THE INTERACTIVE EFFECT OF PSYCHOLOGICAL CAPITAL AND GENDER ON EMPLOYEE TURNOVER AND PROMOTION WITHIN ENTREPRENEURIAL VENTURES

by

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ABSTRACT

JOHN F. TUDERS. The Interactive Effect of Psychological Capital and Gender on Employee Turnover and Promotion Within Entrepreneurial Ventures
(Under the direction of DR. TORSTEN M. PIEPER & DR. JUSTIN W. WEBB)

Entrepreneurship is drives economic growth and innovation. While research largely focuses on the role of the individual entrepreneur, new venture success also depends on the ability for the entrepreneur to attract and retain employees. The purpose of this study investigates if an applicant expressed Psychological Capital (PsyCap) level could have an impact on employee turnover and/or promotion events within the environment of a new entrepreneurial venture, and how this relationship is moderated by employee gender. This study consists of 174 hired employees over a six-year period of initial growth from a young digital-oriented new venture firm. All behavioral and demographic data was provided to further the research and understanding of how employee PsyCap measurement can help optimize hiring and retaining top talent. Overall, this study's findings offer opportunity to advance the knowledge of PsyCap and the longer-term positive impact it can have on employees within entrepreneurial ventures, and the importance of being exposed to the PsyCap individual measurement as early in the hiring or onboarding timeframe as possible. This study brings three main contributions to the literature. First, this dissertation adds to the minimal stream of research that currently exists at the intersection of human resources and entrepreneurship. Second, this study expands current PsyCap literature by leveraging its usability to understanding entrepreneurial employees. The third contribution comes in expanding the potential use of content text analysis during the hiring process for new ventures.

DEDICATION

This study is dedicated to my wife Lisa, without her unwavering support and sacrifice this work would never have been possible. Thank you to my Lord, for carrying me and instilling in me the Godfidence to finish what you put in my heart. With God anything is possible. I'd also like to thank my children Claudia, Joey, and Vincent for always encouraging and believing in me.

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CHAPTER 1: INTRODUCTION

Delivering on a successful entrepreneurial venture is not easy. If you hire the wrong type of talent as you grow, you could have just solidified failure. Hiring talent with high levels of positive psychological capital (PsyCap), a "composite construct that has been defined as an individual's positive psychological state of development and is characterized by one's Hope, Self-Efficacy, Resilience, and Optimism levels" (Luthans et al., 2007 p. 541), to survive the challenges of a new venture can provide a greater opportunity of positive performance and survival for the new venture (Luthans et al., 2008; Wang et al., 2019). As entrepreneurship continues to be a key driver in facilitating economic recovery and growth, it is the people/team that come after the original entrepreneur that can be a strong predictor for probability of success. From the earliest hiring's, the importance of human resources (HR) to attract and hire the right talent as entrepreneurial ventures begin to grow and gain competitive advantage continues to grow in importance (Burke et al., 2018). Ohio State football coach Bo Schembechler said it best when motivating his players by shouting, "It's all about The Team! The Team! The Team! This dissertation proposes that employee success within an entrepreneurial venture can be positively impacted by an employee's PsyCap. Cross subject research including entrepreneurship, psychology and strategic human resource management are explored.

This study will look to address the following four research questions:

1) Can a new employee's PsyCap level predict turnover within an entrepreneurial venture? 2) Can a new employee's PsyCap level predict job promotion events within an entrepreneurial venture? 3) Does gender moderate the relationship between PsyCap and these two measures of employee success within an entrepreneurial venture? 4) By using the CATA tool and custom

dictionary to measure the PsyCap level through texts' language, can quantitative analyses be conducted based on the rich qualitative resume and cover letter data?

An entrepreneur's PsyCap has been found to explain a significant amount of variance in new venture performance (Hmieleski & Carr, 2008). And although PsyCap research is still emerging, there is clear empirical support of a positive relationship between PsyCap and performance/behavioral/attitudinal outcomes (Avey, Luthans, Smith, & Palmer, 2010; Avey, Wernsing, & Luthans, 2008; Luthans, Norman, Avolio, & Avey, 2008). Recent theory and research have supported PsyCap as an emerging core construct linked to positive outcomes of employee performance (Luthans et al., 2010). PsyCap, has been conceptually identified by Luthans and colleagues (Luthans, 2002; Luthans & Youssef, 2004; Luthans, Youssef, & Avolio, 2007) consisting of four psychological components: hope, self-efficacy, resilience, and optimism. Psychological Capital (PsyCap) is:

> ". . . an individual's positive psychological state of development characterized by: (1) having confidence (efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in or-der to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success" (Luthans, Youssef, & Avolio, 2007, p. 3)

"The four psychological capital dimensions are conceptually independent" (Luthans et al., 2007) and "empirically valid" (Bryant & Cvengros, 2004). Some researchers position the components of PsyCap driving motivation and an effort to be successful which drives individual positive performance (Avey et al., 2011).

Research also suggests the core construct of PsyCap has a greater relationship with employee performance then its four individual psychological states (Luthans et al., 2007). This collective effect of PsyCap is demonstrated again in Luthans and Youssef-Morgan (2017) where "incorporating the coping mechanism" that the four sub-dimensions of PsyCap all share, to motivate and increase job performance. PsyCap has been shown to positively predict work engagement, performance, and job satisfaction for employees (Avey et al. 2008; Luthans et al. 2008; Luthans et al. 2007). Research has supported that PsyCap can have a broader impact on organizational level behaviors (Stajkovic & Luthans, 1998). Employees low in PsyCap are carry a higher probability of demonstrating negative attitudes and behaviors, which drive unwanted outcomes (Avey et al., 2008).

Exploring the HR literature, specifically hiring, shows a team brought on post the creation of a new venture can play a crucial role in the success or failure of that new venture (Forbes et al., 2006). Though there is minimal literature addressing early stage hiring decisions in new ventures (Stewart & Hoell, 2016), the research available shows that new team members are added, after self-assessment, to fill resource needs by "filling in the gaps" of the founding leaders skill sets (Forbes et al., 2006). Traditional human resource (HR) practices normally put in place to attract and retain talent to fill these identified skill gaps are underused and under researched in new venture firms. In Marvel's et al. (2016) review of current HR and entrepreneurial research he encourages researchers to dig deeper into a better understanding the antecedents of start-up opportunity and stresses the importance of exploring human capital throughout the entrepreneurial life cycle.

The majority of PsyCap research has focused on the employee relationship to performance as part of a larger organization, gaps exist when looking within the new venture

context. When focusing on the entrepreneurial space the PsyCap research has mainly focused on the entrepreneur and not the HR perspective of building the team built thereafter. The growing body of PsyCap literature and the positive impacts it has on employee performance and attitude has been obtained from either manager ratings or employee self-evaluations. The value of these correlation studies to help establish this key PsyCap to personal performance relationship is a strong foundation to build on, but it does limit the opportunity to utilize PsyCap in the early hiring phase. A recent study focusing on perceived stress, employee engagement, and PsyCap suggests there is a significant observed difference between male and female employees in terms of psychological capital and its relationship to stress (Bhattacharya and Banerjee, 2018). A moderating impact we will explore in this study.

The purpose of the current study is to understand PsyCap levels at the time of hiring and if the hired employees have a direct relationship on two objective employee success measures within a new entrepreneurial venture. Within this purpose are several contributions to the literature. The first contribution will be to add to the minimal stream of research that currently focuses on human resources and entrepreneurship. The second contribution will be to further the PsyCap literature by expanding its reach into the entrepreneurial venture space. The third contribution will expand the current PsyCap to employee performance relationship literature by leveraging Computer Aided Text Analysis (resumes and cover letters) to measure PsyCap levels at hiring. This study will test a moderated model, in which the interaction between Gender and PsyCap predicts additional variance in employee success beyond their main effects.

For testing method and sample, I draw upon Positive Psychological Capital Theory and Gender Role Congruity Theory to examine how prospective employees can present themselves and influence their success post hiring. Expanding the literature on PsyCap, this study looks to

leverage an applicant's written representation when applying for a new role. I test this theory using a sample of 174 hiring decisions from an entrepreneurial venture in the digital industry. A period where this entrepreneurial venture experienced significant growth expanding from 20 employees to 150 in a very short time frame. Employee success data will be captured consisting of employee tenure in month, turnover events, and promotions.

To fulfill these three goals, Chapter two will review the PsyCap, PsyCap and Gender, PsyCap and employee success, PsyCap and entrepreneurship, and HR hiring in entrepreneurship literatures. Chapter three describes the theoretical model and offers four hypotheses. Chapter four provides an overview of the methods used to test the hypotheses. Chapter five presents the results of the hypothesis testing, and chapter six discusses the significance of the findings and limitations of the dissertation.

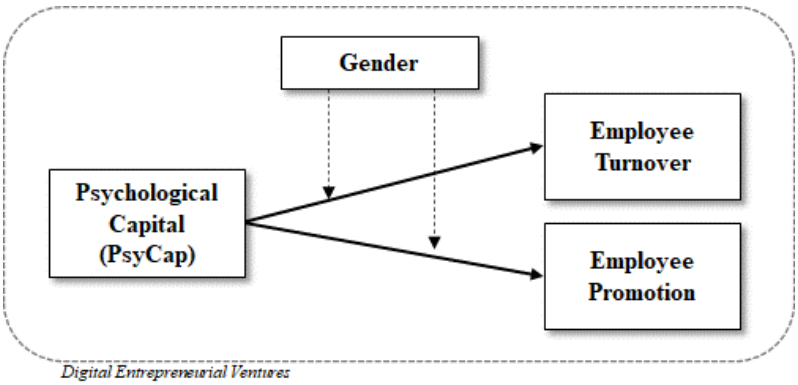
This dissertation focuses on PsyCap measures documented during the hiring process. This study will not use self-evaluations of PsyCap during employment. Currently, there is not a differentiated construct that looks at felt vs. expressed PsyCap measures. This study uses a form of expressed PsyCap, leveraging computer-assisted content analysis (CATA) which can be best described the "systematic, objective, quantitative analysis of message characteristics" (Neuendorf, 2016, p. 1). This dissertation will use multiple measures for success, which is achieved when the retention of good employees is measured as part of the success of an organization and when its leaders communicate the importance of the hiring process (Self & Dewald, 2011).

CHAPTER 2: LITERATURE REVIEW

2.1 Overview of the Literature Review

The proposed theoretical model indicates a relationship between psychological capital, gender, and employee turnover/promotions within entrepreneurial ventures. Figure 1 depicts the proposed model and serves as a summary of the study variables and their hypothesized relationships. We will first be defining psychological capital (PsyCap) and examining its current literature. Then reviewing the literature by subdimensions of PsyCap: hope, self-efficacy, resilience, and optimism, and how they relate to PsyCap and each other. Then a review on current research regarding PsyCap's relationship to both positive and negative outcomes in the entrepreneurial literature. A deeper look at current human resource (HR) literature will be reviewed in the next section as it relates to employee turnover and promotions followed by a look at a narrower scope of literature available regarding HR and entrepreneurial hiring. Concluding the literature review with the hypothesis development section, evaluating the relationship between PsyCap (IV) and employee turnover (DV1) and promotion (DV2) in entrepreneurial ventures, where gender is introduced and proposed as a moderator in the relationship.

Figure 1 *Proposed Model*



2.2 Psychological Capital: *General Literature Context & Search Strategy*

Search Strategy – Psychological Capital Research

To capture all relevant literature from social sciences, psychology and entrepreneurship, several databases were within scope. The databases were Web of Science, Business Source Complete, and Entrepreneurial Studies Source. All available English articles through 2020 were considered. This effort resulted in 133 articles and filtered down to subject relevant articles. That filter excluded 74 articles.

Key words such as 'Psychological capital OR PsyCap OR Positive Psychology AND entrepreneurship OR entrepreneurial or new venture were used. Search details and corresponding filters are reported in Tables 1 & 2. The search was conducted on 2,791 articles on the Web of Science database, which resulted in 51 with key terms. A collection of 2,044 articles from Business Source Complete identified 70 articles. Among the 132 articles from Entrepreneurial Studies Source, 12 articles were identified.

Table 1 *Inclusion and Exclusion Criteria*

Inclusion & Exclusion Criteria	
Inclusion	Exclusion
Research topic and scope of the research; is it relevant to the research question?	Research topic and scope not relevant to the research question?
Concepts and definitions of terms are relevant to research questions	Concepts and definitions of terms are not relevant to the research questions
Qualitative studies, quantitative studies, observations, case studies, experimental studies, action research, reports on status of the topic relevant to research questions, conceptual and theoretical frameworks	Articles without any concrete research design, e.g. concept papers, proposals
Studies relevant to Entrepreneurship	Studies outside the Entrepreneurship space
Articles published until 2020	

Table 2 *Search Criteria, PsyCap and Entrepreneurship*

Databases Searched	Subheadings and key words used	Records Identified	Articles Identified	Filtered by these Journal Sources
Web of Science	Psychological capital/PsyCap/Positive Psychology Psychological capital/PsyCap/Positive Psychology in "entrepreneurship," "entrepreneurial," "new venture," "gender," "tenure," "promotions"	2,791	51	Top Journals to use: Journal of Human Resources Academy of Management Journal Academy of Management Review Strategic Management Journal Journal of Management Organization Science Organizational Research Methods Annual Rev of Org. Psych and Org Behavior Personnel Psychology Journal of Organizational Behavior Org Behavior and Human Decision Journal of Marketing Marketing Science Entrepreneurship Theory and Practice Journal of the Academy of MKTG Science Frontiers in Psychology
Business Source Complete	Psychological capital/PsyCap Psychological capital/PsyCap in "entrepreneurship," "entrepreneurial," "new venture," "gender," "tenure," "promotions"	2,044	70	
Entrepreneurial Studies Source	Psychological capital/PsyCap Psychological capital/PsyCap in "entrepreneurship," "entrepreneurial," "new venture," "gender," "tenure," "promotions"	132	12	
Articles published till 2020				

Analyzing titles and abstracts, we were further able to derive study relevance. From there a journal filtering process help narrow down further to sixteen journals, making sure to focus on premier outlets that cover management and entrepreneurship literature. A total of 133 articles were screened for relevance and 41 were excluded based on the review objectives. Among the remaining 92 records, 33 records were duplicates and omitted from the review, leaving 59 articles as final data set after further analysis of relevance.

To fully understand how PsyCap was created and the types of research where PsyCap has shown impacts a full review of the literature was performed for each subdimension and the construct. This review will discuss research findings on why measuring at the total PsyCap level instead of the sub-dimensions of Hope, Self-efficacy, Resilience and Optimism are more impactful.

General Literature Context – Psychological Capital

Psychological capital (PsyCap) originated from Luthans' (2002) call to move from a negative to a more positive psychological research agenda. Luthans called this new research positive organizational behavior (POB) and defined it as "the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement." (Luthans, 2002b, p. 59)

Positive organizational behavior (POB) contains specific criteria that a psychological resource must portray to be considered part of POB, they are: 1) scientific study, 2) measurement rigor, 3) developmental potential, and 4) performance impact (Luthans, 2002). Four constructs have met all five criteria: hope, self-efficacy, resilience, and optimism. These four constructs make up a higher order core construct called PsyCap (Luthans, Avolio, Avey, & Norman, 2007). Psychological Capital (PsyCap) is:

> . . . "an individual's positive psychological state of development characterized by: (1) having confidence (efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in or-der to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success" (Luthans, Youssef, & Avolio, 2007, p. 3)

According to Avolio & Luthans (2006) positive PsyCap can be viewed as answering the questions: "Who are you?" "What can you become in the team with positive development?" "What do you know?" "Who do you know?" and "What do you have?" "Even though hope,

self-efficacy, resilience, and optimism have been empirically demonstrated to be discriminant constructs with positive outcomes" (Luthans, Avolio, et al., 2007 p. 550), combined as PsyCap they demonstrate greater effectiveness. One important decision in conceptualizing constructs is specifying whether they are unidimensional or multidimensional (Edwards, 2001). Psychological capital (PsyCap) is multidimensional, higher-order latent construct that represents several sub dimensions (Luthans, Avolio, et al, 2007; Law, Wong, and Mobley 1998). Each of the underlying dimensions in this case must be measured separately, and the four scores can be combined, to create an overall value for the higher order core construct of PsyCap (Edwards, 2001). Luthans et al. (2004) sees PsyCap extending beyond human and social capital and having the capability to better the individual and their teammates while at work or at home (Baron, Franklin, & Hmieleski, 2013; Nguyen & Nguyen, 2012).

2.3 Subdimensions of Psychological Capital

2.3.1 Hope

The first element of PsyCap is hope. Individual-level hope has a significant positive relationship with early stages of new venture performance, leveraging the ability to create multiple routes to achieve goals (Hmieleski et al., 2015). Hope is defined as "a cognitive set that is based on a reciprocally derived sense of successful: (a) agency (goal-directed determination) and (b)pathways (planning of ways to meet goals)" (Snyder et al., 1991, p. 570). Hope represents the motivational energy to identify the way to achieve career goals (Luthans et al., 2007). Hope can overcome obstacles (Snyder et al., 2000). Snyder's (2002) theory of hope consists of three aspects: goals, pathways, and agency. The goal aspect is the cognitive

component that anchors hope theory; it provides the visual images in our mind or verbal descriptions and can be either short or long-term and positive or negative goal outcomes (Snyder, 2002). Pathways help us think about how we can link our past influences on the future and "link our present to imagined futures" (Snyder, 2002 p.251).

