) referred to the co-occurrence of resources as "resource caravans" and argued that the independence of various resources is uncertain and that "the task of future research is to examine the extent to which key resources overlap or are derived from a central developmental source" (Hobfoll, 2001, p. 310).

Positive Psychological Capital (PsyCap)

PsyCap is defined as

> "an individual's positive psychological state of development that is characterized by (a) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging task, (b) making a positive attribution (optimism) about succeeding now and in the future, (c) persevering toward goals and, when

> necessary, redirecting paths to goals (hope) in order to succeed, and (d) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success. (Luthans, Youssef, et al., 2007, p. 3)

The construct of PsyCap emerged from the positive psychology movement and was created to address some of the challenges associated with finding and developing the caliber of employee necessary to sustain long-term competitive advantages in organizations. Some of these challenges included the increased value workers place on flexibility and the devaluing of long-term organizational commitments (Waterman, Waterman, & Collard, 1994), the ease with which technical training initiatives can be imitated by competing companies, pay and benefit packages that are easily replicated by the competition, and the development of competencies such as team building and decision making that are routinely implemented across organizations (Luthans & Youssef, 2007). Historically, organizations have tried many means for attracting and utilizing talent in the workforce including work-life balance initiatives, personal growth and development opportunities, job design, and benefits and pay increase structures (Barnett & Hall, 2001; Johnson, 2004; Lance, 2005; Olson, 2003); however, many, if not most, organizations still fail to realize the full potential their human resources (Avolio, 2005). By investing, developing, managing, and leveraging PsyCap, a renewable, cumulative, context-specific, and difficult-to-imitate resource, organizations can gain an important advantage over their competition.

The designation of PsyCap as a higher-order construct falls conceptually in line with conservation of resources theory (Hobfoll, 1989, 2001). In his presentation of

conservation of resources theory and review of psychological resource theories, Hobfoll (2001, 2002) discussed several key resources, including self-efficacy, optimism, and goal pursuit (hope), and their relationships with resilience. Hobfoll (2002) pointed out, however, that "it is less clear that these individual resources are independent of one another" (p. 310) and called for future research "to examine the extent to which key resources overlap or are derived from a central developmental source" (p. 310).

PsyCap is a higher-order construct created from self-efficacy, hope, resilience, and optimism. The conceptual interdependence of these four constructs is both theoretically and empirically supported in the literature (Bandura, 1997; Luthans & Jensen, 2002; Luthans, Youseff, et al., 2007; Seligman, 1998; Snyder, 2002), and discriminant validity has been demonstrated in several studies (Avey, Luthans, & Youssef, 2010; Bryant & Cvengros, 2004; Carifiio & Rhodes, 2002; Luthans, Avolio, et al., 2007; Magaletta & Oliver, 1999; Youssef & Luthans, 2007). However, although they have been shown to be distinct constructs, enough similarities exist among self-efficacy, hope, resilience, and optimism to suggest that "a common, underlying link runs between them and ties them together" (Luthans, Avolio, et al., 2007, p. 548). For example, Bandura (1997) proposed that resilience in the face of adversity is more likely for those individuals high in self-efficacy than those who are low in self-efficacy, and Snyder (2000) found that self-efficacy tended to be higher in individuals high in hope than in those low in hope.

Empirical evidence also exists for the higher-order classification of PsyCap. In two studies, one using management students and one using engineers and technicians

from a large organization, confirmatory factor analyses conducted by Luthans, Avolio, et al. (2007) found that when compared to a one-factor model (all 24 items from the assessment) and various three-factor models (hope and resilience merged, self-efficacy, and optimism; hope and optimism merged, self-efficacy, and resilience; and optimism and resilience merged, self-efficacy, and hope), and one four-factor model that included self-efficacy, hope, resilience, and optimism as indicators of the higher-order construct, PsyCap provided the best fit for the data: SRMR = 0.51, RMSEA = .046, CFI = .934 (Study 1) and SRMR = .056, RMSEA = .048, CFI = .924 (Study 2). Because two of the three fit indices in each study met the criteria for adequate fit (Hu & Bentler, 1999), Luthans, Avolio, et al. concluded that there was ample evidence for the higher-order classification of PsyCap.

In addition to the support from the factor analyses, support for the convergent, discriminant, and criterion validity of PsyCap was provided by comparing PsyCap to similar, but trait-like, constructs (Luthans, Avolio, et al., 2007). Results showed that PsyCap had a strong positive relationship with core self-evaluation, a higher-order construct consisting of self-esteem, generalized self-efficacy, emotional stability, and locus of control (Bono & Judge, 2003; Judge & Bono, 2001), and a moderate positive relationship with the Big Five constructs extraversion and conscientiousness (Barrick & Mount, 1991). Further analyses demonstrated that PsyCap showed a stronger correlation to job satisfaction ($r = .39$, $p < .01$) than did conscientiousness ($r = .15$, $p < .01$), extraversion ($r = .24$, $p < .001$), or core self-evaluation ($r = .32$, $p < .001$) and added unique variance in a hierarchical regression analysis. More in-depth comparisons of

PsyCap and core self-evaluation measurements taken over three time periods suggested that both higher-order constructs are correlated, but are also distinct.

This idea of a higher-order factor being comprised of distinct components is not unique in the organizational behavior literature. Transformational leadership is comprised of charisma, individual consideration, intellectual stimulation, and inspirational motivation (Avolio, Bass, & Jung, 1999), core self-evaluation is comprised of self-esteem, generalized self-efficacy, locus of control, and emotional stability (Judge & Bono, 2001), and empowerment is comprised of meaning, competence, self-determination, and impact (Spreitzer, 1995). The common theme is an underlying link that ties the distinct constructs together, and in the case of PsyCap, the proposed link shared by self-efficacy, hope, resilience, and optimism is the contribution "to a motivational propensity to accomplish tasks and goals" (Luthans, Avolio, et al., 2007, p. 548).

When looking at constructs for inclusion in PsyCap, three criteria were used. First, the constructs needed to be grounded in solid theory and research. Next, the constructs needed to be state-like, and therefore, malleable through intervention. Finally, the constructs needed to be clearly linked to improved performance. The ways in which self-efficacy, hope, resilience, and optimism satisfy these criteria are discussed in detail below. Luthans, Youssef, and colleagues (2007) acknowledged that constructs besides the four listed above may eventually be added to PsyCap, but at the moment, PsyCap is made up only of self-efficacy, hope, resilience, and self-efficacy.

Results from additional studies (Avey, Luthans, & Youssef, 2010) were consistent

with the results of Luthans, Youssef, and colleagues (2007) and have provided evidence for relationships between PsyCap and job satisfaction (Avey et al., 2011; Larson & Luthans, 2006; Youssef & Luthans, 2007), well-being (Avey, Luthans, Smith, et al., 2010), organizational citizenship behavior (Avey, Luthans, & Youssef, 2010; Walumbwa et al., 2011), trust (Zamahani et al., 2011), organizational commitment (Youssef & Luthans, 2007), and performance (Avey et al., 2011; Luthans et al., 2005; Luthans et al., 2008; Peterson et al., 2011; Walumbwa et al., 2011; Zamahani et al., 2011). Evidence from these studies showed that self-efficacy, hope, resilience, and optimism combined in a gestalt fashion to make up PsyCap, which "can be expected to lead to higher performance based on their reinforcing greater extra effort from individuals, promoting the generation of multiple solutions to problems, positive expectations about results leading to higher levels of motivation, and positive responses to setbacks" (Luthans et al., 2010, p. 48). Taken together, this evidence strongly supports the contention that PsyCap is a distinct higher-order construct that reliably predicts job attitudes and behaviors at least as well, if not better than, similar trait-like constructs.

PsyCap has also been implemented to predict work-related outcomes in different cultural groups (Avey et al., 2011; Luthans et al., 2008; Luthans et al., 2005). Two studies were conducted with Chinese workers in state-owned and privately-owned factories. The results showed a positive correlation between PsyCap and performance in both study one (r = . 24, p< .01) and study two (r = .25, p< .01). These findings are similar to the results of a meta-analysis by Avey and colleagues (2011) that showed that PsyCap correlated with job satisfaction, performance, organizational commitment in US

based samples (*Corr-r* = .43, $p < .01$) and non-U.S. samples (*Corr-r* = .24, $p < .01$).

Overall, the research on PsyCap supports its malleability, cross-cultural applicability, and relationship to various positive organizational outcomes. What is lacking in the PsyCap literature to date, however, are studies related to workers who are not fulltime employees and studies that examine the potential mediating and moderating effects of other variables. To date, all research with PsyCap solely incorporated samples of employed individuals working in a traditional organizational settings, and the only moderators that have been examined are nationality (US vs. non-US), work status (student vs. adult workers), and type of industry (service vs. manufacturing). The present study is intended to take an important step toward filling that gap by providing information regarding the generalizability of PsyCap across the worker population and examines possible relationships among PsyCap, basic psychological need satisfaction, psychological well-being, and performance.

Self-efficacy. Bandura's (1986) social cognitive theory was a supposition that the environment, behavior, and cognition operate in a reciprocal, triadic fashion to shape human adaptation and change. Rather than human beings being solely reliant on environmental influences or inner impulses for growth and development, a complex interplay among cognitive, vicarious, self-regulatory, and self-reflective processes are responsible for behavior and circumstances. That is, "what people think, believe, and feel affects how they behave" (Bandura, 1986, p. 25). Central to social cognitive theory is the idea that people's self-beliefs play a key role in their ability to control their thoughts, actions, and feelings, and because of the reciprocal nature of the triadic model, alterations

in the beliefs about any one of the environmental, personal, or behavioral factors can lead to changes in the other two. Self-efficacy is one of the primary components of Bandura's (1986) social cognitive theory. Self-efficacy has been defined as a belief held by an individual about his or her ability to successfully perform the behaviors necessary for producing a desired outcome. Self-efficacy is hypothesized to play a significant role in the development and sustainment of feelings, thoughts, motivation, and behavior (Bandura, 1997). Bandura observed that self-efficacy is domain specific and varies depending on context (Bandura, 1997). Self-efficacy is a state-like construct and, therefore, malleable and able to be developed by focusing on four areas: task mastery, vicarious learning or modeling, positive feedback and/or persuasion, and psychological and physiological arousal (Bandura, 1997). That is, self-efficacy can be developed and sustained (a) with successful accomplishment of challenging tasks, (b) by watching others one perceives to be similar to oneself succeed in a task, (c) through positive persuasion by respected others (e.g. leader, mentor) and/or feedback from respected others relating to progress in a given area, and (d) by experiencing psychological, physiological, and/or emotional arousal when engaged in given activities (Bandura, 1997; Stajkovic & Luthans, 1998).

Hope. Hope is defined as "a positive motivational state that is based on an interactively derived sense of successful (1) agency (goal-directed energy) and (2) pathways (planning to meet goals)" (Snyder et al., 1991, p. 287). Research on hope developed as a positive reaction to the research on the creation and use of excuses being conducted in the 1970s and 1980s (Rand & Cheavens, 2009). After spending a

considerable amount of time researching ways in which people explained things they did not want (Mehlman & Snyder, 1985), Snyder (1994, 2002) decided to focus on how people pursued what they did want. From this research, Snyder developed a theory of hope, at the heart of which is the assumption that people are intrinsically driven toward goal achievement (Snyder, 1994).

Snyder's (1994, 2002) theory of hope indicated that hope is derived from the interaction of beliefs regarding one's ability and willingness to put forth the effort necessary to achieve a desired goal (i.e. agency) and one's ability to formulate plans or directions ultimately leading to goal achievement (i.e. pathways). The agency aspect of Snyder's theory is similar to self-efficacy, but it is differentiated from self-efficacy by the intention to act. That is, self-efficacy describes perceptions related to one's ability to act in an efficacious way in specific situations (Bandura, 1997), whereas agency refers to perceptions regarding the ability, will, and intention to act (Snyder, 2002). Snyder described the pathways aspect of hope theory as the process of generating potential courses of action likely to lead to goal attainment (Rand & Cheavens, 2009; Snyder, 2002). According to Snyder and colleagues (1991), individuals with high levels of hope tend to have the ability to generate multiple pathways, a skill which allows them to deal more effectively with goal blockages and setbacks encountered along the path to goal achievement (Irving, Snyder, & Crowson, 1998; Snyder et al., 1991).

Hope has been demonstrated to operate in a state-like manner (Snyder et al., 1996). Drawing from goal setting theory (Locke & Latham, 2002) and social cognitive theory (Bandura, 2001), both Snyder (2002) and Luthans, Youssef, and colleagues

discussed several ways in which hope can be developed: goal-setting, setting stretch goals, increasing involvement, developing appropriate and effective reward systems, and developing resources. In order to foster and develop hope in individuals, Snyder (2002) and Luthans, Youssef and colleagues suggested that individuals set and commit to personal, meaningful goals that are in the intermediate realm of difficulty. These goals should be specific, measurable, and challenging. Once set, goals should be broken down into smaller, more manageable sub-goals, the achievement of which fosters agency by providing consistent, tangible evidence of the ability to ultimately achieve the larger goal and fosters pathways by confirming that a viable plan was developed. In addition to this goal-setting process for individuals, managers can bolster both their own and their employees' levels of hope by: (a) Creating opportunities for involvement and autonomous decision making, (b) establishing appropriately structured reward systems that reinforce autonomy, competence, persistence, and ingenuity; and (c) recognizing employees for the unique contributions they make to the team, group, and organization as a whole (Luthans, Youssef, et al., 2007).

Although few in number, there are empirical studies that provide support for the state-like nature of hope. While developing and validating the State Hope Scale, Snyder and colleagues (1996) conducted two studies. In study one, *hope* scores showed a statistically significant increase following a visualization exercise that focused participants' attention on a specific example of successful goal achievement and a statistically significant decrease following a visualization exercise that focused attention on a specific instance in which the individual failed to attain a desired goal. This increase

in hope levels may have been the result of agency being bolstered by memories of success and of pathways being strengthened through a reminder of one's ability to generate and follow through with plans for goal achievement (Snyder, 2002; Snyder et al., 1996).

In their second study, Snyder and colleagues (1996) administered the State Hope Scale and then gave three groups of people 6 minutes to complete anagram tests with varying levels of difficulty while another group (i.e. control) simply sat quietly for the same amount of time. In the success group, participants were given 20 easy anagrams, typically scored very well (i.e. around 18 out of 20), and were given praise (i.e. "You did well") for their good performance. The success/failure group of participants were given a mixture of ten easy and ten difficult anagrams, typically scored in the mid-range (i.e. around 10 out of 20), and were given feedback reflecting their performances (i.e. "You did okay"). The failure group participants were given 20 difficult anagrams, typically scored poorly (i.e. around 2 out of 20), and were given feedback reflecting their performances (i.e. "You only got a few right"). Following the anagram test, participants were again given the State Hope Scale and debriefed. The results indicated that there was a statistically significant increase in hope scores for the success group, non-statistically significant results for the success/failure group, and a statistically significant decrease in hope scores for the failure group. These results, like the ones in study one, support the conclusion that hope operates as a state-like construct.

Optimism. Authors researching optimism have taken two separate, but related paths. One path was based on expectancy-value theory and, similar to the concept of self-

efficacy, argued that optimism and pessimism are a function of individuals' expectations regarding meaningful goals (Carver, Scheir, Miller, & Fulford, 2009). What differentiates expectancy-value perspectives from self-efficacy, however, is that the expectations in expectancy-value theory span a broad range of goals, so expectancy-value theory operates at a more global level than self-efficacy (Bandura, 1997; Carver et al., 2009). As a result, this path takes a dispositional approach to optimism and posits that optimism is more trait-like than state-like (Carver et al., 2009; Luthans, Youssef, et al., 2007).

The other path toward understanding optimism and pessimism developed out of learned helplessness theory (Hiroto & Seligman, 1974) and emphasized the importance of attributions (Peterson & Steen, 2009). From this perspective, optimism and pessimism are the result of how situations and life events are interpreted by individuals. Optimists tend to attribute global, internal, and stable causes to good events and specific, external, and unstable causes to bad events, while the opposite holds true for pessimists (Seligman, 1998; Seligman, 2011). Although both approaches emphasize the importance of expectancies, the attribution approach goes a step further by describing the ways in which expectancies are believed to develop (Carver et al., 2009; Peterson & Steen, 2009).

Several studies have shown results supporting the notion that optimism is a state-like construct (Seligman, 1998; Seligman et al., 1988). For example, using a sample of individuals diagnosed with depression, Seligman and colleagues (1988) found a statistically significant positive correlation between pessimistic explanatory style and depression at the time of intake ($r = .56$, $p < .0008$), upon treatment termination ($r = .57$, $p < .0002$), and at a one-year follow up visit ($r = .64$, $p < .0005$). Importantly, though,

these researchers also found that after going through 6 months of cognitive therapy, both explanatory styles and depressive symptoms improved and the improvement in depressive symptoms correlated with changes in explanatory style ($r = .65$, $p < .0001$).

Resilience. Stress and challenges of varying degrees arise on a daily basis, and understanding how to not only cope effectively with those challenges in the moment, but to recover and even grow as a result of having experienced the challenges in the first place, is the key to resilience (Masten, 2001). Resilience has been defined in many ways by many people (Bononno, 2004; Herrman et al., 2011; Luthans, 2002a; Luthans, Youssef, et al., 2007; Masten, Cutuli, Herbers, & Reed, 2009). Masten and colleagues (2009) defined resilience as "patterns of positive adaptation during or following significant adversity or risk" (p. 118). However, how "adaptation" has been defined in the resilience literature has also varied over the years (Herrman et al., 2011; Masten, 2001; Masten et al., 2009). That is, following a threat, is adaptation simply maintaining "normal" levels of functioning (i.e. the absence of dysfunction), or is it growth and development following a challenging experience? Bonanno (2004) addressed this issue and differentiated between recovery and resilience. Bonanno viewed recovery as a return to normal functioning following a period of dysfunction and resilience as the ability to maintain current levels of functioning in the face of adversity. PsyCap theorists took both Masten and colleagues' and Bonanno's conceptual views of resilience one step further by defining resilience as "the psychological capacity to rebound, to 'bounce back' from adversity, uncertainty, conflict, failure, or even positive change, progress, and increased responsibility" (Luthans, 2002a, p. 702) and "the will to go beyond the normal, to beyond

the equilibrium point" (Luthans, Youssef, et al., 2007, p. 116). Luthans and colleagues' definition of resilience added to those of Masten and colleagues and Bonanno in two ways. First, the definition of resilience adopted by PsyCap researchers included eustress-inducing positive occurrences (e.g. job promotion; marriage) as factors that could potentially cause adverse reactions and from which bouncing back might be necessary. Second, PsyCap researchers and other researchers (Morgan & Garmon-Bibb, 2011) recognized that growth and self-improvement could directly result from the successful navigation of challenging circumstances.

Resilience has been viewed as a dynamic process. For example, Masten and colleagues (2009) proposed an interactive model in which risks and assets are viewed as (a) consequences of positive adaptation (i.e. resilience), (b) individual protective factors such as temperament and coping mechanisms are described as moderating effects, (c) distal factors such as the quality of parenting are viewed as mediating factors, and (d) influences that eliminate risk altogether (e.g. vaccines) are considered preventative factors. Due to the multitude of factors contributing directly or indirectly to resilience, interventions have targeted different aspects of this model, often focused on either risks or assets, with varying levels of success (Masten et al., 2009).

Research on resilience has typically taken two different approaches: variable-focused and person-focused (Masten, 2001; Masten et al., 2009). The variable-focused approach uses statistical analyses to examine relationships between personal, environmental, and experiential factors related to resilience, whereas the person-focused approach targets individuals who have demonstrated resilience either using single case

studies or comparisons of subgroups (high-resilient vs. low-resilient; high risk vs. low-risk) (Masten et al., 2009). This methodological diversity has led to results that generalize across populations.

Resilience is a state-like construct that can be developed through targeted intervention (Brunwasser, Gillham, & Kim, 2009; Cornum, Matthews, & Seligman, 2011; Luthans et al., 2005; Waite & Richardson, 2004). A wide range of interventions designed to increase resilience have been implemented and empirically investigated with diverse populations (Brunwasser et al., 2009; Cornum et al., 2011; Luthans et al., 2005; Waite & Richardson, 2004). One program designed to increase resilience in children is the Penn Resiliency Program (PRP; Seligman, 2011). Using cognitive-behavioral techniques, the goal of this program is to decrease depressive symptoms of youth in a variety of settings including educational, juvenile detention, and primary care clinics (Brunwasser et al., 2009). The results of a recent meta-analysis of the PRP by Brunwasser and colleagues showed that this resilience training reduced depressive symptoms in youth, and although effect sizes were relatively low (ranging from .11 to .21), those reductions remained in place for at least 1 year.

The military also has several programs targeting the resilience of military personnel (Morgan & Garmon-Bibb, 2011). Programs such as the Air Force's Comprehensive Airman Fitness (CAF) and Total Force Resiliency, both piloted in 2010, the Marine and Navy's BOOT STRAP begun in 2008, the Combat/Operational Stress Control integrated into training in 2010, the Army's Sustainment Resilience Training (name recently changed from Battle Mind), and Comprehensive Soldier and Family

Fitness (CSF2) are all purported to enhance resilience (Cornum et al., 2011; Morgan & Garmon-Bibb, 2011). Because all of these programs are relatively new, there is very little evidence to support their efficacy at the moment (Morgan & Garmon-Bibb, 2011).

