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EXPLORATION INTO THE RELATIONSHIP BETWEEN WORK AND PLAY FOR

EMPLOYED ADULTS

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by

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This study focuses on the relationship between work engagement and play for employed adults. Current research suggests that work engagement is a desirable experience for both employees and employers to cultivate, producing both material and psychosocial benefits. Play and work engagement theory state that these constructs share several underlying characteristics including intrinsic motivation, positive affect, and flow suggesting that a statistically significant relationship would be present (Gray, 2011; Stairs & Galpin, 2010). Participants were gathered through social media and businesses, capturing a sample of 228 adults, 87% of which were employed full-time from 20 career family groupings. The sample was 70% white and 72% female with a median age of 37. Hierarchical regression was used to evaluate 5 hypotheses focused on the predictive capacity of playfulness and work-play congruence on the work engagement scores of the sample. The analysis found no support for the hypotheses, suggesting that playfulness and work-play congruence were not predictive of work engagement. Instead, intrinsic motivation, positive affect, and need-supply fit were the strongest predictors of work engagement. Post hoc analyses found tentative support for a relationship between playfulness and work engagement for certain subgroups (e.g. sample gathered from Facebook and participants who worked in management and administration positions). The analysis also found that, contrary to theory, playfulness was only correlated to one of the two intrinsic motivation subscales. Suggesting that playfulness as measured within this study may not have been sufficiently complex enough to fully explore the relationship between work engagement and playfulness. The findings suggest the need for more research with different measures to better understand how and if play and work engagement relate to each other.
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Chapter 1

Introduction

There is a commonly held belief that work and play are opposites of each other. As adults, work is something that must be done, while play is something we get to do if we are lucky and are good at taking care of ourselves. The day-to-day experience of the average American worker appears to support this. A report on the state of American workers found that 70% of American workers are either “not engaged” or “actively disengaged” and report low levels of psychological well-being (GALLUP, 2013). The report would seem to suggest that work, as experienced by the majority of Americans, is not an enjoyable experience.

Play is commonly understood as a verb, meaning “to engage in enjoyable activities”. In contrast, work is defined as “time spent at place of employment(“play: definition of play in Oxford dictionary (American English) (US),” n.d.).” Both definitions include expressions of purposeful effort or performance in some capacity. The difference being that play is intrinsically enjoyable. And yet many adults enjoy their work, experience engagement at work, and feel as if they are at play at their jobs. The seminal work of Csikszentmihalyi (1991) on flow supports this notion that work can be a satisfying, engaging, and enjoyable experience. His research on work and leisure in adult lives found that the deeply engaged, optimal experience of flow happens more often for adults when they are at work than when they are engaged in leisure activities. A study of adult learning found that cognitive playfulness in adult learners led to “higher test performance and more positive affective outcomes” (Martocchio & Webster, J., 1992, p. 553). A study, focused on Taiwanese professionals, found that high levels of playfulness, as a trait, was positively correlated with high levels of job satisfaction (Yu, Wu, Chen, & Lin, 2007). Researchers interested in the well-being of adults are coming to the conclusion that work and play
are not so dissimilar and perhaps it is beneficial to look at how these two variables might relate (L. A. Barnett, 2007; Csikszentmihalyi, 1975; Csikszentmihalyi & LeFevre, 1989).

This study will explore the relationship between work and play in adult day-to-day work experience. In particular, it will explore the relationship of playfulness, as a character trait, and the effects of congruence between work tasks and play orientations, to the construct of positive work engagement.

**Conceptual Underpinnings of the Study**

Many of the constructs explored in this study are commonly located within the field of positive psychology. Positive psychology was founded by Seligman and Csikszentmihalyi as an alternative to standard psychology’s focus on pathology (M. E. Seligman & Csikszentmihalyi, 2000). Positive psychology attends to the positive emotional states and traits that contribute to our ability to thrive and be happy. There are multiple theories within the positive psychology canon, including one that lays the conceptual groundwork for this study: the Broaden-and-Build theory of positive emotions, developed by Barbara Fredrickson (2004). Fredrickson’s theory suggests that positive emotions contribute to psychological well-being and quality of life through their capacity to open us up to challenges, which in turn allow us to develop self-efficacy and improve our capacities through experience.

Previous studies and conceptual efforts focused on work engagement have drawn on the B&B theory as one of a few theories that explain the antecedents and benefits of being engaged at work. (Salanova, Schaufeli, Xanthopoulou, & Bakker, 2010; Schaufeli & Bakker, 2010). B&B theory is conceptualized as a gain spiral fueled by positive emotions. For example, a positive experience inspires positive emotions which in turn supports our openness to new and possibly more challenging experiences helping us to grow and develop. The B&B theory has yet to be
applied to play research, however, it would not be a reach to do so. Like work engagement, play and playfulness are inherently positive emotional experiences that are thought to contribute to a gain spiral of development (Burghardt, 2010, 2011).

Another important theoretical assumption present within this study is the concept of *person-environment fit*. Otherwise understood as *congruence*, person-environment fit (p-e fit) is described as a harmony or matching between an individual’s characteristics, values, and skills, and their work’s characteristics, values, and demands (Hinkle & Choi, 2009; Kristof-Brown & Guay, 2011). Meta-analyses have found significant relationships between p-e fit and a range of work related outcomes and behaviors (Spokane, Meir, & Catalano, 2000). The importance of congruence as a construct for employees and employers was first brought to the attention of vocational counselors by Frank Parson’s early work on Trait-Factor Matching (Parsons, 1909). John Holland’s work in career counseling continued this tradition and established a set of personality types (e.g. Realistic, Investigative, Artistic, Social, Enterprising, Conventional) that are used to explore an individual’s fit within their work environment through commonly used career counseling tools such as the Strong Interest Inventory and the Self-Directed Search (Harmon, DeWitt, Campbell, & Hansen, 1994; Shears, Beavis, & Holland, 2001). Person-environment fit research has since explored the complexities of congruence. For example, the work of Cable and DeRue (2002) suggests that person-environment fit is a complex construct that involves three factors of fit: person-organization fit; needs-supplies fit; and demands-abilities fit. The research questions developed for this study lean on the construct of congruence as the theoretical logic for exploring the relationship between playfulness and play-work congruence and work engagement.
Statement of the Problem

Scholars of various disciplines have primarily investigated work engagement, work, play, and playfulness separately. Yet, scholars within career counseling (Bordin, 1979; Hartung, 2002), positive psychology (Csikszentmihalyi & LeFevre, 1989), leisure studies (L. A. Barnett, 2007), and business (Abramis, 1990; Andersen, 2013; Costea, Crump, & Holm, 2007; Martocchio & Webster, J., 1992; Starbuck & Webster, 1991) have all suggested a potential value in connecting our understandings about work and play. Unfortunately, there are few empirical efforts looking at the relationship between these areas of interest (Chick & Hood, 1998; Yu et al., 2007). With the value of work engagement for the employee and employer established, the next scientific endeavor may be to explore unique and counter intuitive ways to foster engagement in the workplace. There is not yet enough known about the role of play as a state of mind or the role of playfulness as a trait within the subjective experience of work engagement for adults. This study will begin the task of remedying that gap in knowledge.

Research Questions and Hypotheses

This study will attend to the following research questions related to the relationship between play and work engagement within the lives of working adults:

1. Does playfulness as a character trait predict work engagement?
2. Does playfulness have an indirect effect on work engagement when affect and motivational orientation are considered?
3. To which of work engagement’s three dimensions is playfulness most strongly related: Vigor, Absorption, or Dedication?
4. Does congruence between day-to-day work activities and an individual’s orientation toward play (what a person subjectively experiences as play) predict work engagement?

5. Which is a stronger predictor of work engagement: work-play congruence or playfulness as a character trait?

These research questions result in the following hypotheses to be tested in this study.

**Hypothesis 1:** Playfulness as measured by SMAP (Proyer, 2012a) will have a positive relationship to work engagement as a whole, while holding constant positive and negative affect, motivational orientation, and perceived fit.

**Hypothesis 2:** Playfulness will have an indirect effect on work engagement through an interaction effect with positive–negative affect and intrinsic-extrinsic motivation, while holding constant the variables Positive Affect (PANAS pos), Negative Affect (PANAS neg), Intrinsic Motivation (IM total), Extrinsic Motivation (EM total), and Perceived fit.