Agency is the perceived capacity to use one's pathways to reach desired goals; it is the hope theory's motivational component (Snyder, 2002). The theory suggests that hope develops from way power (ability to develop plans and alternatives to achieve goals) and willpower (determination to act and maintain effort), and these complement each other in the pursuit of goals (Luthans, 2012; Luthans, Avey, & Patera, 2008a; Snyder, 2002). Creative problem solving, and problems seen as opportunities, are attributes of people with higher levels of Hope (Zhou & George, 2003). Luthans et al.'s (2007) research identifies individuals with high levels of hope to be independent thinkers that are creative and resourceful, with minimal resources. Research suggests to date that there are positive impacts of hope (Luthans et al., 2012); a relationship between hope and work performance (Tang, 2020; Luthans & Youssef, 2017); and hope as a positive energy that motivates (Tang, 2020).

2.3.2 Self-Efficacy

Self-efficacy is the second element of PsyCap. Built from Bandura's (1986, 1997, 2001) social cognitive theory, self-efficacy is built on five cognitive processes: symbolizing, forethought, observation, self-regulation, and self-reflection. Self-efficacy represents an individual's confidence in their personal ability to be successful (Gooty et al., 2009). In an earlier study, Luthans & Youssef (2004) found that self-efficacy is needed to act and utilize your skills to execute a strategy. Bandura (2011 p.9) characterizes individuals with high levels of

self-efficacy as “those who establish and pursue personal goals and carry a belief in their own abilities”. Self-efficacy is domain-specific and will vary depending on the subject at hand and situational (Bandura, 2011).

Self-efficacy represents a positive belief and is defined as one’s confidence to take on and put in the necessary resources and actions to succeed at tasks in a challenging environment (Bandura1997; Stajkovic and Luthans1998b). Self-efficacy helps maintain strong performance and increases positive thinking (Norman et al, 2010). Self-efficacy has shown to cut across both personal and career life with significance, by leveraging internal motivation (Bandura, 2011). Research suggests that people with higher levels of self-efficacy set challenging goals regardless of obstacles or effort needed (Luthans & Youssef, 2004). No better space then entrepreneurial ventures to utilize this capital to overcome all the obstacles that are likely to keep popping up.

2.3.3 Resilience

Resilience is the third element of PsyCap. Studies have suggested a relationship between resilient workers and their ability to handle an ever-changing work environment (Luthans et al., 2006; Shin et al., 2012). The concept of employee resilience and its importance has increased, with an opportunity for HR practices to invest in the development of PsyCap and their employees' resilience (Bardoel et al., 2014). In clinical psychology, Masten et al. (2009) define resilience as “patterns of positive adaptation during or following significant adversity or risk.” (pg. 119). Resilience aids in overcoming adversity to achieve success (Gooty et al., 2009; Luthans et al., 2006). Luthans et al. (2015 p.31) describes resilience as “the ability to bounce back from challenging life events, either positive or negative, and go above and beyond what is expected”. Resilience is also a coping resource for leaders to handle difficult situations such as

competitive risk and resource constraints (Baron et al., 2016). Resiliency is a more reactionary state when people face change and challenges (Larson & Luthans, 2006).

Luthans & Youssef (2004) summarize resiliency as the acceptance of reality, belief in a meaningful life, and ability to adapt to change. Employees high in resiliency, when faced with negative change, are far better equipped to handle regardless of severity (Luthans, Vogelgesang, & Lester, 2006). Bandura & and Locke (2003) position a resilient belief as having staying power in the face of setbacks, with what Luthans (2002) calls the ability to settle and deal with the circumstances when facing negative situations or risks. When changes occur in the external or internal environment, positive or negative changes, an individual with high resiliency levels tend to manage to adapt much easier (Luthans, Vogelgesang, & Lester, 2006). Luthans (2002) explains resilience as the ability to stay settled and calm when in the middle of negative situations. There are some differences when comparing resilience to a couple of neighboring concepts such as grit and perseverance. Comparing to grit, which is a higher-order construct composed of two lower ordered subscales; Consistency of Interest and Perseverance of Effort (Luthans, Avolio, Avey, & Norman, 2007), both describe the ability to persevere when confronted by obstacles but differ because resilience does not include goal orientation in its nature (Luthans & Youssef, 2004). Previous studies indicate the existence of minimal resilience to the individual, as it plays an important role to impacting job satisfaction, commitment, happiness, and psychological comfort (Larson & Luthans, 2006; Youssef & Luthans, 2007).

2.3.4 Optimism

Optimism is the fourth element of PsyCap. Optimism is "the positive attribution one assigns to successful and unsuccessful outcomes by pursuing creative approaches to problem-solving" (Peterson et al., 2008 p.785). Luthans emphasizes, "that optimism should not be portrayed as a feel-good ego boost but rather representing lessons in self-discipline, historical analysis, contingency planning, and preventive care" (Luthans et al., 2015 pp.32). Optimistic individuals expect success when confronted with challenges and tend to view events within their control (Sweetman et al., 2011; Luthans et al., 2007). Like self-efficacy and hope, optimism can be created, increased, and inspired to pursue personal and professional goals (Bandura & Locke, 2003; Snyder, Harris, et al., 1991). Optimism has been shown to improve performance (Martin et al., 2003), hence benefitting from career opportunities under challenging conditions while retaining positive expectations regarding outcomes (Avey et al., 2008; Wrosch et al., 2003).

Optimism drives the expectation of positive outcomes, which triggers resilience (Stagman-Tyrer, 2014), allowing for persistence in an entrepreneurial role even during trying times. Wang et al. (2019) found that keeping optimism high might overcome some potential weaknesses brought on by the feelings of social anxiety in an entrepreneurial environment. Employees that demonstrate flexible optimism take responsibility for their careers, continuing to upskill, and reinvent themselves (Luthans et al., 2015).

2.4 Psychological Capital: *Positive and Negative Outcomes*

Psychological Capital (PsyCap) once validated pivoted research efforts to focus on what value this construct can have on individual employees in a workplace environment. Starting out, the findings centered around the PsyCap and job performance relationship (Luthans, Avolio, et al., 2007). Expanding from there, outcomes aligned with PsyCap's principles centered on job satisfaction, engagement, behavior, attitudes, and health and well-being (Yousef et al., 2014; Avey et al., 2009, 2011 Culbertson et al., 2010). Job performance is a key measurement criterion for employee production and impacts to the firm. All areas that make up job performance help firms achieve their strategic, financial, and cultural goals while indicating how everyone has contributed. As such, job performance is an important key performance indicator for firms today. Table 3 below covers both positive and negative effects and relationships from a sample of the literature explored for this body of work.

Table 3 *Sample: Key Literature Outcomes for PsyCap, Positive and Negative Effects*

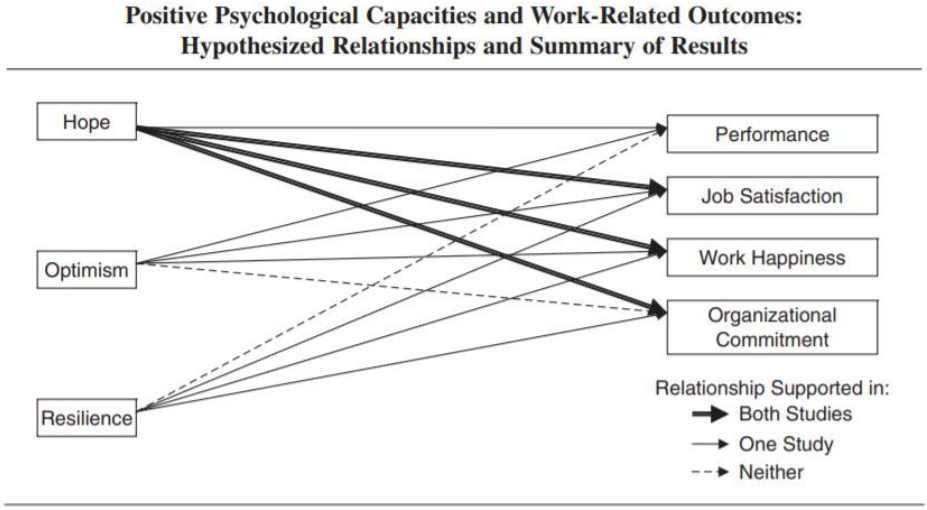
Key Literature Outcomes/ PsyCap and its relationship to…	Author/Year	Journal Source	Effects
Startup capital and entrepreneurial success relationship…	Baluku et al., 2016	Journal of Small Business & Entrepreneurship	…positive relationship between startup capital and entrepreneurial success stronger when PsyCap (optimism) High
Job satisfaction, turnover intentions, and performance…	Abbas et al., 2014	Journal of Management	…negative relationship between perceived organizational politics and job satisfaction, weaker when PsyCap High, positive relationship between perceived organizational politics and turnover intention stronger when PsyCap High
On relevant attitudes and behaviors…	Avey et al., 2008a	Journal of Applied Behavioral Science	…positive relationship between PsyCap and positive emotions, stronger when mindfulness low
Internal motivation for firm performance and entrepreneurship…	Kim and Noh, 2016	International Entrepreneurship and Management Journal	…hopeful self-efficacy had no significant effect on service workers' internal motivation, while the optimistic resilience had a positive effect which in turn positively impacted entrepreneurial confidence
New venture performance…	Hmieleski and Baron, 2009	Academy of Management Journal	…positive relationship between PsyCap and new venture performance, stronger when environmental dynamism High
Employee Organizational Citizenship and Deviance Behaviors…	Norman et al., 2010	Journal of Leadership and Organizational Studies	…positive/negative relationship between PsyCap and organizational citizenship, stronger when organizational identity is High
Creativity…	Rego et al., 2012a	Journal of Business Research	…positive effect and positive ration when related to creativity
Service climate and job performance…	Walumbwa et al., 2010	Personnel Psychology	…positive relationship between PsyCap and job performance, stronger when service climate is High
Job stress and incivility…	Roberts et al., 2011	Journal of Leadership and Organizational Studies	…positive relationship between PsyCap and incivility, weaker when PsyCap is High
Supportive organizational climate for employees…	Luthans et al., 2008	Journal of Organizational Behavior	…direct effect on performance, satisfaction and commitment
Performance and organizational citizenship behaviors…	Gooty et al., 2009	Journal of Leadership and Organizational Studies	…direct effect on performance, individual OCB and organizational OCB
Job satisfaction and organizational commitment…	Larson and Luthans, 2006	Journal of Leadership and Organizational Studies	…positive relationship between PsyCap and job satisfaction (r=.373) and organization commitment (r=.313), employees' PsyCap had a significant added impact over human and social capital on work attitudes
Job satisfaction and performance…	Luthans et al., 2007	Personnel Psychology	…positive relationship regarding the composite of the 4 facets with performance and satisfaction. Results from Study 2 also indicated that the composite factor may be a better predictor of performance and satisfaction than the 4 individual facets.
Employee well-being…	Avey et al., 2010	Journal of Management	…negatively to organizational cynicism, intentions to quit, and counterproductive workplace behaviors and positively related to extra role organizational citizenship behaviors
Stress symptoms, job search behavior, and intentions to quit…	Avey et al., 2009	Human Resource Management	…positive variation in perceived symptoms of stress, as well as intentions to quit and job search behaviors
Employee attitudes behavior and performance…	Avey et al., 2011	Human Resource Development	…significant negative relationship between PsyCap and undesirable employee attitudes (cynicism, turnover intentions, job stress, and anxiety) and undesirable employee behaviors (deviance), also a positive relationships between PsyCap and desirable employee attitudes (job satisfaction, organizational commitment, psychological well-being), desirable employee behaviors (citizenship), and multiple measures of performance
The joint effects on employee selection and Levels of stress…	Baron et al., 2016	Journal of Management	…negative relationship between PsyCap and stress level, stronger when age is High
The impact of hope, optimism and resilience in the workplace…	Youssef and Luthans, 2007	Journal of Management	…employees' positive psychological resource capacities relate to, and contribute unique variance to, the outcomes. However, hope, and, to a lesser extent, optimism and resilience, do differentially contribute to the various outcomes.

A meta-analytical study conducted by Avey et al. (2011), showed across multiple appraisal formats, that PsyCap had impacts on job performance When looking at what factors of performance PsyCap impacts the most, Avey et al. (2011, p. 135) learned it to be "mainly through the dimension of demonstrating effort." Avey's et al. (2011) meta-analytic research of PsyCap incorporated 51 independent studies and suggested a positive relationship between PsyCap and employee attitudes, behaviors, and measures of performance. Also, Avey et al.'s (2011) research shows a negative relationship between PsyCap and unwanted employee attitudes

and behaviors. Another finding from Avey et al. (2011) PsyCap impact research showed little variance between when performance was self-reported, evaluations, or objective measures. Highlighting Avey et al. (2011) meta-research study of 170 employees from a large technology firm, the premise of looking at how PsyCap mediates the supportive climate and employee performance relationship is explored. Confirming previous studies supporting PsyCap as a mediator for the supportive climate to employee performance. Service-based industries were found to have larger effect sizes from PsyCap (r = 0.35) versus manufacturing industries (r = 0.26). To that end, the researchers noted that "PsyCap may be more important depending on the type of work being conducted" (Avey, Reichard, et al., 2011, p. 146).

To better understand the unique contributions and interactive mechanisms of Hope, Optimism, and Resilience on performance, job satisfaction, work happiness, and organizational commitment, Yousef & Luthans (2007) performed two studies. Study 1 was self-reported performance, and study 2 were performance measures collected from multiple sources. Figure 2 suggests psychological resources generally have a positive impact. With hope having a bigger impact than optimism and resilience (Yousef & Luthans, 2007).

Figure 2 *Hypothesized PsyCap Relationship Demonstrating Positive Impact*



Avey et al. (2009) linked confidence, motivation, and the ability to cope with stress to employees with high PsyCap leading to better work performance. Peterson et al. (2011) research tied higher PsyCap to stronger performance evaluations from managers. But what about employee attitudes? Further studies focusing on how by measuring PsyCap and the potential relationship it could have on areas of attitude like job satisfaction or organizational commitment, Avey et al. (2011) meta-analytic research, suggested there is evidence of a strong linkage between individuals with higher PsyCap being satisfied at work ($r = 0.54$), more committed ($r = 0.48$), and less likely to leave their organization ($r = -0.32$). Culbertson et al. (2010, p. 430) conclude that "organizational researchers often operationalize occupational well-being as job satisfaction." The research results from Culbertson et al. (2010) suggest that PsyCap is related to an even broader definition of well-being, including happiness and the ability to thrive. Linking back to Avey et al. (2011), when an employee is happy, they are less likely to turnover.

Identifying the benefits of PsyCap and the kind of outcomes that can be impacted by the level of PsyCap in the workplace is essential. The extent to which the PsyCap antecedents have been researched is limited. In addition to outcomes and antecedents, the ability to better understand PsyCap, since it is state-like, depends on individual differences and support inside the organization (Avey, 2014). Multiple studies also support that PsyCap (state-like trait) can be improved upon through training and mentoring over time (Peterson et al., 2011; Johnson, 2018; Luthans et al., 2006, 2008).

2.5 Psychological Capital: *Employee Turnover and Promotions*

While the relationship between PsyCap and employee turnover and promotions does not appear to have been studied extensively in the literature, the positive effect of PsyCap on general employee attitudes and behaviors (Avey et al., 2010), and satisfaction and commitment of workers (Youssef-Morgan et al., 2007; Luthans et al., 2008) is well documented. Also, most of the PsyCap to job performance literature has focused on employees' self-evaluations of their PsyCap level after some time on the job. This section will review both the existing PsyCap to tenure and promotions literature and empirical data capture strategies utilized.

Peterson et al. (2011) suggest that employees can work to build up personal levels of PsyCap, and that build up would provide stronger foundation and tools to lean on and pull from to optimize performance. Similarly, a decrease in PsyCap can lower that ability, impacting performance negatively (Peterson et al., 2011). Peterson et al.'s (2011) research supports the literature that a positive change in PsyCap will lead to better (or, if negative change, worse) employee performance and adds to the possibility that the causal direction could be reversed reciprocal causation. Peterson et al. (2011) describe the possibility of reciprocal causation this way: *"employees who are higher (lower) in psychological capital may perform better (worse), and this higher (lower) performance may allow them to develop further a more (less) positive state of development."* An additional contribution from the Peterson et al. (2011) study suggests that whether performance measures from a subjective supervisor rating or it is an objective behavioral rating, employees' PsyCap is positively related to both measures.

The Abbas et al. (2012) study tested PsyCap as a moderator when looking at perceived politics (POP) to satisfaction, turnover intentions, and performance. Supporting the research that hope and self-efficacy both provide people with confidence and positive thinking that

results in higher satisfaction and lower turnover (Abbas et al., 2012). Abbas et al. (2012), argued that individuals with high PsyCap would moderate the relationship between perceived politics and outcomes, such that the relationship will be weaker when PsyCap is high. Concluding that job satisfaction and overall performance decline (probability of turnover increases) for employees when there is a perception of politics in the office (Abbas et al., 2012). This study did not suggest intentions to quit. Meaning, when an employee has high PsyCap levels, if there is a perception of politics inside the organization, these employees will have the confidence to attrite.

Research from Cenciotti et al. (2016) focuses on PsyCap and its influence on career success (specifically the success of promotions). Success here refers to "the positive psychological or work-related outcomes or achievements one accumulates as a result of work experiences" (Seibert et al., 1999, p. 417). Cenciotti et al. (2016) expected that PsyCap would act as a psychological resource leveraging an employee's ability to shape their work environment, creating the right environment to succeed at work. They were investigating for the first time if an employee's proactive behavior translates their PsyCap resources into career success (Cenciotti et al., 2016). For promotions (objective career success), Stumpf and Tymon (2012) suggested that positive career movement should depend on employees' ability to strengthen their task effectiveness and ability to achieve goals. As employees leverage their PsyCap to positively impact their approach to work, the higher likelihood of a promotion, improving overall long-term performance and career advancement. (Peterson et al., 2011; Cenciotti et al., 2016). The findings from the Cenciotti's et al. (2016) study also stress the importance of a baseline of positive PsyCap resources to be able to build off and leverage for ongoing career success. It is important to note, as we lay out in the methods section the intended

contributions from this dissertation, that self-reported measures were used and stated as a limitation of the Cenciotti's et al. (2016) research.