One program that has shown a great deal of promise, however, is the Army's Comprehensive Soldier and Family Fitness (CSF2). This program is an Army-wide initiative that takes a proactive approach to soldier's, family member's, and DA civilian's psychological well-being with the goal of creating "an Army that is just as psychologically fit as it is physically fit" (Cornum et al., 2011, p. 6). To accomplish this goal, CSF2 relies on the Global Assessment Tool (GAT; Peterson et al., 2011) that provides individual soldiers with (a) feedback regarding their psychological fitness, (b) universal soldier training wherein every soldier receives resilience training, (c) individual training for soldiers who want to improve in areas identified by the GAT, and (d) master resilience trainers who receive extensive training in a modified version (e.g. vocabulary and examples tailored to Army personnel) of the Penn Resiliency Program and deliver this knowledge to the soldiers in their units (Cornum et al., 2011; Reivich, Seligman, & McBride, 2011). Although the program is very new and has not, as yet, produced empirical results, there is a sophisticated data collection system in place designed to track data obtained from every Army soldier and a plan in place to use that data for a series of longitudinal studies (Fravell, Nasser, & Cornum, 2011; Lester, McBride, Bliese, & Adler, 2011). With this system in place, an enormous database will be created affording the Army an opportunity to examine its soldiers' psychological fitness in unprecedented ways.

Basic Psychological Need Satisfaction

Self-Determination Theory

Deci and Ryan (2000) stated that "it is part of the adaptive design of the human organism to engage in interesting activities, to exercise capacities, to pursue connectedness in social groups, and to integrate intrapsychic and interpersonal experiences into a relative unity" (p. 230). According to Deci and Ryan's self-determination theory, there are three basic psychological needs that are universal and are required for optimal functioning and psychological well-being: autonomy, competence, and relatedness. That is, people's inherent need to feel confident in their abilities (i.e. competence), to feel valued and accepted by other members of their social groups (i.e. relatedness), and to feel that their behaviors are both congruent with their values and engaged in through their own volition (i.e. autonomy) must be satisfied to enable individuals to experience personal well-being and fulfillment as well as perform to their individual potential.

The importance of need satisfaction described by self-determination theory mirrors the importance of need satisfaction put forth in drive theories; however, rather than being founded on physiological needs and the establishment of an equilibrium, the needs postulated by self-determination theory are psychological needs individuals instinctively attempt to satisfy throughout the course of their lives (Deci & Ryan, 2000). When these basic psychological needs are met through interactions in the environments, individuals tend to take part in activities that are inherently enjoyable and are in line with their values and beliefs (Deci & Ryan, 2000). However, when individuals' needs for

autonomy, competence, and relatedness have not been met, different from drive theories that predict conscious action targeting the unmet need, self-determination theory predicts that individuals will tend to develop psychological and behavioral defenses to accommodate the need deficiencies and that these defenses exacerbate motivational and well-being challenges faced by individuals (Deci & Ryan, 2000).

According to self-determination theory (SDT), there are three primary types of motivational states: amotivation, extrinsic, and intrinsic, existing along a continuum from controlled (i.e. engagement in a given behavior stemming from perceived internal or external pressure) to autonomous (i.e. engagement in a given behavior of one's own volition and the perception that the behavior is in line with personal values) (Deci & Ryan, 2000). The least self-determined type of motivation, amotivation, refers to a complete absence of motivation. When in an amotivational state, individuals believe that positive outcomes are impossible and that the activity is not beneficial in any way. Extrinsic motivation refers to the drive to engage in activities based on their expected outcome (Gagne & Deci, 2005; Gagne et al., 2003). There are four types of extrinsic motivation included within SDT: external regulation, introjected regulation, identified regulation, and integrated regulation. External regulation and introjected regulation result from insufficient satisfaction of one or all of the basic psychological needs and are considered to be controlling forms of motivation (Gagne & Deci, 2005; Vallerand, 2000). Identified regulation and integrated regulation are considered to be autonomous forms of motivation and are associated with more complete satisfaction of the basic psychological

needs of autonomy, competence, and relatedness than external regulation or introjected regulation.

Autonomy. Ryan and Deci (2006) posited that perceived autonomy is a basic human need and defined perceived autonomy as the belief that one is acting of his or her own volition and in accordance with his or her values. Autonomy, from a self-determination theory perspective, does not refer to independence or, necessarily, the ability to choose. Instead, an individual can be said to be behaving autonomously "even when acting in accord with an external demand, provided the person fully concurs with or endorses doing so" (Ryan & Deci, 2006, p. 1560).

Deci and Ryan's (2000) claim that autonomy is a basic human need stemming from research on intrinsic motivation, which is the motivation to engage in behavior simply for the love and enjoyment of the behavior and not as the result of any consequences that might be associated with it. In the early 1970s, Edward Deci (1971, 1972) began conducting research into the effects rewards had on motivation. This research pointed toward the importance of an internal, as opposed to external, perceived locus of causality. Findings from several studies (e.g. Amabile, DeJong, & Lepper, 1976; Deci & Cascio, 1972; Lepper & Greene, 1975) showed that individuals who attributed their participation in an activity to their own interest in an activity (i.e. internal perceived locus of causality) demonstrated more enjoyment and higher levels of motivation than individuals who attributed their participation in an activity to an external reward or punishment, threats, or deadlines associated with the activity. Deci and Ryan (1980) later

argued that the effect that an individual's perceived locus of control has on his or her motivation and behavior is a function of perceived autonomy.

Competence. Deci and Ryan (2000) defined competence as the need to feel as though one is effective in one's pursuits. Perceived competence is similar to Bandura's (1977) concept of self-efficacy; however, important differences exist. First, self-efficacy describes situation-specific beliefs about whether one is able to effectively execute the behaviors necessary to achieve desired outcomes (Bandura, 1977). Self-efficacy has value because it increases the chances that an individual will achieve his or her desired end-state (Bandura, 1994). Self-efficacy does not distinguish between desired outcomes, but instead, treats all desired outcomes as equal sources of motivation. Self-determination theory, on the other hand, posits that perceived competence or efficacy has value in and of itself that is apart from any contribution to goal achievement that may be present (Deci & Ryan, 2000). Deci and Ryan (2000) drew on the work of White (1959) and argued that human beings have an innate need to feel effective, and when that need is satisfied, psychological well-being increases. Therefore, although both self-efficacy and perceived competence describe constructs wherein individuals who believe themselves to be capable of effectively engaging in the behaviors necessary to achieve desired outcomes will be more likely to achieve that desired end-state (Bandura, 1977; Deci & Ryan, 2000), self-determination theorists argue that perceived competence has value in and of itself based on its satisfaction of human beings' inherent need for efficacy (Deci & Ryan, 2000).

The inclusion of perceived competence as a basic psychological need stemmed from research on the effects of verbal feedback on intrinsic motivation (Deci, 1971; Deci & Cascio, 1972). Deci (1971) found that participants who received positive feedback experienced higher levels of intrinsic motivation than participants who received no feedback, whereas Deci and Cascio (1972) found that intrinsic motivation was decreased more by negative feedback than by no feedback. Further research showed that the increase in intrinsic motivation experienced as the result of positive feedback was contingent upon the individual attributing the competent performance to him- or herself rather than to outside forces (Fisher, 1978). The importance of perceived competence to the development and sustainment of intrinsic motivation was further supported by results from a study by Vallerand and Reid (1984). The results of this study clearly showed that the effects of both positive and negative feedback on intrinsic motivation are mediated by perceived competence.

Relatedness. Deci and Ryan (2000) defined relatedness as a sense of belonging and feeling of connectedness to other individuals. Self-determination theory posits that autonomous motivation is more likely to occur when individuals feel as though they are accepted and valued members of a group. Relatedness as a basic psychological need has its roots in attachment theory (Bowlby, 1979; Lopez & Brennan, 2000). In essence, attachment theory posits that individuals who are securely attached to other individuals tend to display more positive attitudes, adaptive cognitive appraisals, better emotional coping, more self-awareness, and better social skills (Lopez & Brennan, 2000). Securely attached individuals also tend to engage in more of the exploratory behaviors typically

associated with intrinsic motivation than individuals who are not securely attached and show higher levels of resilience and less vulnerability to stress than individuals lacking secure attachments (Lopez & Brennan, 2000).

According to self-determination theory, "intrinsic motivation will be more likely to flourish in contexts characterized by a sense of secure relatedness" (Deci & Ryan, 2000, p. 235), and research in both education and work environments has supported that contention. There exists a plethora of research on the impact that student-teacher relationships have on school performance, perception of school, and self-directedness (Birch & Ladd, 1997) as well as perceived control, adaptive coping, and school engagement (Ryan, Stiller, & Lynch, 1994). This research is reviewed below.

Psychological Well-Being

Psychological well-being as a scientific construct has its roots in Aristotle's concept of eudaimonia. For Aristotle, eudaimonia (i.e. well-being and happiness) was considered a robust product of a flourishing existence. It was not thought to be a short-lived mood or feeling, but a deep and meaningful description of a life well-lived. Later, philosopher John Locke (1689) penned the now well-known phrase, "the pursuit of happiness," and he included the phrase no fewer than four times in the second book of his *Essay Concerning Human Understanding* (McMahon, 2004). In more modern times, well-being has become more of a lay construct (Wright et al., 2007); however, scientific researchers have found various ways to operationalize and examine the construct of psychological well-being.

The term "psychological well-being" has often been used interchangeably with

happiness, emotional well-being, and subjective well-being in the scientific literature, but the constructs have often been very similarly defined using three criteria: global, subjective experience, and relatively more positive emotions than negative emotions (Diener, 1994; Wright & Cropanzano, 2004). That is, psychological well-being is typically thought of as a global, life-encompassing perception of more positive emotions than negative emotions. Though researchers have historically focused primarily on negative emotions and the specific action tendencies associated with them (e.g. Lazarus, 1991), recent work by positive psychology researchers has highlighted the importance of fostering a better understanding of how positive emotions affect the cognitive, physical, and social functioning of individuals (Fredrickson, 1998).

Broaden-and-Build Theory

Broaden-and-build theory (Fredrickson, 1998) posits that, whereas negative emotions narrow focus and attention and prepare the body to respond to or avoid a specific challenge while positive emotions broaden attention, focus, and cognitive processing and lead to flexible, approach-based response tendencies (Fredrickson, 1998, 2001). According to this theory, instead of resulting in physical, action-oriented tendencies, positive emotions expand cognitive functioning and result in thought-action tendencies that enhance novel responses, creativity, and social interactions (Fredrickson, 1998). That is, positive emotions broaden attention, cognitive capacities, and ways in which people interact with their environment, and as a result, resources that foster growth and well-being are developed. For example, joy can promote play that (a) develops physical resources, (b) creativity and flexible and open attention that can lead to the

development of intellectual resources, and (c) the approach-based urges generated by positive emotions that often result in strong relationships that lead to the development of social resources (Fredrickson, 1998; Lucas, 2001; Lyubomirsky et al., 2005).

One important finding supporting broaden-and-build theory and the ability of positive emotions to enhance physical resources was that the broadening effects of positive emotions have the ability to cancel out, or undo, the narrowing effects of negative emotions (Fredrickson, 1998; Fredrickson & Levenson, 1998). In a study by Fredrickson and Levenson (1998), negative emotion was created in participants with the use of a film clip that induced fear and heightened cardiovascular activity, after which the participants were assigned to view one of four other film clips designed to produce feelings of contentment, mild amusement, sadness, or neutral emotion. The researchers found that the positive film clips (i.e. contentment and amusement) reduced cardiovascular activity to baseline levels faster than did the neutral film clips, whereas the negative clip (i.e. sadness) slowed the return to cardiovascular baseline levels. When the positive film clips were watched without being preceded by a stressor, however, they had no effect on cardiovascular functioning (Fredrickson, Mancuso, Brannigan, & Tugade, 2000). This provides evidence for the ability of positive emotions to counteract, or undo, the physiological effects of negative emotion.

Results from a study by Fredrickson and Brannigan (2005) provided additional support for broaden-and-build theory. These researchers showed participants a film that elicited neutrality, contentment, amusement, anxiety, or anger and then asked them to either complete a global-local visual processing task designed to assess attention or to

take an open-ended "Twenty Statements" test (TST: Kuhn & McPartland, 1954) designed to assess thought-action repertoires. The results showed that individuals who had been primed to feel amusement or contentment performed better on both the attention and thought-action repertoire assessments than individuals primed with negative emotions or neutrality. Individuals primed with negative emotions performed worse on the thought-action repertoire assessment than individuals primed with neutrality.

Researchers who have utilized broaden-and-build theory (Fredrickson, 1998) have empirically demonstrated that, relative to negative or neutral emotions, positive emotions have the ability to "broaden" thought-action repertoires (Fredrickson & Brannigan, 2005), "build" physical, social, psychological, and intellectual resources (Fredrickson, 1998, 2001), and "undo" the physiological effects of negative emotions (Fredrickson & Levenson, 1998).

Psychological Well-Being Outside the Laboratory

Outside the laboratory, the creative boost predicted by broaden-and-build theory has been demonstrated in real-world work environments. Amabile, Barsade, Mueller, and Staw (2005) analyzed quantitative and qualitative data collected from 222 workers who represented seven companies and three industries in an effort to elucidate the relationship between affect and creativity. Quantitative results from this study showed a positive linear relationship between positive affect and creativity. Time-lagged analyses showed that positive affect was an antecedent to creativity, and qualitative data showed that positive affect is also a consequence of creativity. Based on their findings, these researchers proposed a cyclical model of the affect-creativity relationship.

Proactive behavior has also been predicted by positive affect. Fritz and Sonnentag (2009) examined the possibility that affect is related to proactive behavior in a sample of 172 civil service workers. Over the course of a week the researchers asked the workers to complete quantitative questionnaires designed to assess their levels of positive and negative affect and their proactive behavior. Proactive behavior was defined in this study as taking charge and was assessed with a ten-item scale that included items such as, "I tried to adopt improved procedures for doing my job," and "I tried to correct a faulty procedure or practice." Results from this study showed that positive affect predicted proactive worker behavior on the same day the assessments were given as well as the following day.

Finally, in an effort to provide evidence for the causal effects of subjective well-being (i.e. happiness) and positive effect, Lyubomirsky and colleagues (2005) conducted an exhaustive meta-analysis of over 200 correlational, longitudinal, and experimental studies focusing on happiness and a variety of outcome variables related to work life, social relationships, health, positive self and other perceptions, sociability and activity, likeability and cooperation, prosocial behavior, physical well-being and coping, and creativity and problem solving with the goal of examining the evidence for causation. Their conclusion was that "every single investigation we found corroborated the correlational findings in the direction predicted by our model. That is, both long-term happiness and short-term pleasant moods tend to precede the desirable characteristics, resources, and behaviors with which they are correlated" (p. 835). This conclusion, if accurate, calls into question the pervasive assumption that success leads to happiness

(Lyubomirsky et al., 2005), and the implications are significant. If, indeed, happiness and positive emotions lead to success and well-being and not the other way around, a better understanding of how to foster positivity and happiness could have profound effects on individuals' and organizations' levels of productivity, life satisfaction, and overall well-being (Lyubomirsky et al., 2005). The longitudinal and experimental nature of many of the studies examined by Lyubomirsky and colleagues lend strong support to the conclusion that happiness and positive mood precede constructs such as judgment (Ambady & Gray, 2002), health perceptions (Schuettler & Kiviniemi, 2006), perceived performance (Barsade, 2002), and supervisor-rated performance (Cropanzano & Wright, 1999; Wright & Staw, 1999). However, because the data are correlational, it must be acceded that the relationships may work in the opposite direction or that an unexamined variable(s) may mediate the relationships between happiness and the myriad outcome measures found in the research analyzed by Lyubomirsky and colleagues.

Empirical Review: PsyCap and PsyCap Constructs, Basic Psychological Need Satisfaction, Performance and Psychological Well-Being

Self-Efficacy

Performance. Several meta-analyses have provided support for the relationship between self-efficacy and performance. For example, Moritz, Feltz, Fahrbach, and Mack (2000) found a moderate correlation ($r = .38$, $p < .05$) between self-efficacy and athletic performance. Similarly, Stajkovic and Luthans (1998) reported a positive correlation between self-efficacy and work-related performances ($r = .38$, $p < .01$). Emphasizing the significance of this correlation, Stajkovic and Luthans pointed out that the effect sizes

found between self-efficacy and performance are equal to or greater than those found between performance and other popular organizational behavior constructs such as goal-setting, feedback interventions, and organizational behavior modification. Beaudoin and Desrichard (2011) showed a smaller, but statistically significant, positive correlation between memory self-efficacy and memory performance (e.g. free-recall, cued-recall, recognition) in their meta-analytic review ($r = .18$, $p < .05$), and Robbins and colleagues (2004) found correlations between academic self-efficacy and academic persistence (i.e. retention) and academic performance (i.e. GPA) ($\rho = .36$ and .50 respectively).

Psychological well-being. Self-efficacy has also been shown to be related to psychological well-being. Roos, Potgeiter, and Temane (2013) examined the relationship between generalized self-efficacy and psychological well-being. Psychological well-being was measured using the Affectometer 2 (AFM: Kammann & Flett, 1983), which measures positive and negative effect, and the Satisfaction of Life Scale (Diener, Emmons, Larsen, & Griffin, 1985), which is a 5-item scale that assesses an individual's overall satisfaction with life. Roos and colleagues' results showed that self-efficacy explained 14.1% ($t = 12.97$, $p < .001$, $\beta = .38$) of the variance in positive affect (AFM_pa), 1.6% ($t = 4.07$, $p < .001$, $\beta = .13$) of the variance in negative affect (AFM_na) and 3.5% of the variance in satisfaction with life (SWL) ($t = 6.14$, $p < .001$, $\beta = .19$). Bakare (2012) used structural equation modeling to examine the relationships among a number of variables, including socioeconomic status, age, sex, locus of control, emotional intelligence, and self-efficacy, and psychological well-being. After including all of the other variables in the model, Bakare (2012) found that self-efficacy predicted

psychological well-being (β = .12, $p < .05$). Dave, Tripathi, Singh, and Udainiya (2011) examined the relationship between self-efficacy and psychological well-being in a sample of university students ages 21-25. Results showed a strong correlation between self-efficacy and psychological well-being ($r = .81$, $p < .05$). Salami (2010) examined the relationship between self-efficacy and psychological well-being (i.e. life satisfaction and depressive symptoms) in a sample of recently retired Nigerian teachers. Results showed that the retired teachers' self-efficacy was positively related to life satisfaction ($r = .25$, $p < .05$) and negatively related to depressive symptoms ($r = .20$, $p < .05$).

Hope

Performance. Hope has been linked to performance in education (Snyder, Harris, et al., 1991; Snyder et al., 1997; Snyder et al., 2002), athletics (Curry, Snyder, Cook, Ruby, & Rehm, 1997), and work (Luthans et al., 2005; Youssef & Luthans, 2007). Snyder, Harris, and colleagues examined the relationship between hope and academic performance and found a positive correlation between hope and achievement in both high school and college students. Also, in one of a series of studies including almost 800 boys and girls ages 7-16, Snyder and colleagues (1997) found a statistically significant positive correlation ($r(100) = .50$, $p < .001$) between hope and performance on the Iowa Basic Skills Test.

Hope has been linked to both athletic and workplace performance. Youssef and Luthans (2007) also examined the hope-performance relationship in two studies with employees from a variety of organizations. The first study assessed performance with a self-report measure consisting of one item that asked individuals to first consider other

employees' performances in job positions similar to their own and next, use a 10-point scale to rate how their own performances compared to the performances of their colleagues. The second study assessed performance using formal employee performance appraisals provided by managers. Both studies used the State Hope Scale (Snyder et al., 1996) to measure hope and found statistically significant positive correlations between hope and performance ($r = .22$, $p < .01$; $r = .16$, $p < .05$). In another study, Luthans and colleagues (2005) found a statistically significant positive correlation ($r = .17$, $p < .01$) between scores on the State Hope Scale (Snyder et al., 1996) and supervisors' evaluations in a sample of 422 Chinese factory workers.

Psychological well-being. Again, though few in number, some research has shown a statistically significant positive relationship between hope and psychological well-being. Michael and Snyder (2005) conducted a study using undergraduate participants who indicated on a questionnaire that they had experienced the death of someone in the latter part of their lives that caused significant distress (determined by a score of 5 or higher on a scale of 1 to 7 to a self-rated distress question). Several constructs were evaluated related to psychological well-being including depression, anxiety, and positive/negative effect. Results of the study showed small to moderate correlations between hope and depression ($r = -.22$, $p = .006$), anxiety ($r = -.30$, $p < .001$), negative affect ($r = -.22$, $p = .002$), and positive affect ($r = .45$, $p < .001$). According to Snyder's (1994; 2002) theory, hope is comprised of two components: goal agency and goal pathways. Lloyd and Hastings (2009) examined the relationships between goal agency and goal pathways and maternal and paternal psychological well-being (i.e.

depression, anxiety, stress, positive affect). Results showed no statistically significant relationships between goal pathways and any of the psychological well-being constructs, however, goal agency was related to maternal (r = -.59, p< .001) and paternal (r = -.55, p< .001) depression, maternal (r =-.37, p< .001) and paternal (r = -.43, p< .001) anxiety, maternal (r = -.32, p< .001) stress, and maternal (r = .68, p< .001) and paternal (r = .60, p< .001) positive affect. There was also a statistically significant interaction between goal agency and goal pathways that better predicted maternal depression than either goal agency or goal pathways individually. Chang and DeSimone (2001) examined the relationships among hope, appraisals, coping strategies, and dysphoria. Results showed that hope had the strongest correlation to dysphoria (r = -.37, p< .01). Results of a regression analysis showed that hope is a predictor of dysphoria independent of both appraisal and coping strategies (β = -.23, p< .001).