**Hypothesis 3:** Playfulness as measured by SMAP will have a stronger relationship to the subscales of Vigor and Absorption than it will to Dedication, while examining additional effects of positive and negative affect, and motivational orientation.

**Hypothesis 4:** Positive fit between an individual’s play orientation (what is experienced subjectively as playful) and their work activities will predict high levels of work engagement, while holding constant Positive and Negative affect (PANAS pos and neg), Motivational Orientation, and Perceived Fit.

**Hypothesis 5:** Work-play congruence will be a stronger predictor of work engagement than playfulness as a character trait alone, while examining mediation affects of Positive and Negative affect, Motivational Orientation, and Perceived Fit.
Definition of Key Terms

Before relationships between constructs can be studied, the constructs must be defined so that they can be measured or observed. The variables of interest will be outlined and briefly defined below, including: play, playfulness, work engagement, and congruence. Following that effort, constructs will be outlined that are similar to the main variables yet have distinctions worthy of mention, including: leisure, flow, and job satisfaction.

Play

Play researchers have often commented that play is easy to identify yet difficult to define. Several definitions have been developed with enough similarities to suggest an informal consensus. Play theorists have conceived of play as an experience that engages the physical, the emotional, and the cognitive. According to Gray, play is: “(1) self-chosen and self-directed; (2) intrinsically motivated; (3) guided by mental rules; (4) imaginative; and (5) involves an active, alert, but non-stressed frame of mind” (Gray, 2012, p. 355). Play has also been defined as a subjective experience of novelty, a pursuit of mastery, and a deep level of consuming engagement (S. Brown & Vaughan, 2009; Henricks, 2012; Sutton-Smith, 1997). The experiential nature of these definitions create measurement challenges. For the purpose of this study, play is measured through a lens of personality and subjective preference as both playfulness (a character trait) and a preference toward a play activity or play orientation.

Playfulness

Playfulness, defined as a character trait might be the most well-researched aspect of play (L. A. Barnett, 1991; Glynn & Webster, 1992; Guitard, Ferland, & Dutil, 2005; Jarrett & Burnley,
This study borrows Barnett’s (2007) definition of playfulness as, “the predisposition to frame (or reframe) a situation in such a way as to provide oneself (and possibly others) with amusement, humor, and/or entertainment” (p. 955). Barnett describes playful individuals as “funny, humorous, spontaneous, unpredictable, impulsive, active, energetic, adventurous, sociable, outgoing, cheerful, and happy” (p. 955). Playful people commonly behave in a joking manner with a tendency toward clowning around and acting silly (Barnett, 2007). Playfulness is measured in this study by the Short Measure of Adult Playfulness (SMAP) (Proyer, 2012a). Proyer uses Barnett’s definition of playfulness and designed the SMAP as a global cognitive measure of adult playfulness as a character trait.

**Play Orientation**

Whether an individual experiences an activity as play or not is guided by subjective preferences toward certain frames of mind (i.e. they enjoy collecting and creating, but not competing). Brown (2009) categorized preferences toward different types of play activities as 8 distinct play personalities or orientations: (1) Joker, (2) Kinesthete, (3) Storyteller, (4) Explorer, (5) Collector, (6) Director, (7) Artist/Creator, and (8) Competitor. These 8 play orientations are used in this study to create an experimental measure of work-play congruence which will be described in greater detail further on.

**Work engagement**

Work engagement for this study is defined as a positive cognitive and emotional state that is characterized by three factors: Vigor, Dedication, and Absorption (Schaufeli, Bakker,
Salanova, 2006). This definition was developed for and used by the Utrecht Work Engagement Scale (Schaufeli et al., 2006). Recent scholarship conceptualizes these three factors as bipolar dimensions (Sweetman & Luthans, 2010). For example, Vigor is thought to be a part of an Energy continuum, with Emotional Exhaustion on one end and Vigor on the other. Dedication is a part of an underlying dimension referred to as Identification with Cynicism at the opposite end of the spectrum from Dedication. The term Absorption is used to describe a spectrum with Flow on one end. The opposite end of the bipolar dimension of Absorption has not been defined as of yet.

**Similar Constructs**

**Leisure**

In the adult world, the word play is set aside and replaced by words like leisure, recreation, and relaxation. It is unclear, however, if these terms are direct translations for the play experiences had as children or something different altogether. It appears that leisure scholars have struggled to define leisure, perhaps for similar reasons as play scholars have struggled to operationalize play. Phrases used to describe leisure have included “freedom from obligation, variability” (Bull, 2009), “agreeable obligation” (Stebbins, 2005), “subjective and enjoyable” (Shaw, 1984). Leisure is commonly described as deeply satisfying un-coerced activity engaged in during an individual's free-time (Stebbins, 2009). Stebbins further categorizes leisure in three domains: casual leisure, serious leisure, and project-based leisure. According to Stebbins, play fits under the domain of casual leisure along with relaxation, passive entertainment, and sociable conversation. Whereas serious leisure is typified by volunteer activities or hobbies, and project-based leisure is an isolated activity based on a specific project. Based on Stebbins (2009)
definition of leisure, play exists within the construct as its own experience. Play and leisure do not appear to be direct reflections of each other.

Flow

According to Csikszentmihalyi (1990) the optimal experience of flow involves deep focus, effortless concentration, losing track of time, and a loss of self-consciousness. Interestingly, Csikszentmihalyi and LeFevre (1989) found that flow, a very enjoyable, positive experience, was most often present when their participants were engaged in work activities as opposed to leisure. Schaufeli and Bakker (2010) describe flow as being similar to work engagement in that it is a positive energy oriented state, however, flow is different from work engagement in that it is a short-term experience that exists in both work and leisure. In contrast, Absorption, one of the three factors in work engagement, describes a more persistent state of engagement than flow generally typifies.

Job satisfaction and similar terms

Enjoyment at work has been described in a variety of ways. Depending on the discipline, commonly heard phrases describing an experience of feeling positively toward ones work include: organizational commitment, job involvement, employee work passion, and job satisfaction. Each of these terms is different from the construct of work engagement in specific ways. Weiss (2002) defined job satisfaction as an attitude or an evaluation one makes about work. Organizational commitment refers to the strength of an individual’s identification to their place of work (Porter, Steers, Mowday, & Boulian, 1974). Job involvement has been defined by Lodahl and Kejner (1965) as the affect of work on an individual’s self-concept. Employee work
passion, as defined by Zigarmi et al. (2009) is a combination of job satisfaction, job involvement and organizational commitment. Some of these constructs are closely related to the Utrecht definition of work engagement, however, there is enough difference to warrant it as a separate and important domain of interest.

**Summary**

Work and play are important domains within the life of adults. Each contributes to the psychological, physical, and emotional well-being of adults. These two domains have commonly been understood to be the opposite of each other, however, scholars from a variety of disciplines are beginning to suggest that work and play have more overlap than first assumed. Despite the wealth of research on play and work engagement respectively, there is a lack of research exploring these two constructs in relation to each other. A potentially fruitful area of research involves exploring the role of play and playfulness as variables present within person-job fit as an antecedent for work engagement.
Chapter 2

Review of Related Literature

Introduction

Over the last two decades employees, organizations, and researchers have become increasingly interested in the relationship between work and well-being (Dewe & Cooper, 2012; Hartung & Taber, 2008; Orsila, Luukkaala, Manka, & Nygard, 2011; Piccolo, Greenbaum, & Eissa, 2012; Sinisammal, Belt, Härkönen, & Möttönen, 2012). For many modern employees work “is not simply a means to an economic end, but a legitimate source of well-being and an extension of individual self-identity” (Piccolo et al., 2012, p. 3). Simultaneously, research has helped employers and managers to understand that a happy workforce is a productive workforce (Schaufeli & Bakker, 2010).

Work can also be a source of stress. Americans work an average of 44 hours a week (“Charts from the American Time Use Survey,” n.d.), while managers and professionals work an average of 60 hours a week (Williams & Boushey, 2010). As time spent at work increases so does concern for work-family balance, employee burnout, and the physical health consequences of that combined stress (Bono, Glomb, Shen, Kim, & Koch, 2012; Nixon, Mazzola, Bauer, Krueger, & Spector, 2011; Sapolsky, Gurley, & Demarest, 2004). Studies have found that burnt out employees are more likely to make mistakes on the job, more likely to have high turnover, more likely to be depressed, and are less productive at work; all of which produces both physical consequences for employees and monetary consequences for employers (Bianchi, Boffy, Hingray, Truchot, & Laurent, 2013; S. D. Brown, Goske, & Johnson, 2009; Maslach, 2001;
Robison, 2010; Shanafelt et al., 2010). Even more significant, a study by Ahola & Hakanen (2007) found a direct reciprocal relationship between depression and job related burnout.