Recent research regarding the PsyCap and tenure relationship suggests that the longer the duration of tenure within a company, the higher is the PsyCap (Bhattacharya and Banerjee, 2018). The study inferred that the increased experience at work could lead to higher confidence in dealing with problems, more resilience, more incredible self-regard and self-belief, the ability to bounce back from a setback, and higher optimism. An additional finding from Bhattacharya and Banerjee (2018) that supports Cenciotti's (2016) finding regarding the benefits of proactive behavior concluded that a proactively engaged workforce with high self-efficacy, optimism, resiliency, and lower perceived stress could ensure higher commitment to an organization and increased performance.

2.6 Psychological Capital: *Gender*

Woolley et al. (2011) focuses on how gender can moderate the effectiveness of PsyCap on a positive work climate, concluding that gender did not have a varying interactive impact. Both men and women experienced PsyCap gain from a positive culture. However, the relationship of perceiving authentic leadership on work climate did vary by gender, more for males then females (Woolley et al., 2011). Another finding from Woolley et al. (2011) was the level of interaction positive work climate had on the authentic leader to PsyCap relationship, where male followers PsyCap was fully mediated, and female PsyCap was partially mediated. The variance in gender impact is an essential finding in the literature, and through this

dissertation, we will further the knowledge of gender by bringing it into the proposed model and a moderator to the PsyCap to employee success relationship.

A recent study focusing on perceived stress, employee engagement, and PsyCap suggests there is a significant observed difference between the male and the female employees in terms of psychological capital and its relationship to stress (Bhattacharya and Banerjee, 2018). Opposite to that, perceived stress is higher among female employees compared to male employees. Greater participation and male employees' involvement may have strengthened their mental capacities, creating a positive state of mind and thus higher confidence (Bhattacharya and Banerjee, 2018).

2.7 Psychological Capital: *Entrepreneurial Literature*

Goal settings and strategic direction are some of the critical tasks that entrepreneurs engage in during the life cycle of new business ventures. The results of a study by Baluku et al. (2016) investigated PsyCap's relationship with the startup capital and entrepreneurial success relationships stress the importance of hope to the survival time of the business and generated employment. Entrepreneurial research has demonstrated that those with high PsyCap tend to attract like-minded persons to them or their new venture (Fredrickson, 2001). The importance of leading a new venture through uncertain conditions while maintaining a positive psychological state does not stop at the founder(s) of that venture; it carries forward to the hiring and growth of the team (entrepreneurial employees), enabling the full unit to stay positive and bounce back from any failures (Hmieleski & Carr, 2008).

Wang et al. (2019) extends the entrepreneurship literature to focus more on the entrepreneurial team's intangible capital. This work led to PsyCap being brought into the conversation when discussing the relationship between intellectual capital and new venture performance. Psychological capital (PsyCap) in entrepreneurial ventures can be treated as mental capabilities inform knowledge and approach that are critical for new venture success (Wang et al., 2019). Studies suggesting that individual characteristics (i.e., PsyCap) show significant positive impact in entrepreneurial intention and ultimate success (Baron, 2012; Baron, Hmieleski & Henry, 2012; Baron, Tang, & Hmieleski, 2011; Hmieleski & Baron, 2008). Both empirical findings and theory combine to suggest that PsyCap can assist and fight through stress associated with leading new ventures (Baron et al., 2016).

For entrepreneurs, self-efficacy is the confidence that inspires them to accomplish challenging tasks (Luthans, Youssef, and Avolio 2007; Luthans et al. 2007; Newman et al. 2014). Even in the face of conflicts with stakeholders or clients, entrepreneurial teams with higher self-efficacy feel secure and able to address such challenges (Zou et al., 2015). Empirical evidence found in the Artinger and Powell (2015) study shows that entrepreneurs' overconfidence is an antecedent of venture failure, likely resulting from overconfidence. Artinger and Powell's (2015) empirical research shows us that in entrepreneurship too much of a positive psychological state, in this case overconfidence, can have a negative effect on success. Unlike previous measures, which inferred overconfidence directly from the courage to enter markets, Artinger and Powell (2015) looked deeper at the level of one's over-belief in their abilities as well as underestimating the competitive space. Artinger and Powell (2005) also showed that gender had a significant effect on market entry, with men more likely to enter than women.

2.8 Human Resources and Entrepreneurial Hiring

Search Strategy for HR and Entrepreneurial Hiring

Multiple databases were used to explore published articles centering on HR and entrepreneurship. The databases were Web of Science, Business Source Complete, and APA Psych Info. The literature search started out with a broader context focusing on hiring and two measures of employee success, tenure, and promotions. A second narrower research focus looked for literature on hiring in the entrepreneurship space. Both are documented on Table 3 below. All available English articles from 2000 to 2020 were considered. This effort resulted in 95 articles from which relevant studies were selected for the review. Their potential relevance was examined, and 67 were excluded as irrelevant.

For the search, key words such as Hiring Process OR Hiring Practice OR Employee Selection AND "tenure," OR "turnover," OR "promotions," AND "entrepreneurship" were used. Search details and filtering of the databases are reported in Table 3. The search was conducted on 3,118 articles on the Web of Science database, which resulted in 17 with key terms and post journal source filtering. An examination of 2,399 articles on Business Source Complete resulted in identification of 48 articles post journal source filtering. A third examination of 567 articles APA PsycInfo resulted in identification of 30 articles post journal source filtering.

Table 4 *Search Criteria, Hiring Process, Turnover, Promotions*

Databases Searched	Subheadings and key words used	Records Identified	Academic Articles Identified	Articles Identified after Journal Source Filter	Filtered by these Journal Sources
Web of Science	Hiring Process/Hiring Practice/Employee Selection AND "tenure," "turnover," OR "promotions"	3,085	188	10	Journal of Human Resources Academy of Management Journal Academy of Management Review Strategic Management Journal Journal of Management Organization Science Organizational Research Methods Annual Rev of Org. Psych and Org Behavior Personnel Psychology Journal of Organizational Behavior Org Behavior and Human Decision Journal of Marketing Marketing Science Entrepreneurship Theory and Practice Journal of the Academy of MKTG Science Frontiers in Psychology
	AND "entrepreneurship"	33	25	7	
Business Source Complete	Hiring Process/Hiring Practice/Employee Selection AND "tenure," "turnover," OR "promotions"	2,045	86	30	
	AND "entrepreneurship"	354	130	18	
APA PsycInfo	Hiring Process/Hiring Practice/Employee Selection AND "tenure," "turnover," OR "promotions"	511	157	22	
	AND "entrepreneurship"	56	36	8	
Articles published 2000-2020					

Human Resources and Entrepreneurial Hiring

Most of the research indicating a positive relationship between effective human resource management and performance has focused primarily on large organizations which can be easier to obtain (Kerr et al., 2007). Entrepreneurship research has focused on the entrepreneurial process and the entrepreneurs' individual traits and states (Katz et al., 2000). Since entrepreneurs rarely work alone, expanding the research to better understand the role of HR practices when contributing to small entrepreneurial venture success is key (Jack et al., 2006). Since human capital can be the key reason driving competitive advantage (Linder et al., 2020), the human input and hence the role of human resource management to build and retain these new venture teams grows in importance (Linder et al., 2020).

A growing number of new professional service ventures, where human capital is the key resource, are providing a competitive edge and positive cultural environment (Baldry et al.,

2007). Here, hiring, growing, and retaining focus is elevated due to early life stage resource constraints (Hubner & Baum, 2018). Human resource flexibility during this early stage is needed to compete for growth and overcome challenges (Zolin et al., 2011). Zolin et al.'s (2011) research expands new venture team literature proposing that founders build their team first from people they have a prior relationship with, focusing on past loyalty, potentially impacting the ability to be flexible with talent when needed to successfully grow.

There are two general reasons why members are added to a new entrepreneurial team, one view is driven by economics and the other by interpersonal attraction and social network (Forbes et al., 2006). The decision to add a "joiner" (individuals who join founders as entrepreneurial employees; Roach & Sauermann, 2015) is important because the new team chemistry has been altered, which could bring change to the internal culture and potentially adjust current direction (Forbes et. al., 2006). Some research suggests that timing can be driven by resource need or subjective preferences of the current team (Forbes et. al., 2006; Linder et al., 2020).

Because an entrepreneur's success hinges on competent employees and the development of that human capital, human resource development becomes important immediately after the first team members are hired (Cardon & Stevens, 2004; Huber & Baum, 2018). Huber and Baum acknowledge previous research showing how the entrepreneur's human resource development focus has been centered on the informal or on the job training approach, an effectuation-based approach (Nolan & Garavan, 2017). Huber & Baum's (2018) findings helped to expand theory and reinforce Reymen et. al. (2015) observation that a hybrid decision-making logic using both effectuation and causation to facilitate learning and development for new venture members allows for predictability and flexibility. Opportunity to further this body

of research centers on human resources acquisition and how to attract the right employees. Moser et al. (2017) recognizes this is one of the most significant challenges for new ventures, to attract qualified employees.

2.9 Hypotheses Development

As mentioned earlier, this study has three goals: 1) Understand the relationship a new employee's PsyCap level has on their tenure within an entrepreneurial venture; 2) Understand the relationship a new employee's PsyCap level has on their promotion opportunities within an entrepreneurial venture; and 3) Understand how gender moderates the relationship between PsyCap and these two measures of employee success within an entrepreneurial venture. In Nolzen's (2018) comprehensive review on PsyCap, he suggests a deeper analysis on the effects of PsyCap and human resource management. Psychological Capital (PsyCap) has been found to have a positive influence on the accuracy aspect in the job selection process (Combs et al., 2012), allowing human resources departments to integrate the PsyCap instrument in their recruitment and hiring process. Employees with higher levels of PsyCap perform better and hence intentionally search for growth opportunities (Sweetman, Luthans, Avey, & Luthans, 2010). Also, PsyCap has positive effects on employee performance, job satisfaction, and organizational commitment (Luthans, Norman, et al., 2008). According to previous studies, PsyCap is positively related to employee attitudes and behaviors (Avey et al., 2010). Regarding base attitude, those higher in PsyCap expect optimism, efficacy, hope, and resilience (Avey et al., 2011). As mentioned earlier, employees that demonstrate flexible optimism take responsibility for their careers, continuing to upskill and reinvent their skillset (Luthans et al.,

2015). As discussed in chapter 2, resilience influences firm commitment, personal happiness, and job satisfaction (Larson & Luthans, 2006; Youssef & Luthans, 2007).

Psychological Capital (PsyCap) has been shown to be negatively related to job stress (Baron et al., 2016). Does this carry over into the ongoing entrepreneurial team that is build up to help the new venture grow? As stated earlier when exploring current literature on PsyCap and tested impacts on new ventures, Baron et al., (2016) suggest PsyCap as a stress buffer for entrepreneurial leaders. Avey et al. (2011) findings support the conclusion that sample base and industry type are significant moderators that should be considered in future studies on PsyCap. Specifically stated in Avey's et al. (2011) study was a higher PsyCap impact in the professional service industry. What about the new team being built? Because of these questions and the limited content focusing on PsyCap and entrepreneurial team member impacts, the following hypothesized relationship of PsyCap to multiple employee success variables is particularly relevant in the entrepreneurial context, the following hypotheses are proposed:

Hypothesis 1: PsyCap is positively related to reducing the likelihood of employee turnover in entrepreneurial ventures

Hypothesis 2: PsyCap is positively related to employee promotions in entrepreneurial ventures

Multiple bodies of work have looked at the moderating effect of men and women in entrepreneurship (Gupta et al., 2009; Balachandra et al., 2017; Bau et al., 2017; Bird and Brush, 2002), very few studies bring that body of literature down to the individual level that is hired into a new venture as opposed to the founder themselves. When focusing on the PsyCap literature and the findings of gender differentiation limited research suggests some significant observed differences between male and female employees exists when it comes to perceived stress at work

(Bhattacharya and Banerjee, 2018), positive work climate (Woolley et al., 2007), and desirable and undesirable work-related attitudes and behaviors (Avey et al., 2011). So, in the light of previous literature, the investigation of the moderating impact of gender difference in the context PsyCap and employee success measures within entrepreneurial ventures brings further insight into the field of PsyCap, gender, HR and entrepreneurship literatures.

For male employees, as PsyCap increases, we expect a weaker (or less positive) relationship with employee turnover in an entrepreneurial venture. For men, material success looms large (Dyke and Murphy, 2005). Loyalty to a success metric most times does not equate to loyalty to a firm. Norman et al., (2010) research suggests that an increase in PsyCap, may be associated with more citizenship behaviors toward the organization. With PsyCap levels high, the argument is citizenship behavior is positively impacted and potentially outweighs material success at any cost approach for males. Pulling from the literature review, Cenciotti's (2016) finding regarding the benefits of proactive behavior concluded that a proactively engaged workforce with high self-efficacy, optimism, resiliency, and lower perceived stress could ensure higher commitment to an organization and increased performance. That finding would infer low levels of self-efficacy, optimism, and resiliency lowers the level of commitment and hence tenure to an organization.

In contrast for female employees, as PsyCap increases, we expect an even stronger (or more positive) relationship with employee turnover in an entrepreneurial firm. For female entrepreneurs, an approach to resource utilization looks to make a longer-term, deeper, and personal commitment to resources or teammates (Bird and Brush, 2002), see below Figure 4 laying our gender impacts. It is relationships and loyalty that drive long tenure at a young firm. Erickson

and Pierce (2005) suggest that women, from high-end professional service jobs, invest in their jobs, focus on positive hope and loyalty to co-workers, customers, and bosses as the reasons for longer tenure within a firm. For women success is focused on a personal balance and high importance was placed on relationships and loyalty to those relationships (Dyke and Murphy, 2005).

Table 5 *Bird and Bush (2002) Gender Impacts on New Ventures*

Gender Impacts on New Venture Organizations

Organizational Dimensions	Traditional (Masculine)	Personal (Feminine)
Use of Resources	"Lease" people	Commit to people
	Low commitment	High commitment
	Promoter	Trustee
Structure	Formal	Informal
	Decisions centralized in entrepreneur	Participative decisions
	Boundaries between people, jobs clear	Boundaries between people, jobs fuzzy
	Growth leads to hierarchy	Resists growth; growth leads to struggles to stay flat
Controlling	Personal control	Sharing control
	Financial control	Cultural control
	Dominant coalition of similars	No dominant coalition or coalition of diverse others
Integration Through	Value is success for self & firm	Value is well being for self & others
Systems	Policies instrumental toward goal	Policies relational
Culture	Transactional	Accommodating
Policies		

Bird and Brush, (2002)

Hypothesis 3: Gender moderates the relationship between PsyCap and employee turnover in entrepreneurial ventures. The influence of PsyCap on reducing the likelihood of employee turnover in entrepreneurial ventures is stronger (more positive) for women than men.

For male employees, as PsyCap increases, we expect a stronger (or more positive) relationship with employee promotion in an entrepreneurial venture. When it comes to competitive levels, the studies suggest men have higher levels than women (Niederle & Vesterlund, 2007; Dyke & Murphy, 2006; Kesebir, 2019). Differences in ability and employee performance cannot fully account for such a disparage in executive pay variance between man

and women (Niederle and Vesterlund, 2007). Further research has linked the gender difference in competitiveness to men's higher levels of confidence (Kesebir, 2019). Confidence in PsyCap conveying self-efficacy supports the argument that with higher confidence leading to higher competitiveness would lead to additional drive for promotions. Pulling from Bhattacharya and Banerjee (2018) research results, the greater firm participation and male employees' constant involvement may strengthen their mental capacities, creating a positive state of mind and thus higher confidence (Bhattacharya and Banerjee, 2018). That confidence gained can drive competitive nature and help set up males for more promotion opportunities.

For males that are low in PsyCap we expect a negative relationship to promotions with the entrepreneurial firm. If gender drives differences in confidence and preferences for entering and performing in a competition, then one must believe a lower self-efficacy score impacting a lower overall PsyCap score would mean a negative relationship to promotions. Exley and Kessler (2019) suggest that men may talk up their performance to get a raise or promotion and overcome obstacles or negative perceptions. With low PsyCap levels driven from lower resilience and self-efficacy, the ability to overcome and be confident enough to self-promote may not be present.

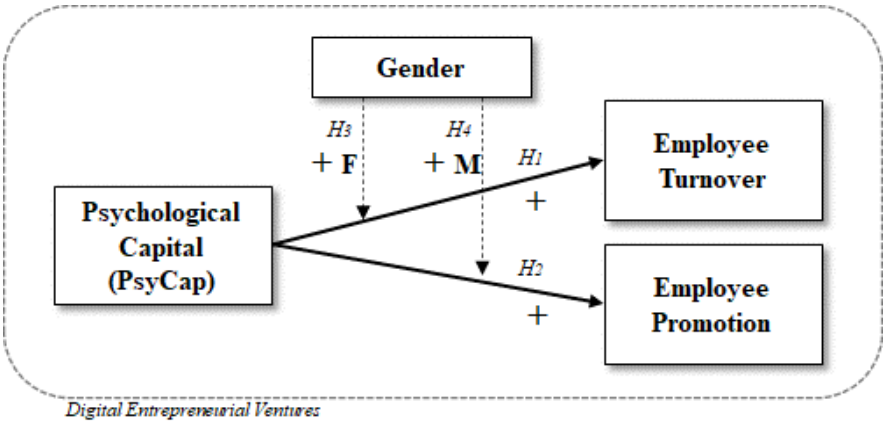
For females, as PsyCap increases, we expect a weaker (or less positive) relationship with employee promotion in an entrepreneurial venture. Like the argument of why higher PsyCap levels can have a positive relationship to career promotions, confidence in PsyCap conveying self-efficacy supports the argument that with higher confidence leading to higher competitiveness would lead to additional drive for promotions.