Optimism

Performance. Medlin, Green, and Gaither (2010) conducted a study with full-time public school teachers. This study was an examination of the links between goal setting, optimism, and individual performance. Although how the constructs were measured was not included in the article, Medlin and colleagues reported statistically significant positive correlations between workplace optimism subcultures (i.e. collective optimism of work groups) and goal-setting (β= .81, p< .01), goal-setting and workplace optimism (β= .98, p< .01), and workplace optimism and performance (β= .78, p< .01). The model Medlin and colleagues present implies a linear relationship between subcultures that foster optimism and goal-setting as well as a relationship between goal-

setting and performance that is mediated by workplace optimism. Solberg Nes, Evans, and Segerstrom (2009) used grade point average (GPA) to assess the relationship between academic (optimism specific to academic success) and dispositional optimism (generalized positive outcome expectancies) and the academic performance of 2,189 college freshman over the course of their first year of college. Soberg et al. (2009) found a correlation (r = .10, p< .01) between academic optimism and academic performance. There was no relationship between dispositional optimism (Scheier, Carver, & Bridges, 1994) and academic performance. These findings suggested that academic optimism may influence academic performance in college; however, the effect size was small. Optimism has also been related to performance in the workplace using self-report, subjective (e.g. supervisor ratings), and objective (e.g. empirically verifiable) performance measures (Luthans et al., 2005; Youssef & Luthans, 2007). Youssef and Luthans (2007) examined the relationship between optimism and performance in two separate studies that used workers from a variety of organizations. They found statistically significant positive correlations between optimism and performance in study one (r = .16, p< .01), in which a self-report performance measure was used, and study two (r = .23, p< .01), in which formal performance appraisals were used. Similarly, in a study of Chinese workers employed in both privately owned and state-owned factories, Luthans and colleagues (2005) found a relationship between optimism and supervisor rated performance (r = .16, p< .01). This study, however, took the results a step further and combined optimism with the other constructs measured during the study (i.e. hope, resilience) and calculated their combined relationship as a core factor with performance. The PsyCap core factor that

consisted of hope, optimism, and resilience showed a positive correlation with performance (r = .26, p< .01) that was stronger than the correlations between performance and any of those constructs by itself.

Psychological well-being. Optimism has also been shown to be related to psychological well-being. Augusto-Landa, Martos, and Lopez-Zafra (2010) conducted a study using 217 Spanish women, ages 18-28 as participants. -They examined the relationships among optimism, pessimism, and psychological well-being (i.e. self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth). Results showed small to moderate correlations between pessimism and each of the psychological well-being constructs and moderate to strong correlations between optimism and each of the psychological well-being constructs. Mukolo and Wallston (2012) examined the relationship between optimism and psychological well-being in a sample of 124 individuals diagnosed with HIV. Results of a hierarchical regression analysis showed that optimism was a statistically significant predictor of positive affect (β= .63, p< .001) and negative affect (β= -.47, p< .001). In a study examining the relationship between optimism and psychological well-being (General Health Questionnaire: Goldberg & Williams, 1988) in a sample of 80 corporate professionals working for several different software companies in India, Mittal and Mathur (2011) found a statistically significant positive correlation between optimism and psychological well-being (r = .48, p< .001). When entered into a hierarchical regression analysis with life satisfaction, results showed that optimism was a statistically significant predictor of psychological well-being (β= 32, p< .001). Fikensenbaum, Koyuncu, and

Burke (2010) examined the relationship between optimism and psychological well-being (i.e. psychosomatic symptoms, emotional exhaustion, emotional well-being) in female managers in a Turkish bank. Results of a hierarchical regression analysis showed that optimism predicted exhaustion (β= -.40, $p< .001$), psychosomatic symptoms (β= -.29, $p< .001$), and emotional well-being (β= .24, $p< .001$).

Resilience

Performance. Although resilience has often been studied as an outcome variable (e.g. Wong, 2008), there are a few studies that have examined the relationship between resilience as a predictor variable and performance (Abbot et al., 2009; Larson & Luthans, 2006; Luthans et al., 2005; Youssef & Luthans, 2007). In two separate studies, one using a self-report performance appraisal and the other using supervisor-reported performance appraisals, Youssef and Luthans examined the relationships between resilience and several performance-related variables. In study one, resilience positively correlated with performance ($r = .14$, $p< .01$), job satisfaction ($r = .28$, $p< .01$), work happiness ($r = .30$, $p< .01$), and organizational commitment ($r = .12$, $p< .01$). The results of study two were similar with the exception of no correlation between resilience and performance and a slightly smaller correlation between resilience and job satisfaction ($r = .21$, $p< .01$). Also, in a study of Chinese factory workers, researchers found a positive correlation between resilience and performance ($r = .24$, $p< .01$) (Luthans et al., 2005). Similar results emerged from a study of mid-western manufacturing workers with resilience correlating with both job satisfaction ($r = .235$, $p< .05$) and organizational commitment ($r = .251$, $p< .05$) (Youssef & Luthans, 2007). Niemann and Kotze (2012) argued that resilience could

be viewed as a psychological resource that may be a predictor of academic achievement. To test this hypothesis, Niemann and Kotze conducted Pearson product-moment correlations and multiple regression analyses using academic performance as the dependent variable and the eight factors of the Adult Resilience Indicator (Visser, 2007) (confidence and optimism, positive reinterpretation, facing adversity, social support, determination, negative rumination, religion and emotional regulation) as predictor variables. Results showed that positive reinterpretation, facing adversity, and religion all had statistically significant positive correlations to academic performance and functioned as statistically significant predictors of academic performance.

Psychological well-being. Though few in number, some studies have examined resilience as a predictor variable when looking at a possible relationship between resilience and psychological well-being. Karunanidhi and Chitra (2013) used the Conner-Davidson Resilience Scale (Conner & Davidson, 2003) and the General Psychological Well-Being Index (Dupuy, 1984) to examine the relationship between resilience and psychological well-being in a sample of Indian female police officers. The results of a multiple regression analysis showed that resilience significantly predicted psychological well-being ($\beta = .42$, $p < .01$) even after controlling for job satisfaction and occupational stress. He, Cao, Fang, Guan, and Peng (2013), using a sample of 410 Chinese burn patients, examined the relationship between optimism (Revised Life Orientation Test: Carver, Scheier, & Bridges, 1994) and resilience (Conner-Davidson Resilience Scale: Conner & Davidson, 2003) and psychological well-being (Life Satisfaction Scale and positive and negative affect). These authors showed statistically significant positive

relationships between both optimism and psychological well-being ($r = .35$, $p < .01$) and resilience and psychological well-being ($r = .40$, $p < .01$).

PsyCap

The literature reviewed above addressed the individual relationships between hope, resilience, self-efficacy, and optimism and performance and psychological well-being. As discussed earlier, however, the combination of these four constructs into the single higher-order construct of PsyCap has resulted in more robust findings than examinations of any of the individual constructs in isolation (Luthans, Avey, et al., 2007). Therefore, this section will be a review of literature pertaining to relationships between PsyCap and performance and psychological well-being.

Performance. Zamahani and colleagues (2011) examined the relationship between PsyCap and job performance using a sample of 200 employees of a large Iranian telecommunications firm. Results showed a statistically significant positive correlation between PsyCap and employees' job performance ($r = .48$, $p < .001$). Using a sample of 422 Chinese employees of three separate factories, Luthans and colleagues (2005) found a positive correlation between PsyCap and workers' performance as rated by their supervisors ($r = .26$, $p < .01$). Similar results were found while examining a sample of 456 employees from two Chinese copper refining factories, one state-owned and one privately-owned (Luthans et al., 2008). Results showed a statistically significant positive correlation between PsyCap and supervisor rated performance ($r = .25$, $p < .01$). Walumba and colleagues (2011) also found a statistically significant positive relationship between PsyCap and performance, but on a group, rather than an individual, level. Using a sample

of 146 working groups consisting of a total of 526 employees of a large bank, Walumba and colleagues' results showed a positive correlation between PsyCap and group performance as assessed by the groups' leaders ($r = .39$, $p < .01$). A recent meta-analysis by Avey and colleagues (2011) included 51 independent samples (N = 12,567 employees) in an effort to examine the relationship between PsyCap and work performance. Results showed a positive correlation between PsyCap and work performance (*Corr-r* = .45, $p < .01$). More recently, Choi and Lee (2014) examined the relationship between PsyCap and performance while controlling for the Big Five personality traits (agreeableness, extraversion, conscientiousness, emotional stability, and openness to experience). The sample consisted of 373 employees from 10 different organizations in South Korea, and results showed that, after controlling for the Big Five personality, there was a statistically significant positive relationship between PsyCap and work performance ($\beta = .20$, $p < .01$).

Psychological well-being. A search of the Thoreau database using the keywords "positive psychological capital," "PsyCap," and "psychological well-being" revealed only two studies targeting the relationship between PsyCap as it has been defined by Luthans and colleagues (2007) and psychological well-being. Avey and colleagues (2010) examined the relationship between PsyCap and psychological well-being in a sample of 280 US workers from a variety of industries. These researchers used the Index of Psychological Well-Being (Wright & Bonett, 1992) and the General Health Questionnaire (GHQ-12: Goldberg, 1972) to measure the psychological well-being of the workers at two separate time points 3 weeks apart. Results of this study showed that

PsyCap was related to both measures of psychological well-being at Time 1 (Index of Psychological Well-Being: $r = .47$, $p < .01$; GHQ-12: $r = .24$, $p < .01$) and at Time 2 (Index of Psychological Well-Being: $r = .47$, $p < .01$; GHQ-12: $r = .27$, $p < .01$). In addition, PsyCap was a statistically significant predictor in changes in both psychological well-being measures from Time 1 to Time 2. The second study that addressed the relationship between PsyCap and psychological well-being was a meta-analysis conducted by Avey and colleagues (2011). The results of this meta-analysis that included 51 independent samples (N = 12,567 employees) showed statistically significant positive relationships between PsyCap and employee attitudes such as job satisfaction (*Corr-r* = .54, $p < .01$), commitment (*Corr-r* = .48, $p < .05$), turnover intent (*Corr-r* = - .32, $p < .01$), stress/anxiety (*Corr-r* = - .29, $p < .01$), and psychological well-being (*Corr-r* = .57, $p < .05$).

Basic Psychological Need Satisfaction

Performance and psychological well-being. Research has supported the importance of perceived autonomy in the psychological well-being and performance of athletes (Gagne et al., 2003; Gillet, Vallerand, Amoura, & Baldes, 2010), workers (Baard et al., 2004; Deci et al., 2001), and students (Boiche, Sarrazin, Grouzet, Pelletier, & Chanal, 2008; Reis, Sheldon, Gable, Roscoe, & Ryan, 2000). Gagne and colleagues tracked 33 female gymnasts for 4 weeks in order to determine whether or not the perceived satisfaction of autonomy, competence, and relatedness was related to the gymnasts' psychological well-being. The gymnasts' responses to questionnaires administered before and after practice showed that there were statistically significant

positive relationships between the gymnasts' perceived satisfaction of the need for autonomy and their positive effect, negative effect, vitality, and self-esteem. Reis and colleagues asked 67 undergraduate psychology students to complete a questionnaire every day for 14 days in order to examine what, if any, relationships existed between the perceived satisfaction of autonomy, competence, and relatedness and psychological well-being. These researchers found statistically significant positive relationships between autonomy and positive effect, vitality, and overall well-being and a statistically significant negative relationship between autonomy and negative effect. Baard and colleagues examined the relationships between the perceived satisfaction of autonomy and performance and psychological well-being in a sample of 528 associates who worked at a major investment firm. Performance was measured by using the employees' latest performance evaluation score they had received from their supervisors. The results of this study showed that there were statistically significant positive relationships between the perceived satisfaction of autonomy and both performance and psychological well-being. Brien and colleagues examined the effect that perceived competence had on the psychological well-being and task performance of 292 school teachers in the Quebec area. The results of this study showed statistically significant positive relationships between the teachers' levels of perceived competence and their psychological well-being and performance. In a recent meta-analysis, Teixeira et al. examined 66 studies published through June 2011 in an effort to clarify the relationships between perceived need satisfaction, autonomous forms of motivation, and exercise behavior. Their research showed that autonomous motivation predicted the initiation and sustainment of exercise

behaviors. Specifically, identified regulation was the best predictor of whether or not an individual began an exercise regimen, and intrinsic motivation was the best predictor of whether or not that regimen was sustained over time.

Within the field of education, Vallerand and colleagues research (1997) showed relationships between perceived autonomy and perceived competence and high school dropout rates. Student perceptions of their academic autonomy and competence were lower for students who dropped out of school than for students who did not drop out. Moreover, intrinsic motivation was lower and amotivation higher in students who chose to drop out. Similarly, Standage and colleagues (2003) examined physical education student levels of perceived relatedness, competence, and autonomy and their in-class and leisure-time physical activity motivation using a sample of 328 middle-class boys and girls ranging from age 12 to 14. The study showed positive correlations between the perceived satisfaction of autonomy, competence, and relatedness and autonomous motivation. In an organizational setting, Gagne and Koestner's (2002) research showed that autonomous motivation predicted organizational commitment over a 13 month period, and Bono and Judge's (2003) research showed that leader behavior targeting the perceived autonomy and competence of workers predicted job satisfaction.

Basic Need Satisfaction as a Mediating Variable

PsyCap and basic psychological need satisfaction both have been shown to correlate with psychological well-being (Avey et al., 2010; Gagne et al., 2003; Reis et al., 2000); however, the theoretical underpinnings for those relationships differ between the two constructs. According to Deci and Ryan's (2000) self-determination theory, there are

universal needs that must be satisfied in order for individuals to experience psychological well-being (Deci & Ryan, 2000). These needs are satisfied to the extent that individuals perceive them to be satisfied, so the ways in which individuals view their environments are critical to whether or not the basic psychological needs will be perceived to be satisfied (Deci & Ryan, 2000).

PsyCap, on the other hand, is posited to affect psychological well-being via the presence of psychological resources on which individuals can draw (Luthans et al., 2007). From this perspective, optimism, hope, resilience, and self-efficacy equip individuals in a gestalt fashion to deal effectively with challenging situations and ultimately lead to high levels of psychological well-being (Hobfoll, 2002). However, what has not been adequately addressed in the literature is how, exactly, those resources impact psychological well-being. No research to date has examined variables that might mediate the relationship between PsyCap and psychological well-being, but it seems plausible that the path from PsyCap to psychological well-being might go through basic psychological need satisfaction. Indeed, according to Deci and Ryan (2000), "needs are the linking pin between the affordances and demands of the social world on one hand and…people's natural tendencies toward growth and well-being" (p. 262).

Several researchers have reported relationships in which basic psychological need satisfaction served as a mediator between an independent variable and psychological well-being. Stenling and Tafvelin (2014) used structural equation modeling to examine whether or not the satisfaction of autonomy, competence, and relatedness mediated the relationship between transformational leadership and sport well-being. The model that

these researchers found the best fit of the data was a full-mediation model that accounted for 43% of the variance in need satisfaction and 16% of the variance in psychological well-being.

Uysal and colleagues (2010) showed that basic psychological need satisfaction partially mediated the relationship between self-concealment and psychological well-being. Their results showed that 75% of the association between self-concealment and psychological well-being was due to the mediating effects of basic psychological need satisfaction.

According to self-determination theory, autonomy, competence, and relatedness are three universal, basic psychological needs that are the nourishment that allow for personal growth and holistic well-being (Deci & Ryan, 2000). Further, "natural processes such as…movement toward well-being are theorized to operate optimally only to the extent that the individual has sufficient inner resources to find or construct the necessary nourishment" (Deci & Ryan, 2000, p. 229). This position is in line with various psychological resource theories (Hobfoll, 2002) that emphasize the importance of psychological resources in individuals' psychological well-being and ability to thrive in their environments. Therefore, fostering and utilizing psychological resources (i.e. PsyCap) should lead to basic psychological need satisfaction, which should provide the nourishment for personal growth and well-being.

It is possible, though, that the order of predictors of psychological well-being in the model might be reversed. That is, whether PsyCap or basic psychological need satisfaction functions as the mediating variable in the relationships among PsyCap, basic

psychological need satisfaction, and psychological well-being is still up for debate. It is possible that an individual's perception that he or she is living life volitionally and in accordance with his or her values (autonomy), engaging the world in an effective manner (competence), and an accepted and valued member of a group (relatedness) leads to more optimistic appraisals of life circumstances (optimism), more confidence in his or her ability to generate and successfully navigate pathways toward goal achievement (hope), a stronger belief in his or her ability to act effectively in specific situations (self-efficacy), and a higher likelihood that he or she will be able to bounce back from and thrive in the face of adverse life events (resilience) than individuals who do not perceive that their basic psychological needs have been met. Hope, self-efficacy, optimism, and resilience, when combined in a gestalt fashion into the higher-order construct PsyCap, would then lead to psychological well-being. In other words, perceived basic psychological need satisfaction might strengthen the psychological resource of PsyCap, and the high levels of PsyCap may then influence psychological well-being.

After consulting Dr. Bruce Avolio (personal communication, December 11, 2014) and Dr. Carolyn Youssef (personal communication, December 11, 2014), two of the authors of the seminal book on PsyCap, and two renowned self-determination theory researchers (E. Deci, personal communication, December 11, 2014; M. Gagne, personal communication, December 11, 2014) about their thoughts regarding the likely relationships among PsyCap, basic psychological need satisfaction, and psychological well-being, slightly different opinions were offered. Youssef believed that, although basic psychological needs exist a priori, the perceived satisfaction of those needs is likely

influenced by PsyCap. Avolio hypothesized an iterative relationship in which PsyCap influences basic psychological need satisfaction, which in turn, influences PsyCap. In line with the model and similar to Youssef's expectation, Deci predicted that basic psychological need satisfaction would fully mediate the relationship between PsyCap and psychological well-being, whereas PsyCap would partially mediate the relationship between basic psychological need satisfaction and psychological well-being.

Gagne (personal communication, December 11, 2014), however, stated her belief that "both models are plausible and the only way to know the answer would be through longitudinal designs." She pointed out that no research to date has definitively determined the amount of time PsyCap remains stable or how long it takes for PsyCap to be altered by the environment. Therefore, in Gagne's opinion, longitudinal research, ideally using a within-subjects design, would be the optimal way to answer questions regarding the relationships among PsyCap, basic psychological need satisfaction, and psychological well-being. Gagne, however, also stated that a between-subjects research design will likely provide support for the model in which basic psychological need satisfaction mediates the relationship between PsyCap and psychological well-being.

PsyCap has been defined and researched as a state-like construct (Luthans, Youssef, et al., 2007), and the relationships among the variables in the present study have been based on the state-like nature of the PsyCap construct. Based on Conley's (1984) work that found very high test-retest correlations for traits and lower test-retest correlations for self-opinions, Luthans and Youssef (2007) presented PsyCap as a state-like construct and used the term *state-like* to describe a point on a continuum. At one

extreme of the state-trait continuum lie extremely volatile and malleable states such as positive moods and pleasure. Next on the continuum are state-like psychological capacities that are considered to be more stable than fleeting, moment-to-moment states, but not so stable that they are difficult to influence and develop. Examples include resiliency (Masten, Cutuli, Herbers, & Reed, 2009), optimism (Seligman, 1998), hope (Snyder, 1995; Rand & Cheavens, 2009), and self-efficacy (Bandura, 1997). Further along the continuum are trait-like capacities such as Big Five personality dimensions (Barrick & Mount, 1991) and core self-evaluations (Judge & Bono, 2001). Finally, at the other extreme of the continuum are hard-wired, very stable traits such as intelligence (Magnusson & Backteman, 1977; Sattler, 2001) and talents (Rath, 2007).

Although PsyCap has been theorized to be state-like and shown to be malleable (Luthans, Avey, et al., 2006; Luthans, Avey, et al., 2008; Luthans, Youssef, et al., 2007; Peterson et al., 2011), the specific amount of time that PsyCap remains stable has not been clearly established (M. Gagne, personal communication, December 11, 2014). In an effort to address this gap in the literature, longitudinal research conducted by Peterson and colleagues (2011) examined the relationship between PsyCap and performance. These researchers measured the PsyCap and subjective (supervisor ratings) and objective (sales revenue) performance of financial advisors three times over a period of 7 months. Results showed statistically significant decreases in PsyCap over the course of the study and statistically significant positive relationships between PsyCap and both performance variables at Times 1, 2, and 3. These researchers also tested the direction of the PsyCap-performance relationship using three different models: reciprocal, performance predicts

PsyCap, and PsyCap predicts performance. The model that showed the best goodness of fit was the model in which PsyCap predicted performance. This study did not, however, provide any information about the specific amount of time it took for PsyCap to change, why PsyCap changed at all, or what about PsyCap caused performance change. In fact, Peterson and colleagues stated that, "future research should continue to explore other potential mediating and moderating variables of the psychological capital-performance relationship" (p. 445), and Avey and colleagues (2011) echoed this sentiment when addressing areas for future research at the end of their meta-analysis. Although Peterson and colleagues' research targeted performance and not psychological well-being, a relationship between PsyCap and psychological well-being has been demonstrated in other research (Avey et al., 2010; Avey et al., 2011), and the questions that Peterson and colleagues' research addressed, as well as the questions Peterson and colleagues research left unanswered, are as applicable to the PsyCap-psychological well-being relationship as they are to the PsyCap-performance relationship (Avey et al., 2011).

To recap, it is possible that the psychological resource PsyCap influences the perception of basic need satisfaction, which, in turn, leads to psychological well-being. Empirical results linking basic psychological need satisfaction to well-being support this contention (Deci & Ryan, 2008; Gagne et al., 2003, Reis et al., 2000; Stenling & Tafvlin, 2014; Uysal et al., 2010). It is also possible that PsyCap, at least to some degree, mediates the relationship between basic psychological need satisfaction and psychological well-being (B. Avolio, personal communication, December 11, 2014; E. Deci, personal communication, December 11, 2014; M. Gagne, personal communication,

2014). Researchers have provided solid evidence for the relationships between PsyCap and performance and psychological well-being and for the malleability and state-like nature of PsyCap; however, research into factors that might explain those relationships (i.e. potential mediating variables) has been absent from the literature (Avey et al., 2011; Peterson et al., 2011). The present study used structural equation modeling to examine the relationships among PsyCap, basic psychological need satisfaction, and psychological well-being in the hope of quelling at least some of the speculation and providing empirical support for the model.