Consideration of employee well-being has entered the collective consciousness of the business world as evidenced by business leaders and top consulting firms declaring well-being to be integral to organizational success. GALLUP, a business consulting firm, has stated outright that “the research on this topic is quite clear: your workforce’s well-being has a direct impact on your organization’s bottom line” (Rath & Harter, 2010, p. 3). This bottom line does not fare well in a recent survey by GALLUP that found 70% of American workers are disengaged and are not working to their full potential (Sorenson & Garman, 2013). The next logical question is, what then are the characteristics of a thriving, happy, and productive workforce and how do organizations foster them? Within the world of work this ideal state of well-being and vitality on the job is most often referred to as work engagement.

Within this review of the literature, the antecedents and outcomes of work engagement for both individuals and organizations will be explored. Other constructs that may contribute to well-being at work like play and playfulness (S. Brown & Vaughan, 2009; Proyer, 2013); positive emotions (Fredrickson, 2004); self-efficacy (Bandura, 1982); as well as, enjoyment, challenge, and meaning (Stairs & Galpin, 2010) will each be investigated. The literature review will conclude by synthesizing the theoretical and empirical literature to suggest a model, which explains the factors effecting the well-being and engagement of employees.
Work Engagement

Definition(s) of Work Engagement

Research about the experience, antecedents, and outcomes of work engagement spans several academic and industrial disciplines, including managers, employees, counselors, organizational psychologists, positive psychologists, economists, business and management researchers, and industrial engineers. The business realm tends to describe work engagement with language that focuses on the benefits for organizations and employers, using phrases like: organizational commitment; willingness to contribute to the success of companies; or going the extra mile for their employer (HayGroup, 2001; IRS, 2004; Schaufeli & Bakker, 2010). In contrast, psychology’s definition of work engagement revolves around the employee and their experience. Language used by this scholarship community to describe the construct of work engagement includes: subjective well-being, a state of mind, and fulfilling involvement; all with the fundamental assumption that work can contribute to the happiness of an employee (Schaufeli & Bakker, 2010; Stairs & Galpin, 2010). Which is true? Who benefits most from work engagement, the individual or the organization? Current research strongly supports the notion that both parties benefit and that it is a complementary relationship (Schaufeli & Bakker, 2010).

Schaufeli, et al. (2002), established the most commonly used definition of work engagement within academia: “a positive, fulfilling, work related state of mind that is characterized by vigor, dedication, and absorption” (p.74). Vigor is described as high levels of energy invested in the task at hand. Dedication is related to feeling a strong commitment to work, “while experiencing a sense of significance, enthusiasm, inspiration, pride and challenge” (Schaufeli & Bakker, 2010, p. 13). Absorption, or flow, a term popularly coined by
Csikszentmihalyi (1991), describes an optimal experience of enjoyable, intrinsically motivated, deep concentration where one becomes less conscious of the self.

Work engagement is understood to be a positive state of mind that motivates individuals to approach challenges (Bakker & Leiter, 2010). Conceptualized primarily as a state that fluctuates day-to-day or week-to-week; one third of the variance of engagement is explained as within person (Sonnentag, 2003). Two complementary models will be described that seek to explain the construct: the Job Demands-Resource model and the Positive Engagement model.

**Job Demands-Resource Model**

The Job Demands-Resource Model (J-DR) is an empirically supported theory which makes clear the process and outcomes of work engagement (Bakker, 2011; Hakanen, Schaufeli, & Ahola, 2008). Introduced in 2001 (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), the JD-R is currently the most commonly used model for understanding and researching the relationship of job demands and job resources in producing, alternately, stress or well-being in employees (Hakanen & Roodt, 2010).

Within the model, *Job demands* are defined as “physical, social, or organizational aspects of the job that require sustained physical and/or psychological (i.e., cognitive and emotional) effort on the part of the employee, and are therefore associated with certain physiological and/or psychological costs” (Demerouti et al., 2001, p. 501). Most adults are familiar with job demands that produce stress, interrupt sleep, and interfere with our work/life balance. Demands can include pressure from superiors and coworkers, adverse physical and emotional environments, too much work for the time allotted, increased responsibilities without increased pay, inter- and intra-personal role conflicts and ambiguity.
In contrast, job resources are defined as “physical, psychological, social, or organizational aspects of the job that may (a) reduce job demands and the associated physiological and psychological costs, (b) are functional in achieving work goals, and (c) stimulate personal growth, learning and development” (Demerouti et al., 2001, p. 501). Within this model, job resources, challenging work, and positive emotions are considered part of the motivational process or antecedents of work engagement as demonstrated in Figure 2.1. As would be expected, job demands and job resources are inversely related (Hakanen & Roodt, 2010). Employee burnout can develop when job demands out-pace job and personal resources. This imbalance has been referred to as a health impairment process. In contrast, the motivational process suggests that work engagement happens when personal and job related resources exceed demands placed on an individual (Hakanen & Roodt, 2010).

Figure 2.1 Integrative model of work motivation and engagement

Figure 2.1 Adapted from Schaufeli and Bakker’s (2011) Job Demands-Resource Model. Demonstrates the motivational processes that create work engagement as well as the outcomes related to the experience of work engagement.
Experience of Engagement

One drawback of the JD-R model is that it does not address the subjective experience of work engagement. Neither does it demonstrate how an individual or an organization can foster well-being by finding balance between resource and demands. Stairs and Galpin (2010) sought to address this deficit with the Positive Engagement Model (PEM). A fundamental assumption of the PEM is that engagement is a subjective experience that is situated within a person’s perception of their given work context. Suggesting that there is conceptual overlap between engagement and happiness, the authors borrow from happiness researcher Seligman’s (2002) work on the three pathways to overall happiness, stating that the three elements of positive engagement include: enjoyment, challenge, and meaning.

Stairs and Galpin (2010) describe the first element of positive engagement, enjoyment, as “the extent to which the individual employee enjoys their work and experiences positive emotions in the course of, or in relation to, their work” (p160). The second of the three elements is challenge characterized as “the extent to which employees feel they are stretched by their work and developing through it” (Stairs & Galpin, 2010, p. 161). It is through challenge that experiences of absorption and flow occur. It is important to note that an optimal challenge level is a subjective experience, as Czikszentmihalyi’s (1975) work on the optimal space between boredom and anxiety illuminates. A challenge that is too easy is not conducive to growth and can contribute to boredom, while a challenge that exceeds one’s skills too far can be disempowering, frustrating, or anxiety-provoking. The third element in their positive engagement model, meaning, is defined as “the extent to which the employee has a sense of meaning and purpose in what they do, and a belief that they are serving something bigger than themselves” (Stairs & Galpin, 2010, p. 161). Meaning is also a very subjective experience and can be found in almost any job. For some, meaning might be located in their ability to bring home money to support their
family, while for others meaning might be positioned in their relationships with coworkers and customers.

Stairs and Galpin (2010), propose that an individual’s *work context*, their proneness for engagement (i.e. *engagency*), and their perceptions and behaviors all contribute to whether or not positive engagement is experienced at work. Stairs and Galpin’s engagement formula states that, Positive Engagement = Work context + *Engagency* + Individual thoughts and actions. This equation echoes much of what is in the work engagement literature but uniquely incorporates the individual’s subjective perspective.

**Work Engagement Outcomes for Individuals**

The experience of work engagement involves positive emotions as an antecedent, an outcome, and as part of the process itself (Salanova et al., 2010). Besides happiness, what benefits do individuals gain from being engaged at work? To understand the positive outcomes associated with work engagement for individuals, one must first position it within a theoretical framework. Fredrickson’s (2004) Broaden-and-Build theory is a commonly featured theory used to understand wellbeing within the work engagement literature (Bakker & Leiter, 2010; Fredrickson & Branigan, 2005; Garland et al., 2010; Stairs & Galpin, 2010; Wright, 2010; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009).