For females that are low in PsyCap we expect a negative relationship to promotions with the entrepreneurial firm. Exley and Kesler (2019) research suggest that women are less

confident than men in their performance, impacting levels of hope for success. Women may not hype up their work output, but that doesn't mean their performance is any worse. The lower levels of self-promotion hurt a women's chances of promotion in the workplace (Dean et al., 2019). Kesebir's (2019) research supports the notion that women will shy away from competition because they're less likely to think they'll win, not because of skill set or ability. Consequently, we expect that the more employees (more for male then female) are high in PsyCap, the more opportunities they will have for job promotions, title promotions and/or salary promotions. More formally, I propose the following hypothesis.

Hypothesis 4: Gender moderates the relationship between PsyCap and employee promotions in entrepreneurial ventures. The influence of PsyCap on employee promotions in entrepreneurial ventures is stronger (more positive) for men than women

Figure 3 – *Conceptual Model with four Hypotheses*



CHAPTER 3: METHODS

The purpose of this chapter is to introduce the quantitative research methodology used to test the relationships between psychological capital, gender, and employee tenure/promotions within entrepreneurial ventures. It provides an overview of the data gathering process, timeline and origination of data generated.

3.1 Procedures/Data Collection

The study was conducted using human resource data from a (digital service technologies) new venture that has grown to roughly 160 active employees in the southeast United States. For confidentiality reasons, the name of the company cannot be revealed. I started working for this digital firm and quickly realized that they had an intentional approach to capturing new hire and behavioral data at a very early stage in the new venture lifecycle. This firm has a great culture of hiring and retaining top talent. The ability to utilize current hire and performance data to potentially help strengthen the new venture and gather ongoing insights of the team, was a major reason these six years of valuable information was shared. The venture was founded in 2010, and generously provided access to a data set consisting of the 174 hiring decisions that occurred from January 2015 to December 2020. This is a period when the new venture experienced significant growth as a young company, going from less than 20 employees to over 160 within this six-year period. Data were collected with permission by the company's President and COO and accompanied by an executed non-disclosure agreement (NDA) working with the human resources team and COO. The data included the use of a Candidate unique ID (which was used to tie in the hiring, performance and resume data content); the hiring data (consisting of start date, department hired); demographic data (consisting of gender, race and years of experience);

performance data (consisting of promotion event (if yes, how many months to first promotion)); tenure data (consisting of tenure in months at the firm and termination date if no longer with the firm); hiring material data (consisting of resumes and cover letters (scrubbed to remove name and contact information) and attached to the unique candidate id)). All HR data was merged into one data file, all personal data from the file was stripped to protect privacy prior to receiving the content. The data was converted form JSON format to CSV format. SPSS software was utilized to prepare the data and perform initial analysis and regression modeling.

To capture expressed written communication data from the hiring data (resumes and cover letters), this study utilized computer-aided text analysis (CATA), which is a form of content analysis that enables the measurement of constructs by processing text, bridging qualitative data into quantitative data based on the frequency of words (McKenny et al., 2018). Some key advantages of using CATA, is its ability analyze large quantities of qualitative textual data (Short & Palmer 2008). Key research themes that are utilizing CATA include Individual Cognition and Behavior, Leader Behaviors, Team Cognition and Performance, and Impact of Tone (Short et al., 2018). Some examples of narratives used in CATA studies are transcribed interviews, media reports, stakeholder letters, and meeting transcripts. I used CATA to process the resume and cover letter text files, to obtain a count of the words that match the custom PsyCap dictionary developed and tested by Short et al. (2010). This PsyCap score became the basis for our independent variable, examining the role written language characteristics might play in PsyCap measurement (more on process, output, and variance analysis in the measures section).

3.2 Measures

Independent Variable

To operationalize the independent expressed variable (PsyCap), the total number of words found when analyzing the cover letters and resumes of applicants that match words from the PsyCap dictionary (McKenny et al., 2012) (Table 7) was tabulated for each subdimension of PsyCap, and a total PsyCap composite score was generated. A common concern in CATA research is that the lengths of texts used in the analysis may vary significantly (Short et al., 2018). This potential variance would result in longer texts generally having higher CATA scores than shorter texts. Therefore, researchers often control the document's length by dividing each CATA variable by the total number of words in the text (e.g., Baur et al., 2016). Accordingly, the present study followed Baur et al.'s (2016) approach to account for variation in each applicant's cover letter and resume length by dividing each CATA variable by the total number of words in the text. See Table 6 which shows a sample of what the CATA output looks like and the progression of steps to prepare the independent variable data for analysis. Chart 1 shows the distribution of PsyCap score by start date. To provide reliability and validity of the PsyCap construct, we performed an Exploratory Factor Analysis. Output from the analysis follow: KMO and Bartlett's test indicates that the data is sufficient for PCA because it has a coefficient of 0.617 whereas Bartlett's test of sphericity shows that there is no sufficient correlation ($p = 0.000$) to hinder PCA (Appendix Table 11). PsyCap sub-dimensions loaded under one factor. Factor 1 was comprised of 4 items, that explained 45% of the variance with factor loadings from .432 to .806 (Appendix Table 13). Measures of sampling adequacy (MSA) were all above .5 (Appendix Table 12). A reliability analysis was run against the 4 sub-dimensions PsyCap construct, providing a Chronbach Alpha score of .493. The reliability of our

CATA scored measurement of the PsyCap construct (α = .5) is lower than previous research utilizing the 12-item PCQ survey method (α = .68). (e.g., see Luthans et al. 2008).

Table 6 *Sample of CATA Data Output for PsyCap*

Step 1 — **Raw word count score from CATA tool for each PsyCap sub-dimension + Total Composite PsyCap Score**

candidate_id	Total Word Count from Text	Self-Efficacy Score	Hope Score	Optimism Score	Resilience Score	Total PsyCap Score
80509272	2135	7	13	5	3	28
21848483	2406	15	14	6	1	36
54781144	3704	30	13	10	7	60
15913602003	1122	7	5	4	3	19

Step 2 — **Same Raw word count score from CATA tool / divided by total words from text (accounting for variance in word count)**

candidate_id	Total Word Count from Text	Self-Efficacy Score/Total Words	Hope Score/Total Words	Optimism Score/Total Words	Resilience Score/Total Words	Total PsyCap Score/Total Words
80509272	2135	0.003278689	0.006088993	0.00234192	0.001405152	0.013114754
21848483	2406	0.006234414	0.005818786	0.002493766	0.000415628	0.014962594
54781144	3704	0.008099352	0.003509719	0.002699784	0.001889849	0.016198704
15913602003	1122	0.006238859	0.004456328	0.003565062	0.002673797	0.016934046

Step 3 — **Same Raw word count score from CATA tool / divided by total words from text (accounting for variance in word count) * 100**

candidate_id	Total Word Count from Text	Self-Efficacy Score/Total Words*100	Hope Score/Total Words*100	Optimism Score/Total Words*100	Resilience Score/Total Words*100	Total PsyCap Score/Tot Words * 100
80509272	2135	0.33	0.61	0.23	0.14	1.31
21848483	2406	0.62	0.58	0.25	0.04	1.50
54781144	3704	0.81	0.35	0.27	0.19	1.62
15913602003	1122	0.62	0.45	0.36	0.27	1.69

Figure 4 *PsyCap Scoring Distribution*

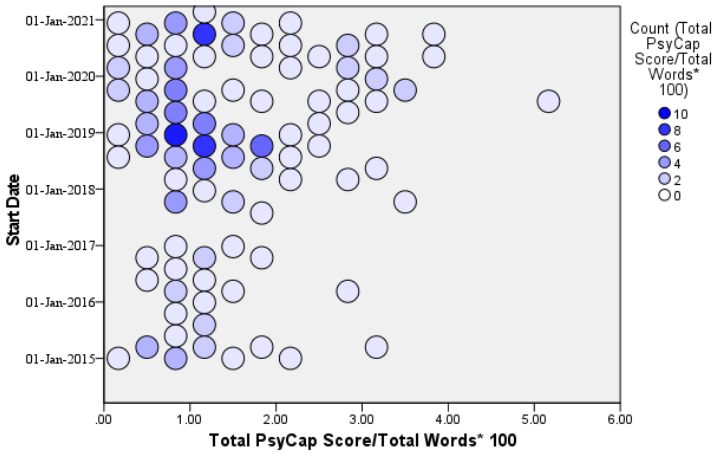


Table 7 *Four Sub-Dimensions of PsyCap Dictionary for CATA*

Computer–Aided Text Analysis Word Lists for PsyCap Dimensions McKenny et al. Source: Developed using Rodale's (1978) The Synonym Finder	
Psychological Capital Dimension	**Computer-Aided Text Analysis Words With Expert Validation**
Hope	Accomplishments, Achievements, Approach, Aspiration, Aspire, Aspired, Aspirer, Aspires, Aspiring, Aspiringly, Assurance, Assurances, Assure, Assured, Assuredly, Assuredness, Assuring, Assuringly, Assuringness, Belief, Believe, Believed, Believes, Believing, Breakthrough, Certain, Certainly, Certainty, Committed, Concept, Confidence, Confident, Confidently, Convinced, Daresay, Deduce, Deduced, Deduces, Deducing, Desire, Desired, Desires, Desiring, Doubt not, Energy, Engage, Engagement, Expectancy, Faith, Foresaw, Foresee, Foreseeing, Foreseen, Foresees, Goal, Goals, Hearten, Heartened, Heartening, Hearteningly, Heartens, Hope, Hoped, Hopeful, Hopefully, Hopefulness, Hoper, Hopes, Hoping, Idea, Innovation, Innovative, Ongoing, Opportunity, Promise, Promising, Propitious, Propitiously, Propitiousness, Solution, Solutions, Upbeat, Wishes, Wishing, Yearn, Yearn for, Yearning, Yearning for, Yearns for
Self-Efficacy	Ability, Accomplish, Accomplished, Accomplishes, Accomplishing, Accomplishments, Achievements, Achieving, Adept, Adeptly, Adeptness, Adroitly, Adroitness, All-in, Aplomb, Arrogance, Arrogant, Arrogantly, Assurance, Assured, Assuredly, Assuredness, Backbone, Bandwidth, Belief, Capable, Capableness, Capably, Certain, Certainly, Certainness, Certainty, Certitude, Cocksurely, Cocksureness, Cocky, Commitment, Commitments, Committed, Compelling, Competence, Competency, Competent, Competently, Confidence, Confident, Confidently, Conviction, Effective, Effectively, Effectiveness, Effectual, Effectually, Effectualness, Efficacious, Efficaciously, Efficaciousness, Efficacy, Equanimity, Equanimous, Equanimously, Expertise, Expertly, Fortitude, Fortitudinous, Forward, Forwardness, Know-how, Knowledgeability, Knowledgeable, Knowledgably, Masterful, Masterfully, Mas-terfulness, Masterly, Mastery, Overconfidence, Overconfident, Overconfi-dently, Persuasion, Power, Powerful, Powerfully, Powerfulness, Prevailed, Prevailing, Prevails, Prevalence, Prevalent, Reassurance, Reassure, Reassured, Reassures, Reassuring, Self-assurance, Self-assured, Self-assuring, Self-confidence, Self-confident, Self-dependence, Self-dependent, Self-reliance, Self-reliant, Stamina, Steadily, Steadiness, Steady, Strength, Strong, Stronger, Strongish, Strongly, Strongness, Superior, Superiority, Sure, Surely, Sureness, Unblinking, Unblinkingly, Undoubtedly, Undoubting, Unflappability, Unflap-pable, Unflinching, Unflinchingly, Unhesitating, Unhesitatingly, Unwavering, Unwaveringly
Resilience	Adamant, Adamantly, Assiduous, Assiduously, Assiduousness, Backbone, Bandwidth, Bears up, Bounce, Bounced, Bounces, Bouncing, Buoyant, Commitment, Commitments, Committed, Consistent, Determination, Determined, Determinedly, Determinedness, Devoted, Devotedly, Devotedness, Devotion, Die trying, Died trying, Dies trying, Disciplined, Dogged, Doggedly, Doggedness, Drudge, Drudged, Drudges, Endurance, Endure, Endured, Endures, Enduring, Grit, Hammer away, Hammered away, Hammering away, Hammers away, Held fast, Held good, Held up, Hold fast, Holding fast, Holding up, Holds fast, Holds good, Immovability, Immovable, Immovably, Indefatigable, Indefatigableness, Indefatigably, Indestructibility, Indestructible, Indestructibleness, Indestructibly, Intransigence, Intransigency, Intransigent, Keep at, Keep going, Keep on, Keeping at, Keeping going, Keeping on, Keeps at, Keeps going, Keeps on, Kept at, Kept going, Kept on, Labored, Laboring, Never-tiring, Never-wearying, Perdure, Perdured, Per-during, Perseverance, Persevere, Persevered, Persevering, Persist, Persisted, Persistence, Persistent, Persisting, Pertinacious, Pertinaciously, Pertinacity, Rebound, Rebounded, Rebounding, Rebounds, Relentlessness, Remain, Remained, Remaining, Remains, Resilience, Resiliency, Resilient, Resolute, Resolutely, Resoluteness, Resolve, Resolved, Resolves, Resolving, Robust, Sedulity, Sedulous, Sedulously, Sedulousness, Snap back, Snapped back, Snapping back, Snaps back, Spring back, Springing back, Springs, Springs back, Spruog back, Stalwart, Stalwartly, Stalwartness, Stand fast, Stand firm, Standingfast, Standing firm, Stands fast, Stands firm, Stay, Steadfast, Steadfastly, Steadfastness, Stood fast, Stood firm, Strove, Survive, Survived, Surviving, Survivor, Tenacious, Tenaciously, Tenaciousness, Tenacity, Tough, Uncompromising, Uncompromisingly, Uncompromisingness, Unfaltering, Unfalteringly, Unflag-ging, Unrelenting, Unrelentingly, Unrelentingness, Unshakable, Unshakably, Unshakeable, Unshaken, Unshaking, Unswervable, Unswerved, Unswerving, Unswervingly, Unswervingness, Untiring, Unwavered, Unwavering, Unweariedness, Unyielding, Unyieldingly, Unyieldingness, Upheld, Uphold, Upholding, Upholds, Zeal, Zealous, Zealously, Zealousness
Optimism	Aspire, Aspirer, Aspires, Aspiring, Aspiringly, Assurance, Assured, Assuredly, Assuredness, Assuring, Auspicious, Auspiciously, Auspiciousness, Bank on, Beamish, Believe, Believed, Believes, Believing, Bullish, Bullishly, Bullishness, Confidence, Confident, Confidently, Encourage, Encouraged, Encourages, Encouraging, Encouragingly, Ensuring, Expectancy, Expectant, Expectation, Expectations, Expected, Expecting, Faith, Good omen, Hearten, Heartened, Heartener, Heartening, Hearteningly, Heartens, Hope, Hoped, Hopeful, Hopefully, Hopefulness, Hoper, Hopes, Hoping, Ideal, Idealist, Idealistic, Idealistically, Ideally, Looking up, Looks up, Optimism, Optimist, Optimistic, Optimistical, Optimistically, Outlook, Positive, Positively, Positiveness, Positivity, Promising, Propitious, Propitiously, Propitiousness, Reassure, Reassured, Reassures, Reassuring, Roseate, Rosy, Sanguine, Sanguinely, Sanguineness, Sanguinity, Sunniness, Sunny

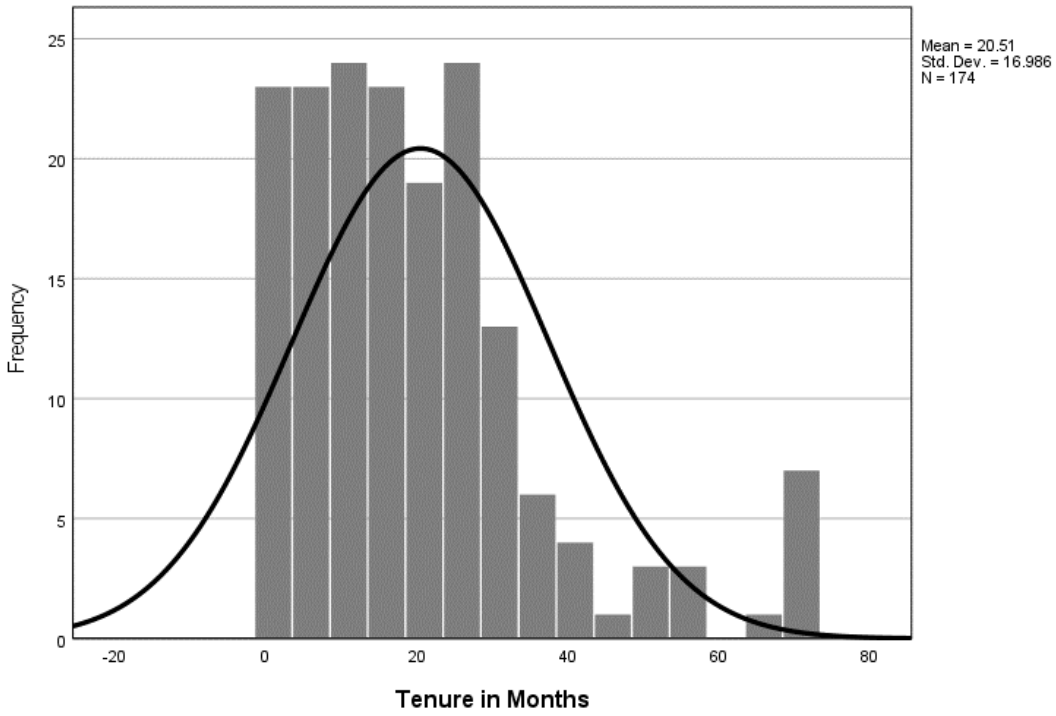
Moderating Variable

Gender, the moderating variable, was captured for each applicant and coded as 'male (zero)' or 'female (one)'. Some turnover research literature has shown that gender differences affect employee turnover behavior and that female employees have a higher turnover rate than male employees (Barack et al., 2009; Zhu et al., 2019). While it would have been preferential for the purposes of this study to capture other gender variables (transgender, etc.), this was not possible.