Psychological Well-Being as a Mediating Variable

Research in numerous areas has demonstrated statistically significant positive correlations between basic psychological need satisfaction and performance (Baard et al., 2006; Standage et al., 2003; Vallerand, 1997). However, the question is how, exactly, the satisfaction of autonomy, competence, and relatedness ultimately impacted performance? Deci and Ryan (2000, 2008) and Ryan and Deci (2000) proposed that basic psychological need satisfaction leads to holistic well-being which ultimately sets the conditions for people to realize their potentials. Specifically, Deci and Ryan (2000) pointed out that "a consideration of basic psychological needs provides a basis for predicting when the efficient pursuit of attainment of goals will be associated with more positive versus more negative performance and well-being outcomes" (p. 263). Therefore, it seems clear from both theoretical and research perspectives that basic psychological need satisfaction leads to well-being and performance; however, it is not clear whether performance is the direct

result of basic psychological need satisfaction or if the relationship between need satisfaction and performance is mediated by psychological well-being.

As discussed above, broaden-and-build theory (Fredrickson, 1998, 2001) posits that positive emotions lead to a broadening of thought-action repertoires and a building of psychological resources that contribute to performance in a variety of areas. Several researchers, using broaden-and-build theory as the basis for their studies have reported results that support the notion that psychological well-being may interact with other variables to better explain those variables' relationships with performance, or psychological well-being may even precede performance. Wright and colleagues (2007) reported that psychological well-being moderated the effect of job satisfaction on performance (PWB; $r = .43$, $p < .01$, 95% $CI = .26$ to $.58$). Barsade (2002) showed that individuals' emotions have a statistically significant contagion effect on those around them and that when those emotions were positive, conflict decreased and cooperation and performance increased. Lyubomirsky and colleagues (2005), in an extensive meta-analysis of cross-sectional, longitudinal, and experimental studies that examined the construct of psychological well-being, concluded that psychological well-being often predicted performance in work environments. Therefore, it is possible that the relationships found between basic psychological need satisfaction and performance were mediated by psychological well-being.

Independent Workers, Actors, and Stunt People

Independent Workers

According to the Bureau of Labor Statistics (2012), there are over 10 million self-

employed workers in the US comprising about 10.4% of the American workforce, and this percentage appears to be rising. Some of these self-employed individuals operate organizations and manage employees, but 21 million firms owned and operated by self-employed individuals report no employees and no payroll (U.S. Bureau of the Census, 2008). They consist solely of independent workers who have no official ties to any single organization, receive no employment benefits from hiring organizations, and are often contracted for short periods of time to provide specific services (Dube, 2003; Webb, 2004).

Independent workers are those who are either independent contractors or self-employed individuals with no employees. Independent workers reap certain benefits from their volatile work arrangements. Some of these benefits include increased flexibility and autonomy, higher pay rates, and the ability to choose projects without a long-term commitment to any one employer (Maahs, 2004; Prottas & Thompson, 2006). However, these benefits often come with a cost. For example, independent workers are only paid when they work, sick leave and vacation pay are not available, and because they are always searching for the next contract, earnings can be difficult to predict and can fluctuate dramatically (McGann et al., 2012). This inherent job insecurity can have a profound negative impact on the health and well-being of independent workers and lead to a sense of powerlessness and a loss of confidence in the ability to achieve important goals, a fear of planning and making commitments, challenges developing relationships, and an endangered work/family life balance (de Jonge et al., 2000; McGann et al, 2012). Job insecurity and financial instability can also increase health risks when independent

workers refuse to seek healthcare or take the time to heal and recuperate for fear of lost wages (McGann et al., 2012). Prottas and Thompson (2006) examined the effects of work arrangements and work characteristics on the job and life satisfaction, health, stress and well-being, and work-family conflict of independent contractors and self-employed workers. Their results showed that work characteristics played a more significant role in the prediction of physical and psychological well-being than did work arrangements. For example, job autonomy showed a positive relationship with favorable outcomes such as life satisfaction, job satisfaction, and health, while job pressure showed a negative relationship with those same outcomes. The primary benefit of job autonomy, however, is that it provides a sense of control over one's environment and a potential boost in motivation (Gagne & Deci, 2005; Ryan & Deci, 2000), but as mentioned by McGann and colleagues, the volatility of the job market and inability to predict income can undermine that sense of control for independent workers, in essence canceling out the often-reported positive effects of job autonomy (Gagne & Deci, 2005; McGann et al., 2012). This sense of being controlled rather than autonomous and the challenges developing and sustaining meaningful relationships both in and out of the workplace (McGann et al., 2012) can result in less self-determined motivation and negatively impact performance (Gagne & Deci, 2005; Ryan & Deci, 2000).

Actors and stunt people. The National Endowment for the Arts (2011) reported that there are 2.1 million artists in the US. In order to be classified as an artist, an individual must state that a job in 1 of 11 artisan occupational categories accounts for the majority of the number of hours worked in a given week. No data is available at this time

with regard to the number of stunt people. Both stunt people and actors are classifications within the Screen Actors Guild-American Federation of Radio and Television Artists (SAG-AFTRA) of which there are around 165,000 dues-paying members (SAG-AFTRA, personal communication, December 6, 2012). Artists are three and a half times more likely to be self-employed than the total US workforce (National Endowment for the Arts, 2011), and most professional actors and stunt people fall into the category of an independent worker with all of the benefits and challenges presented earlier inherent in that particular worker classification (Jeffri et al., 2011; McGann et al., 2012; Prottas & Thompson, 2006).

Similar to other independent workers, actors and stunt people move from job to job and contract to contract (Jeffri et al., 2011). Actors and stunt people can qualify for health insurance through a union, but acceptance into the union's health insurance plan is dependent upon the amount of money made (e.g. SAG-AFTRA) or number of weeks worked (e.g. Actors Equity Association). No vacation days or sick days are available, and work often happens on very short notice (Aisbett, 2006) making planning for activities or long-term commitments very difficult. Competition for jobs is also fierce (Pynoei, 2012), so the pressure to accept jobs when they are offered, regardless of the effects on other life areas (e.g. family), is very strong. Rejection is the rule rather than the exception (Pynoei, 2012) as some actors may go on as many as 40 auditions or more without booking a single job (Backstage, 2012). Further, it may take years to develop the relationships, skills, and reputation that allow for a living to made solely by acting or doing stunts, so persistence and resilience are of vital importance (Aisbett, 2006).

"Every actor faces setbacks and crises of confidence, but they must stay focused on their goals and persevere" (SAG-AFTRA, 2012). Bolstering and maintaining confidence is absolutely essential for success as a performing artist (Aisbett, 2006; Gould, 2009), but since confidence is one of the factors negatively impacted by the often-experienced job insecurity in self-employment (McGann, 2012), finding ways to counter that effect is important. Suggestions by Gould to help performers boost and sustain their levels of confidence include recommendations very similar to those of Bandura (1997) for enhancing self-efficacy, Seligman (1998) for enhancing optimism, and Snyder (2002) for enhancing hope: controlling negative thoughts (or enhancing positive thoughts), exposing performers to high-status peer models, providing goal-setting techniques and performance feedback that allow the performer to experience success, and utilizing positive attributions. The similarity of Gould's and Bandura's suggestions points to the possibility that self-efficacy, hope, and optimism may each contribute in some way to global confidence, an essential component of optimal performance for actors and stunt people (Aisbett, 2006; Gould, 2009; Hays & Brown, 2004).

Work behaviors vital for success as an actor or a stunt person include networking and training (Aisbett, 2006). According to one successful stuntman, stunt coordinator, and second-unit director discussing success in the stunt business, "The work is getting the work" (T. Williams, personal communication, December 2, 2012). That is, preparatory activities such as meeting and developing relationships with stunt coordinators, getting headshots and resumes into the hands of the people doing the hiring, learning and developing the necessary skills (e.g. fighting for film, motorcycles, falls, acting,

auditioning), maintaining top physical condition, and creating a wide social network in the stunt industry are the keys to being hired for stunt jobs (Aisbett, 2006; T. Williams, personal communication, December 2, 2012). However, although all of these activities are necessary for securing employment as an actor or stuntman, they all take a great deal of time, effort, and commitment, and none of them are typically paid activities.

In addition to the preparatory activities that set the conditions for an actor or stunt person to be hired, many psychological capacities are necessary for success while on the job as well. Anxiety and arousal control as well as cognitive functioning are critical to an actor or stunt person's ability to perform in the on-set work environment (Aisbett, 2006; Foster, Lloyd, & Kamin, 2009). In his book detailing how to get into the stunt business and be successful as a stuntman, Aisbett (2006) included an entire chapter devoted to mental preparation that contained suggestions about how to maintain focus and deal effectively with anxiety and arousal. Cue words, breathing, thought stopping, positive self-talk, and mental imagery were some of the techniques mentioned by Aisbett that may help stunt people combat fear, negative thinking, and doubt. Memory and mental agility are also important elements of both stunt work and acting (Foster et al., 2009). The ability to memorize and flawlessly execute lines in a script, fight choreography, and/or complicated blocking that must be timed perfectly with camera movements (sometimes simultaneously) plays an important role in performance as an actor or stunt person. In addition, actors and stunt people must be mentally prepared to deal with situations when things do not go as planned, which can occur frequently in many performance settings (Aisbett, 2006; Foster et al., 2009). Most of the time there is an opportunity in film and

television to shoot a sequence multiple times; however, sometimes sequences are so involved or expensive that there is only one opportunity to get them correct. From a performance standpoint, the actor or stunt person should be able to execute his or her job responsibilities and meet the vision of the director during every iteration, regardless of whether an opportunity for a second take exists (T. Williams, personal communication, December 2, 2012). Cost of failure in the film industry can be very high, both in terms of dollar amounts and physical well-being. That is, if an actor says a line incorrectly, the mistake can be extremely expensive depending on the location, number of people working, how long it takes to reset the scene, and so forth. Also, if a stunt person miss times a car slide, moves too close to an explosion, or makes any number of other mistakes, serious injuries and death might occur. Therefore, mental toughness is crucial to the levels of performance and consistency expected of both actors and stunt people in the film and television industry (Aisbett, 2006).

Research has shown that the growing number of independent contractors in the US garner important benefits (e.g. increased flexibility and sense of job autonomy) and face costly challenges (e.g. job insecurity, fluctuating earnings, inability to make long-term commitments, work-life balance issues, a perceived loss of control, loss of confidence) when choosing an independent worker classification (de Jonge et al., 2000; Maahs, 2004; McGann et al., 2012; Prottas & Thompson, 2006). Actors, stunt people and other artists primarily fall into the independent worker category (Jeffri et al., 2011) and, therefore, must navigate these issues as well as challenges specific to their chosen professions. Fierce job competition, frequent rejection, and time-consuming, unpaid

training and networking necessary for success all can result in a great deal of pressure and difficulty maintaining the positive, resilient attitude crucial to finding and sustaining work as an actor or stunt person (Aisbett, 2006; SAG-AFTRA, 2012). Environmental challenges and job responsibilities while working on set (e.g. large sections of dialogue, complicated blocking, inherent danger in action sequences) can also take its toll on actors and stunt people and require significant confidence, mental agility and focus, and resilience to navigate effectively (Aisbett, 2006; Foster et al., 2009; SAG-AFTRA, 2012). A clearer understanding of the psychological resources that contribute to motivation, perseverance, psychological well-being, and performance in independent workers could help organizations representing these workers (e.g. SAG-AFTRA) better allocate money and other resources in their effort to support their constituents in the work they do as well as provide guidance to independent workers themselves as to how they might focus their energies and efforts more effectively in an effort to achieve better performance results.

Summary and Conclusions

Positive psychology, a field that has received a great deal of attention in recent years (Hart & Sasso, 2011; Schui & Krampen, 2010), focuses primarily on positive effect, traits and strengths, and institutions and organizations in an effort to enhance well-being in all facets of individuals' lives (Seligman, 2011; Seligman & Csikszentmihalyi, 2000). An important theory in positive psychology that has emerged and grown in popularity over the past decade is Fredrickson's (1998, 2001) broaden-and-build theory. This theory posits that, unlike negative emotions that tend to narrow attention and cognitive functioning and often lead to specific, avoidance-oriented behaviors, positive

emotions broaden cognitive processing and attention and lead to more flexible, approach-oriented behaviors resulting in more novel, creative responses and stronger physical, intellectual, and social resources (Fredrickson, 2001; Lucas, 2001; Lyubomirsky et al., 2005). Positive emotions also may have the ability to counteract the effects of negative emotions, via the undoing effect (Fredrickson, 1998; Fredrickson & Levinson, 1998). For actors and stunt people whose job requires a significant amount of mental agility and adaptability (Foster et al., 2009) and face rejection on a regular basis (Aisbett, 2006), the ability to foster positive affect may be of tremendous benefit. The enhanced cognitive, intellectual, and social resources predicted by broaden-and-build theory might help them remember complex dialogue and blocking, deal more effectively with last minute changes on set, and develop the persistence and resilience in their daily networking and training that is absolutely essential to long-term success (Aisbett, 2006; Backstage, 2012).

Self-efficacy, hope, resilience, optimism are four constructs often included in research falling within the framework of positive psychology (Luthans et al., 2007). These four constructs have also been identified as psychological resources and included in various psychological resource models (Hobfoll, 2002). Self-efficacy, hope, resilience, and optimism have all been shown to possess solid theoretical backing and valid measurements, malleability and openness to development, and significant correlations to performance in the workplace (Bandura, 1997; Luthans, Avolio, et al., 2007; Luthans, Youssef, et al., 2007; Masten, 2001; Seligman, 1998; Snyder, 1996; Youssef & Luthans, 2010). Responding to calls for greater parsimony, theory development, and consolidation of constructs (Hackman, 2009; Lazarus, 2003; Lopez & Gallagher, 2009; Rodriguez-

Carvajal et al., 2010), specifically those targeting psychological resources (Hobfoll, 2002), Luthans, Youssef, and colleagues (2007) combined optimism, hope, resilience, and self-efficacy into a higher-order construct, PsyCap, that has been demonstrated to be theoretically and empirically valid, state-like and developable in nature, and related to workplace performance (Avey et al., 2011; Luthans, Avolio, et al., 2007; Luthans, Youssef, et al., 2007).

These relationships among PsyCap, performance, and psychological well-being, however, may be more complicated than previous research has shown and may be mediated by basic psychological need satisfaction. Although direct correlations between PsyCap and psychological well-being have been reported (Avey et al., 2010; Avey et al., 2011), few studies have examined variables that may mediate or moderate the relationships between PsyCap and performance and psychological well-being (Avey et al., 2011), and no research related to the possible effects that perceived basic psychological need satisfaction may have on the relationship between PsyCap and psychological well-being has occurred. Further, all of the research on PsyCap to date has focused on workers steadily employed by one organization. In an effort to broaden the generalizability of the PsyCap construct, the present study was an effort to examine the evidence to support the model (Figure 1) wherein PsyCap predicts basic psychological need satisfaction, which predicts psychological well-being, which predicts performance in independent workers primarily employed as actors and stunt people.

The present study was implemented with structural equation modeling to examine a model (Figure 1) of the relationships among PsyCap, basic psychological need

satisfaction, psychological well-being, and performance in order to answer the following research questions: (1) Do the PsyCap constructs relate positively to the satisfaction of basic psychological needs, psychological well-being, and performance; (2) Does satisfaction of basic psychological needs relate positively to psychological well-being and performance; (3) Does psychological well-being relate positively to performance; (4) Does psychological well-being mediate the relationship between basic psychological need satisfaction and performance; and (5) Does basic psychological need satisfaction mediate the relationship between PsyCap and psychological well-being?

Social change implications for this study included the possibility of increased health coverage for actors and stunt people, the creation and provision of more efficient and effective interventions with actors and stunt people, a decreased risk of injury for actors and stunt people, and increased levels of efficiency for entertainment productions. Because health benefits are tied to earnings (e.g. SAG-AFTRA) or the number of weeks worked (e.g. Actor's Equity Association), actors' and stunt peoples' ability to develop psychological resources that increase their levels of productivity, and thus their chances of securing employment opportunities, could reduce the number of actors and stunt people currently without health insurance. Results may also provide insight into areas actors and stunt people can target to improve both performance and psychological well-being. For example, instead of trying to target psychological well-being or performance decrements directly, actors and stunt people might be better served by focusing their efforts on the development of the PsyCap resource (Luthans et al., 2006; Luthans et al., 2008). This study may also benefit artist unions (e.g. Actor's Equity Association, SAG-

AFTRA) and other organizations who support entertainers by offering information about how these organizations might better support the efforts of those they serve through the development and provision of additional training and interventions targeting PsyCap. For example, an organization called The Actors Fund was created for individuals who have worked or are currently working in the entertainment industry. The stated mission of this organization is to exist as "a safety net, providing programs and services for those who are in need, crisis, or transition" (The Actors Fund, 2015), and a variety of social services are offered by The Actors Fund including mental health, addiction, and transition assistance. Results from the present study may assist individuals who design and conduct interventions for entertainment professionals by providing some guidance as to which constructs to target to achieve the results they desire more efficiently and effectively. Finally, improved productivity and performance consistency can reduce film and television production costs and human risk by minimizing the number of mistakes requiring additional performance iterations.

The next chapter is a summary of the research design, measures, data collection process, and anticipated statistical analyses. Chapter 4 contains the results of the research followed by Chapter 5, which is a discussion of how the results may be integrated into the current literature.

Chapter 3: Research Method

Introduction

In this study, I used a quantitative research methodology to examine the influence of PsyCap, basic psychological need satisfaction, and psychological well-being on the perceived productivity of independent workers employed as actors and stunt people. The research questions addressed were as follows:

1. Does PsyCap relate positively to the satisfaction of basic psychological needs, psychological well-being, and performance?
2. Does satisfaction of basic psychological needs relate positively to psychological well-being and performance?
3. Does psychological well-being relate positively to performance?
4. Does psychological well-being mediate the relationship between basic psychological need satisfaction and performance?
5. Does basic psychological need satisfaction mediate the relationship between PsyCap and psychological well-being?

This chapter is a discussion of the research design and approach, population, sampling techniques, data collection and analysis, and measures used to obtain data.

Research Design and Rationale

Quantitative methodologies address a problem by testing hypotheses and using statistical techniques to make predictions regarding potential relationships between variables, while qualitative research tends to be more exploratory in nature and searches for themes in detailed reports provided by participants (Creswell, 2012). Quantitative

research is specific and narrow in focus, concentrates on objective, measurable variables, and allows for objective, bias-free conclusions (Creswell, 2012). A nonexperimental design was chosen for this study because manipulation of the independent variables being examined (i.e., PsyCap, autonomy, competence, and relatedness) would be very ethically and practically challenging. Therefore, a quantitative, nonexperimental design using structural equation modeling to analyze the data was developed to answer the research questions by providing a clear picture of specific relationships that may or may not exist among PsyCap, basic psychological need satisfaction, and psychological well-being as well as provide a better idea of the effect PsyCap, basic psychological need satisfaction, and psychological well-being have on the performance of independent workers who identify their primary job as either acting or stunts. The research design allowed for predictions that may guide future intervention development, particularly with independent workers.

Population

The target population for this study consisted of actors and stunt people, workers who make up a portion of the 10.4% of the workforce who are considered independent workers (Bureau of Labor Statistics, 2011). Independent workers are individuals who are either independent contractors or are self-employed and do not employ other workers (Prottas & Thompson, 2006).The sample for this study consisted of individuals drawn from the population of people who were members of SAG-AFTRA, AEA, or both and who indicated that acting or stunts were their primary profession (National Endowment for the Arts, 2011). These individuals were over the age of 18 and located in various parts

of the United States; however, the majority of participants were expected to reside in either the New York City or Los Angeles metropolitan areas. According to Norman and Streiner (2003), the sample size for structural equation modeling can be estimated by multiplying the number of parameters in a given model by 10. Using this estimation method, the target number of participants in this study was 210.

Procedures for Recruitment, Participation, and Data Collection

In an effort to reach out to as many actors and stunt people as possible, a nonrandom, snowball sampling technique was used to generate the sample for this research. Research participants were solicited via email, phone calls, social media (e.g., Facebook), and in-person pitches at monthly stunt group (e.g., International Stuntmen's Association) meetings. Individuals indicating a willingness to participate in the research study were provided with a link to a website (e.g., SurveyMonkey) where the survey was posted. After reading and agreeing to information provided on an informed consent page, participants were directed to a page that allowed them to complete the survey items. The link and survey were operational for 1 month, and reminders were sent once a week to potential participants via email, phone calls, and social media (e.g., Facebook). Data from the completed surveys were collected by SurveyMonkey, transferred into a Microsoft Excel file, and imported into AMOS for analysis. Structural equation modeling was then used to analyze the data.