The Broaden-and-Build Theory (B&B) (Fredrickson, 2004; Garland et al., 2010) suggests that positive emotions such as joy, contentment, and interest create the cognitive and emotional space needed to engage in a greater variety of behaviors. This variety of behaviors, referred to as *thought-action repertoires*, have positive short and long-term implications for building personal resources. The reciprocal relationship between work engagement, well-being and resources is referred to as a gain spiral (Salanova et al., 2010). The B&B theory asserts that when one
experiences positive emotion one becomes more open to a variety of choices, ideas, and opportunities, or, in the theoretical vernacular, it broadens our perception of behavioral options. The broadening experience created by subjective well-being allows us to engage in exploratory activities and build on our cognitive, social, and personal resources.

Current research on well-being supports Fredrickson’s assertion that the cultivating quality of positive emotions can affect an individual’s capacity for attention, cognition, and action (Derryberry & Tucker, 1994; Fredrickson, 2001; Fredrickson & Branigan, 2005; Isen, Rosenzweig, & Young, 1991; Wright, 2005). Studies have found strong evidence for the role of subjective well-being (i.e. positive emotions) in the facilitation of thought patterns that are flexible, creative, integrative, open, and efficient (Estrada, Isen, & Young, 1994; Garland et al., 2010; Hofmans, De Gieter, & Pepermans, 2013; Isen, 1990; Isen & Daubman, 1984; Isen et al., 1991). For example, neuroscience research on meditation and brain plasticity, provides strong evidence for the role of positive emotions in the broadening and building of our thought-action repertoire (R. J. Davidson et al., 2003; R. J. Davidson & McEwen, 2012; Weng et al., 2013).

Researchers have also identified physical benefits to positive emotions. Having found that positive emotions can improve our immune system (R. J. Davidson et al., 2003), and “undo the lingering cardiovascular after-effects of negative emotions” (Fredrickson, 2004, p. 1371), even to the extent of improving outcomes of coronary disease (K. W. Davidson, Mostofsky, & Whang, 2010). It has also been suggested that, positive affect is linked to a longer life as found by Danner, Snowdon, & Friesen (2001) in their study on the role of happiness on the longevity of nuns.

There are both short and long-term personal benefits acquired from happiness as it relates to work (Lyubomirsky, King, & Diener, 2005). For example, positive affect increases personal resources, such as, cognitive flexibility, creative problem solving, and improved memory (Estrada et al., 1994; Isen, 1990; Isen & Daubman, 1984) with apparent long-term impact. A study done
by Xanthopoulou et al (2009), found a reciprocal relationship between positive affect, work engagement, and personal resources, supporting the B&B theory. In their study, employees in The Netherlands, who reported being engaged at work, were found to have significant improvement in their job-related and personal resources two years later in comparison to their dis-engaged co-workers. For employers and workers looking to quantify positive emotions in our day-to-day lives, Fredrickson and Losada (2005) have found strong evidence for the need of tipping the scales toward positive emotions day-to-day. For lasting beneficial results they suggest between 3:1 and 12:1 positive to negative experiences.

**Work Engagement Outcomes for Organizations**

Organizations with engaged employees experience numerous benefits. Engaged employees are more productive, more efficient, and more innovative (Stairs & Galpin, 2010). In fact, a little engagement can go a long way; Soldati (2007) found that even small increases in engagement produce significant increases in employee productivity. A meta-analysis done by the GALLUP Q12 project found nine performance outcomes that are positively affected by employee engagement (GALLUP, 2012). That analysis found that absenteeism decreased by 37%, turnover in high-turnover organizations decreased by 25% and by 65% in low-turnover organizations. Employee engagement impacted safety and quality control in the work place, with 48% fewer safety incidents, 41% fewer patient safety incidents, and decreased product defects by 41%. Overall productivity and profitability increased by 21% and 22% respectively (GALLUP, 2012). Organizations paying attention to this research are benefiting from prioritizing employee engagement and well-being.
Antecedents of Engagement

Congruence

Person-environment fit, also understood as congruence, is a fundamental underlying assumption within career counseling and occupational psychology (Kristof-Brown & Guay, 2011). One could even say it is the theoretical cornerstone of career and vocational psychology, starting with the work of Frank Parsons, the grandfather of career counseling (Parsons, 1909).

The congruence between a person and an environment has been conceptualized using a variety of models. Congruence has been explored through the lens of both complementary fit (e.g. needs-and-supplies, demands-and-abilities) and supplementary fit (Edwards, Cable, Williamson, Lambert, & Shipp, 2006). Alternatively, congruence between a person and their work has been organized by work design scholars as composition, training, or situational engineering (Wright, 2010). Congruence has been defined as a three level construct with person-organization, person-job, person-group levels (Ahmad, Veerapandian, & Ghee, 2011). Fit has also been explored as it relates to “the interests, motives, talents, values, goals, and general personality traits of the worker” (C Peterson, Stephens, Park, Lee, & Seligman, 2010, p. 221). Fit has also been studied concerning culture and individual personality and the resulting impact on the subjective well-being of the individual (Fulmer et al., 2010). Holland’s (1973) career theory is a prime example of congruence as person-job fit assumption. The Holland typology (i.e. Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) is widely used by career counselors and researchers to code both personality types and work environments in order to determine a productive pairing of the two (“O*NET: Interests,” 2013).

Recent studies that have attended to person-environment fit have looked at the impact of match or mismatch of actual vs. preferred work conditions on well-being and stress levels, as well
as congruence between a person and their employer’s cultural values and personality traits (Ostroff, Shin, & Kinicki, 2005; Yang, Che, & Spector, 2008). Regardless of how it has been conceptualized, there is strong evidence that congruence is both a predictor and a mediator of work engagement and organizational commitment (Ahmad et al., 2011).

Self-efficacy

There is clear evidence that self-efficacy also contributes to work engagement (Bindarwish & Tenenbaum, 2006; Simbula, Guglielmi, & Schaufeli, 2011; Stajkovic & Luthans, 1998). Self-efficacy is defined by Bandura (1997) as the “belief in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p. 3). Self-efficacy is an important personal resource that makes human agency possible. According to Bandura (2006), agency is a form of cognitive self-regulation which allows us to “create visualized futures that act on the present; construct, evaluate, and modify alternative courses of action to secure valued outcomes; and override environmental influence” (Bandura, 2006, p. 164). In essence, having agency is to be an active player in your own life rather than an audience member.

A meta-analysis done by Judge and Bono (2001) found that high levels of job performance and job satisfaction, constructs related to work engagement, were significantly correlated with self-efficacy, self-esteem, an internal locus of control, and low neuroticism. Self-efficacy is considered an antecedent to work engagement in that an individual must believe they have the power and capabilities to achieve the desired outcome by their own efforts, behaviors, actions within their current context. It is significant that this belief in self produces a reciprocal relationship with work engagement as each state contributes positively to each other through successful mastery experiences and the accompanying positive emotions (Salanova et al., 2010).
**Work context.** Another key contributor to work engagement is the perception of the work context. As with congruence and self-efficacy, work context is understood as an antecedent of engagement and could be defined as both a job resource and an external driver. It is important to note that work context supports engagement in so far as it is perceived positively. It would seem the perception of the individual determines to a large extent the experience of engagement (Stairs & Galpin, 2010). Warr (2007) provides a useful set of work context characteristics that can contribute to an employee’s subjective well-being. These include: opportunity for autonomy; opportunity for skill use and growth; clearly set goals; variety; clear job roles and feedback; relationships; availability of resources; a sense of physical safety; and feeling valued and respected by co-workers and supervisors.

Many corporations and businesses have become interested in their employees’ well-being, as mentioned before, and have sought traditional, as well as, counter-intuitive ways to access the elusive power of worker engagement. Play is one of the pathways businesses have looked at (S. Brown & Vaughan, 2009). Exploring the theoretical and empirical work on play and playfulness can perhaps help us better understand the relationship between work and play.

**Play**

**Defining Play**

There is no clear consensus on the definition of play; however, there are similarities in characterizations across disciplines. For example, Gray’s (2012) definition of play acknowledges it as an activity with an underlying mental framework. The motivations that constitute an experience of play require that the activity: “(1) is self-chosen and self-directed; (2) is intrinsically motivated; (3) is guided by mental rules; (4) is imaginative; and (5) involves an
active, alert, but non-stressed frame of mind," (Gray, 2012, p. 355). Gray (2012) defines play as existing across a spectrum from playful to full play. Phrased another way, play exists on a spectrum from a little bit of silliness to flow. This definition is similar to many other scholars’ assertions within the fields of early childhood education and child psychology (Burghardt, 2011; Narváez, 2012; Pellegrini, 2011).