Dependent Variables

Employee turnover is operationalized as the number of months an individual had remained with the firm or still was with the firm (Chart 2). Zimmerman (2008) showed direct effects from personality to turnover behaviors and intent, not visible through job satisfaction or job performance measures. Discussed earlier, Bhattacharya and Banerjee (2018) suggested that higher PsyCap equated to a longer duration within a company. Data regarding employee promotions was provided by the new venture, tied to the unique employee identifier (Candidate id). Promotion event was identified as either job title changes or an expansion of current responsibilities into a broader role, with a date of promotion and number of months from hire date to promotion date. The promotion dependent variable was captured for each employee as 'no promotion (zero)' or 'yes promotion (one)'. Average tenure is 20.52 months with a standard deviation of 16.9. Of the 174 hired 28.7% of them have been promoted with an average of 13 months to promotion.

Figure 5 *Tenure in Months Distribution (N=174 employees)*



3.3 Control Variables

Three control variables - department hired into, years of work experience, and race – that have been found in prior research to be significant predictors of career success (Ng et al., 2013) were included in the analysis. Department hired is captured from job description data, this control variable is dummy coded and contains four categories (Product, Sales & Marketing, Development, and Operations Support), this information was provided by the HR department. Years of work experience was measured as a continuous variable by the number of years of the applicant's total work experience post-graduation from first degree. This information was derived from the candidate's resume. Race was captured as a dummy variable; specifically,

'one' for non-white candidate or 'zero' for a white candidate. Information about race was provided by the HR department.

3.4 Statistical Methods

The research in this dissertation attempts to understand and explain the relationships between PsyCap and the two dependent variables of employee turnover and promotions, as well as the moderating role of gender within an entrepreneurial venture. The analytical model consists of one independent variable, multiple dependent variables, one moderator, and multiple control variables. To examine *Hypothesis 1 and 3*, a Survival analysis (Summers et al, 1999) was performed. Survival analysis is a set of statistical approaches for data analysis where the outcome variable of interest is time until an event occurs (in this case, when the employee leaves the firm). Survival analysis estimates the conditional probability of leaving, turnover thus is viewed as a time dependent variable that changes state based on how long one remains with an organization. Turnover behavior in turn is modeled in terms of the risk of leaving based on the duration of the employee's attachment to the organization. Turnover for this study was measured in two ways, first the traditional turnover methodology was used to classify study participants as stayers (0) or leavers (1), the measurement window for the study was 6 years, in addition the duration data length of tenure in the organization necessary to perform survival analysis was collected from employee personal records, these records indicated tenure before leaving. Cox proportional hazards regression analysis (Cox, 1972) is well suited for the purpose of this study since it can handle independent variables with a numerical value (PsyCap Score). Furthermore, the Cox regression model extends survival analysis methods to assess the effect of several risk factors (PsyCap, Gender & Control Variables)) on survival time. To examine

Hypothesis 2, a logistic regression analysis was performed to test the main effect of PsyCap on employee promotion. To examine *Hypothesis 4*, a moderated logistic regression analysis was utilized to understand the moderating effect of gender on the PsyCap to employee promotion relationship.

CHAPTER 4: RESULTS

4.1 Descriptive Statistics

This study consisted of 133 male employees (76.4%) and 50 (28.7%) of the 174 hires were classified as non-white. The study averaged 8.46 (SD = 5.059) years of work experience prior to joining the new firm. There are four departments at this firm where all 174 employees could be grouped into. The Development team (including software developers, software engineers and quality assurance professionals) hired 85 (48.9%) of these employees, equating to almost half of the new hires during this six-year window. Over 68% (34) of the 50 non-white hires were brought in through the development team, which accounted for 40% of their full hiring. The second largest was the Product & Design team (including product strategists, managers, and designers) hired 62 (35.6%). The Sales and Marketing team (including business development, engagement management and firmwide marketing functions) hired 17 (9.8%) of these employees, including 39% of the female hires. Looking at it from a trending view, non-white hires continued to increase as a percentage of total hires over the six-year span starting in January 2015 through December 2020 (22%, 15%, 22%, 20%, 36%, 38%). Female hires as a percentage of total hires have remained relatively constant over the same six-year period (22%, 23%, 22%, 20%, 29%, 23%). (Chart 3)

Table 8 presents descriptive statistics for study variables, along with correlations among the variables. There were several significant correlations between the study variables and the control variables. PsyCap is negatively correlated with a Turnover event. This gives an early indication that higher levels of PsyCap suggest a less likelihood for employees to leave the firm. The survival analysis will dig deeper and allow for the ability to bring tenure in months into the equation. PsyCap is also negatively correlated with Development (depart). This indicates that

hired employees into the Development (depart) have a lower PsyCap score. Tenure is positively correlated to Ops Support (depart), negatively correlated to Race, and positively correlated to promotion. This suggests that employees working with the Ops Support team and white employees have stayed with the firm longer. The correlation of tenure to promotion would make sense; the longer you are with the firm, the higher likelihood of promotion. Years of experience is positively correlated to Sales and Marketing (depart) negatively correlated with the Development (depart). This implies more experience is needed for sales-type roles, and fewer years of experience are needed for developer roles. Turnover is positively correlated to Development (depart) and negatively correlated to Ops Support (depart). This could be because of the teams' size (Development = 49% of hires, Ops Support = 6%). Promotion is positively correlated to Development (depart) and negatively correlated to SalesMark (depart) and Race. This could suggest more opportunities based on multiple org. levels and that the hires are early in their career within Development (depart). Promotion is also negatively correlated to Race. This indicates that the employees who are registered as non-white have a lower promotion rate. Also, 18% of promotions to date are employees registered as non-white, but over the last two years, hiring of non-white employees have grown from 15% to 38% (2020) of total hiring, a lagged impact of promotions is a high probability (on average it takes 13 months with the firm when promoted). Race is negatively correlated to Product (depart) and Gender. This indicates that the employees who are registered as non-white are less likely to be on the Product team, currently 17.8%. It also shows more male/non-white hires (88%) than female/non-white hires (12%). This could be due to most of the hiring coming from the Development (depart) 49%, and 81% male.

Table 8 *Means, Standard Deviations and Correlations*

Means, Standard Deviations and Coorelations													
	M	*SD*	1	2	3	4	5	6	7	8	9	10	11
DepartProduct	0.36	0.48											
DepartSalesMark	0.10	0.30	***-.245***										
DeptDevelopment	0.49	0.50	***-.727***	***-.322***									
DeptOpsSupport	0.06	0.23	**-.184**	-.081	***-.241***								
Gender	0.24	0.43	.039	.000	-.109	**.154**							
Race	0.29	0.45	**-.181**	-.038	***.243***	-.102	**-.173**						
Promoted	0.29	0.45	-.048	**-.166**	**.167**	-.048	.066	**-.151**					
TurnoverEvent	0.30	0.46	-.127	.077	**.153**	**-.163**	.074	.104	-.006				
Years of Experience	8.46	5.05	-.027	***.315***	**-.178**	.036	-.137	-.040	.-.070	-.107			
Total PsyCap	0.00	0.88	.106	.108	***-.207***	.088	-.037	.037	.081	**-.162**	.113		
Tenure in months	20.51	16.99	-.036	.013	-.054	**.175**	-.020	***-.294***	***.469***	-.117	-.082	-.052	

a. Gender was coded 0 for male and 1 for female

b. Race was coded 0 for white and 1 for non-white

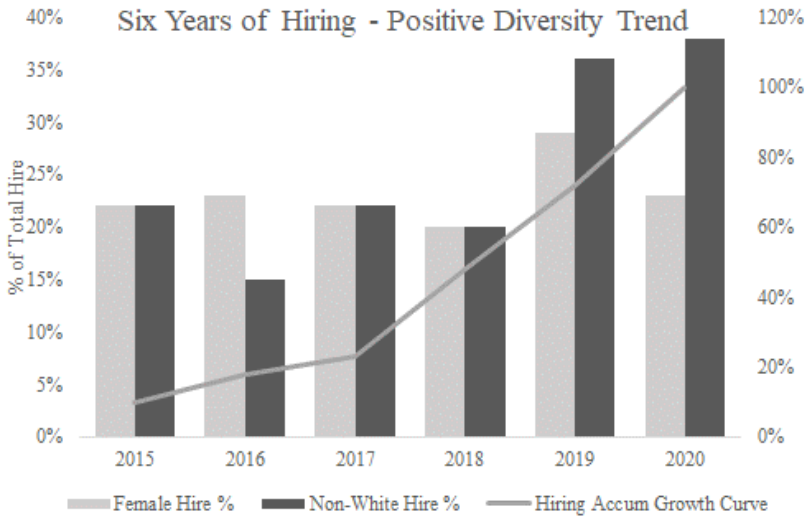
c. Promoted was coded 0 for no and 1 for yes

d. Turnover Event were coded 0 for stayers and 1 for leavers

d. Each Depart were coded 0 for no and 1 for yes

***p* < .05, *p* < .01**

Figure 6 *Demographic View: Hiring Trend for Digital New Venture (Studied)*



4.2 Test of Hypotheses

For Hypotheses 1 and 3, survival analysis techniques were used, which incorporate time-based relational variables that measure turnover in terms of the conditional probability of an employee leaving the firm; this probability varies with organizational employee duration. The proportional hazards assumption of Cox regression requires that the effect of a predictor variable does not change over time. One way of testing this assumption is to add time-by-predictor interaction terms to an equation already containing predictor main effect terms (Harrison, 2002). Therefore, I created the necessary interaction terms and tested them for significance. The control variable Race when interacted with the time dependent covariate (Race*T_Cov) showed significance (p .03) (Appendix Table 8). Race was the only predictor that showed significance. To account for the Race covariate having non-proportional hazards, we adjusted to using a Stratified Cox Regression model (Deo et al., 2021). A useful extension of the standard Cox model and solves for covariates with non-proportional hazards, utilizing race as the Strata.

Hypothesis 1 proposed that PsyCap is positively related to reducing the likelihood of employee turnover in entrepreneurial ventures. As shown in the Stratified Cox regression model (which measures hazard rate, risk of leaving the company) output in Table 9, the relationship between PsyCap and employee turnover ($\beta = -.94$, $p < .001$**) is significant and negatively correlated. Cox regression measures impact to hazard rate [in this case turnover], so a negative coefficient suggests the higher the PsyCap score the less likelihood employee turnover). Impact simplified: If the hazard rate = 1 (no effect); if the hazard rate < 1 (reduction in hazard); if the hazard rate > 1 (increase in hazard). PsyCap hazard rate or Exp(B) = .39 which is < 1 (reduction

in hazard rate). For each additional unit (PsyCap Score), the hazard decreases by 61% (1 – 0.39) *100). Therefore, the findings offer support for Hypothesis 1.

Hypothesis 3 stated that gender moderates the relationship between PsyCap and employee turnover in entrepreneurial ventures, and the influence of PsyCap on reducing the likelihood of employee turnover in entrepreneurial ventures is stronger (more positive) for women than men. As shown in Table 9, the interaction of gender with PsyCap (Gender*PsyCap) is significant and negatively correlated (β = -1.70 p < .01**). Gender*PsyCap hazard rate or Exp(B) = .18, which is < 1 (reduction in hazard rate). When PsyCap is Interacted/Moderated by Gender (Female), for each additional unit (PsyCap Score), the hazard decreases by (1-.219) *100 = 82%. Therefore, Hypothesis 3 was supported.

Chart 4 and 5 show plots of the estimated survival and hazard functions, broken out by the strata (race). Both functions show a consistent linear trend throughout the six years. A clear differentiation in the strata variable, race. Table 9 reports the results of the Cox regression analyses. We used likelihood ratio tests to examine the effects of entering control and predictor variable blocks into the model. In the first step, only the control variables were entered into the regression equation. A likelihood ratio test indicated there was a significant (p .05) change in model fit. The relational variables' addition as a set in the second step of the analysis resulted in a significant chi-square change in fit (5.873, df 2, p .05*). Examining the regression coefficients with all the variables entered the model, one can see that a negative association between PsyCap and turnover was significant (p .004**). As for the moderator's interactive effect, Table 9 shows a negative and significant association (p .010*). The significant chi-square statistic indicates that the model gives a significant improvement over the baseline intercept-only model (-2LL intercept-only = 391, final model = 368, p .01*). We computed pseudo-R2 s (Cox and Snell,

1989) to show the relative improvement in the association for the model containing all the variables (pseudo-R2=.734).

Table 9 *Results of Cox Regression Analysis*

Results of Cox Regression Analysis for Hypotheses 1&3									
	Step 1 (Controls)			**Step 2** (Controls & IV Predictor)			**Step 2** (Full-model w/moderator)		
Predictors	**β**	**Sig**	**Exp(B)**	**β**	**Sig**	**Exp(B)**	**β**	**Sig**	**Exp(B)**
Department (Product)		0.71			0.79			0.81	
Department (Sales&MKTG))	0.47	0.31	1.62	0.46	0.34	1.58	0.47	0.32	1.61
Department (Development)	0.33	0.32	1.39	0.27	0.44	1.30	0.17	0.61	1.19
Department (Operations)	-12.98	0.97	0.00	-13.05	0.97	0.00	-12.92	0.97	0.00
Years of Experience	-0.01	0.76	0.99	0.01	0.81	1.01	0.01	0.80	1.01
TotPsychological Capital Score				-0.35	0.11	0.71	-0.94	0.004**	0.39
Gender				0.60	0.06	1.822	0.05	0.91	1.05
Gender*PsyCap Score (Interactive effect with Moderator)							-1.70	0.01**	0.18

N = 174
*p < .05
**p < .01

Figure 7 *Survival Function Trend at Mean of Covariates Split by Strata (Race)*

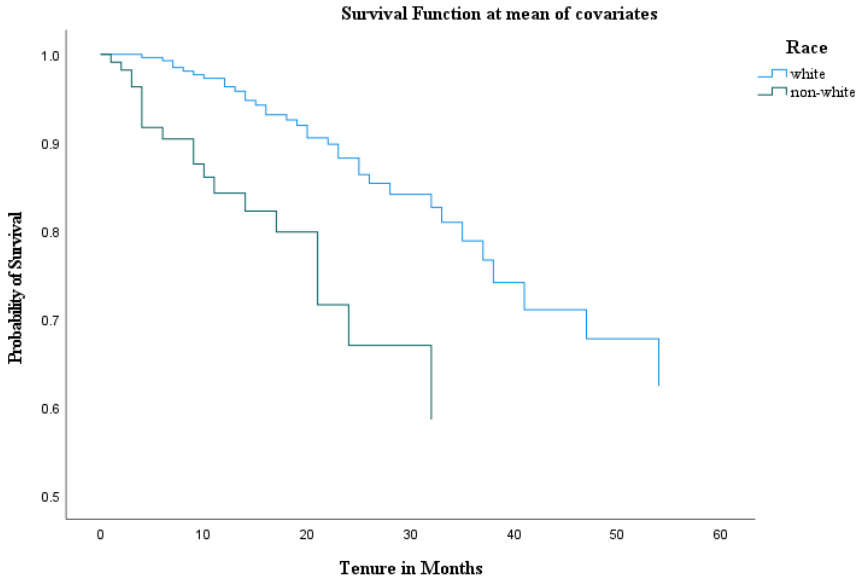
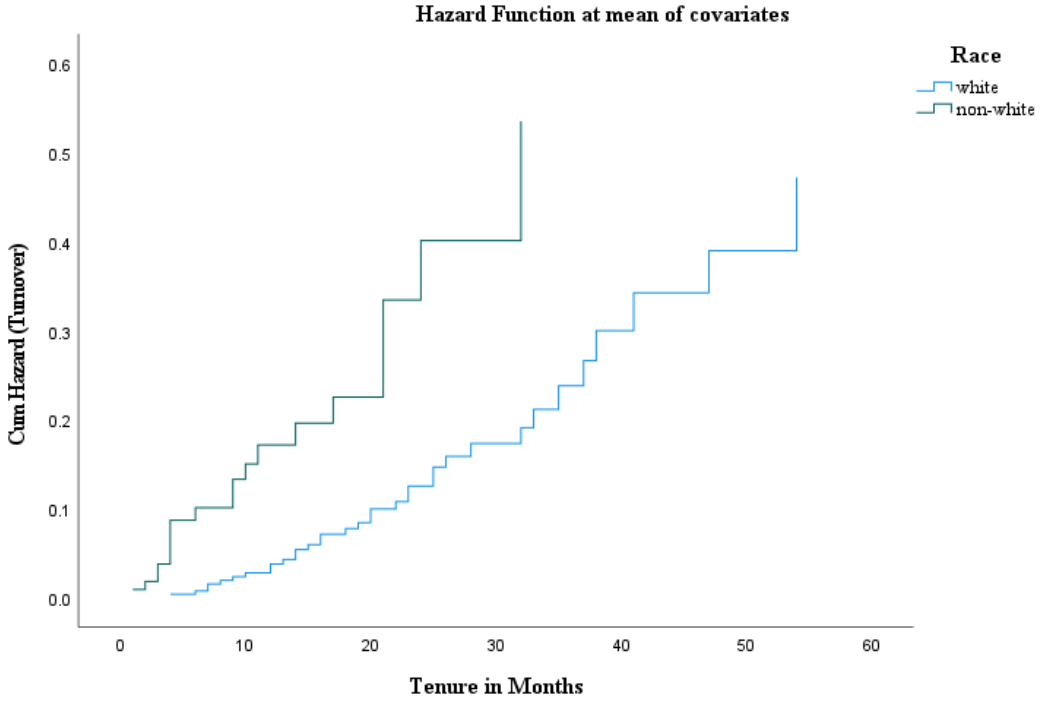


Figure 8 *Hazard (Turnover)Function Trend at Mean of Covariates Split by Strata (Race)*



A Binary Logistic regression model was utilized for Hypotheses 2 and 4 since the dependent variable was dichotomous (no promotion event occurred (0), yes promotion event occurred (1) since start date). Hypothesis 2 suggested that PsyCap is positively related to employee promotions in entrepreneurial ventures. As shown in the Logistic regression model output (Table10), the relationship between employee PsyCap and promotions ($\beta = .50$, $p < .05$*) is significant and positive. Therefore, the findings offer support for Hypothesis 2. Hypothesis 4 stated that gender moderates the relationship between PsyCap and employee promotions in entrepreneurial ventures, with the relationship being stronger (more positive) for men than women. As shown in Table 10, the interaction of gender with PsyCap (PsyCap*Gender) is not statistically significant, and the graph of this interaction (Chart 6) shows stronger (more positive)

for women than men. Therefore, Hypothesis 4 was not supported (see Chart 7) representing the two-way interaction effect between PsyCap and probability of promotion by gender).