Instrumentation and Operationalization of Constructs

Psychological Capital Questionnaire (PCQ)

PsyCap was measured using the 24-item Psychological Capital Questionnaire

(PCQ; Luthans, Avolio, et al., 2007). This instrument includes six adapted items from four published questionnaires measuring *hope* (Snyder et al., 1996*), resilience* (Wagnild & Young, 1993), *self-efficacy* (Parker, 1998), and *optimism* (Scheier & Carver, 1985). An example from the hope scale is the following: "There are lots of ways around any problem." An example from the resilience scale is the following: "I usually manage difficulties one way or another at work." An example from the optimism scale is the following: "I always look on the bright side of things regarding my job." An example from the self-efficacy scale is the following: "I feel confident setting targets/goals in my work area." Confirmatory factor analyses have repeatedly demonstrated a second-order factor structure (Avey, Luthans, & Youssef, 2010; Luthans, Avolio, et al., 2007), and the PCQ and its four subscales have demonstrated acceptable internal reliability: resilience = .83 optimism = .78, hope = .87, self-efficacy = .92, and overall PCQ = .95 (Avey, Luthans, & Youssef, 2010). In the present study, Cronbach's alpha was calculated for each of the PCQ subscales (i.e., hope, resilience, self-efficacy, optimism) to check for internal reliability. Then, a measurement model was computed in order to ensure that each of the PCQ items loaded onto the anticipated latent variable. Finally, a higher-order measurement model was computed in order to compare the goodness of fit of a four-factor model to other possible models. In order to help ensure the PCQ measured state-like tendencies, items asked respondents to consider the questions as they applied to themselves in the present moment. Response choices were organized into a 6-point Likert-type scale (i.e., 1 = *strongly disagree*, 2 = *disagree*, 3 = *somewhat disagree*, 4 = *somewhat agree*, 5 = *agree*, 6 = *strongly agree*). The mean score of the 24 items formed

the PsyCap composite score. Hope, self-efficacy, resilience, and optimism was assessed individually based on the mean of subscale scores.

Construct validity for the PCQ was established for the PCQ by comparing it to similar trait-like measures such as extraversion (r = .59), conscientiousness (r = .54), and core self-evaluations (r = .72; Avey, Luthans, & Youssef, 2010; Gosling, Retfrow, & Swan, 2003; Judge, Erez, Bono, & Thoresen, 2003). Each of these measures has been shown to have a positive relationship with job performance (Bono & Judge, 2003; Judge et al., 2003; Luthans, Avolio, et al., 2007; Vinchur, Schippman, Switzer, & Roth, 1998). Using hierarchical regression to establish discriminant validity, PsyCap "predicted unique variance in job satisfaction beyond the two personality traits and core self-evaluations" (Luthans, Avolio, et al., 2007, p. 561). In order to establish convergent validity, Luthans, Avolio, et al. (2007) administered the PCQ and core self-evaluations scale (Judge et al., 2003) over three time periods separated by 7 to 10 days. Given the similarity of the constructs making up core self-evaluation (i.e., locus of control, neuroticism, self-esteem, generalized self-efficacy) to those making up PsyCap (i.e., hope, resilience, self-efficacy, optimism), a correlation between the two measures was expected and found. However, given the trait-like nature of core self-evaluations and the state-like nature of PsyCap, differences in correlations were expected to be found over time. Nine bivariate analyses of PsyCap and core self-evaluations were conducted using the three time periods. Six of these analyses showed statistically significant positive relationships with correlation coefficients ranging from r = .12 to .46, p< .05 demonstrating convergent validity. Test-retest statistics were also analyzed for the PCQ (.52), core self-evaluations (.87),

conscientiousness (.76), and positive emotions (.46; Luthans, Avolio, et al., 2007). These results, as predicted, showed a lower test-retest score for the state-like construct PsyCap than for the trait-like constructs Conscientiousness and core self-evaluations that supports PsyCap's state-like nature. Hierarchical analysis, longitudinal data, and test-retest statistics provide evidence for the state-like nature of PsyCap and the validity of the PsyCap construct.

Because independent workers employed as actors and stunt people do not consistently work under the umbrella of a single organization (Jeffri et al., 2011; National Endowment for the Arts, 2008), the appropriateness of some of the PCQ items are questionable for use with this population. After contacting the lead author of the PCQ (F. Luthans, personal communication, November 9, 2012), the decision was made to enhance the appropriateness of the PCQ for independent workers employed as actors and stunt people by slightly altering the wording of Items 2, 3, 4, 5, and 6 in the Self-Efficacy subscale. Question 2 was changed from "I feel confident in representing my work area in meetings with management" to "I feel confident in representing myself in meetings with casting directors/stunt coordinators." Question 3 was changed from "I feel confident contributing to discussions about the company's strategy" to "I feel confident contributing to discussions about a scene, action-sequence, or show in which I am involved." Question 4 was changed from "I feel confident helping to set targets/goals in my work area" to "I feel confident setting targets/goals in my work area." Question 5 was changed from "I feel confident contacting people outside the company (e.g., suppliers, customers) to discuss problems" to "I feel confident contacting people outside of my

immediate work area (e.g., producers, directors, agents) to discuss problems." Question 6 was changed from "I feel confident presenting information to a group of colleagues" to "I feel confident training and performing in front of a group of colleagues." These changes were believed to reflect the differences between organizational employees and independent workers employed as actors and stunt people and were emailed to and approved by the PCQ's lead author (F. Luthans, personal communication, December 11, 2012).

Performance

Zelenski et al. (2008) measured performance with the question, "How productive were you in your work role?" This question's validity was supported with significant within-person covariation between positive affect and productivity and also supported by the finding that each of three measures of happiness (i.e., positive effect, quality of work life, and life satisfaction) related differently to productivity suggesting that social desirability had little to no influence on results (Zelenski et al., 2008). In line with PsyCap's state-like nature, the addition of "during the past week" was added to this question to obtain a productivity score in this study. Other studies using self-report measures to examine PsyCap's relationship to performance have also used the 1-week time period to frame self-reported performance questions (Luthans et al., 2010; Luthans, Avolio, et al., 2007). Self-reported productivity measures may present challenges as a result of response biases (Zelenski et al., 2008). Recall bias, however, can be reduced by minimizing the length of time being recalled (Stewart, Ricci, Leotta, & Chee, 2001). For example, Stewart et al. found that a 4-week recall time period was related to statistically

significantly higher recall bias than a 1-week time period. Furthermore, Robinson and Clore (2002) reported that more accurate, objective information (as opposed to overall beliefs) about past occurrences can be solicited by the use of reports over shorter periods of time. Therefore, based on PsyCap's state-like nature as well as Stewart et al.'s and Robinson and Clore's findings, the question, "How productive were you in your work role during the past week?" appears to be an appropriate measure for the productivity of actors and stunt people. Response choices for this question were on a 5-point Likert-type scale (1 = *not very productive*, 2 = *kind of productive*, 3 = *productive*, 4 = *highly productive*, 5 = *exceptionally productive*) (Zelenski et al., 2008).

A self-report performance measure was deemed more appropriate for this study than supervisor ratings given that many of the job productivity behaviors associated with acting and stunts are self-motivated and take place outside the purview of supervision. Also, a self-report performance measure was believed to be a better choice than an objective measure given that no research to date has addressed or specifically defined job behaviors important for the success of actors and stunt people, and the creation and validation of a new measure of performance for a population that has received very little empirical attention was beyond the scope of this study.

Self-report performance measures have shown little difference when compared to supervisor ratings and objective performance measures in previous PsyCap research (Avey et al., 2011). The results of a recent meta-analysis suggest that self-report performance measures yield very similar results to those of supervisor ratings and objective performance measures (Avey et al., 2011). These findings lend further support

for the appropriateness of using self-reported productivity over the period of a week to examine the relationship between PsyCap and the productivity of independent workers employed as actors and stunt people.

Basic Psychological Need Satisfaction

Perceived satisfaction of autonomy, competence, and relatedness was assessed using the Basic Psychological Needs at Work Scale (BPNWS: selfdeterminationtheory.org, 2014), formerly the Intrinsic Need Satisfaction scale (INS scale: Baard et al., 2004; Deci et al., 2001; Leone, 1995). This measure consists of 21 items. There are seven items that assess perceived autonomy (e.g., "I feel like I can pretty much be myself at work," six items that assess perceived competence (e.g., "Most days I feel a sense of accomplishment from working," and eight items that assess perceived relatedness (e.g., "People at work are pretty friendly toward me"). Responses are scored on a 7-point Likert-scale where 1 = *not at all true*, 4 = *somewhat true*, and 7 = *very true*. Higher scores indicate higher levels of perceived satisfaction of basic psychological needs than lower scores. The test is available for academic research purposes and requires only that one register and log into the self-determination theory website (Selfdeterminationtheory.org, 2014).

The Cronbach's alpha for the overall need satisfaction scale reported by Deci et al. (2001) was 0.89. Cronbach's alpha values reported for autonomy, competence, and relatedness were 0.73, 0.84, and 0.79 respectively. The results from this study demonstrated support for a model wherein perceived satisfaction of autonomy, competence, and relatedness moderates the relationship between perceived autonomy

support and work engagement and general self-esteem in Bulgarian and American workers. Baard et al. (2004) conducted a principal components factor analysis to confirm items used for the autonomy, competence, and relatedness scales and reported Cronbach's alpha as 0.87 for the overall scale. These researchers' results showed that perceived autonomy support and autonomous causality orientation predicted perceived need satisfaction (i.e., autonomy, competence, and relatedness), and need satisfaction predicted performance evaluation and adjustment in a sample of 698 first-line employees from a large banking organization.

Psychological Well-Being

Psychological well-being was measured using the 4-item Subjective Well-Being-Short Scale (Roysamb et al., 2002). This instrument includes four items taken from a subjective well-being scale developed by Moum, Naess, Sorensen, and Tambs (1990). The test does not require written permission when used for educational or research purposes. The four items are (a) "When you think about your life at present, would you say you are mostly satisfied with your life, or mostly dissatisfied?" There were six response types available for this question ranging from 1 = *extremely satisfied* to 6 = *very dissatisfied*; (b) "Are you usually happy or dejected?" Five responses were available for this question ranging from 1 = *dejected* to 5 = *happy*; (c) "Do you mostly feel strong and fit or tired and worn out?" One of four responses could be chosen for this question ranging from 1 = *very strong and fit* to 4 = *tired and worn out*; and (d) "Over the last month, have you suffered from nervousness (felt irritable, anxious, tense, or restless)?" The four responses choices for the question ranged from 1 = *almost all the time* to 4 =

never. The subjective well-being score is the mean of the four scores on the four items.

Global subjective well-being typically contains cognitive (e.g., life satisfaction), positive affect (e.g., happy, strong), and negative affect (e.g., tired, nervous) categories when operationalized (Diener, Suh, Lucas, & Smith, 1999). The Subjective Well-Being-Short Scale assesses these three areas, and thus, conforms to these generally accepted guidelines. Construct validity was established during a pilot study with students at the University of Oslo. The Subjective Well-Being-Short Scale correlated ($r = 0.88$ after latent variables were controlled for) with the well-accepted and often used Satisfaction With Life Scale (Pavot & Diener, 1993, 2008; Pavot, Diener, Colvin, & Sandvik, 1991). Following this pilot, Roysaamb et al. (2002) used the Subjective Well-Being-Short Scale to examine the effects of genetic and environmental factors related to psychological well-being in a sample of Norwegian twins. Results of a principal component analysis of the Subjective Well-Being-Short Scale show a one-factor structure (eigenvalue: 2.1), and all items loaded over 0.70 on that single factor ($\alpha = 0.71$).

Data Analysis Plan

RQ1: Does PsyCap relate positively to basic psychological need satisfaction, psychological well-being, and performance?

$H_0$1: PsyCap does not relate positively to basic psychological need satisfaction, psychological well-being, and performance.

H_a1: PsyCap does relate positively to basic psychological need satisfaction, psychological well-being, and performance.

RQ2: Does basic psychological need satisfaction relate positively to

psychological well-being and performance?

$H_0$2: Basic psychological need satisfaction does not relate positively to psychological well-being and performance.

H_a2: Basic psychological need satisfaction does relate positively to psychological well-being and performance.

RQ3: Does psychological well-being relate positively to performance?

$H_0$3: Psychological well-being does not relate positively to performance.

H_a3: Psychological well-being does relate positively to performance.

RQ4: Does psychological well-being mediate the relationship between basic psychological need satisfaction and performance?

$H_0$4: Psychological well-being does not mediate the relationship between basic psychological need satisfaction and performance.

H_a4: Psychological well-being mediates the relationship between basic psychological need satisfaction and performance.

RQ5: Does basic psychological need satisfaction mediate the relationship between PsyCap and psychological well-being?

$H_0$5: Basic psychological need satisfaction does not mediate the relationship between PsyCap and psychological well-being.

H_a5: Basic psychological need satisfaction does mediates the relationship between PsyCap and psychological well-being.

Pearson's correlation was conducted using SPSS statistical analysis software and used to examine the first three hypotheses. Structural equation modeling was conducted

using AMOS statistical analysis software to examine the fourth and fifth hypotheses. The data were screened for multivariate and univariate normality. The internal consistency of the data, the construct validity of all variables, and the reliability of scores on all assessments was tested.

The model was tested first. Model fit was tested using the X^2 statistic, X^2 divided by its degrees of freedom (X^2/df), the RMSEA, the SRMR, and the Tucker-Lewis Index (TLI). Any values above .90 for both the TLI and CFI indicate a goodness of fit (Hu & Bentler, 1995). Values lower than .08 for the SRMR and the RMSEA also indicate goodness of fit (MacCallum, Browne, & Sugawara, 1996). After the model was tested, the model's goodness of fit was compared to the goodness of fit of other possible models.

Threats to Validity

Internal validity, statistical conclusion validity, external validity, and construct validity are four typical threats to validity described by Cook and Campbell (1979). With regard to internal validity, the non-experimental nature of the study and the cross-section design preclude any conclusions from being drawn about possible causal relationships. Because the instruments that were used to evaluate the various constructs were self-report questionnaires, it is possible that both a self-presentation bias and a response style bias might occur. That is, it is possible that participants might answer questions in such a way as to present themselves in as positive a light as possible, and it is also possible that responses given by participants to the various questions might be haphazard and not representative of their true beliefs (e.g. answering 'C' to every question).

Because of the validated, published measures being used, threats to construct

validity were minimal. To maximize construct validity, confirmatory factor analyses was run on the Psychological Capital Questionnaire and the Basic Psychological Needs Scale for Work to replicate findings by other researchers that the test items load onto the expected factors (Brien et al., 2012; Luthans, Avolio, et al., 2007).

The primary threat to external validity was that, due to the snowball sampling technique utilized to develop the sample, it is possible that the results of the study will not generalize to all members of the acting and stunt population. Differences in the types of actors and stunt people who become aware of the study and who choose to participate in the study may exist. Also, because the sample consisted solely of actors and stunt people, it is possible that the results may not generalize to other independent workers. Statistical conclusion validity was minimized by ensuring that there was a power level of at least 0.90 and a 95% confidence level. Also, the probability of a Type I or Type II error was minimized by setting the probability for such an occurrence at 5%.

Ethical Procedures

Confidentiality was ensured throughout the research process. At no time was identifying information available to the researcher or included in the data collection process. Participants simply typed in a web address provided in person or clicked on a link provided in an email or social media page and chose to accept or decline the informed consent. Those who accepted the informed consent were taken to the page containing the survey items, while those who declined were taken to the final page and exited from the survey. Participants then answered the survey questions, none of which contained identifying information, clicked *Complete* and moved to the final page, and

then clicked *Finish* to exit the survey. Data were kept on a removable thumb drive and were only be accessible to the researcher. Following data analysis, the thumb drive will be held in a lock box for 3 years. At that time the thumb drive will be removed from the box and destroyed. The Walden University Institutional Review Board (IRB) approval number associated with this study is 05-11-15-0024255.

Summary

This chapter was a presentation of the research design and methodology chosen to address the questions of whether or not PsyCap predicts basic psychological need satisfaction, basic psychological need satisfaction predicts psychological well-being, and psychological well-being predicts the perceived productivity of independent workers employed as actors and stunt people. The study also addressed whether or not relationships existed among PsyCap, basic psychological need satisfaction, and psychological well-being. It was hypothesized that relationships would exist among PsyCap, basic psychological need satisfaction, and psychological well-being and that PsyCap, basic psychological need satisfaction, and psychological well-being would predict performance in a sample of independent workers employed primarily as actors and stunt people. A non-experimental research design was used, and data were collected from several self-report measures. Confirmatory factor analyses was used to ensure the internal validity of the Psychological Capital Questionnaire and the Basic Psychological Need Scale for Work, and structural equation modeling using AMOS statistical analysis software was used to examine the two research questions. The next chapter is a review the results of the statistical analyses.

Chapter 4: Results

Introduction

The purpose of this study was to examine the relationships among PsyCap, basic psychological need satisfaction, psychological well-being, and performance in working actors and stunt people. The measures used in this study were the PCQ (Luthans, Avolio, et al., 2007), (selfdeterminationtheory.org, 2014), Subjective Well-Being-Short Scale (Roysamb et al., 2002), and a single question targeting actors' and stunt people's perceived performances over the past week. These measures were chosen because they have been shown in previous research to be valid and reliable measures of PsyCap, basic psychological need satisfaction, psychological well-being, and performance. Although structural equation modeling (SEM) was originally proposed, the sample size did not allow for the analysis of the data using SEM. Instead, the data were analyzed using a series of regression models in order to answer five research questions examining the relationships among PsyCap, basic psychological need satisfaction, psychological well-being, and performance.

Data Collection

SurveyMonkey was used to collect data over a 4-week period. Participants were recruited through email and social media. An email summarizing the purpose of the study and containing a link to the survey was sent to all actors and stunt people for whom I had contact information. An invitation to participate in the study also containing a brief description of the research and a link to the survey was posted on my Facebook page. Both the email and the invitation on Facebook encouraged the sharing of the information

about the study and how to participate with other potential participants. When participants clicked on the link to the survey, they were taken first to an informed consent page and then to a page containing three questions designed to ensure that the participants met the minimum criteria for participation. Those criteria were at least 18 years of age, a member of either SAG-AFTRA or AEA, and acting or stunts was the individual's primary source of income. If a "no" response was recorded for any of those three questions, participants were taken to the "Exit" page. A total of 123 surveys were completed; however, 10 participants responded that neither stunts nor acting was their primary source of income, one participant responded that he or she was not a member of either SAG-AFTRA or AEA, four participants did not continue the survey after answering the initial three screening questions, and five participants discontinued the assessment after completing only the PCQ. These 20 response sets were excluded, leaving a sample size of 103 surveys completed by individuals who indicated that they met the three participation criteria described earlier.

Sample Demographics

Other than age, no demographic data were collected. All participants indicated that they were over the age of 18.

Descriptive Statistics for the Variables

The findings in Table 1 indicated that the PCQ and the subscales of the PCQ were reliable (coefficient alpha estimates of reliability were above the acceptable criterion of .70; Nunnally & Bernstein, 1994). The highest mean score was for self-efficacy (M = 5.21; SD = .58) and the lowest was for optimism (M = 4.68; SD = .70). Although the

BPNWS and its relatedness subscale achieved acceptable levels of reliability, the autonomy and competence subscales fell slightly below the recommended alpha level of .70. The highest mean score for basic psychological need satisfaction was for competence (M = 6.12; SD = .65), while the lowest mean score was for autonomy (M = 4.76; SD = .84). The psychological wellbeing scale fell below the accepted reliability cutoff of .70. The mean wellbeing score (M = 3.70; SD = .57) and performance score (M = 3.49; SD = 1.18) were slightly above average.

Results for the Research Questions

RQ1: Does PsyCap relate positively to basic psychological need satisfaction, psychological well-being, and performance?

$H_0$1: PsyCap does not relate positively to basic psychological need satisfaction, psychological well-being, and performance.

H_a1: PsyCap does relate positively to basic psychological need satisfaction, psychological well-being, and performance.

RQ2: Does basic psychological need satisfaction relate positively to psychological well-being and performance?

$H_0$2: Basic psychological need satisfaction does not relate positively to psychological well-being and performance.

H_a2: Basic psychological need satisfaction does relate positively to psychological well-being and performance.

RQ3: Does psychological well-being relate positively to performance?

$H_0$3: Psychological well-being does not relate positively to performance.

H_a3: Psychological well-being does relate positively to performance.

RQ4: Does psychological well-being mediate the relationship between basic psychological need satisfaction and performance?

$H_0 4$: Psychological well-being does not mediate the relationship between basic psychological need satisfaction and performance.

$H_a 4$: Psychological well-being does mediate the relationship between basic psychological need satisfaction and performance.

RQ5: Does basic psychological need satisfaction mediate the relationship between PsyCap and psychological well-being?

$H_0 5$: Basic psychological need satisfaction does not mediate the relationship between PsyCap and psychological well-being.

$H_a 5$: Basic psychological need satisfaction does mediate the relationship between PsyCap and psychological well-being.

First Research Question

$H_a 1$ stated that positive relationships between PsyCap and need satisfaction, psychological well-being, and performance would exist. Because the research question indicated the direction of the relationship (i.e., positive), a one-tailed alpha of .05 was used to assess significance. As shown in Table 1, PsyCap was positively associated with need satisfaction ($r = .58$, $p < .001$), autonomy ($r = .53$, $p < .001$), competence, ($r = .58$, $p < .001$), relatedness ($r = .34$, $p < .001$), performance ($r = .38$, $p = .001$) and psychological wellbeing ($r = .52$, $p < .001$). These findings support Hypothesis $H_a 1$.

Table 1

Pearson Correlations Between the Study Variables (N = 103)

Variables	Mean	*SD*	1	2	3	4	5	6
1 Autonomy	4.76	.84	(.66)					
2 Competence	6.12	.65	.49***	(.65)				
3 Relatedness	5.73	.79	.54***	.56***	(.84)			
4 PsyCap	4.94	.54	.53***	.58***	.34***	(.91)		
5 Performance	3.49	1.18	.32**	.25**	.32**	.38***	n/a	
6 Psychological wellbeing	3.70	.57	.39***	.43**	.41***	.52***	.23*	(.54)

Note. Coefficient alpha estimates of reliability are on the diagonal. * $p < .05$ ** $p < .01$ *** $p < .001$ (1-tailed)

Second Research Question

H_a2 stated that positive relationships between need satisfaction and psychological well-being and performance would exist. As shown in Table 1, autonomy was related positively with performance ($r = .32$, $p = .001$) and psychological wellbeing ($r = .39$, $p < .001$); competence correlated positively with performance ($r = .25$, $p = .009$) and psychological wellbeing ($r = .43$, $p < .001$) and relatedness correlated positively with performance ($r = .32$, $p = .002$) and psychological wellbeing ($r = .41$, $p < .001$). These findings support H_a2.