Vygotsky (1978), a prominent scholar of child development and learning, had a significant interest in the relationship between play and development. His theoretical work was based on his own observations of children and a critique and synthesis of other scholars of his time (i.e. Piaget (1962). Vygotsky (1967) challenged the belief that play was a form of hedonism or pure pleasure for children, suggesting that many other things a child did were more pleasurable. Instead, he suggests that play meets other needs of the child, for example, intellectual, emotional, and physical needs. Vygotsky suggests that those needs develop and mature over time within the child, requiring increasing degrees of challenge (Vygotsky, 1967). Within Vygotsky’s definition of play, rules are an innate characteristic. Rules in play are collectively determined, engaged in willingly, or are self-established vs. being established externally by adults (i.e. coercion). In order to stay in play the child must self-regulate their impulsive desires and play by the collective rules, otherwise risking an end to the fun.

Another key characteristic of play as defined by Vygotsky (1967) is the flexible role of meaning. He suggests that in everyday life objects are linked with shared meaning and actions. A door is for opening and closing and phones are for making phone calls. Yet in play, objects can shed the constraints of reality, allowing for everyday restrictions to be set aside and for new rules of action to be explored by the players. A stick is now a wand, then a horse, then a spyglass; a door is now a portal to a new world; this hat means I am in charge. Playing is a kind of human agency in action. From this perspective play, creativity, learning, and innovation start to overlap.
The Dutch historian Huizinga (1949), was one of the first theorists to take seriously the adult as a natural player. In his book *Homo Ludens*, his thesis suggested that culture is itself a kind of play. His conceptualization of play categorized it as being outside the realm of seriousness. A fun, voluntary activity separate from the routine of ordinary life, play requires order or rules and produces feelings of joy and energy. Huizinga suggested that play has a role in the cultural creations of art, law, war, and philosophy.

Another influential play scholar, Sutton-Smith (1997), takes it a step farther in his seminal work *The Ambiguity of Play*. In his thesis, he suggests that play functions by facilitating neural potential, flexibility, and adaptive variability. Sutton-Smith situates play within an evolutionary perspective, suggesting that play has a role in keeping us adaptive through its inherent relationship with novelty and the potential for trying on and practicing new and flexible behaviors. In the face of constant change and novelty in our lives, play gives us the opportunity to develop the skills to cope and adapt. Sutton-Smith called for a useful interdisciplinary definition of play, which would encompass play by both children and adults. Within this framework, Sutton-Smith (1997) suggested that play is not the opposite of work, as it is so often conceived, but rather that play is the opposite of depression. This assertion supports the underlying assumption that positive emotions and engagement are an innate aspect of the play experience.

Across the interdisciplinary theoretical literature, play is described as being intrinsically motivated; voluntarily engaged in; involved in developmental processes of emotional, cognitive, physical and social growth; a way to explore new possibilities for action and meaning; coping with novelty; developing mastery and self-efficacy; essential to human well-being; and of course, fun (Bateson, 2011; Bettelheim, 1987; Bjorkland & Brown, 1998; F. Brown & Webb, 2005; Burdette & Whitaker, 2005; Fromberg & Bergen, 2006; Frost, 2010; Gray, 2012; Moyles, 2010; Sutton-Smith, 1997).
Findings on children’s play

Empirical research on play and child development provides support for these theoretical assertions. The American Academy of Pediatrics has voiced strong support for the importance of play in the healthy development of children, stating that play is essential to a child’s well-being (Ginsburg, 2007; Milteer, Ginsburg, & Mulligan, 2012; Moore & Russ, 2006). In particular, studies have found evidence to support play as exploration (Bjorkland & Brown, 1998; Mandryk, Atkins, & Inkpen, 2006; Morgante, 2013; Paley, 2005). In one study, they showed better outcomes in problem-solving tasks through divergent thinking when children had the opportunity to play freely with objects vs. being taught how to solve the problem (Lieberman, 1965). Self-efficacy, as previously described, develops through successfully approaching a task, being persistent, and developing skills. Play provides a relatively risk-free space to develop self-efficacy by playing at and with a task, a behavior, or an action (W. Barnett et al., 2008; Cairney et al., 2005; Frost, 2010; Landreth, 2002; Landreth, Homeyer, & Morrison, 2006; Reid, 2002). Lastly, play is how children learn; before they get to school, and, if they are lucky, while they are there. Another way to think of this is that play is an active agentic form of learning where children explore and make meaning (Elkind, 2007; Fisher, Hirsh-Pasek, Golinkoff, Singer, & Berk, 2011; Hirsh-Pasek, Golinkoff, Berk, & Singer, 2009; Singer, Golinkoff, & Hirsh-Pasek, 2006).

Play in Adulthood

Do adults play, or is it an activity left behind in childhood? Brown (2009), in agreement with Sutton-Smith’s statement (i.e. the opposite of play is depression), asserts that even adults can suffer from play deprivation. Brown, a medical doctor, discusses play from a biological frame,
describing play and playfulness as essential to human well-being regardless of age. Brown outlines a play personality typology based on qualitative research in which hundreds of play histories were recorded and analyzed for themes. Brown outlines eight play personalities or play orientations that influence how humans find joy and play.

The eight play orientations he describes are: (1) the joker; (2) the kinesthete; (3) the explorer; (4) the director; (5) the collector; (6) the artist/creator; (7) the storyteller; and (8) the competitor. Brown and Vaughan (2009) describe the joker as a person who finds play and joy in silliness, humor, whimsy, or pranks. The kinesthete finds joy when exerting themselves physically and needs to engage their body in order to think and process; at work this could look like a preference for walking meetings or using a yoga ball instead of a chair. Individuals with strong connections to their physicality might be more drawn to jobs where they can be active, from dancing to putting out fires. The explorer is easily engaged in discovery and exploration. According to Brown, an explorer may find joy and engagement through exploration of emotions, ideas, or experiences.

The director finds enjoyment in organizing, planning, and being the center of it all. The collector may find their play in gathering like objects or documenting experiences. Collectors could be vintage car enthusiasts or scrap booker. The artist/creator makes things for the joy of aesthetics, for the love of making something work that was broken, or for manifesting something new with their own hands. This personality is action oriented and enjoys being productive in the physical world. Artist/creators can be gardeners, engineers, or illustrators.

The storyteller is a lover of narrative. This play orientation finds joy in imagination whether they are a creator or a consumer. Storytellers could be novelists, actors, counselors, or avid readers. Lastly, Brown (2009) describes the competitor as someone who plays to win. This orientation likes to keep score and being the best at what they do. Competition can be found in isolation or in social settings. For example, the competitor might be a solitary runner, focused on
beating their own last record, a member of a sales team who enjoy meeting and exceeding their goals, or even the student who works hard in order to get the best grade in class. Brown (2009) suggests that an individual may endorse multiple play orientations and can tap into these subjective arenas of play within multiple life domains.

Measuring play

One of the few measures that attempts to capture play as an experience has been developed by Pavlas, et.al. (2012). The Play Experience Scale defines play as, “behaviors that (a) are predominantly intrinsically motivated, (b) are performed freely by the player, (c) require and capture the player’s attention, and (d) are not contingent on external rewards or consequences,” (Pavlas et al., 2012, p. 215). The scale specifically seeks to measure, within a game experience, the following four characteristics of play: the autotelic experience (i.e. intrinsic motivation); freedom of choices and action; focus and immersion created by the activity; and the absence of extrinsic motivation. Similarly to work engagement, play as a construct is difficult to assess and define from the outside, while simultaneously being obvious from the worker’s or player’s point of view.

Defining Playfulness

Play as studied in adults is most often characterized as leisure activities or as the character trait playfulness. Perhaps this is because there is some evidence that playful qualities are generally less evident as people age; describing adult activities as play is then less salient. A key characteristic of play in childhood is the importance of novelty and an increasing challenge level as they mature (Miller & Kuhaneck, 2008). Conceivably, it is more difficult for adults, who
have gained a wide range of mastery throughout the course of their life, to find that optimal balance of novelty, challenge for play. Adults can also face significantly more stressors and pressures than children, and this diminishes the play drive. Perhaps, adults are more likely to experience self-judgment and external judgment for play-like behaviors interpreted as immature. Lastly, adults may feel guilty being anything other than productive (S. Brown & Vaughan, 2009).

What is known about playfulness? There has been a recent upwelling of interest in this topic apparent across several disciplines, primarily within leisure and positive psychology scholarship. First, playfulness is characterized as a personality trait with recent evidence indicating that some individuals may be more likely to be playful than others (Magnuson & Barnett, 2013).