In Step 1 of the Binary Logistics regression model, we entered the control variables, step 2 we added the predictor variables and moderating variables, in step 3 we entered interactive product term of the independent and moderator variables, which if significant, confirmed moderation. Predictor variables were centered. Looking at the fit of the model, the following measures show support. Starting with the chi-squared test score measuring the current model relative to the previous null model shows a statistically significant improvement in fit ($p = .041$). Looking at the R square values, in this case, the pseudo-R squares (Nagel=.162), the values were relatively low. The Hosmer Lemeshow test was not significant (.371), which is an indicator of a good fit, and based on the classification table the overall accuracy rate was 71.3% in terms of predicting a promotion event. Now, a view at the impact from individual predictors. First, looking at the control variables, the department hired into (3=development) had a positive coefficient, increasing the likelihood (160%) of employees from this department falling into the promoted group and it was significant (p .018*). Race is significant with a negative coefficient value (white = 0, non-white = 1). This indicates a potential decrease in promotion likelihood for non-white employees (by 70%).

Table 10 *Binary Logistic Regression Analysis Output*

Results of Binary Logistic Regression Analysis for Hypotheses 2 & 4							
	Step 1 (Controls)		**Step 2** (Controls and IV Pred)		**Step 3** (Full-model w/moderator)		
Predictors	**β**	**Sig**	**β**	**Sig**	**β**	**Sig**	**Exp(B)**
Department (Product)		**0.04***		**0.02***		**0.01***	
Department (Sales&MKTG))	-1.69	0.12	-1.83	0.10	-1.83	0.10	0.16
Department (Development)	0.75	0.05	0.93	**0.02***	0.98	**0.02***	2.68
Department (Operations)	-0.40	0.63	-0.63	0.47	-0.70	0.44	0.50
Race	-1.10	**0.01***	-1.18	**0.01****	-1.17	**0.01****	0.31
Years of Experience	0.00	0.99	0.01	0.91	0.01	0.90	1.01
Psychological Capital Score			0.41	**0.04***	0.50	**0.04***	**1.64**
Gender			0.38	0.36	0.40	0.34	1.49
Gender x PsyCap Score					0.31	0.51	1.36
Constant	-1.45	0.00	-1.47	0.00	-1.49	0.00	
Step 1 Overall % Correct Classification Table = **70.1%**	2LogLik	C&S R2	2LogLik	C&S R2	2LogLik	C&S R2	
Step 2 Overall % Correct Classification Table = **71.3%**	192.927	**0.087**	189.045	**0.111**	187.792	**0.113**	

N = 174
*p < .05
**p < .01

Figure 9 *Two-Way Interaction Effects for Logistic Regression (PsyCap and Gender)*

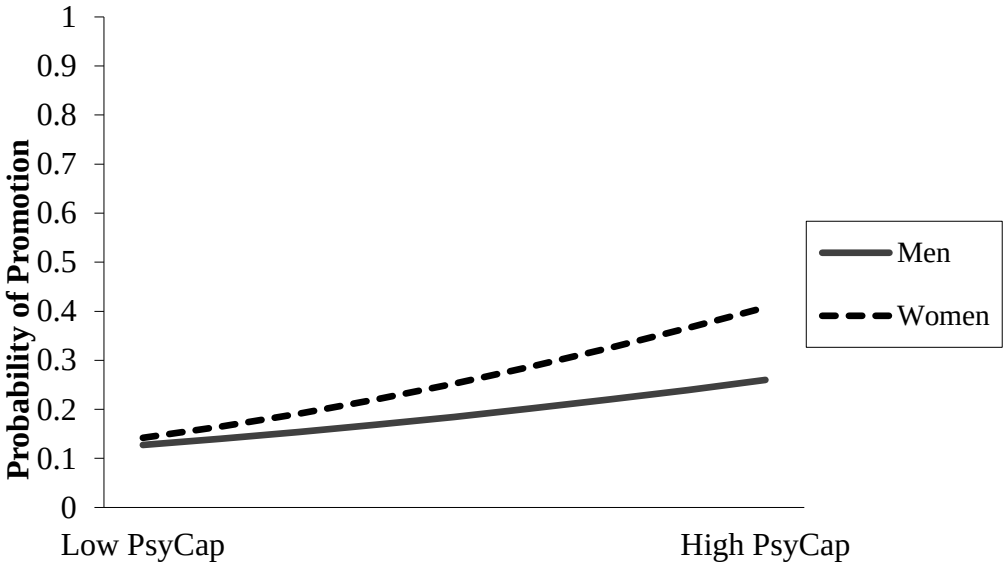
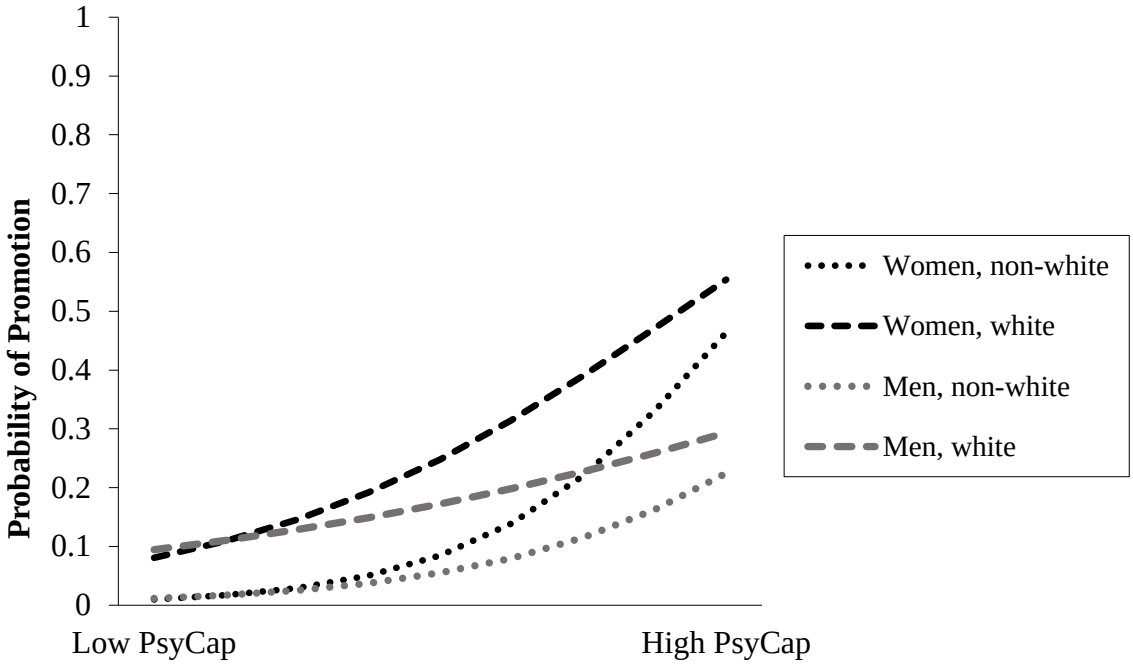


Figure 10 *Three-Way Interaction Effects for Logistic Regression (PsyCap, Gender, Race)*



CHAPTER 5: DISCUSSION & CONCLUSION

5.1 Interpretation of Findings

Extant research has shown that PsyCap has a strong link to higher employee performance (Youssef &Luthans, 2007; Walumbwa, Peterson, Avolio & Hartnell, 2010; Peterson, Luthans, Avolio, Walumbwa & Zhang, 2011). This body of work suggests strong support to PsyCap's ongoing positive relationship with employees in the form of PsyCap's prediction power around employee turnover and probability of employee promotions. In addition, few studies have looked at the impact positive PsyCap can have on new employees and how they make their way through the organization or exit it. Expanding on previous research (Bockorny and Youssef-Morgan, 2019), this study looked to understand if PsyCap carried the same weight from a young digital entrepreneurial firm, stages past the original entrepreneurial founder.

There is empirical evidence to state that PsyCap can be utilized to improve retention rates (Schulz, Luthans & Messersmith, 2014). The data from this study supports the findings on positive retention impacts. PsyCap negatively impacted turnover and positively impacted promotions to such a degree that for every unit increase in PsyCap score, the hazard decreased (i.e., probability of turnover decreased) by 58.2%, and promotion probability increased by 64%. Findings support previous predictions about the significant effects from gender as a moderator of PsyCap (Wooley et al., 2011). When gender is introduced to the model, the interactive effect with PsyCap on turnover was significant (p .01**) and for female employees, decreased the turnover hazard probability with every 1 unit (score) increase in PsyCap, by 82%.

The next finding centered around the role of gender in employee turnover in a predominately male industry. Indeed, most of the U.S. tech industry employees are male; an estimated less than 33% are female (Statista, 2021). With this digital venture being a part of the

tech industry, looking at gender impacts are key. Stated earlier in this study, the interaction of gender on the PsyCap and turnover relationship suggested significant impacts for female employees. A combination of maintaining the increase in female hiring (moving up to 29% in 2019) and hiring/training for higher levels of PsyCap can start to move change the story on what has been a male dominated industry.

Another interesting finding was the insignificant impact gender had on employee promotions. The research by Bhattacharya and Banerjee (2018) demonstrated that higher confidence in male employees can reflect a competitive nature and help males create more promotion opportunities for themselves. The data in this research did not suggest gender had a moderating impact on the PsyCap to promotion relationship. Looking at the data this makes sense, the splits on promoted vs. not promoted shows consistency across both male and female (Not promoted population = Male 78.2% and Female 21.8%), (Promoted population = Male 72% and Female 28%). The data suggest that a female hire, at higher levels of PsyCap, carried a higher probability for promotion then a male hire, not statistically significant but the opposite of what I expected in Hypothesis 4. Data inserted in Appendix Table 14 – reveals the comparative picture between the male and female employees engaged in the digital entrepreneurial venture in terms of their expressed psychological capital. The overall picture reveals that the average scores are higher among the males than that of the females (by 6%). That supports and matches the output from Bhattacharya et al. (2018) research, where he showed a 6% higher PsyCap score for males over females.

However, when looking at the four sub-dimensions separately, the data suggests different outcomes. Bhattacharya et al. (2018) suggest that for all four sub-dimensions, male scores were

higher than the female score for PsyCap. This study suggests varying outcomes; male employees scored higher than the female employees concerning the sub-dimension of self-efficacy, but the hope sub-dimension is equal for male and female, and female employees score higher on both Optimism and Resiliency. Bhattacharya et al. (2018) also found no significant difference in PsyCap in connection with the duration of service. Our study tries to add to these findings by testing the PsyCap to turnover relationship (-.94, $p < .004$), and the data suggest a significant negative relationship to turnover.

5.2 Study Limitations

The following limitations also brought learning's and direction for future research. The sample's specific nature (new digital entrepreneurial ventures) limits the extent to which the findings can be generalized to other organizations and settings. While the sample represented a significant percentage of the new venture's hiring and covered the time where the most growth occurred (i.e., 89%) over the years, the sample provided came from a very specific segment of new ventures (digital professional services) and only two regions (Southeast United States and Mountain West United States), and for a specific six-year time frame of its nine-year existence (01/15-12/20). We were able to go back six years to capture all hiring and performance data, prior to that the data was limited and unreliable.

Furthermore, this study intentionally focused on measuring PsyCap scores from expressed writing of applicants (resumes and cover letters) utilizing CATA analysis, instead of using the 12-item Psychological Capital Questionnaire (Norman et al.,2010). As one of the early attempts to measure PsyCap from this source, the study tried to understand if applicants' words using documents supposed to represent who they are and what they have done can provide a

confident representation of one's PsyCap. Even though the data suggested variance across the applicants PsyCap scores, the fact that many applicants leverage resume templates could be a limitation when it comes to leveraging the expressed written communications as the sole method of measure for PsyCap. A potential approach to increase the confidence of PsyCap scores captured through CATA would be to score the studied population using the traditional survey tool to compare PsyCap level. As stated in the measures section, the reliability of our CATA scored measurement of the PsyCap construct ($\alpha = .5$) is lower than previous research. The utilization of leveraging written language expressions of PsyCap (resumes and cover letters) needs further exploration. Opportunity to supplement with incremental language from other sources (e.g., social media, LinkedIn) could help build reliability to the approach. More research will need to be done regarding using individual written language when measuring PsyCap to build further confidence.

Additional limitations to this study include the data capture of gender and race as binary variables. Obtaining specific sub-categories of each would bring incremental value to better understand who specifically make an impact. Also, with more than half of the new hires coming in over the last two years, promotions can be a lagging measure. And lastly, the data available on turnover reason was not available. We do know they have not had any layoffs over those six years, but deeper sub segments reason for voluntary turnover were not available.

5.3 Practical Implications

Exploring the relationship between PsyCap and employee promotion/turnover in the entrepreneurial venture context contributes to the buildup of knowledge to help answer the question, why are some new ventures more successful than others at hiring and retaining top

heavily sought-after talent? Previous PsyCap research focused so heavily on the founder (Hmieleski and Barron, 2009) in entrepreneurship, but the fact that PsyCap abilities can be taught and learned (Youssef & Luthans, 2011), and understanding where an applicant or new hire may be on the PsyCap state-like spectrum early, training and education become a controllable strategy to aid in venture success through the building of the team.

From this study, the data suggests PsyCap level increased by one point can impact employee turnover by 61% (p .004**). Knowing that the impact PsyCap has on retention only gets better when you are referring to a female leader, starts to provide a directional path for hiring and training. The data suggests that PsyCap negatively impacts turnover and positively impacts promotions, so if a firm can hire people high in PsyCap that will reduce turnover and increase the likelihood of ending up with promotable employees. The current study added to the body of literature highlighting higher PsyCap can bring stronger job performance and positive impacts on organizational commitment (Avey, Reichard, et al., 2011; Luthans, 2006). Also, as many larger organizations fight to bring much needed and past due focus to the hiring of ethnically diverse and gender diverse candidates, new venture teams can understand better the benefits of a much more diverse and ultimately better tenured and promoted team, right from the beginning of build-out.

Dai et al. (2019) suggested that gender diversity in new venture teams needed to be studied to better understand potential positive outcomes, as more women were turning to new ventures. Prior to that new venture research focused solely on either functional or educational diversity. Our study contributes to this literature on gender diversity associated with new venture teams by demonstrating the positive interaction with PsyCap to retain diverse talent. The contributions of this study are also significant for educators. Due to the critical role that

entrepreneurial ventures play in our economy and knowing that PsyCap, regardless of gender, is state-like and can be increased.

The value of employee hope, self-efficacy, resilience, and optimism has probably never been greater, especially when looking at the need through the lens of young entrepreneurial ventures. Practitioners focusing on finding talent with high levels of PsyCap and then helping to mature even further these valuable differentiators will be key. The research here provides the beginnings to why those values are important.

5.4 Directions for Future Research

While this study indicates that PsyCap has a strong relationship with several job success measures (employee turnover and promotion), the ability to view the data as a longitudinal study and determine if there are any changes to PsyCap's impact, especially when studying a young company like the one in this research, could be strong addition to this work. As a young company that is hiring and in a growth mode, some of the trailing measures of performance and retention over time can be sub-optimized when looking at an early point in time.

Since this study avoided the use of a PsyCap self-assessment, to avoid any temptation to applicants when there is a potential new job on the line, further work needs to be done to expand on expressed output from applicants to build up as much content as possible to increase the accuracy of CATA scoring. A potential approach to help validates PsyCap score creation from application documents would be to follow up with the 12-item Psychological Capital Questionnaire (Norman et al., 2010) performed on the same population.

Our findings indicate that future research should compare different moderators to PsyCap and employee performance (e.g., Ethnicity) and keep in mind the life-stage that the firm is

currently in. Ventures in later life cycle stages may have different hiring practices and more sophisticated training programs, an opportunity to measure PsyCap levels over time (Linlin et al., 2017). Examine ethnicity's expanded role as a moderator to PsyCap and its impacts on multiple performance outcomes. This study showed the negative effect ($\beta = -1.17$) an ethnically diverse hire can have on tenure and promotions within a new venture; a deeper analysis segmenting ethnicity and testing the generalizability of impact could lead to answers on the root cause.