Third Research Question

H_a3 stated that a positive relationship between psychological well-being and performance would exist. The findings in Table 1 indicate that performance correlated positively with psychological wellbeing ($r = .23$, $p < .05$). These findings support H_a3.

Fourth Research Question

Method of analysis. H_a4 stated that psychological well-being would mediate the relationship between need satisfaction and performance. SEM was discussed in Chapter 3 as the way in which this research question would be tested. However, the number of responses to the survey did not allow for the data to be tested using SEM. Instead, multiple regression techniques were used to analyze the data (Preacher & Hayes, 2008).

Over the past several decades, a causal steps approach (e.g., Baron & Kenny, 1986) has frequently been used to test for mediation. This approach states that when three conditions are met, mediation exists. These conditions are (Figure 2) as follows: (a) The independent variable significantly predicts the mediating variable (X predicts M; *a* path is statistically significant), (b) the independent variable significantly predicts the dependent variable (X predicts Y; *c* path is statistically significant), and (c) the relationship between the independent and dependent variable ($c - c'$) is diminished or is no longer significant when the mediating variable is included in the regression model. That approach, however, has several flaws and is in the process of becoming obsolete (Hayes, 2013). In fact, Hayes (2013) argued that, "recognition is growing that [the causal steps] approach is not ideal both statistically and philosophically, and soon it will be difficult to get away with the use of the causal steps strategy" (p. 167). Similarly, Zhao, Lynch, and Chen (2010) "recommend that to establish mediation the Baron-Kenny 'three tests + Sobel'

steps be replaced with one and only one test: the bootstrap test of the indirect effect a x b" (p. 204).

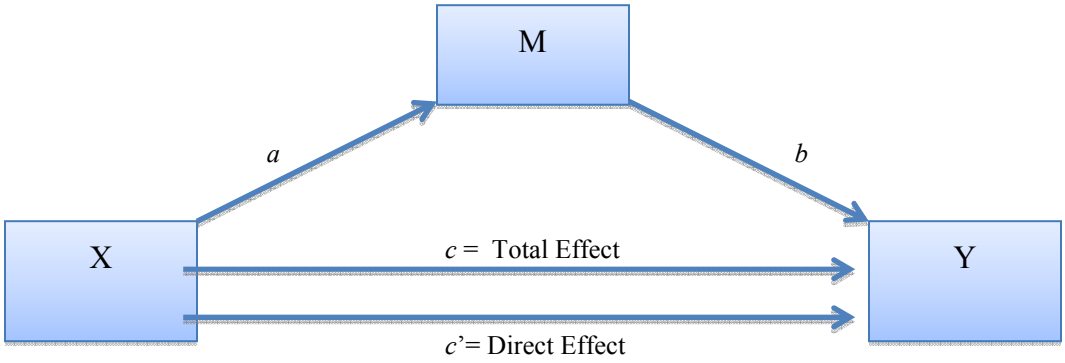

Figure 2. Simple mediation model.

Hayes (2013) discussed four primary reasons why the causal steps approach has been abandoned by many researchers. First, the causal steps approach does not quantify indirect effects and does not require any inferential tests of indirect effects. Second, the causal steps approach requires the successful rejection of three separate null hypotheses which makes the possibility of making a Type II error more likely (Preacher & Hayes, 2004) and results in the causal steps approach being "one of the least powerful approaches to testing mediation" (Hayes, 2013, p. 168) See Rucker, Preacher, Tormala, and Petty (2011) or Zhao, Lynch, and Chen (2010) for a detailed discussion of why power is lower when using the causal steps approach. Third, the causal steps approach requires that the total effect of the independent variable on the dependent variable be statistically significant. Many authors have argued that it is possible for an indirect effect to be present without necessarily having the total effect of the independent variable on the

dependent variable be statistically significant (Cerin & MacKinnon, 2009; Hayes, 2013; MacKinnon, 2008; Rucker et al., 2011; Zhao et al., 2010). For example, if there are two mediators with indirect effects of equal magnitude and one of the indirect effects is positive and the other is negative, those indirect effects would cancel each other out making the total effect zero (Hayes, 2013). This would result in a total effect that is not statistically significant even though there are statistically significant mediators. Fourth, discussion of indirect effects in the causal steps approach is qualitative and not quantitative. Mediation effects are described as being either partial or complete (Baron & Kenny, 1986). See Hayes (2013) or Rucker et al. (2011) for a detailed discussion of the problems associated with labeling mediation effects as either partial or complete.

An alternative to the causal steps approach is the product of coefficients method (Hayes, 2013; MacKinnon et al., 2007; Preacher & Hayes, 2004). The product of coefficients method has two criteria: The independent variable predicts the mediator, and the mediator predicts the dependent variable after controlling for the independent variable (Zhao et al., 2010). If these two criteria are satisfied, the indirect effect of the independent variable on the dependent variable through the mediator is estimated by multiplying the regression coefficient of the relationship between the independent variable and the mediator by the regression coefficient of the relationship between the mediator and the dependent variable. The result of this equation is equal to the difference when the direct effect is subtracted from the total effect. The product of coefficients approach addresses the question of mediation more directly than the causal steps approach, avoids the low statistical power associated with the causal steps approach, and

reduces the chances of Type II errors by reducing the number of analyses that need to be run (Hayes, 2013; Preacher & Hayes, 2004, 2008; Zhao et al., 2010).

Many different approaches to testing the statistical significance of indirect effects have been proposed (Hayes, 2013). Two of the most common are the normal theory approach, also known as the Sobel test, and the generation of bootstrap confidence intervals. Benefits of using the Sobel test include its ease of use and the fact that it is calculated simply from the regression coefficients and standard errors and, therefore, can be used without access to the original data. Challenges to the Sobel test include the fact that it assumes that the sampling distribution of the product of coefficients is normal, which is rarely the case (Hayes, 2009, 2013; Preacher & Hayes, 2004; Zhao et al., 2010), tends to be low in power and often generates less accurate confidence intervals than the generation of bootstrap confidence intervals (Hayes, 2009, 2013; Preacher & Hayes, 2004, 2008; Zhao et al., 2010).

Benefits of the generation of bootstrap confidence intervals to estimate indirect effects include the absence of the assumption of the normality of the sampling distribution of the product of coefficients; higher power, particularly in smaller samples; and more accurate confidence intervals than the Sobel test (Hayes, 2009, 2013; Preacher & Hayes, 2004, 2008; Zhao et al., 2010). Challenges to bootstrapping include the fact that the sample must be a representative sample of the population being studied, very small samples may result in one or two cases distorting the analysis, and confidence interval endpoints are not fixed. After examining 11 methods for constructing the confidence intervals of standardized indirect effects, Cheung (2009) concluded that the

percentile and bias-corrected bootstrap approaches were the most valid and reliable. Compared to traditional *z*-tests, bias-corrected bootstrapping has been shown to result in more accurate confidence intervals and have higher power (MacKinnon et al., 2004; Williams & MacKinnon, 2008).

In order to maximize power and reduce the chance of Type II errors, the present study was implemented by following the recommendation of recent research in the field of statistics (Field, 2013; Hayes, 2009, 2013; MacKinnon et al., 2007; Preacher & Hayes, 2004, 2008; Rucker et al., 2011; Zhao et al., 2010) and thus tested the mediation hypotheses using the product of coefficients approach and analyzed the statistical significance of indirect effects by generating bootstrap confidence intervals. This hypothesis was tested using the PROCESS macro (Hayes, 2013) for SPSS. The PROCESS macro allows researchers to estimate unstandardized model coefficients, standard errors, *t* and *p*-values, and confidence intervals using either ordinary least squares (OLS) regression or maximum likelihood logistic regression. However, PROCESS also provides direct and indirect effects, evaluations of the statistical significance of those effects, and several ways to evaluate effect size. In this study, bootstrapping, using 5,000 bootstrap samples, was used to estimate and test the statistical significance of the direct and indirect effects and to generate 95% bias-corrected confidence intervals (BC CI) for the hypothesized relationships among the variables.

Findings. Hypothesis H_a4 stated psychological well-being would mediate the relationship between autonomy, competence, and relatedness and performance. Hypothesis H_a4 was tested by a simple mediation analysis using ordinary least squares

(OLS) path analysis showed that, individually, autonomy, competence, and relatedness did not indirectly influence performance through psychological well-being. As shown in Figure 3 and Table 2, autonomy, a_1 = .12, BC CI [-.022, .265], competence, a_2= .22, BC CI [.031, .413], and relatedness, a_3= .12, BC CI [-.042, .281] all had direct positive relationships with psychological well-being. Psychological well-being had a direct positive relationship with performance, b = .15, BC CI [-.298, .587]. The total effects of autonomy, c_1= .27, BC CI [-.049, .588], competence, c_2 = .10, BC CI [-.322, .522], and relatedness, c_3 = .28, BC CI [-.081, .633] on performance were positive and direct, and the direct effects of autonomy, c'_1 = .25, BC CI [-.072, .575], competence, c'_2 = .07, BC CI [-.367, .502], and relatedness, c'_3 = .26, BC CI [-.103, .621] on performance were also direct and positive.

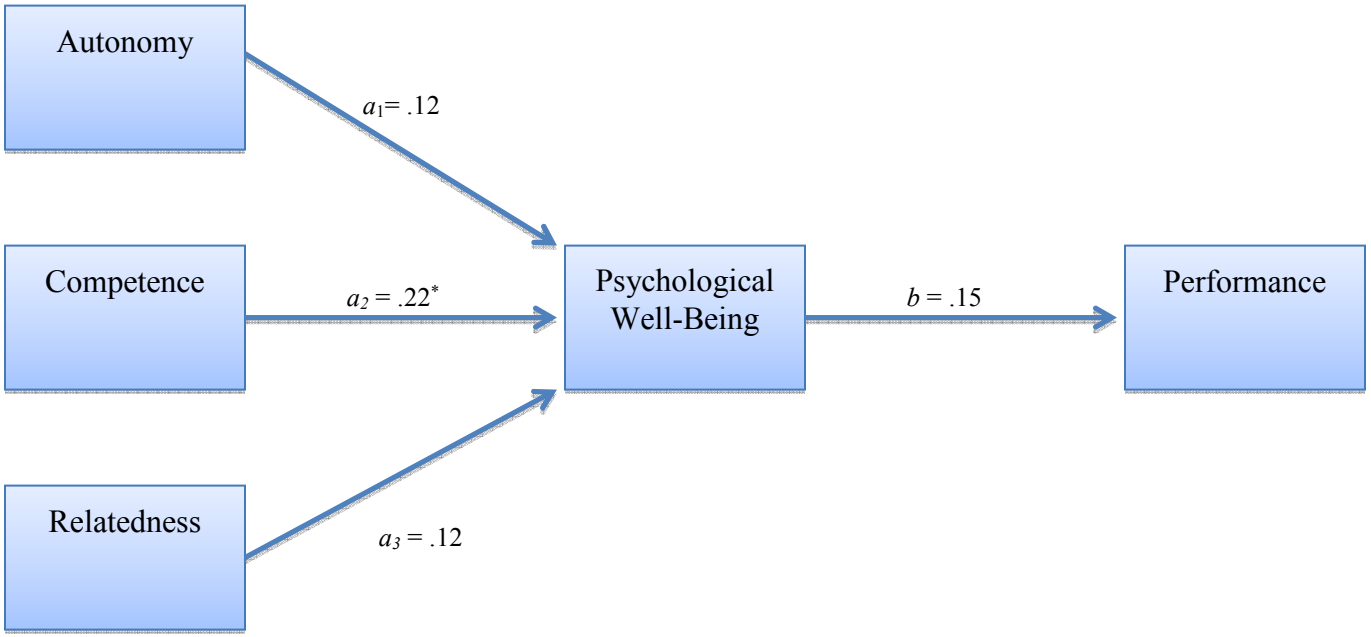

Figure 3. Mediation test of the relationships between autonomy, competence, and relatedness and performance through psychological well-being. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 2

Direct Positive Relationships

	Psychological Well-Being				Performance			
			95% BC CI				95% BC CI	
Variables	*B*	*SE*	*LL*	*UL*	*B*	*SE*	*LL*	*UL*
Autonomy (a_1, *c'*)	0.12	0.07	-0.022	0.265	0.25	0.16	-0.072	0.575
Total effect (c)	--	--	--	--	0.27	0.16	-0.049	0.588
Indirect effect	--	--	--	--	0.02	0.03	-0.023	0.122
Competence (a_2, *c'*)	0.22*	0.10	0.031	0.413	0.07	0.22	-0.367	0.502
Total effect (c)	--	--	--	--	0.10	0.21	-0.322	0.522
Indirect effect	--	--	--	--	0.03	0.05	-0.062	0.154
Relatedness (a_3, *c'*)	0.12	0.08	-0.042	0.281	0.26	0.18	-0.103	0.621
Total effect (c)	--	--	--	--	0.28	0.18	-0.081	0.633
Indirect effect	--	--	--	--	0.02	0.03	-0.029	0.125
	$R^2 = 0.247$ $F(3, 99) = 10.85$, $p < .001$				$R^2 = 0.140$ $F(4, 98) = 3.98$, $p < .01$			

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

All indirect effects were assessed using bias-corrected bootstrapping and confidence intervals set at 95%. As shown in Table 2, all of the confidence intervals for the indirect effects of autonomy, *b* = .02, BC CI [-.023, .122], competence, *b* = .03, BC CI [-.062, .154], and relatedness, *b* = .02, BC CI [-.029, .125] on performance through psychological well-being contained zero and, therefore, were not statistically significant. There is no evidence that

autonomy, competence, and relatedness individually influence performance through psychological well-being. Thus, Hypothesis H_a4 was not supported.

Fifth Research Question

Hypothesis H_a5 stated that autonomy, competence, and relatedness would mediate the relationship between PsyCap and psychological wellbeing. To test Hypothesis H_a5, the Hayes (2013) PROCESS SPSS macro was used.

Findings. Results of a multiple mediation analysis using ordinary least squares (OLS) path analysis showed that PsyCap indirectly influenced psychological well-being through autonomy, competence, and relatedness. As shown in Figure 4 and Table 3, PsyCap had a direct positive relationship with autonomy, a_1 = .82, BC CI [.564, 1.082], competence, a_2 = .69, BC CI [.499, .883], and relatedness (a_3 = .50, BC CI [.231, .773]. Relationships between autonomy, b_1 = .03, BC CI [-.121, .172], competence, b_2= .06, BC CI [-.139, .264], and relatedness, b_3 = .15, BC CI [-.002, .306] and psychological well-being were direct and positive. The total effect of PsyCap on psychological well-being was positive, c = .55, BC CI [.370, .723], and the direct effect of PsyCap on psychological well-being was also positive, c' = .41, BC CI [.180, .632].

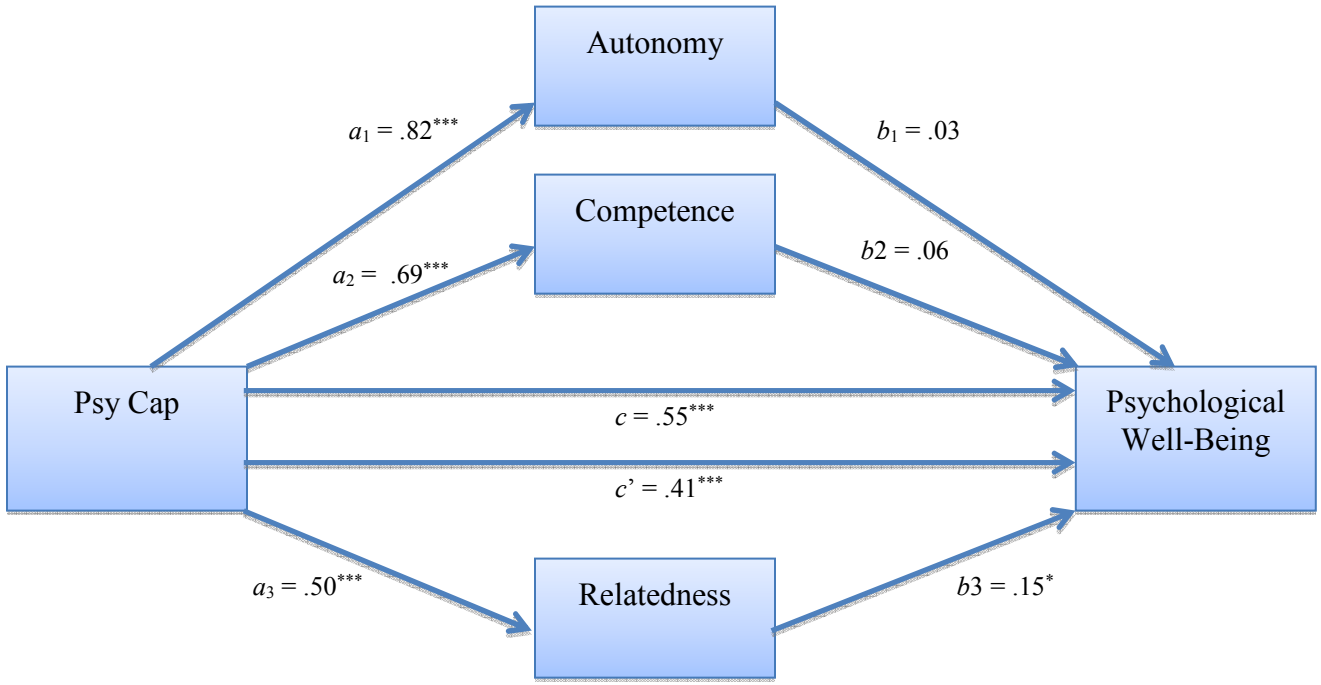

Figure 4. Mediation test of the relationship between PsyCap and psychological well-being through need satisfaction. $^{*}p \leq .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 3

Results Testing the Mediating Effect of Autonomy, Competence, and Relatedness on PsyCap and Psychological Wellbeing (N = 103)

	Autonomy				Competence				Relatedness				Psychological Wellbeing			
			95% BC CI				95% BC CI				95% BC CI				95% BC CI	
Variables	*B*	*SE*	*LL*	*UL*	*B*	*SE*	*LL*	*UL*	*B*	*SE*	*LL*	*UL*	*B*	*SE*	*LL*	*UL*
PsyCap	0.82***	0.13	0.564	1.082	0.69***	0.10	0.499	0.883	0.50***	0.14	0.231	0.773	0.41***	0.11	0.180	0.62
Autonomy	--	--			--	--			--	--			0.03	0.07	-0.121	.172
Competence	--	--			--	--			--	--			0.06	0.10	-0.139	.264
Relatedness	--	--			--	--			--	--			0.15*	0.08	-0.002	.306
		R^2 = .282 $F(1, 101) = 39.63$, $p < .001$				R^2 = .336 $F(1, 101) = 51.12$, $p < .001$				R^2 = .118 $F(1, 101) = 13.48$, $p < .001$				R^2 = .334 $F(4, 98) = 12.26$, $p < .001$		

Note. BC CI, bias-corrected confidence interval; LL, lower-level; UL, upper-level; $^{*}p \leq .05$. $^{**}p < .01$. $^{***}p < .001$.

All indirect effects were assessed using bias-corrected bootstrapping and confidence intervals set at 95%. As shown in Table 4, the confidence interval for the total indirect effect ($a_1b_1 + a_2b_2 + a_3b_3$) of PsyCap on psychological well-being through autonomy, competence, and relatedness was entirely above zero, $b = .14$, BC CI [.014, .297] and, therefore, statistically significant. Relative to the direct effect ($c' = .41$), the total indirect effect size is small (.14).

Table 4

Bootstrapped Point Estimates and Bias-Corrected Confidence Intervals for the Total and Specific Indirect Effects of PsyCap on Psychological Well-Being Through Need Satisfaction (N = 103)

	Product of ab coefficients		BC 95% CI	
Variables	*B*	*SE*	*Lower*	*Upper*
Total Indirect Effect	0.14*	0.07	0.014	0.297
Autonomy	0.02	0.06	-0.100	0.147
Competence	0.04	0.07	-0.086	0.182
Relatedness	0.08*	0.04	0.011	0.182

Note. * Statistically significant, BC CI is entirely above zero.

As Table 4 shows, the confidence intervals for the indirect effects of PsyCap on psychological well-being through autonomy, $b = .02$, BC CI [-.100, .147] and competence, $b = .04$, BC CI [-.086, .182] contained zero and, therefore, were not statistically significant. The confidence intervals for the total indirect effect of PsyCap on psychological well-being through autonomy, competence, and relatedness b = .14, BC CI [.014, .297] and the specific indirect effect of PsyCap on psychological well-being

through relatedness, b = .08, BC CI [.011, .182], however, was entirely above zero and, thus, was statistically significant. These results combined provide only partial support for the hypothesis that the relationship between PsyCap and psychological well-being is mediated by basic psychological need satisfaction. Specifically, only relatedness was found to operate as a partial mediator of the relationship between PsyCap and psychological well-being.

Additional Analysis

Because psychological wellbeing did not significantly mediate the relationship between need satisfaction and performance, an additional mediation analysis was conducted. Specifically, the mediating effects of autonomy, competence, and relatedness on the relationship between PsyCap and performance was assessed.