Several adult playfulness measures have been created in order to further the science in this area. These scales characterize playfulness similarly. Greenberg and Schaefer’s (1997) Playfulness Scale for Adults consist of 5 factors: fun-loving, sense of humor, enjoys silliness, informal, and whimsical. Glynn and Webster’s (1992) Adult Playfulness Scale measures for spontaneity, expressiveness, fun, creativity, and silliness. Barnett’s (2007) research on playful young adults defines playfulness as:

The predisposition to frame (or reframe) a situation in such a way as to provide oneself (and possibly others) with amusement, humor, and/or entertainment. Individuals who have such a heightened predisposition are typically funny, humorous, spontaneous, unpredictable, impulsive, active, energetic, adventurous, sociable, outgoing, cheerful, and happy, and are likely to manifest playful behavior by joking, teasing, clowning, and acting silly. (p 955)

A new playfulness measure developed for an adult population is the Short Measure of Adult Playfulness (Proyer, 2012a). Also referred to as the SMAP, this scale is a global and cognitive measure of self-reported playfulness. The SMAP’s items include questions regarding frequency of play behaviors, personal and social identity as playful, ease of entering a playful
state of mind, and tendency for entering an absorbed state when engaged in a playful activity (i.e. flow).

Using these measures, researchers have identified strong connections between playfulness and positive life outcomes. Playfulness, as classified by Peterson and Seligman (2004), has been found to be positively correlated with desirable character traits such as: creativity, appreciation of beauty and excellence, humor, zest, hope, and love (Proyer & Ruch, 2011). The greatest predictors of playfulness were humor, appreciation of beauty and excellence, low prudence, creativity, and teamwork (Proyer & Ruch, 2011). Playfulness has also been found to be associated with emotional stability, openness to new experiences, extraversion, and low conscientiousness, related to an orientation towards a pleasurable life and engaged life (Proyer, 2012b). Within the same study, Proyer (2012b) found that playfulness had a positive relationship to greater degrees of ingenuity, both perceived and psychometric, as well as to higher value of and desire for intrinsic goals. Playfulness has been found to be connected to well-being in a variety of ways, including its role as a strong adaptive coping mechanism which allows individuals to cope with stress more successfully, in comparison to their less playful counterparts, who tended to engage in negative, avoidant, and escape-oriented strategies (Magnuson & Barnett, 2013).

A study done by Maxwell, Reed, Saker, and Story (2005) looked at the role of playfulness in the success of sales representatives’ work outcomes. They defined play as having two dimensions: fun-loving and frivolous. Maxwell, et al., found that one of the dimensions of playfulness (i.e. fun-loving) had a “positive effect on adaptive selling by creating a learning orientation, and that it also has a positive effect on job satisfaction by lowering stress” (Maxwell et al., 2005, p. 215). However, the second dimension (i.e. frivolous) was negatively correlated with the desired sales outcomes of the representatives. This second finding may fall under that
category of well, duh. The first finding, on the other hand, may be of great interest to employers looking to increase their employees’ well-being and productivity in the workplace.

Conceptual Overlaps Between Engagement and Play

Play and Work: A Call for Fusion

Initially, it might seem as though work and play are as different as night and day. For some, connecting play and work smells of hedonism and privilege (Osipow, 1994). An alternative view suggests that assuming play and work exist in separate spheres limits our ability to explore the potential benefits play inspires within the world of work. As suggested by Hartung (2002), “work and play could be better articulated as complementary rather than conflictual contexts for human development” (p. 432). There is, in fact, precedence for fusing work and play within career counseling (Bordin, 1979; Hartung, 2002; Super, 1994). To make sense of this, it is necessary to shift our thinking about play as only a childhood activity, or a hedonistic waste of time, and frame it instead as an important and integral component of human development (S. Brown & Vaughan, 2009; Dawis, 1995; Furman, 1997; Hartung, 2002), while shifting our view of work from alienating drudgery to an opportunity for play. A study done by Glynn (1988) found support for the importance of perception in task approach. Specifically, approaching a task as though it were play instead of work produced a tendency for participants to focus more on process as opposed to outcomes. This play frame also generated more creative and complex performances by participants than the work frame. It would seem that shifting our frame of mind about play and towards play might provide fruitful results.

Play scholars have yet to come to an agreement regarding whether there is a work-play dichotomy or, rather, some other kind of relationship. This section will explore two theories that
demonstrate the range of possible relationships between these two constructs within the literature: Henricks’ (2012) pathways of behavior and Bergen’s (2006) Play-Work continuum in learning.

**Emotional sequences of play and work**

Henricks’ theory situates play and work not as a dichotomy, but as two different pathways of behavior (Henricks, 2012). Henricks (2012) outlines four pathways of behavior labeled: work, play, communitas, and ritual. Within his model, play and work are similar in that they exist as pathways for expression of self through engagement. Yet there are differences. Work, which Henricks (2012) defines as a selfish manipulation of objects or others, benefits from predictability and focuses on the end product. Play is also defined as a selfish manipulation of objects or others, yet it thrives on unpredictability, is exploratory in nature with a strong emphasis on process rather than outcome. Henricks lays out a theoretical framework of emotion sequences related to these two pathways of behaviors. He suggests that each pathway (i.e. play and work) “features different patterns of emotional possibility” (Henricks, 2012, p. 245).

**Figure 2.2 Emotional sequence of play and work**

<table>
<thead>
<tr>
<th>Anticipation</th>
<th>Present</th>
<th>Remembrance</th>
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</thead>
<tbody>
<tr>
<td>Play</td>
<td>Curiosity</td>
<td>Fun</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td>Self-confidence</td>
<td>Interest</td>
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Figure 2.2 is an adaptation of Henricks’ (2012) sequence of emotion within play and work. This Figure demonstrates how the play or work frame influences emotional experiences of an activity.

Henricks' theoretical model (Figure 2.2) sequences three stages or moments of time: anticipation of the event, the event itself or the present, and reflection on the event or remembrance. Within the domain of the present, Henricks breaks down experience to a second
level. The first of which he names *feelings of exploration/disorder*, which has been changed to novelty, and the second of which he named *feelings of restoration/order*, which will be referred to as mastery, in order to fit within the vocabulary already used in this paper. Down the left side of Figure 2.2 are the two pathways of behavior play and work. Henricks suggests the potential feeling of curiosity as one approaches a play activity in anticipation. In contrast, when a work activity is approached, he suggests feel that the common feeling is self-confidence rather than curiosity. Once engaged in a play activity, one might experience fun, at first, as it is new or novel. As mastery improves, Henricks suggests, this feeling transitions to one of exhilaration.

When at work, Henricks suggests we approach a work event from a place of self-confidence, we feel interest in the novelty of the activity and then satisfaction as our skill mastery increases. As we remember or reflect on the activity we feel gratified or proud, alternately. What is significant about his model is that play and work seem to run parallel to each other as pathways for behavior, which exhibit subtle differences but are not in opposition to each other.

*Play-work continuum of learning*

An alternate model that defines a relationship between play and work is Bergen’s (2006) schema of play and learning. The left side of the continuum in Figure 2.3, represents high internal control, while the right side represents low internal control. A continuum moving from the left to the right, at the top, identifies 5 types of learning activities from free play to work. Their accompanying characteristics appear below them, at the bottom. When learners are engaged in free play they are engaged in discovery and exploration. Moving to the right, the more external control that enters the learning the more regimented, structured, and passive the activity becomes till we reach work. In Bergen’s model, play and work represent opposite ends of a continuum. At
one end, agentic learners are found, and, on the other end, learners are empty slates being filled with knowledge.

Figure 2.3: Play-work continuum in learning

Figure 2.3 Bergen’s (2006) play-work continuum in learning. This figure illustrates the relationship between types of play and the types of learning.

Each of these models conceives of play and work in slightly different ways. The apparent conflict between work and play, is perhaps embedded in semantics. Confusingly, work and play are used as nouns, verbs, and adjectives. Work with an imaginary capital W can mean a job or a career or be used to name a place you go (e.g., “I am heading to work.”). Something can feel like a lot of work in a negative way (e.g., “A relationship should not be this much work.”), and you can be working at something in a pleasurable way (e.g., “I am working on this Sudoku, and I am almost finished.”). You can refer to someone as a hard worker.
Play is commonly used as a verb: children play with toys while adults play poker. You can excuse your behavior by saying, “I am just playing around”. As an adjective, people can be described as playful. Play can also be used to describe participation or relationship (e.g., Job resources play an important role in work engagement.). Within the play literature, the word is often used as a noun to name a state of mind and the accompanying behaviors. Providing a resolution to the apparent conflict between work and play is beyond the scope of this study, however, acknowledging this dilemma is important as the relationship between these two constructs continues to be explored.