Expanding from this study's utilization of content analysis, scholars can expand beyond the PsyCap construct and examine other state and trait-like identifiers (e.g., assertiveness, entrepreneurial orientation). The opportunity to include other forms of an applicant's expressed written language (e.g., LinkedIn) should be explored. Building on opportunities to leverage content analysis when hiring and retaining the right talent, scholars can start to look at outbound written communications (e.g., job postings, company core values) to measure if that expressed language represents the same state and trait like characteristics the firm is looking to attract. Longitudinal research opportunities that can look at both sides of these outcomes (type of talent and firm wants and who a firm is hiring) can help build on exploring qualitative content analysis and leveraging quantitative data at the firm and individual level.

In this study, we measured the interactive impact of gender on the PsyCap to Turnover/Promotion relationship in an entrepreneurial venture. Gender had a significant impact on turnover as the dependent variable; there is an opportunity to continue down this research path and look at other moderators. From this study, Race showed a significant correlation to both employee tenure and promotion. Digging deeper to understand how Race (potentially expanded to ethnicity types) can impact these and other employee performance measures and behavior. This study looked at years of experience before being hired as a control variable, and

the data suggested no correlation to PsyCap or the independent variables of employee performance. However, Barrick & Zimmerman (2009) suggested that an alternative to exploring further is where longer tenure with previous employers could significantly impact employee turnover.

The key finding that PsyCap as a construct suggests an impact on job turnover provides an indirect endorsement of training programs to increase an employee's PsyCap levels at the sub-dimension level. Further research focusing on the impact of employee training to help raise PsyCap state-like levels could have long-lasting positive effects on performance and tenure.
In Wright & Bonett's (2016) two-year field study, the evidence suggested that voluntary turnover is prompted by low job satisfaction, as well as by low PWB (Personal Well Being).
A better understanding of how these significant predictors can be impacted with the additional findings of PsyCap as a moderating variable to the turnover relationship could help build on new and long-term employees alike.

In the Cenciotti et al. (2016) study, one of the practical implications suggested was that organizations should consider the level of PsyCap in their personnel selection and provide early support for hired workers to strengthen their PsyCap. Future research, building upon this suggestion, can leverage expressed PsyCap scores captured in this study from application material and test as a first impression and input into face-to-face interviews. Pulling that path forward, incorporating a longitudinal study that can then measure post-hire efforts on training, coaching, and mentoring programs can increase individual PsyCap levels and ultimately measure change to employee performance or behavior measures or even more significant performance measures changes.

It is the long-term effect that PsyCap can have on promotion and tenure that is focused on for this study. There are, of course, other potential dependent variables that represent good and bad outcomes from employee behavior that should also be measured in this new entrepreneurial space (e.g., job satisfaction, positive work-life balance, raises). Extending past the individual level to better understand if an employee base with higher PsyCap scores drives firm-level success and performance.

The turnover literature has focused on how attitudes, citizenship and peer to peer relationships develop into turnover (Mossholder et al., 2005). This study adds to the literature by looking more at internal attitudes. The opportunity to round out turnover literature, especially in entrepreneurial ventures can help growing firms hire with retention in mind. An additional path to expand this study would be from a geographical perspective, and research whether the outcomes could be different in various areas of the U.S., reminder the 174 employees studied in this research worked in two specific geographic areas (Southeast and Mountain West United States).

5.5 Conclusion

Entrepreneurship continues to be a key driver in facilitating economic recovery and growth (cites). For entrepreneurial ventures and startups, choosing the right "early hires" are important, and retaining early hires is important to hold onto valuable human capital and establishing internal routines and capabilities. To conclude, a favorable profile of participants high in PsyCap emerges from this study. This study suggests that for every additional unit of PsyCap score an employee has a 64% higher probability for promotion. And for each additional unit of PsyCap Score, the hazard rate (turnover) decreases by 58%. When moderated by gender

(female) that hazard rate (turnover) decreases by 82%. For entrepreneurial ventures, turnover can be devasting, focusing on bringing in talent that has the levels of hope, self-efficacy, resilience, and optimism to withstand the constant change and stress levels is key.

The favorable profile of PsyCap expands beyond traits that desired employees possess, and because it is state-like, the opportunity to strengthen each sub-dimension is possible. It is essential that employees' PsyCap go beyond their demographics, years of experience, and job type. Developing and mentoring the PsyCap of new hires in new venture firms may provide a competitive advantage in meeting the growing challenges facing organizations today and certainly in the future of finding, hiring, promoting, and retaining top talent.

In the words of Luthans (2012) PsyCap is, "who we are, the HERO" (hope, efficacy, resilience, optimism) that lies within us. And, since there is empirical evidence that PsyCap has been found to be open to development (Peterson et al., 2011; Luthans, Avey, Avolio, Norman & Combs, 2006; Luthans, Youssef & Avolio, 2007; Luthans, Avey& Patera, 2008), capturing a new employee PsyCap score as early as possible (hiring process), the sooner the focus can be on developing an individual's PsyCap to retain and promote top talent. And where is that more important than in the competitive world of Digital Entrepreneurship.

References

Abbas, M., Raja, U., Darr, W., & Bouckenooghe, D. (2014). Combined Effects of Perceived Politics and Psychological Capital on Job Satisfaction, Turnover Intentions, and Performance. ***Journal of Management***, *40*(7), 1813–1830.

Artinger, S., & Powell, T. C. (2016). Entrepreneurial failure: Statistical and psychological explanations. ***Strategic Management Journal***, *37*(6), 1047–1064.

Avey, J. B., Luthans, F., & Jensen, S. M. (2009). Psychological capital: A positive resource for combating employee stress and turnover. ***Human Resource Management***, *48*(5), 677–693.

Avey, J. B., Luthans, F., & Youssef, C. M. (2010). The Additive Value of Positive Psychological Capital in Predicting Work Attitudes and Behaviors. ***Journal of Management***, *36*(2), 430–452.

Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. (2011). Meta-analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. ***Human Resource Development Quarterly***, *22*(2), 127–152.

Avey, J. B., Wernsing, T. S., & Luthans, F. (2008). Can Positive Employees Help Positive Organizational Change? Impact of Psychological Capital and Emotions on Relevant Attitudes and Behaviors. ***The Journal of Applied Behavioral Science***, *44*(1), 48–70.

Barrick, M. R., & Zimmerman, R. D. (2009). Hiring for retention and performance. ***Human Resource Management***, *48*(2), 183–206.

Ballout, H. I. (2009). Career commitment and career success: Moderating role of self-efficacy. ***Career Development International***, *14*(7), 655–670.

Baluku, M. M., Kikooma, J. F., Bantu, E., & Otto, K. (2018). Psychological capital and entrepreneurial outcomes: The moderating role of social competences of owners of micro-enterprises in East Africa. ***Journal of Global Entrepreneurship Research***, *8*(1), 1–1.

Baluku, M. M., Kikooma, J. F., & Kibanja, G. M. (2016). Psychological capital and the startup capital–entrepreneurial success relationship. ***Journal of Small Business & Entrepreneurship***, *28*(1), 27–54.

Bandura, A. (2011). On the Functional Properties of Perceived Self-Efficacy Revisited. ***Journal of Management***, *38*(1), 9–44.

Barbosa, S. D., Gerhardt, M. W., & Kickul, J. R. (2016). The Role of Cognitive Style and Risk Preference on Entrepreneurial Self-Efficacy and Entrepreneurial Intentions. ***Journal of Leadership & Organizational Studies***, *13*(4), 86–104.

Bardoel, E. A., Pettit, T. M., De Cieri, H., & McMillan, L. (2014). Employee resilience: An emerging challenge for HRM. ***Asia Pacific Journal of Human Resources***, *52*(3), 279–297.

Baron, R. A., Franklin, R. J., & Hmieleski, K. M. (2016). Why Entrepreneurs Often Experience Low, Not High, Levels of Stress: The Joint Effects of Selection and Psychological Capital. ***Journal of Management***, *42*(3), 742–768.

Basım, H. N., Çetin, F., & Tüzün, İ. K. (2014). The Role of Psychological Capital and Supportive Organizational Practices in The Turnover Process. *ODTÜ Gelişme Dergisi*, *41*(2), 85.

Baur, J. E., Parker Ellen, B., Buckley, M. R., Ferris, G. R., Allison, T. H., McKenny, A. F., & Short, J. C. (2016). More than one way to articulate a vision: A configurations approach to leader charismatic rhetoric and influence. ***The Leadership Quarterly***, *27*(1), 156–171.

Bhattacharya, S., & Banerjee, E. (2018). Employee Engagement, Perceived Stress and Psychological Capital: An Empirical Study. ***ASBM Journal of Management***, *11*(2), 1–10. Business Source Complete.

Bird, B., & Brush, C. (2002). A Gendered Perspective on Organizational Creation. ***Entrepreneurship Theory and Practice***, *26*(3), 41–65.

Bockorny, K., & Youssef-Morgan, C. M. (2019). Entrepreneurs' Courage, Psychological Capital, and Life Satisfaction. ***Frontiers in Psychology*** (Vol. 10). FRONTIERS MEDIA SA.

Bruni, A., Gherardi, S., & Poggio, B. (2004). Doing Gender, Doing Entrepreneurship: An Ethnographic Account of Intertwined Practices. ***Gender, Work and Organization***, *11*(4), 406–429.

Cenciotti, R., Alessandri, G., & Borgogni, L. (2016). Psychological Capital and Career Success Over Time: The Mediating Role of Job Crafting. ***Journal of Leadership & Organizational Studies***, *24*(3), 372–384.

Choi, W., Noe, R., & Cho, Y. (2019). What is responsible for the psychological capital-job performance relationship? An examination of the role of informal learning and person-environment fit. ***Journal of Managerial Psychology***, *34*(1), 28–41.

Clapp-Smith, R., Vogelgesang, G. R., & Avey, J. B. (2008). Authentic Leadership and Positive Psychological Capital: The Mediating Role of Trust at the Group Level of Analysis. ***Journal of Leadership & Organizational Studies***, *15*(3), 227–240.

Combs, G. M., Milosevic, I., Jeung, W., & Griffith, J. (2012). Ethnic Identity and Job Attribute Preferences: The Role of Collectivism and Psychological Capital. ***Journal of Leadership & Organizational Studies***, 19(1), 5–16.

Cooper, B., Wang, J., Bartram, T., & Cooke, F. L. (2019). Well-being-oriented human resource management practices and employee performance in the Chinese banking sector: The role of social climate and resilience. ***Human Resource Management***, *58*(1), 85–97.

Cox, D. R., and Snell, E. J. (1989). The analysis of binary data, 2nd ed. London: ***Chapman and Hall.***

Cox, DR. (1972). Regression models and life tables (with discussion). J R Statist Soc B; 34:187-220.

Culbertson, S. S., Fullagar, C. J., & Mills, M. J. (2010). Feeling Good and Doing Great: The Relationship Between Psychological Capital and Well-Being. ***Journal of Occupational Health Psychology***, *15*(4), 421–433.

Dai, Y., Byun, G., & Ding, F. (2019). The Direct and Indirect Impact of Gender Diversity in New Venture Teams on Innovation Performance. ***Entrepreneurship Theory and Practice***, *43*(3), 505–528.

Dawkins, S., Martin, A., Scott, J., & Sanderson, K. (2013). Building on the positives: A psychometric review and critical analysis of the construct of Psychological Capital. ***Journal of Occupational and Organizational Psychology***, *86*(3), 348–370.

Deo, S.V., Deo, V. & Sundaram, V. (2021). Survival analysis—part 2: Cox proportional hazards model. ***Indian J Thorac Cardiovasc Surg* 37,** 229–233.

Eddleston, K. A., Ladge, J. J., Mitteness, C., & Balachandra, L. (2016). Do You See What I See? Signaling Effects of Gender and Firm Characteristics on Financing Entrepreneurial Ventures. ***Entrepreneurship Theory and Practice***, *40*(3), 489–514.

Edwards, J. R. (2001). Multidimensional Constructs in Organizational Behavior Research: An Integrative Analytical Framework. ***Organizational Research Methods***, *4*(2), 144–192.

Forbes, D. P., Borchert, P. S., Zellmer-Bruhn, M. E., & Sapienza, H. J. (2006). Entrepreneurial Team Formation: An Exploration of New Member Addition. ***Entrepreneurship Theory and Practice***, *30*(2), 225–248.

Gooty, J., Gavin, M., Johnson, P. D., Frazier, M. L., & Snow, D. B. (2009). In the Eyes of the Beholder: Transformational Leadership, Positive Psychological Capital, and Performance. ***Journal of Leadership & Organizational Studies***, *15*(4), 353–367.

Gupta, V. K., Turban, D. B., Wasti, S. A., & Sikdar, A. (2009). The Role of Gender Stereotypes in Perceptions of Entrepreneurs and Intentions to Become an Entrepreneur. ***Entrepreneurship Theory and Practice*** (Vol. 33, Issue 2, pp. 397–417).

Henry, C. (1977). Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences. ***Contemporary Sociology (Washington),*** 6(3), 320–320.

Hall, D. T., & Chandler, D. E. (2005). Psychological success: When the career is a calling. ***Journal of Organizational Behavior***, *26*(2), 155–176.

Heled, E., Somech, A., & Waters, L. (2016). Psychological capital as a team phenomenon: Mediating the relationship between learning climate and outcomes at the individual and team levels. ***Journal of Positive Psychology***, *11*(3), 303–314.

Hmieleski, K. M., & Baron, R. A. (2008). When does entrepreneurial self-efficacy enhance versus reduce firm performance? ***Strategic Entrepreneurship Journal***, *2*(1), 57–72.

Hmieleski, K. M., & Baron, R. A. (2009). Entrepreneurs' Optimism and New Venture Performance: A Social Cognitive Perspective. ***Academy of Management Journal***, *52*(3), 473–488.

Hubner, S. V., & Baum, M. (2018). Entrepreneurs' human resources development. ***Human Resource Development Quarterly***, *29*(4), 357–381.

Jones, J., & Harter, J. (2005). Race Effects on the Employee Engagement-Turnover Intention Relationship. ***Journal of Leadership & Organizational Studies***, *11*(2), 78–88.

Juhdi, H., Hamid, R., Rizal, A., & Juhdi, N. (2015). Psychological Capital and Entrepreneurial Success: A Multiple-Mediated Relationship. ***European Journal of Interdisciplinary Studies***, *1*(2), 110-133.

Kim, J., Kim, J., Noh, Y., & Noh, Y. (2016). The effects of psychological capital and risk tolerance on service workers' internal motivation for firm performance and entrepreneurship. ***International Entrepreneurship and Management Journal***, *12*(3), 681–696.

King, D. D., Newman, A., & Luthans, F. (2016). Not if, but when we need resilience in the workplace. ***Journal of Organizational Behavior***, *37*(5), 782–786.

Larson, M., & Luthans, F. (2006). Potential Added Value of Psychological Capital in Predicting Work Attitudes. ***Journal of Leadership & Organizational Studies***, *13*(2), 75–92.

Linder, C., Lechner, C., & Pelzel, F. (2020). Many Roads Lead to Rome: How Human, Social, and Financial Capital Are Related to New Venture Survival. ***Entrepreneurship Theory and Practice,*** *44*(5), 909–932.

Linlin, J., Madison, K., Kraiczy, ND., Kellermanns, FW., Crook, TR., Xi, J. (2017). Entrepreneurial Team Composition Characteristics and New Venture Performance: A Meta–Analysis. ***Entrepreneurship Theory and Practice***, 41(5):743-771.

Lupșa, D., Vîrga, D., Maricuțoiu, L. P., & Rusu, A. (2020). Increasing Psychological Capital: A Pre-Registered Meta-Analysis of Controlled Interventions. ***Applied Psychology***, *69*(4), 1506–1556.

Luthans, B., Luthans, K., & Jensen, Susan M. (2012). The Impact of Business School Students' Psychological Capital on Academic Performance. ***Journal of Education for Business***, *87*(5), 253–259.

Luthans, F, Avey, J., Avolio, B., Norman, S., & Combs, G. (2006). Psychological capital development: Toward a micro-intervention. ***Journal of Organizational Behavior***, *27*(3), 387–393.

Luthans, F., Youssef, C., & Avolio, B. (2007). *Psychological Capital: developing the human competitive edge*. Oxford University Press.

Luthans, Fred. (2002a). Positive organizational behavior: Developing and managing psychological strengths. ***Academy of Management Perspectives***, *16*(1), 57–72.

Luthans, Fred. (2002b). The need for and meaning of positive organizational behavior. ***Journal of Organizational Behavior***, *23*(6), 695–706.

Luthans, Fred, Avey, J. B., Avolio, B. J., Norman, S. M., & Combs, G. M. (2006). Psychological capital development: Toward a micro-intervention. ***Journal of Organizational Behavior***, *27*(3), 387–393.

Luthans, Fred, Avey, J. B., Avolio, B. J., & Peterson, S. J. (2010). The Development and Resulting Performance Impact of Positive Psychological Capital. ***Human Resources Development Quarterly,*** *21*(1), 41–67.

Luthans, Fred, & Avolio, B. J. (2014). Brief Summary of Psychological Capital and Introduction to the Special Issue**. *Journal of Leadership & Organizational Studies***, *21*(2), 125–129.

Luthans, Fred, Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive Psychological Capital: Measurement and Relationship with Performance and Satisfaction. ***Personnel Psychology***, *60*(3), 541–572.

Luthans, Fred, Norman, S. M., Avolio, B. J., & Avey, J. B. (2008). The mediating role of psychological capital in the supportive organizational climate—Employee performance relationship. ***Journal of Organizational Behavior,*** *29*(2), 219–238.

Luthans F, GR Vogelgesant and PB Lester (2006). Developing the psychological capital of resiliency. ***Human Resource Development Review*** 5(1), 25–44.

Luthans, Fred, & Youssef-Morgan, C. M. (2017). Psychological Capital: An Evidence-Based Positive Approach. ***Annual Review of Organizational Psychology and Organizational Behavior***, *4*(1), 339–366.