Findings

Results of a multiple mediation analysis using ordinary least squares (OLS) path analysis showed that PsyCap indirectly influenced performance through autonomy, competence, and relatedness. As shown in Figure 1 and Table 1, PsyCap had a direct positive relationship with autonomy, a_1 = .82, BC CI [.564, .083], competence, a_2 = .69, BC CI [.499, .883], and relatedness, a_3 = .50, BC CI [.231, .773]. Relationships between autonomy, b_1 = .11, BC CI [-.221, .444], competence, b_2 = -.16, BC CI [-.619, .296], and relatedness, b_3 = .33, BC CI [-.019, .680] and performance were direct and positive. The total effect of PsyCap on performance was positive and direct, c = .81, BC CI [.416, 1.208], and the direct effect of PsyCap on performance was also direct and positive, c' = .67, BC CI [.151, 1.180].

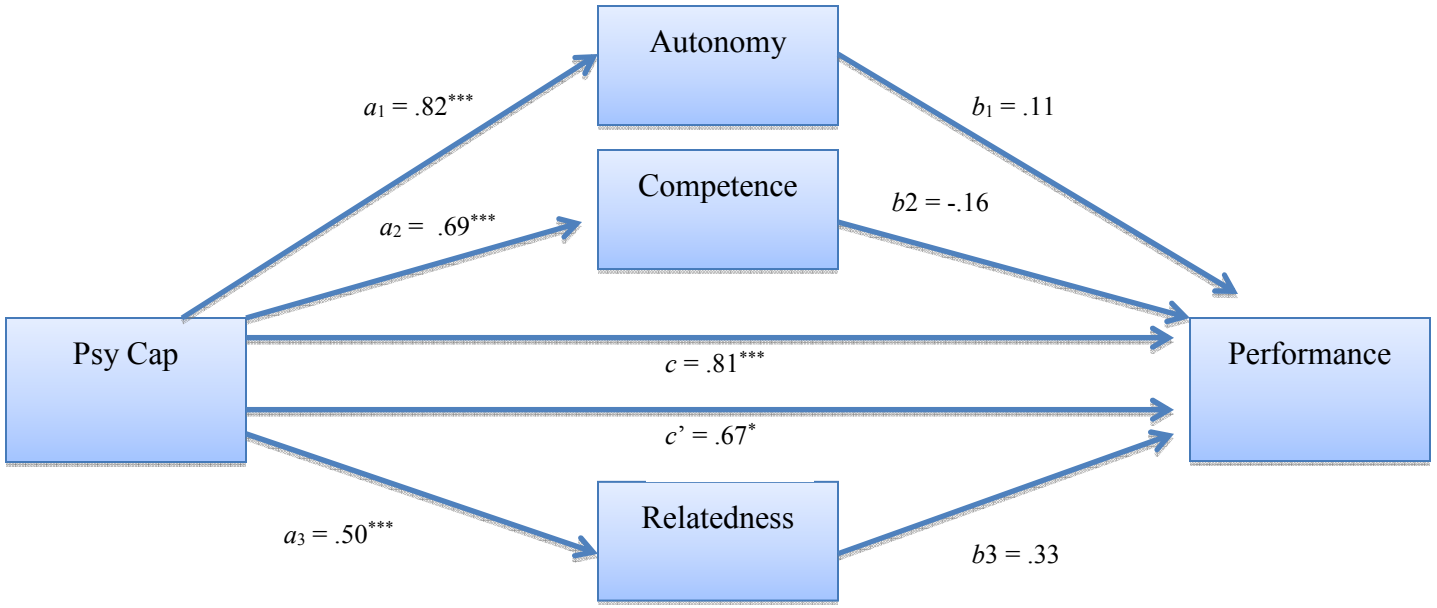

Figure 5. Mediation test of the relationship between PsyCap and performance through need satisfaction. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 5

Results Testing the Mediating Effect of Autonomy, Competence, and Relatedness on PsyCap and Performance (N = 103)

	Autonomy				Competence				Relatedness				Performance			
			95% BC CI				95% BC CI				95% BC CI				95% BC CI	
Variables	*B*	*SE*	*LL*	*UL*	*B*	*SE*	*LL*	*UL*	*B*	*SE*	*LL*	*UL*	*B*	*SE*	*LL*	*UL*
PsyCap	0.82***	0.13	0.564	1.082	0.69***	0.10	0.499	0.883	0.50***	0.14	0.231	0.773	0.67*	0.26	0.151	1.180
Autonomy	--	--			--	--			--	--			0.11	0.17	-0.221	0.444
Competence	--	--			--	--			--	--			-0.16	0.23	-0.619	0.296
Relatedness	--	--			--	--			--	--			0.33	0.18	-0.019	0.680
		$R^2 = 0.282$ $F(1, 101) = 39.63$, $p < .001$				$R^2 = 0.336$ $F(1, 101) = 51.12$, $p < .001$				$R^2 = 0.118$ $F(1, 101) = 13.48$, $p < .001$				$R^2 = 0.191$ $F(4, 98) = 5.77$, $p < .001$		

Note. BC CI, bias-corrected confidence interval; LL, lower-level; UL, upper-level; $p < .05$. $^{**}p < .01$. $^{***}p < .001$.

All indirect effects were assessed using bias-corrected bootstrapping and confidence intervals set at 95%. The confidence interval for the total indirect effect ($a_1b_1 + a_2b_2 + a_3b_3$) of PsyCap on performance through autonomy, competence, and relatedness contained zero, $b = .15$, BC CI [-.184, .513] and, therefore, was not statistically significant. The confidence intervals for the total indirect effect of PsyCap on performance through autonomy, competence, and relatedness b = .15, BC CI [-.184, .513] and the specific indirect effects of PsyCap on performance through autonomy, $b = .09$, BC CI [-.161, .378] and competence, $b = -.11$, BC CI [-.423, .194] contained zero and, thus, were not statistically significant. The confidence interval for the indirect effect of PsyCap on performance through relatedness, $b = .17$, BC CI [.014, .407], however, was entirely above zero and, therefore, was statistically significant. These results show partial support for the hypothesis that the relationship between PsyCap and performance is mediated by basic psychological need satisfaction. Specifically, although the total indirect for autonomy, competence, and relatedness and the specific indirect effects for autonomy and competence were not statistically significant, these results indicated that PsyCap did partially influence performance through perceived relatedness.

Table 6

Bootstrapped Point Estimates and Bias-Corrected Confidence Intervals for the Total and Specific Indirect Effects of PsyCap on Performance Through Need Satisfaction (N = 103)

Variables	Product of ab coefficients		BC 95% CI	
	B	*SE*	*Lower*	*Upper*
Total Indirect Effect	0.14	0.18	-0.184	0.513
Autonomy	0.09	0.13	-0.161	0.378
Competence	-0.11	0.15	-0.423	0.194
Relatedness	0.17*	0.10	0.014	0.407

* Statistically significant, BC CI is entirely above zero.

Conclusion

In Chapter 4, data collection, data analysis, and the results of the study were presented. In Chapter 5, those results will be explained and their implications discussed, limitations to the study will be examined, and directions for future research will be explored.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

Independent workers make up just over 10% of the U.S. workforce (Bureau of Labor Statistics, 2011) and face unique challenges that impact their levels of success in important ways. Because of the nature of the entertainment industry, most individuals working in this industry are considered independent workers (Jeffri et al., 2011). These individuals move from job to job, sometimes on a daily basis, and exist without the regularity of pay and benefits afforded to the majority of individuals employed full-time. To date, very few researchers have explored psychological factors contributing to the performance of independent workers, and none of that research has specifically targeted actors and stunt people. This chapter contains an interpretation of the findings described in Chapter 4 and a discussion of the theoretical and practical implications of those findings in light of their application to independent workers employed as actors and stunt people. As well, limitations to the present research are presented and recommendations for future research are posited.

The purpose of this study was to explore possible predictors of actor's and stunt people's levels of psychological well-being and performance. Specifically, I examined the relationships among PsyCap, autonomy, competence, relatedness, psychological well-being, and performance; the possible mediating effect of psychological well-being on the relationship between need satisfaction (i.e., autonomy, competence, and relatedness) and performance; and the possible mediating effect of need satisfaction (autonomy, competence, and relatedness) on the relationship between PsyCap and psychological

well-being. In doing so, my study addressed a need voiced by PsyCap researchers for the identification of potential mechanisms through which PsyCap influences psychological well-being and performance (Avey et al., 2011; Peterson et al., 2011).

H_a1 stated that positive relationships between PsyCap and need satisfaction, psychological well-being, and performance would exist. There were positive correlations between PsyCap and autonomy, competence, relatedness; psychological well-being; and performance. These findings supported H_a1.

H_a2 stated that positive relationships between need satisfaction and psychological well-being and performance would exist. There were positive correlations between the perceived satisfaction of autonomy, competence, and relatedness and psychological well-being and performance. These findings supported H_a2.

H_a3 stated that a positive relationship between psychological well-being and performance would exist. There was a positive correlation between psychological well-being and performance. This finding supported H_a3.

H_a4 stated that psychological well-being would mediate the relationship between need satisfaction and performance. H_a4 was not supported: The relationships between the need satisfaction variables and performance were not mediated by psychological well-being.

H_a5 stated that autonomy, competence, and relatedness would mediate the relationship between PsyCap and psychological wellbeing. Although there was a statistically significant total indirect effect of PsyCap on psychological well-being through autonomy, competence, and relatedness, the direct effect remained statistically

significant suggesting that need satisfaction only partially mediated the relationship between PsyCap and psychological well-being. When examined individually, only relatedness individually functioned as a statistically significant mediating variable. These findings only partially supported H_a5.

An additional analysis that examined possible indirect effects of PsyCap on performance through basic psychological need satisfaction yielded mixed results as well. There was no evidence for a total indirect effect of PsyCap on performance through autonomy, competence, and relatedness. However, there was a specific indirect effect of PsyCap on performance through relatedness.

Interpretation

As expected, and consistent with prior research, PsyCap positively correlated with both performance and psychological well-being. PsyCap also positively correlated with autonomy, competence, and relatedness. This means that as actors' and stunt people's levels of PsyCap increased, so did their levels of basic psychological need satisfaction, psychological well-being, and performance.

The relationships between PsyCap and both psychological well-being and performance can be understood through the predictions of conservation of resources theory (Hobfoll, 2001). According to Hobfoll (2001), resources were defined as "those objects, personal characteristics, conditions, or energies that are valued in their own right, or that are valued because they act as conduits to the achievement or protection of valued resources" (p. 339). Hobfoll argued that these resources often aggregate and tend to co-occur. PsyCap is a higher-order construct, the core constructs of which are purported to

co-occur in the manner described by Hobfoll. That is, self-efficacy, hope, resilience, and optimism are considered to be psychological resources and are posited to combine synergistically to form the psychological resource PsyCap (Hobfoll, 2002; Luthans, Avey, et al., 2007; Luthans et al., 2007, 2015).

According to Hobfoll's (2001) conservation of resources theory, individuals with a greater number of resources have lower levels of stress than individuals with fewer resources. Therefore, increases in PsyCap should reduce stress (Hobfoll, 2001) and increase psychological well-being (Elliot, Thrash, & Murayama, 2011). Conservation of resources theory also posits that individuals with a large number of resources at their disposal are likely to be more effective than individuals with fewer resources (Hobfoll, 2001, 2002). Therefore, individuals who score high on PsyCap should be expected to demonstrate higher levels of performance than individuals with low scores on PsyCap.

PsyCap also correlated positively with individuals' perceptions that they were acting of their own volition (autonomy), effective in their work pursuits (competence), and valued and accepted by their work peers (relatedness). Deci and Ryan (2000) stated that "natural processes such as…movement toward well-being are theorized to operate optimally only to the extent that the individual has sufficient inner resources to find or construct the necessary nourishment" (p. 229). It logically follows that PsyCap might function as a type of inner resource referred to by Deci and Ryan. Consequently, I hypothesized that PsyCap co-occurs with need satisfaction. Therefore, the positive correlations found between PsyCap and the perceived satisfaction of autonomy, competence, and relatedness make sense.

Also consistent with theory and prior research, there were positive correlations between the perceived satisfaction of the basic psychological needs of autonomy, competence, and relatedness and both psychological well-being and performance (Baard et al., 2004; Deci & Ryan, 2000; Gagne et al., 2003; Reis et al., 2000). The correlations between the satisfaction of autonomy, competence, and relatedness and both psychological well-being and performance mean that the more actors and stunt people perceived themselves to be acting autonomously, effective in their actions, and accepted and valued members of a group, the higher their levels of psychological well-being and performance.

Self-determination theory posits that the satisfaction of basic psychological needs is essential for psychological well-being (Deci & Ryan, 2000), and the positive correlations between the perceived satisfaction of autonomy, competence, and relatedness and psychological well-being support that assertion. Further, self-determination theory predicts that the satisfaction of autonomy, competence, and relatedness will foster the connection of individuals' behavior to their values, which leads to more autonomous forms of regulation (i.e., integrated and identified regulation) than controlled (i.e., external and introjected regulation; Deci & Ryan, 2000; Ryan & Deci, 2007). Past research has shown that autonomous regulation, such as integrated and identified regulation, positively predict performance (Burton et al., 2006; De Naeghel, Van Keer, Vansteenkiste, & Rosseel, 2012; Langdon, Webster, & Monsma, 2014). Therefore, although my study did not assess internalization or autonomous versus controlled regulation, the positive relationships found between autonomy, competence, and

relatedness and performance were consistent with self-determination theory and previous findings.

As predicted by broaden-and-build theory (Fredrickson, 1998, 2001), there was a positive correlation between psychological well-being and performance. Broaden-and-build theory posits that as psychological well-being increases, so do individual resources and cognitive processing capabilities, which then lead to performance improvements. The findings of my study were in line with both the predictions of broaden-and-build theory and with researchers who have reported positive correlations between psychological well-being and performance on various tasks (Amabile et al, 2005; Fredrickson & Brannigan, 2005; Lyubomirsky et al., 2005). That is, results of my study showed that as actors' and stunt people's levels of psychological well-being increased, so did their levels of performance.

H_a4 stated that psychological well-being would mediate the relationship between basic psychological need satisfaction and performance. The results from this study, however, did not support that hypothesis. That is, changes in performance resulting from need satisfaction could not be explained by changes in psychological well-being.

These findings were unexpected given the tenets of self-determination theory (Deci & Ryan, 2000) and broaden-and-build theory (Fredrickson, 1998, 2001). Deci and Ryan (2000) argued that the perceived satisfaction of autonomy, competence, and relatedness leads to psychological well-being, and prior research has supported this assertion (Baard et al., 2004; Gagne et al., 2003). Fredrickson (1998, 2001) argued that positive effect, a key component of most definitions of psychological well-being (Diener,

1994; Diener et al., 1999), leads to better performance, and prior research has supported this assertion (Amabile et al., 2005; Lyubomirsky et al., 2005). Therefore, it stood to reason that H_a4, a combination of the assertions of self-determination theory and broaden-and-build theory whereby need satisfaction would predict psychological well-being, which would, in turn, predict performance, would be supported. However, H_a4 was not supported. Results from my research showed support for self-determination theory in that autonomy, competence, and relatedness were positively correlated with psychological well-being and for broaden-and-build theory in that psychological well-being was positively correlated with performance, but my results indicated that psychological well-being did not mediate the relationship between need satisfaction and performance.

H_a5 predicted that the satisfaction of autonomy, competence, and relatedness would mediate the relationship between PsyCap and psychological well-being. A follow-up analysis was also conducted in which performance was substituted for psychological well-being as the dependent variable. Results of those two analyses were similar and will, therefore, be discussed here together. Past research has consistently shown a positive relationship between PsyCap and psychological well-being (Avey et al., 2011), and the current research replicated those findings. Results from the current study, however, provided only limited support for the contention that the relationship between PsyCap and psychological well-being is mediated by the satisfaction of autonomy, competence, and relatedness. Although there was a statistically significant total indirect effect of PsyCap on psychological well-being through need satisfaction, the effect-size was small,

and the direct effect of PsyCap on psychological well-being remained statistically significant. Moreover, the only statistically significant specific indirect effect of PsyCap on psychological well-being and performance through the satisfaction of the three basic psychological needs was through the satisfaction of relatedness. This means that the relationships between PsyCap and both performance and psychological well-being were primarily direct; however, a small portion of the variance in both psychological well-being and performance accounted for by PsyCap can be explained by the effect PsyCap had on individuals' perceptions of acceptance and inclusion in a social group. This mediating effect of relatedness is consistent with the predictions of PsyCap theorists (Luthans et al., 2015) and with both conservation of resources theory and self-determination theory.

Notably, the failure to find indirect effects of PsyCap on psychological well-being and performance through autonomy and competence was a surprise. One possible reason why mediating effects of autonomy and competence on the relationship between PsyCap and psychological well-being and performance were not found is that PsyCap, autonomy, and competence shared a portion of the explained variance in psychological well-being and performance. PsyCap correlated strongly with both autonomy ($r = .53$, $p < .001$) and competence ($r = .58$, $p < .001$), meaning that PsyCap shared 28% of the variance accounted for in psychological well-being with autonomy and 34% with competence. Although that still leaves a substantial amount of variance unexplained, the variance shared by PsyCap, autonomy, and competence may have been substantial enough to reduce the ability to detect statistically significant mediating effects. It makes sense that

the interpersonal nature of perceived relatedness would mediate the relationships between PsyCap and both performance and psychological well-being given the strong individualistic nature of PsyCap, autonomy, and competence. Moreover, the correlation between PsyCap and relatedness was substantially lower ($r = .34$, $p < .001$) than the correlations between PsyCap and autonomy and between PsyCap and competence. Therefore, there was only 12% of variance shared by PsyCap and relatedness. Aside from the statistical reason described above, there are also several possible theoretical reasons why autonomy and competence did not mediate the relationship between PsyCap and psychological well-being and performance. Some of these reasons include the following: (a) The way in which performance was defined, (b) the possibility that PsyCap may mediate the relationship between need satisfaction and psychological well-being and performance, and (c) the possibility that the relationships among PsyCap, need satisfaction, psychological well-being, and performance may be more complex than proposed and tested in my study. Along with the above mentioned discussions, the theoretical implications of the mediation effects of perceived relatedness on the relationships between PsyCap and psychological well-being and performance and the implications of my results to the development of both broaden-and-build theory and PsyCap will be presented in the next section.

Implications Arising From the Model

Four questions were posed and answered in this section. First, the question of whether or not need satisfaction mediated the relationships between PsyCap and performance and psychological well-being will be discussed. Next, whether or not

PsyCap mediated the relationships between need satisfaction and psychological well-being and performance will be addressed. Then, potential moderating effects of PsyCap on the relationship between environmental conditions and need satisfaction will be considered. Finally, the possibility that the relationships among these variables are reciprocal will be fleshed out.

As mentioned above, one of the major theoretical implications of this study is that the satisfaction of basic psychological needs did not appear to be a primary mechanism through which PsyCap affected psychological well-being or performance. Although perceived relatedness functioned as a partial mediator, the direct effect of PsyCap on psychological well-being and performance remained statistically significant. Further, autonomy and competence did not mediate the relationship between PsyCap and psychological well-being and performance. These findings suggest that an alternative order of the constructs in the model, or a different model all together, might better explain the relationships among the variables.

One possibility is that PsyCap might mediate the relationship between need satisfaction and psychological well-being. Results of my study showed a statistically significant main effect of the basic psychological needs on both psychological well-being and performance. When PsyCap was subsequently added to the regression model, the main effect was still statistically significant; however, the variance accounted for dropped. This suggests that PsyCap may actually have been mediating the relationships between need satisfaction and psychological well-being and performance.

Another possibility is that PsyCap functioned as a moderator of the relationship between how people perceive their environment and need satisfaction. Perceived need satisfaction has been shown to be influenced by how people perceive their environments; autonomy supportive environments lead to higher levels of need satisfaction than controlling environments (Cheon et al., 2012; Kipp & Weiss, 2015; Reeve et al., 2014). However, Deci and Ryan (2000) argued that need satisfaction is also a function of "inner resources" (p. 229). Assuming that PsyCap functions as one of the 'inner resources" referred to by Deci and Ryan (2000), it is possible that the PsyCap resource moderates the relationship between environmental conditions and need satisfaction. That is, it is possible that the strength of the relationship between autonomy supportive environments and need satisfaction is a function of the availability of individual resources like PsyCap.

Graham et al. (2011) found that the availability of recreational resources that facilitated exercise behavior (i.e. proximity to bike trails, gyms, and parks) moderated the relationship between social support and physical activity. Kiviruus et al. (2013) found that psychological resources such as self-esteem, meaningfulness, and locus of control moderated the relationship between socio-economic status and physical health. McDougall and Drummond (2010) found that personal resources (e.g. self-care, coping skills) moderated the relationship between work stress (e.g. role clarity, work-load) and psychological distress (e.g. depression, anxiety, and stress) in a sample of Australian submariners. Therefore, it is possible that the extent to which environmental factors contribute to need satisfaction depends on the availability of various resources.

Finally, it is possible that the relationships among PsyCap, need satisfaction, psychological well-being, and performance are much more complex than was proposed in my study. Deci and Ryan (2000) stated that need satisfaction is a precursor for psychological well-being. Therefore, as discussed above, because it is possible that PsyCap functions as one of the "inner resources" (p. 229) described by Deci and Ryan for need satisfaction to occur and, PsyCap might actually moderate the relationships between individuals' perceptions of their environments and need satisfaction. In turn, the satisfaction of the basic psychological needs should lead to psychological well-being (Deci & Ryan, 2000) and a subsequent increase in psychological resources (Fredrickson, 1998, 2001) such as PsyCap. This type of upward spiral with relation to resources has been demonstrated both theoretically (Fredrickson, 1998, 2001; Salanova, Schaufeli, Xanthopoulou, & Bakker, 2010) and empirically (Amabile et al., 2005; Fredrickson & Joiner, 2002).