When work engagement enters the picture there is significant conceptual overlap between play and work. For example, the experience of play and work engagement are both related to, or partially explained by, flow (Bakker, 2008; Csikszentmihalyi, 1975, 1991; MacAloon & Csikszentmihalyi, 1983; Schaufeli & Bakker, 2010). Flow, as defined earlier in this chapter, is understood to be a dynamic relationship between skill and challenge (Csikszentmihalyi, 1991), mirroring the theoretical work on both play and work engagement. For example, work engagement literature describes a similarly dynamic relationship between job demands and job/personal resources. Researchers have found that when individuals have the resources (i.e. skills, behaviors, character traits, positive emotions, safe work context, support from supervisors) they need to successfully accomplish the new demands placed on them at work, they are more likely to experience new requirements as challenges rather than demands; and they are more likely to be engaged (Salanova et al., 2010). Similarly, play requires a sense of safety, rules, positive emotions, and needs to be challenging enough for the player.

The conceptualization of play set out in this paper bears similarities to the work engagement literature in other ways, as well. Play and work engagement both provide the opportunity to use strengths and increase self-efficacy through agency, which, in turn, promotes positive emotions. This situates both within Fredrickson’s (2004) Broaden-and-Build Theory.
Both play and work engagement are dependent on an individual’s positive perception of their context. For example, an individual must be engaged in an activity voluntarily for it to be regarded as either play or work engagement. While a negative perception of one’s context, like feeling coerced into an activity, will not feel like play but potentially more like effortful work.

On a biological level, both play and work engagement involve the brain’s usage and production of dopamine, a neurotransmitter thought to be involved in the reward-motivation function of our brains (de Manzano et al., 2013; Katz, 1999; Nicola, 2010; Pellis & Pellis, 2010; Salamone, Correa, Farrar, Nunes, & Pardo, 2009). Play and work engagement are both positively correlated with creativity, innovative behaviors, and intrinsic motivation (Amabile, Hill, Hennessey, & Tighe, 1994; Lepper & Greene, 1975; Power, 2011). Each construct is subjective and dependent on what we are interested in as individuals. Lastly, play and work engagement have some overlap in their process: both experiences support innovative problem solving through creating the space for risk-free exploration of options, both involve the development of mastery, and both facilitate personal growth.

**Congruence**

Congruence, as conceptualized within the world of work, was first introduced by the father of vocational counseling, Frank Parsons, with his Trait-Factor approach to vocational outcomes. John Holland pushed this concept further with his personality-career types (RIASEC). Holland’s (1997) work was based in the social psychology of person-environment fit. He operationalized congruence as compatibility between an individual’s personality and preferences toward activities, and a type of work.

At this point, the construct of Person-Environment Fit has replaced a trait-factor approach in research on congruence (Rounds & Tracey, 1990). Congruence has been further
operationalized in several ways. Spokane, Meir, & Catalano (2000), identified the following five kinds of congruence:

1. **Occupational congruence**: a fit between a person’s career interests and the actual occupation they are employed in.

2. **Environmental congruence**: a fit or match between an individual’s personality and the predominant personality of other coworkers.

3. **Skill utilization congruence**: an individual’s perception of their own skill/skill level corresponds to the activities required in their current job.

4. **Aspect-based congruence**: a fit between a worker’s preference for work context and the actual characteristics present within that job.

5. **Avocational congruence**: a fit between an individual’s personality type and the leisure activities they participate in.

One way researchers have found to measure congruence is through the perception of fit. Measures such as Cable and DeRue’s (2002) Perceived Fit scale attempt to quantify the area and degree of congruence perceived by the employee. The Perceived Fit scale specifically measures the following types of congruence:

1. **Person-organization fit**: related to organizational-oriented outcomes, for example, turnover decisions.

2. **Needs-supplies fit**: related to career-focused outcomes, for example, job satisfaction.

3. **Demands-abilities fit**: found to be distinct from the other two conceptualizations of fit and to be unrelated to any of the hypothesized outcomes.

Studies have also been done to explore the relationship between P-E fit and culture as well as P-E fit and values. A study done in Malaysia, by Ahmad, Veerapandian, & Ghee (2011), found that Person-Environment Fit was a significant mediator between organizational culture
(training, rewards, teamwork, and communication) and organizational commitment, a construct similar to work engagement. Edwards and Cable (2009) explored the relationship between value congruence and positive work related outcomes. The results suggested that congruence between an individual and their organization’s values facilitates trust on the part of the employee, communication (i.e., formal and informal open exchanges of information), and interpersonal attraction (i.e., mutual liking/friendship/appreciation between members of an organization). It would seem that there is a wide range of potential areas for congruence between an individual and their place of employment. For this study, work-play congruence may best be conceptualized as a correspondence between an individual’s play personality and their work activities.

Summary

Work engagement is good for individuals and for organizations that employ them. Combining key elements from the literature on well-being, work engagement, play, and playfulness can help us discover innovative ways to foster growth supporting positive emotions within the work environment. Synthesizing the work of Fredrickson (2004), Csikszentmihalyi (1991), and Henricks (2012), within Figure 2.4 we can conceptualize the subjective experience of engagement as it relates to skill development and challenge level. As mentioned in the discussion of antecedents, engagement is dependent on an individual’s perception of their own skill level, the degree to which they feel as if their skills, interests, and values match with their work, and their positive perception of their work context. If an individual’s ability level exceeds the challenge level by too much they may experience boredom. On the other hand, there is the potential of feeling anxious about a challenge that seems out of one’s range of capability (Csikszentmihalyi, 1975). Flow is an optimal experience that exists within engagement, but does not fully define the experience of engagement, as illustrated in Figure 2.4.
Figure 2.4 Theoretical foundation for study

Figure 2.4 Adaptation of Csikzentmihalyi’s (1975, 1991) work on flow, Fredrickson’s (2004) Broaden and Build theory, and Henricks’ (2012) conceptualization of the emotional sequence within play and work. It synthesizes the theories described within literature review and serves as a foundation for the research questions.
Figure 2.5 Synthesis of literature: play as antecedent of work engagement

Figure 2.5 A hypothetical adaptation of Job Demand-Resources Model (Schaufeli & Bakker, 2011) that situates play and playfulness as an antecedent of work engagement.

Encouraging and supporting engagement at work is time well spent for both employees and organizations. The literature would suggest that to do this would involves looking for ways to increase subjective well-being, building self-efficacy, and attending to the fit between an employee’s skill level and optimal challenge level (Figure 2.5). Employers would do well to heed the importance of well-being and facilitate personal growth and positive emotions at work. Perhaps a focus on play at work can help contribute to this goal.
Chapter 3
Research Design and Methodology

Introduction

Work engagement is a state of being that is connected to beneficial outcomes for both employees and employers (GALLUP, 2012; Mendes & Marlar, 2011). Current understandings suggest that a balancing of job and personal resources with job demands can help create the right conditions for work engagement (Hakanen et al., 2008). A review of the literature on play and work engagement show several conceptual overlaps which may suggest a role for play within the experience of work engagement for adults. It is thought that play and playfulness might operate as personal resources that contribute to work engagement. However, there have not been more than a handful of studies exploring these relationships to date (Chick & Hood, 1998; Csikszentmihalyi, 1975; Martocchio & Webster, J., 1992; Yu et al., 2007). This study will contribute to our understanding of this area of research by focusing on the relationship of play and playfulness to work engagement.

Research Questions

This study will attend to the following research questions related to the relationship between play and work engagement within the lives of working adults:

1. Does playfulness as a character trait predict work engagement?
2. Does playfulness have an indirect effect on work engagement when affect and motivational orientation are considered?
3. Which of work engagements three dimensions does playfulness have the strongest relationship to; vigor, absorption, or dedication?

4. Does congruence between day-to-day work activities and an individual’s orientation toward play (what a person subjectively experiences as play) predict work engagement?

5. Which is a stronger predictor of work engagement: work-play congruence or playfulness as a character trait?

These research questions result in the following hypothesis to be tested in this study.