Luthans, F., Youssef-Morgan, C. M., & Avolio, B. J. (2015). Psychological capital and beyond. Oxford, UK: Oxford University Press.

Madrid, H. P., Diaz, M. T., Leka, S., Leiva, P. I., & Barros, E. (2018). A Finer Grained Approach to Psychological Capital and Work Performance. ***Journal of Business & Psychology,*** *33*(4), 461–477.

Matsuo, M. (2019). Personal growth initiative as a predictor of psychological empowerment: The mediating role of job crafting. ***Human Resource Development Quarterly***, *30*(3), 343–360.

McKay, P., Avery, D., Morris, M., Hernandez, M., and Hebl, M. (2007). Racial Differences in Employment Retention: Are Diversity Climate Perceptions the Key? ***Personnel Psychology***, *60*(1), 35–62.

McKenny, A. F., Short, J. C., & Payne, G. T. (2012). Using Computer-Aided Text Analysis to Elevate Constructs: An Illustration Using Psychological Capital. ***Organizational Research Methods***, *16*(1), 152–184.

McKenny, A.F., Aguinis, H., Short, J.C., Anglin, A.H., (2018). What Doesn't Get Measured Does Exist: Improving the Accuracy of Computer-Aided Text Analysis. ***Journal of Management*** 44, 2909–2933.

Mills, M. J., Fleck, C. R., & Kozikowski, A. (2013). Positive psychology at work: A conceptual review, state-of-practice assessment, and a look ahead. ***Journal of Positive Psychology***, *8*(2), 153–164.

Milosevic, I., Bass, A. E., & Milosevic, D. (2017). Leveraging Positive Psychological Capital (PsyCap) in Crisis: A Multiphase Framework. ***Organization Management Journal***, *14*(3), 127–146.

Monnot, M. J. (2017). Organizational Change Agent Influence: A Conditional Process Model of Key Individual Psychological Resources. ***Journal of Change Management***, *17*(3), 268–295.

Mossholder, Kevin W, Settoon, RP & Henagan, Stephanie C. (2005). A Relational Perspective on Turnover: Examining Structural, Attitudinal, and Behavioral Predictors. ***Academy of Management Journal***, *48*(4), 607–618.

Neuendorf, K. A. (2016). The content analysis guidebook (2nd ed.). Thousand Oaks, CA: Sage.

Newman, A., Ucbasaran, D., Zhu, F., & Hirst, G. (2014). Psychological capital: A review and synthesis. ***Journal of Organizational Behavior***, *35*(S1), S120–S138.

Ng, T. W. H., & Feldman, D. C. (2013). A meta-analysis of the relationships of age and tenure with innovation-related behaviour. **Journal of Occupational & Organizational Psychology,** *86*(4), 585–616.

Niederle, M., & Vesterlund, L. (2007). Do women shy away from competition? Do men compete too much? ***The Quarterly Journal of Economics***, *122*(3), 1067-1101.

Nolzen, N. (2018). The concept of psychological capital: A comprehensive review. ***Management Review Quarterly,*** *68*(3), 237–277.

Norman, S. M., Avey, J. B., Nimnicht, J. L., & Graber Pigeon, N. (2010). The Interactive Effects of Psychological Capital and Organizational Identity on Employee Organizational Citizenship and Deviance Behaviors. ***Journal of Leadership & Organizational Studies***, *17*(4), 380–391.

Ozyilmaz, A., Erdogan, B., & Karaeminogullari, A. (2018). Trust in organization as a moderator of the relationship between self-efficacy and workplace outcomes: A social cognitive theory-based examination. ***Journal of Occupational & Organizational Psychology***, *91*(1), 181–204.

Paek, S., Schuckert, M., Kim, T. T., & Lee, G. (2015). Why is hospitality employees' psychological capital important? The effects of psychological capital on work engagement and employee morale. ***International Journal of Hospitality Management***, *50*, 9–26.

Paterson, T. A., Luthans, F., & Jeung, W. (2014). Thriving at work: Impact of psychological capital and supervisor support. ***Journal of Organizational Behavior***, *35*(3), 434–446.

Peterson, R. (1994). A Meta-analysis of Cronbach's Coefficient Alpha. ***Journal of Consumer Research,*** 21, 381–391.

Peterson, S. J., & Byron, K. (2008). Exploring the role of hope in job performance: Results from four studies. ***Journal of Organizational Behavior***, *29*(6), 785–803.

Peterson, S.J., Luthans, F., Avolio, B.J., Walumbwa, F.O., and Zhang, Z. (2011). Psychological Capital and Employee Performance: A Latent Growth Modeling Approach. ***Personnel Psychology,*** *64*(2), 427–450.

Pradhan, R. K., Jena, L. K., & Bhattacharya, P. (2016). Impact of psychological capital on organizational citizenship behavior: Moderating role of emotional intelligence. ***Cogent Business & Management,*** *3*(1), 1194174.

Reede, D. (2021). Voluntary Employee Turnover: A Literature Review and Evidence-Based, User-Centered Strategies to Improve Retention. ***Journal of the American College of Radiology: JACR***., *18*(3), 442–450.

Rego, A., Sousa, F., Marques, C., & Cunha, M. P. e. (2012). Authentic leadership promoting employees' psychological capital and creativity. ***Journal of Business Research***, *65*(3), 429–437.

Roberts, S. J., Scherer, L. L., & Bowyer, C. J. (2011). Job Stress and Incivility: What Role Does Psychological Capital Play? ***Journal of Leadership & Organizational Studies***, *18*(4), 449–458.

Roche, M., Haar, J. M., & Luthans, F. (2014). The role of mindfulness and psychological capital on the well-being of leaders. ***Journal of Occupational Health Psychology***, *19*(4), 476–489.

Salisu, I., Hashim, N., Mashi, M. S., & Aliyu, H. G. (2020). Perseverance of effort and consistency of interest for entrepreneurial career success Does resilience matter? ***Journal of Entrepreneurship in Growing Economies***, *12*(2), 279–304.

Schmitt A, Gielnik MM, Zacher H, Klemann DK. (2013). The motivational benefits of specific versus general optimism. ***Journal of Positive Psychology***, 8: 425–434.

Shin, J., Taylor, MS., and Seo, MG (2012). Resources for change: The relationships of organizational inducements and psychological resilience to employees' attitudes and behaviors towards organizational change. ***Academy of Management Journal*** 55, 727–748.

Short, J. C., McKenny, A. F., & Reid, S. W. (2018). More Than Words? Computer-Aided Text Analysis in Organizational Behavior and Psychology Research. ***Annual Review of Organizational Psychology and Organizational Behavior,*** *5*(1), 415–435.

Short, JC., Palmer, TB. (2008). The application of DICTION to content analysis research in strategic management. Organ. Res. Methods11:727–52.

Snyder, C. R., Sympson, S. C., Ybasco, F. C., Borders, T. F., Babyak, M. A., & Higgins, R. L. (1996). Development and validation of the state hope scale. ***Journal of Personality and Social Psychology***, 70, 321–335.

Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., Yoshinobu, L., Gibb, J., Langelle, C., & Harney, P. (1991). The will and the ways. ***Journal of Personality and Social Psychology***, 60,570–585.

Somers, Mark John, & Birnbaum, Dee. (1999). Survival Versus Traditional Methodologies for Studying Employee Turnover: Differences, Divergences and Directions for Future Research. ***Journal of organizational behavior*** 20.2: 273–284.

Story, J. S. P., Youssef, C. M., Luthans, F., Barbuto, J. E., & Bovaird, J. (2013). Contagion effect of global leaders' positive psychological capital on followers: Does distance and quality of relationship matter? ***The International Journal of Human Resource Management***, *24*(13), 2534–2553.

Stumpf, S. A., & Tymon, W. G. (2012). The effects of objective career success on subsequent subjective career success. ***Journal of Vocational Behavior***, *81*(3), 345–353.

Sweetman, D., Luthans, F., Avey, J. B., & Luthans, B. C. (2011). Relationship between positive psychological capital and creative performance. ***Canadian Journal of Administrative Sciences,*** *28*(1), 4–13.

Tang, J. (2020). Psychological Capital and Entrepreneurship Sustainability. ***Frontiers in Psychology*** (Vol. 11).

Walumbwa, F.O., Peterson, S.J., Avolio, B.J., and Hartnell, C.A. (2010). An Investigation of the Relationships Among Leader and Follower Psychological Capital, Service Climate, and Job Performance. ***Personnel Psychology***, *63*(4), 937–963.

Wang, H., Sui, Y., Luthans, F., Wang, D., & Wu, Y. (2014). Impact of authentic leadership on performance: Role of followers' positive psychological capital and relational processes. ***Journal of Organizational Behavior***, *35*(1), 5–21.

Wang, W. (2020). *Using Survival Analysis in Human Resource Management Research: Staff Retention*. Sage Publications.

Wang, Y., Tsai, C.-H., Lin, D. D., Enkhbuyant, O., & Cai, J. (2019). Effects of Human, Relational, and Psychological Capitals on New Venture Performance. ***Frontiers in Psychology*** (Vol. 10).

Woolley, L., Caza, A., & Levy, L. (2011a). Authentic Leadership and Follower Development: Psychological Capital, Positive Work Climate, and Gender. ***Journal of Leadership & Organizational Studies***, *18*(4), 438–448.

Woolley, L., Caza, A., & Levy, L. (2011b). Authentic Leadership and Follower Development: Psychological Capital, Positive Work Climate, and Gender. ***Journal of Leadership & Organizational Studies,*** *18*(4), 438–448.

Wright, T. A., & Bonett, D. G. (2016). Job Satisfaction and Psychological Well-Being as Nonadditive Predictors of Workplace Turnover. ***Journal of Management***, *33*(2), 141–160.

Wu, C.-M., & Chen, T.-J. (2018). Collective psychological capital: Linking shared leadership, organizational commitment, and creativity. ***International Journal of Hospitality Management,*** *74*, 75–84.

Xu, W., & Zhao, S. (2020). The Influence of Entrepreneurs' Psychological Capital on Their Deviant Innovation Behavior. ***Frontiers in Psychology***, *11*.

Youssef, C. M., & Luthans, F. (2007). Positive Organizational Behavior in the Workplace: The Impact of Hope, Optimism, and Resilience. ***Journal of Management***, *33*(5), 774–800.

Youssef-Morgan, C. M. (2014). Advancing OB Research: An Illustration Using Psychological Capital. ***Journal of Leadership & Organizational Studies***, *21*(2), 130–140.

Youssef-Morgan Carolyn M., & Luthans Fred. (2013). Psychological Capital Theory: Toward a Positive Holistic Model. ***Advances in Positive Organizational Psychology*** (Vol. 1, pp. 145–166).

Zahra, S. A. (2007). Contextualizing theory building in entrepreneurship research. ***Journal of Business Venturing,*** *22*(3), 443–452.

Zahra, S. A., Wright, M., & Abdelgawad, S. G. (2014). Contextualization and the advancement of entrepreneurship research. ***International Small Business Journal***, *32*(5), 479–500.

Zhu, Q., Shang, J., Cai, X., Jiang, L., Liu, F., Qiang, B., (2019). CoxRF: Employee Turnover Prediction Based on Survival Analysis.

Zimmerman, R. D. (2008). Understanding the Impact of Personality Traits on Individuals' Turnover Decisions: A Meta-Analytic Path Model. ***Personnel Psychology***, *61*(2), 309-348.

APPENDIX: Supplemental Tables and Figures

Appendix Table 1 *Variable Mean View*

Statistics

		DeptHiredInto	Gender	Ethnic Diversity	Tenure in Months	Promoted Yes No	Months to First Promotion	Years of Experience prior to hire	Total PsyCap Score/Total Words* 100
N	Valid	174	174	174	174	174	50	174	174
	Missing	0	0	0	0	0	124	0	0
Mean		2.25	.24	.29	20.51	.29	12.94	8.46	1.3528

Appendix Table 2 *Depart Hired into Distribution (Control Variable)*

DeptHiredInto

	N	%
Product	62	35.6%
SalesMarketing	17	9.8%
Development	85	48.9%
OperationsSupp...	10	5.7%

Appendix Table 3 *Gender Distribution (Moderator)*

Gender

	N	%
Male	133	76.4%
Femal...	41	23.6%

Appendix Table 4 *Promotions Distribution (DV)*

Promoted Yes No

	N	%
notpromotedy...	124	71.3%
promoted	50	28.7%

Appendix Table 5 *Race Binary Distribution (Control Variable)*

Race

	N	%
white	124	71.3%
non-white	50	28.7%

Appendix Table 6 *Employee Promotion by Depart Hired Into (Control Variable) Distribution*

*Promoted Yes No * DeptHiredInto Crosstabulation*

		DeptHiredInto								Total	
		Product		SalesMarketing		Development		OperationsSupport			
		N	%	N	%	N	%	N	%	N	%
Promoted Yes No	notpromotedyet	46	74.2%	16	94.1%	54	63.5%	8	80.0%	124	71.3%
	promoted	16	25.8%	1	5.9%	31	36.5%	2	20.0%	50	28.7%
Total		62	100.0%	17	100.0%	85	100.0%	10	100.0%	174	100.0%

Appendix Figure 1 *Years of Experience Control Variable (Distribution)*

Appendix Table 7 *Proportional Hazard Assumption for Cox Regression Model (Race*T_COV)*

Variables in the Equation

	B	SE	Wald	df	Sig.	Exp(B)	95.0% CI for Exp(B)	
							Lower	Upper
DeptHiredInto			4.368	3	.224			
DeptHiredInto(1)	.779	.789	.974	1	.324	2.179	.464	10.231
DeptHiredInto(2)	-.661	.632	1.095	1	.295	.516	.150	1.782
DeptHiredInto(3)	-12.283	414.304	.001	1	.976	.000	.000	.
YearsofExperCenter	.029	.052	.314	1	.575	1.030	.930	1.140
Race	2.285	.618	13.685	1	.000	9.821	2.927	32.947
TotalPsyCapCenter	-.774	.450	2.963	1	.085	.461	.191	1.113
Gender	.233	.714	.106	1	.744	1.262	.312	5.111
Gender*TotalPsyCapCenter	-1.682	.702	5.742	1	.017	.186	.047	.736
DeptHiredInto*T_COV_			4.003	3	.261			
DeptHiredInto(1)*T_COV_	-.029	.052	.314	1	.575	.972	.878	1.075
DeptHiredInto(2)*T_COV_	.047	.033	2.078	1	.149	1.048	.983	1.118
DeptHiredInto(3)*T_COV_	.022	16.435	.000	1	.999	1.022	.000	9.985E+13
Gender*T_COV_	-.002	.028	.008	1	.929	.998	.945	1.053
T_COV_*TotalPsyCapCenter	-.009	.020	.202	1	.653	.991	.953	1.031
T_COV_*YearsofExperCenter	-.002	.003	.435	1	.509	.998	.993	1.004
Race*T_COV_	-.082	.038	4.586	1	.032	.921	.855	.993

Appendix Table 8 *Reliability Analysis (Chronbach Alpha for PsyCap Sub-Dimensions)*

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.493	.576	4

Appendix Table 9 *Reliability Analysis*

Inter-Item Correlation Matrix

	SelfEfficacy Score 100	Hope Score 100	Optimism Score 100	Resiliency Score 100
SelfEfficacy Score 100	1.000	.198	.379	.215
Hope Score 100	.198	1.000	.152	.125
Optimism Score 100	.379	.152	1.000	.453
Resiliency Score 100	.215	.125	.453	1.000

Appendix Table 10 *Reliability Analysis*

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SelfEfficacy Score 100	.9150575	.477	.364	.165	.346
Hope Score 100	.7686782	.410	.216	.049	.565
Optimism Score 100	1.1078161	.502	.393	.291	.331
Resiliency Score 100	1.2605172	.679	.345	.210	.454

Appendix Table 11 *Exploratory Factor Analysis (PsyCap Sub-Dimensions)*

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.617
Bartlett's Test of Sphericity	Approx. Chi-Square	74.838
	df	6
	Sig.	.000

Appendix Table 12 *EFA*

Anti-image Matrices

		SelfEfficacy Score 100	Hope Score 100	Optimism Score 100	Resiliency Score 100
Anti-image Covariance	SelfEfficacy Score 100	.835	-.134	-.240	-.035
	Hope Score 100	-.134	.951	-.045	-.048
	Optimism Score 100	-.240	-.045	.709	-.305
	Resiliency Score 100	-.035	-.048	-.305	.790
Anti-image Correlation	SelfEfficacy Score 100	.654[a]	-.150	-.312	-.043
	Hope Score 100	-.150	.730[a]	-.055	-.056
	Optimism Score 100	-.312	-.055	.584[a]	-.407
	Resiliency Score 100	-.043	-.056	-.407	.610[a]

a. Measures of Sampling Adequacy(MSA)

Appendix Table 13 *EFA*

Component Matrix[a]

	Component
	1
Optimism Score 100	.806
Resiliency Score 100	.707
SelfEfficacy Score 100	.680
Hope Score 100	.432

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Appendix Table 14 *PsyCap and Sub Dimensions by Gender Mean and Std. Deviation View*

Report

Gender		Total PsyCap Score/Total Words* 100	SelfEfficacy Score 100	Hope Score 100	Optimism Score 100	Resiliency Score 100
Male	Mean	1.37	.46	.58	.24	.08
	N	133.00	133.00	133.00	133.00	133.00
	Std. Deviation	.90	.36	.52	.34	.13
Female	Mean	1.29	.36	.58	.25	.11
	N	41.00	41.00	41.00	41.00	41.00
	Std. Deviation	.85	.34	.38	.25	.21
Total	Mean	1.35	.44	.58	.24	.09
	N	174.00	174.00	174.00	174.00	174.00
	Std. Deviation	.89	.36	.49	.32	.15