Broaden-and-build theory posits that the presence of positive emotions leads to an increase in intellectual, social, physical, and psychological resources. This increase in available resources results in an upward spiral effect whereby positive emotions enhance available resources, which increase experiences of positive emotions, which then bolster resources. For example, results from a study by Fredrickson and Joiner (2002) showed that positive emotions predicted broadened cognition, as measured by the Cognitive Analysis subscale of the Coping Responses Inventory (CRI: Moos, 1988), which subsequently predicted increases in positive emotion. Similarly, Amabile and colleagues

(2005) used a mixed-methodology research design to show that positive affect predicted creativity which then led to increases in positive affect.

In addition to the relationship between need satisfaction and PsyCap described above, there may also be a more complex relationship between PsyCap and psychological well-being. As discussed above, broaden-and-build theory predicts that the positive emotions that characterize psychological well-being (Diener, 1994) will lead to an increase in available resources on which individuals can draw (Fredrickson, 1998, 2001). Therefore, it stands to reason that psychological well-being may lead to increases in PsyCap. Research has also shown that there is a reciprocal influence between positive emotions and increased psychological resources such as creativity whereby positive affect leads to higher levels of creativity which leads to positive affect (Amabile et al., 2005; Fredrickson & Joiner, 2002). Therefore, it also stands to reason that increases in PsyCap might result in higher levels of psychological well-being, an effect supported by the results of my research, which would then lead to higher levels of PsyCap.

As discussed by the last several paragraphs, the proposed and tested model for the relationships among PsyCap, need satisfaction, psychological well-being, and performance is simply one of many that have theoretical and empirical merit. Researchers should consider the complexity described above when deciding on research protocols designed to elucidate the relationships among these variables. For example, a longitudinal within- and between-subjects mixed-methods design in which both quantitative and qualitative data are gathered at several different points in time would better clarify the causal or reciprocal effects of the variables.

Broaden-and-Build Theory

Another potential theoretical implication is that the type of work that was studied may impact the extent to which psychological well-being influences performance. Fredrickson's (1998, 2001) broaden-and-build theory predicts that the positive emotions associated with psychological well-being lead to the expansion of cognitive abilities and functioning and the growth and development of various physical, social, psychological, and intellectual resources. This "broadening" of cognitive processing and "building" of resources is posited to ultimately result in performance increases, and past research has supported this prediction with results indicating positive relationships between psychological well-being and performance (Barsade, 2002; Cropanzano & Wright, 1999; Wright & Staw, 1999; Lyubomirsky et al., 2005). The question is, however, whether or not the positive emotions that are an integral aspect of psychological well-being predict performance if that performance involves rote or automatic tasks. For the purposes of the present study, the term "work" referred to any behaviors that contributed to gaining or sustaining employment as an actor or stunt person (e.g. auditioning, sending out pictures, training) as well as behaviors directly related to jobs on the set (i.e. acting or stunt performances while on an acting or stunt contract). This definition of work includes many aspects of job-related behavior that might be considered to be rote or automatic, and although these behaviors might be vital for success as an actor or stunt person, they also may require little in the way of creativity or critical thinking (Halpern, 2007; Smith, 2003).

Research grounded in broaden-and-build theory has consistently shown relationships between positive emotions and broadened cognitive and attentional capacities (Fredrickson & Brannigan, 2005) and creativity (Amabile et al., 2005; George & Zhou, 2007). Researchers examining those relationships in work settings, however, have consistently ensured that opportunities for creativity existed for the research participants. For example, Amabile et al. (2005) examined the relationship between positive and negative affect and creativity. These authors stated that, "participants were selected only if creativity was a possible and desirable outcome of their team's project" (p. 376). Similarly, prior to examining the relationships between positive and negative affect and creativity, George and Zhou (2007) "had discussions with managers and other employees to determine that creativity and the other variables measured were relevant in this organization" (p. 610). Therefore, future research might examine whether or not the extent to which work-related tasks require creativity and higher-order critical thinking moderated the relationship between psychological well-being and work performance.

PsyCap

Finally, based on the indirect effect of PsyCap on both performance and psychological well-being through relatedness, researchers might want to take a look at the PsyCap construct and determine whether or not more socially-oriented constructs meet the criteria for inclusion. Luthans and colleagues (2015) argued that PsyCap should be considered a dynamic construct, and they discussed several constructs that may one day warrant inclusion in PsyCap. Some of the constructs these authors presented are individual in nature (e.g. creativity, mindfulness) and are characterized primarily by

internal processes; while other constructs are relational in nature (e.g. gratitude, forgiveness, emotional intelligence) and are characterized by relationships with others. Given the importance of relatedness, defined in terms of how an individual perceives his or her relationship among others in a group (Deci & Ryan, 2000), in understanding how PsyCap predicts performance and psychological well-being, more extensive exploration into the viability of including these socially-focused resources under the umbrella of PsyCap seems warranted.

Future research should first determine whether, in fact, other constructs warrant inclusion in the higher-order construct PsyCap and, if so, reexamine the relationships among PsyCap, the perceived satisfaction of autonomy, competence, relatedness; psychological well-being; and performance. In other words, if it was decided that one or more of the relational constructs mentioned above, emotional intelligence for example, met the criteria for inclusion in PsyCap, it is possible that the roles of autonomy, competence, and relatedness in the relationships between PsyCap and performance and psychological well-being might be different.

Future research should examine additional mechanisms through which PsyCap affects both psychological well-being and performance. The current research showed that PsyCap influenced psychological well-being and performance, at least in part, through its influence on perceived relatedness, a social, interpersonal construct. The indirect effect was small, though, and the direct effect of PsyCap on performance and psychological well-being remained statistically significant, which suggests that other mediators might

be present (Hayes, 2013). For example, for the reasons discussed below, one construct ripe for exploration might be social capital.

Social capital refers to prospective and actual social networks of individuals or groups joined by business and social interactions (Nakamura & Yorks, 2011). Social capital has been shown to influence performance in a multitude of organizational settings including information technology (Mu, Peng, & Love, 2008), manufacturing (Somaya, Williamson, & Lorinkava, 2008), and banking firms (Burt, 2007). High social capital can increase individuals' access to relevant, high-quality information that is obtained with less effort and in less time than if the individual had low social capital.

Given the positive relationships between perceived relatedness and both performance and psychological well-being found in the present study and in other studies (Baard et al., 2006; Gagne et al., 2003; Kovjanick et al., 2012) and given the relationships between social capital and both performance and psychological well-being reported by other researchers (Burt, 2007; Mu, Peng, & Love, 2008; Nakamura & York, 2011; Nyqvist, Forsman, Giuntoli, & Cattan, 2013), future research should examine whether or not a relationship exists between perceived relatedness and social capital and, if so, whether social capital might function as an antecedent or consequence of perceived relatedness. For example, it is possible that individuals who perceive their need for relatedness to be met engage more freely with those in their social networks than individuals whose need for relatedness has not been met. This increase in individuals' business and social interactions might increase their social capital, which may then lead to better performance and higher levels of psychological well-being. It is also possible

that consistent interactions with business associates and peers increase levels of individuals' social capital (Nakamura & York, 2011), which contributes to the satisfaction of individuals' need for relatedness which, in turn, results in better performance and higher levels of psychological well-being.

Recent research has provided support for the latter possibility. Beachboard et al. (2011) found that perceived relatedness mediated the relationship between learning community participation and educational outcomes (i.e. academic development, job preparation) in students at four-year universities. Additionally, Chen and Jang (2010) showed that learning environments were related to student performance and psychological well-being and that perceived relatedness mediated this relationship, whereas Sheldon and Filak (2008) showed that the relationships between relatedness-supportive environments (i.e. environments in which caring, interest in, and acknowledgement of participants' experiences were emphasized) and both positive and negative affect were mediated by perceived relatedness. Finally, Nakamura and Yorks (2011) argued that, "being assured of and recognized for one's worth as an individual and a member of a social group provides not only emotional support but also public acknowledgement of one's claim to certain resources" (p. 229). In other words, perceived relatedness may be fostered by high levels of social capital. Therefore, past research hints that perceived relatedness might mediate the relationships between social capital and psychological well-being and performance, but future research should examine the relationships among these constructs more closely in order to better understand whether and how these constructs influence each other.

If future research results point to social capital functioning as an antecedent to the perceived satisfaction of the need for relatedness, then it is possible that social capital mediates the relationship between PsyCap and relatedness. That is, increases in self-efficacy, hope, optimism, and resilience may lead to the growth and development of social capital. This increase in social capital may then influence the perception of relatedness, which may positively affect levels of performance and psychological well-being. Future research should target the relationships among PsyCap, social capital, and relatedness in an effort to better understand how they may synergistically impact performance and psychological well-being (Luthans et al., 2015).

Practical Applications

Findings from the current study have a number of implications for independent workers, such as actors and stunt people, and the individuals and organizations that support them (i.e. SAG-AFTRA). First, as discussed earlier, years of research on populations around the globe have shown that individuals' perceptions of a need-supportive environment characterized by coaches', teachers, and supervisors' provision of opportunities for choice, rationales for decisions, effective feedback, and authentic acknowledgement of subordinates' feelings and perceptions leads to increases in performance and psychological well-being through the perceived satisfaction of basic psychological needs (Cheon, Reeve, & Moon, 2012; Hardre et al., 2006; Jang, Reeve, Ryan, & Kim, 2009; Lim & Wang, 2009; Reeve et al., 2014; Reeve & Jang, 2006; Vansteenkiste, Simons, Lens, Soenens, & Matos, 2005; Zhou, Ma, & Deci, 2009). Results of my study support the position that interventions targeting the four constructs

that currently make up PsyCap may have effects on psychological well-being and performance that are similar to the effects of interventions designed to foster autonomy supportive environments.

Past research has shown that levels of PsyCap were increased through interventions that included exercises aimed at the development of each of the four constructs that make up PsyCap (Luthans et al., 2006; Luthans et al., 2010; Luthans, Avey, & Patera, 2008). For example, exercises that targeted self-efficacy included aspects of all four factors theorized by Bandura (1977) to contribute to the development and sustainment of self-efficacy. Individuals were encouraged to identify exactly how they planned to achieve their goals and to visualize goal achievement, watch and learn from others' experiences as they worked toward the achievement of their goals, learned to effectively interpret physiological arousal associated with aspects of goal pursuit, and experienced persuasion from facilitators designed to provide encouragement and support. The development of hope (Snyder, 2000) was targeted with exercises designed to increase individuals' desire to achieve their goals (agency) and maximize the number of ways to goal achievement they identified (pathways). To develop resilience (Masten, 2001), participants were guided toward an explicit recognition of relevant resources they had at their disposal (maximizing assets) and the identification of potential obstacles to their goals accompanied by concrete plans for avoiding those obstacles (minimizing risks). Finally, the development of optimism (Seligman,1998) was targeted implicitly through the identification of specific pathways to goal pursuit and explicitly through direct attempts to foster positive expectancies related to goal achievement.

Based on the findings from research on autonomy-supportive behaviors and PsyCap development, organizations (e.g. The Actors Fund, Freelancers Union, SAG-AFTRA) created to provide various types of support for independent workers and foster their personal and professional growth and development have a wide variety of interventions that could prove helpful. For example, these organizations might: (a) Focus independent workers' attention on aspects of their various situations over which they have control (autonomy, optimism); (b) guide independent workers toward the explicit identification of strengths, talents, relationships, and other resources they may have at their disposal (resilience); (c) help independent workers to identify goals; (d) foster their desire to pursue those goals, (e) create multiple, viable pathways leading toward goal achievement (hope, optimism); and (f) provide effective feedback related to independent workers' behavior (self-efficacy; competence). These organizations might also make it a point to acknowledge independent workers' feelings and perceptions (relatedness), provide rationales for suggestions given to their clientele (autonomy), and pair or group independent workers who are in similar situations to allow these individuals to highlight and celebrate each others' successes (self-efficacy, relatedness), persuade each other when motivation and confidence levels wane (self-efficacy, relatedness), and learn from observing the processes and results of each others' efforts (self-efficacy).

Although educating the support personnel in organizations like Actor's Fund, Freelancers Union, and SAG-AFTRA could have a profound impact on the independent workers who seek out their services, independent workers, because they are not consistently employed by any one entity, are not guaranteed to interact with any of the

organizations that provide them with support. As a result, other options for the provision of training for independent workers must be implemented. However, because of the transient nature of the professions, an important challenge is to find viable ways to get independent workers useful information given that they operate independently and that they have no formal organizational structure.

One answer specifically related to actors and stunt people might be to target smaller groups within the acting and stunt communities. For example, there are several organizations within the stunt community (e.g. International Stuntmen's Association, Stunts Unlimited, Stuntmen's Association, Stuntwomen's Association) that are referred to as stunt groups (J. Cadiente, personal communication, June 4, 2015). According to Jeff Cadiente, the stunt coordinator of the television show "Hawaii Five-O" and a veteran stuntman with 30 years of experience, these groups are made up of stunt people who are well-known and well-respected in the stunt industry. These groups have regular meetings that could serve as a forum for a psychology consultant to provide training with regard to psychological factors related to performance and how stunt people might make relevant behavioral and attitudinal change that could impact their levels of performance and psychological well-being. Through the knowledge gained during these training sessions, leaders in the stunt community could begin to implement these changes and influence the other stunt people with whom they interact both professionally and socially. Another option for disseminating potentially beneficial information to actors and stunt people might be to schedule a seminar and publicize it through the performer unions (e.g. SAG-AFTRA), various performer agencies, acting schools, and stunt groups.

As discussed earlier, independent workers face a multitude of challenges including the uncertainty of jobs, no vacation or sick days, last-minute calls for work that torpedo efforts to plan, income-dependent health care, and frequent rejection. These challenges have the potential to shrink actors' and stunt people's levels of confidence, undermine their personal and professional relationships, and cripple their levels of productivity and well-being (Aisbett, 2006; McGann et al., 2012; SAG-AFTRA, 2012). Results from the current research suggest that some skills and techniques independent workers might benefit from learning include: (a) Recognizing and focusing on aspects of their environment that they can control, (b) setting specific goals and generating multiple pathways to goal achievement, (c) identifying their talents, strengths, and other resources and deliberately applying them to the challenges they face; and (d) developing and maintaining a supportive social and professional network. By engaging in these behaviors, independent workers should experience an increase in their available psychological resources and feel like they are accepted and valued members of a group, both of which should heighten their levels of psychological well-being and increase the likelihood that they will consistently perform to their potentials.

Limitations

Several limitations to this study deserve to be discussed. First, although all of the measures used in this study were published measures that have previously demonstrated acceptable reliability, the Subjective Well-Being Short Scale and the autonomy and competence subscales of the Basic Psychological Need Satisfaction at Work scale each demonstrated lower than desirable levels of reliability. Future research should give

special care to the choice and adoption of measures that are very likely to yield valid, reliable results with the populations they study. For example, a more established and better-researched psychological well-being measure, such as the Satisfaction with Life Scale (Pavot & Diener, 1993; Pavot & Diener, 2008; Pavot et al., 1991), might have shown higher levels of Cronbach's alpha. That being said, another reason why the reliability levels of the psychological well-being measure, as well as the autonomy and competence subscales, were lower than in previous studies might be that none of the measures had been validated using actors or stunt people. Future researchers targeting the population of actors and stunt people should seriously consider developing measures that are validated on the acting and stunt populations.

Similarly, the criterion validity for the performance question may have been low. Work performance was defined in terms of any job-related activity to include job search, skill maintenance and development, networking, and actual job duties on set. However, because of the large number of job-related activities actors and stunt people might have been thinking about while answering the performance question on the survey, it is possible that different performances were assessed across the participant pool. Therefore, the definition for performance might have been too broad. It is also possible that the individuals who had time to fill out the questionnaire for this study were not working on shows during the week in question. This would have created systematic bias in types of performances about which participants were thinking when answering the performance question on the survey. Finally, as discussed earlier, broaden-and-build theory posits that performance improvements occur, in part, because of an increased ability to think more

broadly and creatively. However, if the performance tasks about which participants answered did not require broad or creative thinking in order to be successfully completed, then it is possible that the cognitive boost posited by broaden-and-build theory to accompany positive emotions had no impact on their perceived levels of performance.

As discussed earlier, this definition of work may have been too broad and may have resulted in an inaccurate understanding of the how PsyCap, need satisfaction, and psychological well-being impact performance. Future researchers should devise and utilize a more specific measure of work performance for actors and stunt people.

Second, this study utilized a cross-sectional research design. Based on past research findings, it was assumed that PsyCap would influence perceived autonomy, competence, and relatedness, psychological well-being, and performance. It is possible, however, that autonomy, competence, relatedness, psychological well-being, and performance might, in actuality, influence PsyCap. Because of the correlational nature of the statistical methodology, no causation can be inferred from the results of this study. Therefore, future research should adopt a longitudinal approach that allows for the causational order of the constructs to be more accurately understood. For example, a more complex, iterative model where the possibility that PsyCap operates reciprocally as both an antecedent and a consequence of need satisfaction (B. Avolio, personal communication, December 11, 2014) and as an antecedent and a consequence of psychological well-being (Amabile et al., 2005; Fredrickson, 1998, 2001; Fredrickson & Joiner, 2002) might be considered.

Third, this study included no potentially moderating variables. As discussed above, it is possible that there are individual differences (e.g. age, work experience, socio-economic status, etc.) that systematically influence the impact PsyCap has on the perceived satisfaction of autonomy, competence, and relatedness; psychological well-being; and performance. Future researchers should collect and analyze data on moderators in order to better clarify the hypothesized relationships among these variables targeted in this study.

Finally, the sample for this study was made up entirely of working actors and stunt people who were members of a professional union and over the age of 18. Results of this study, therefore, might not generalize to other independent worker populations. Future research should utilize a more heterogeneous sample in order to facilitate the generalization of results to a larger number of individuals.

Conclusion

Results from many research studies support the contention that relationships between PsyCap and both performance and psychological well-being exist across a wide range of full-time work settings and populations (Avey et al., 2011). The purpose of this study was to replicate those results with a sample of independent workers employed as actors and stunt people and to extend previous findings by examining whether or not the perceived satisfaction of the basic psychological needs of autonomy, competence, and relatedness (Deci & Ryan, 2000) mediated the relationships between PsyCap and psychological well-being and between PsyCap and performance. Results from this study showed a small, but statistically significant, total indirect effect of PsyCap on

psychological well-being through autonomy, competence, and relatedness; and a small, but statistically significant, specific indirect effect of PsyCap on performance through perceived relatedness. The centrality of perceived relatedness in both relationships suggests that researchers and practitioners should not discount the importance of social factors, even when focusing primarily on influencing individual constructs like PsyCap, autonomy, competence, well-being, and performance. Using information gained from this study, future researchers can design studies that further elucidate the relationships among these variables, and organizations that provide support for independent workers can design more informed and effective intervention strategies that target the enhanced performance and psychological well-being of the populations they serve.

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Appendix A: Psychological Capital (PsyCap) Questionnaire (PCQ) Self Rater Version

Instructions: Below are statements that describe how you may think about yourself right now. Use the following scale to indicate your level of agreement or disagreement with each statement.

1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Somewhat Agree, 5 = Agree, 6 = Strongly Agree

Sample Items

I feel confident analyzing a long-term problem to find a solution.

Right now I see myself as being pretty successful at work.

At this time, I am meeting the work goals that I have set for myself.

I usually take stressful things at work in stride.

In this job, things never work out the way I want them to.

I approach this job as if every cloud has a silver lining.

Appendix B: Performance

Instructions: Please answer this question using the following scale:

How productive were you in your work role during the past week?

1 = Not Very Productive, 2 = Kind of Productive, 3 = Productive, 4 = Highly Productive,

5 = Exceptionally Productive

Appendix C: Basic Psychological Needs at Work Scale (BPNWS)

The following questions concern your feelings about your job during the last week. Please indicate how true each of the following statements is for you given your experiences on this job. Remember that this questionnaire is anonymous. Please use the following scale in responding to the items.

1 = Not At All True, 2, 3, 4 = Somewhat True, 5, 6, 7 = Very True

I feel like I can make a lot of inputs to deciding how my job gets done.

I really like the people I work with.

I do not feel very competent when I am at work.

People at work tell me I am good at what I do.

I feel pressured at work.

I get along with people at work.

I pretty much keep to myself when I am at work.

I am free to express my ideas and opinions on the job.

I consider the people I work with to be my friends.

I have been able to learn interesting new skills on my job.

When I am work, I have to do what I am told.

Most days I feel a sense of accomplishment from working.

My feelings are taken into consideration at work.

On my job I do not get much of a chance to show how capable I am.

People at work care about me.

There are not many people at work that I am close to.

I feel like I can pretty much be myself at work.

The people I work with do not seem to like me much.

When I am working I often do not feel very capable.

There is not much opportunity for me to decide for myself how to go about my work.

People at work are pretty friendly towards me.

Scoring Information. Form three subscale scores by averaging item responses for each subscale after reverse scoring the items that were worded in the negative direction. Specifically, any item that has ® after it in the code below should be reverse scored by subtracting the person's response from 8. The subscales are:

Autonomy: 1, 5(R), 8, 11(R), 13, 17, 20(R)

Competence: 3(R), 4, 10, 12, 14(R), 19(R)

Relatedness: 2, 6, 7(R), 9, 15, 16(R), 18(R), 21

Appendix D: Subjective Well-Being-Short Scale

Assessment Items

When you think about your life at present, would you say you are mostly satisfied with your life, or mostly dissatisfied?

1 = Extremely Satisfied, 2, 3, 4, 5, 6 = Extremely Dissatisfied

Are you usually happy or dejected?

1 = Dejected, 2, 3, 4, 5 = Happy

Do you mostly feel strong and fit or tired and worn out?

1 = Very Strong and Fit, 2, 3, 4 = Tired and Worn Out

Over the last month, have you suffered from nervousness (felt irritable, anxious, tense, or restless)?

1 = Almost All the Time, 2, 3, 4 = Never