Hypothesis 1: playfulness as measured by SMAP (Proyer, 2012a) will have a positive relationship to work engagement as a whole, while holding constant positive and negative affect; motivational orientation, and perceived fit.

Hypothesis 2: Playfulness has an indirect effect on work engagement through an interaction effect with positive – negative affect and intrinsic-extrinsic motivation, while holding constant PANAS pos, PANAS neg, IM total, EM total, and Perceived fit.

Hypothesis 3: Playfulness as measured by SMAP will have a stronger relationship to the subscales vigor and absorption than it will to dedication, while examining additional effects of positive and negative affect; motivational orientation.

Hypothesis 4: Congruence between an individual’s play orientation (what is experienced subjectively as playful) and their work activities will predict high levels of work engagement, while holding constant positive and negative affect; motivational orientation; and perceived fit.

Hypothesis 5: Work-play congruence will be a stronger predictor of work engagement than playfulness as a character trait alone, while holding constant positive and negative affect; motivational orientation; and perceived fit.
Problem and Purpose Overview

As adults our careers are where we are most likely to actively engage in challenges, find meaning, and access enjoyment that leads to our well-being. Scholars who are interested in the experience of well-being at work tend to describe it as work engagement (Gonzalez-Roma, Schaufeli, Bakker, & Lloret, 2006; Schaufeli & Bakker, 2010; Wright, 2010). An enjoyable state, work engagement is most commonly defined as a motivational dimension involving vigor, dedication, and absorption (Bakker & Leiter, 2010); that has the capacity to broaden and build a persons capacities and resources through exploration, experimentation, and skill development (Fredrickson, 2004; Salanova et al., 2010). Unfortunately, experiencing engagement at work can be elusive.

The experience of play is similarly subjective. Play can be challenging to assess as an observer (Bateson, 2011). For instance, one cannot, just by looking, know if an individual is experiencing an activity (such as poker) as playful. They may dislike poker or may have been coerced into playing poker by a friend or a family member. And yet for someone else, playing poker may be exciting, fun, and challenging. While an activity may lend itself to be more playful than others or be more likely to give us access to purpose, it is not inherent within the activity itself. Inevitably, there are many complexities present when we look closely at what and why we value and enjoy something (Csikszentmihalyi, 1975; Norton, Mochon, & Ariely, 2012).

Gray (2012) defines play as an “activity that (1) is self-chosen and self-directed; (2) is intrinsically motivated; (3) is guided by mental rules; (4) is imaginative; and (5) involves an active, alert, but non-stressed frame of mind”(p 355). Gray (2012) also suggests that play exists across a continuum from playful to full play. This definition synthesizes the most commonly agreed upon characteristics of play (Bateson, 2011). The literature on play emphasizes that for an activity to be considered play, the focus must be on process instead of outcome and that it is
spontaneous, voluntary, and engaged in for its own sake (i.e. intrinsically motivated) (Bateson, 2011; Burhardt, 2011).

While play is most commonly associated with children, play is important even for adults (L. A. Barnett, 2007; S. Brown & Vaughan, 2009; Eberle, 2014; Ellis, 1973; Guitard et al., 2005; Henricks, 2014; Qian & Yarnal, 2011; Sutton-Smith, 1997, 1997; Youell, 2008). Engaging in something we subjectively find playful contributes to our well-being, helps reduce our stress, and perhaps, counter-intuitively, can help us gain access to that most serious of pursuits, a sense of purpose (Bono et al., 2012; S. Brown & Vaughan, 2009; M. E. P. Seligman, 2002; Stairs & Galpin, 2010). More research on the play life of adults is needed (Proyer, 2012b), if we are to understand how it exists beyond a character trait and if it crosses over into the world of work.

This study explored the role of play as a potential antecedent to work engagement. The study specifically looked at play in two ways, first the role of playfulness as a trait and second, the role of the subjective experience of play orientations within the experience of work engagement. The study explored if playfulness was a predictor and how much variance was explained by playfulness (Proyer, 2012a) vs. play orientations (S. Brown & Vaughan, 2009) within the construct of work engagement as operationalized by Schaufeli et al. (2006).

**Population and Sample**

There is a need for more research on the relationship of play in the work lives of employed adults. This research is an exploratory study into exactly that. As such the participants for this study were identified using the following criteria: they must be at least 18 years old and employed part or full time. Previous studies on work engagement and playfulness have typically used both convenience and judgment sampling techniques and have tended toward one of two strategies. First, researchers have chosen to use stringent sampling techniques that enlist
participants from one company or one career type. For example, a study by Xanthopoulou et al. (2009) looked at the relationship between work engagement and financial returns with a sample from employees of 3 branches of a Greek fast food company. Second, researchers have sought to generalize more broadly by gathering participants from multiple sources and categorized them by career families. Bakker et al. (2012) looked at the relationship between work engagement and conscientiousness including a range of adults in a variety of fields such as the chemical industry, personnel agencies, telemarketing, education, and catering services.

Using both convenience and judgment sampling techniques, appropriate for the exploratory nature of this study, adults were enlisted to participate in the study through their place of employment and through Facebook. The sample was 70% Non-Hispanic white with the second largest group identifying as Hispanic/Latino, 7% of the participants identified as Black or African American, and 7% identified as Asian or Asian American, while 2% chose not to report their race/ethnicity. The sample was 72% female, 87% employed full-time, with a median age of 37. Forty nine percent of the sample had graduate degrees and the range of careers present included 20 career families. A full description of the sample demographics is located in Chapter 4.

Data Collection and Instrumentation

Procedure

Businesses were identified based on the number of employees and variety of positions within organization from a sample of convenience. Leaders within the organization were contacted by phone or email and were sent an email, introducing the organization to the topic of the study and the time requirements for their employees. After receiving an agreement of participation a web survey was emailed to employees at the participating organizations. Along
with the survey, employees were asked to read and sign an informed consent form illustrating the
nature of the study and their rights as a participant. A survey link was also posted on Facebook
and was shared by members of the researcher’s social network in order to gather a heterogeneous
group of employed adults. The survey consisted of five established measures used with
permission and one experimental measure created by the researcher in order to measure work-
play congruence. An experimental measure was used as no measure like it existed previously.
The scales used are described below along with an examination of their validity and reliability.

**Short measure of adult playfulness (SMAP)**

The SMAP is a 5-item cognitive one dimensional self-assessment of playfulness in adults
(Proyer, 2012a). The character trait is assessed with items such as *I am a playful person* and *It
does not take much for me to change from a serious to a playful frame of mind*. The items are
scored using a 7 point-likert like scale. The underlying assumption about playfulness present in
the measure suggest that the construct is a frame of mind which can also be observed by others
through behaviors and which fosters absorption and energy in playful activities. Support for these
assumptions can be found within the small but burgeoning empirical literature on playfulness.
Within those studies relationships have been found between playfulness and intrinsic motivation,
creativity, flow, coping skills and stress relief, as well as, academic performance (L. A. Barnett,
Ruch, 2011). The 4-point likert-type measure was constructed based on the previously mentioned
assumptions about playfulness and tested for reliability in four stages and with four different
samples and young adults and adults between the ages of 18 and 85.
Validity and reliability

Reliability of the measure was analyzed through both internal consistency and test-retest. Internal consistency for the SMAP, a one-factor measure of play, ranged between .80-.89 over the three samples used to develop the scale. Considering the short length of the scale (5-items) the cronbach α’s found should be considered significantly robust. A high test-retest correlation (r = .74, p < .001) was found through 12-16 week interval study with a sample of adults (n = 30).

Convergent validity for the SMAP was established through moderate correlations between three other measures of play at a significance level of p < .01. The Adult Playfulness Scale (Glynn & Webster, 1992) was positively correlated at r = .57, Barnett’s (2007) list of playfulness adjectives at r = .53, with the weakest of the correlation coefficients with the Need for play scale (Jackson, 1984) at r = .23. Thus the SMAP could be said to measure playfulness without having redundancies with other measures (Proyer, 2012a).

Utrecht work engagement scale (UWES)

The UWES-9 is a 9-item self-report instrument that measures work engagement, defined as “a positive work-related state of fulfillment that is characterized by vigor, dedication, and absorption” (Schaufeli et al., 2006, p. 701). For ease of use, the original UWES-17 developed by Schaufeli, et al. (2002) was shortened to a 9-item scale based on a confirmatory factor analysis that established a similar 3 factor model which could assess work engagement at the total or subscale level (Schaufeli et al., 2006). The validity and reliability data was established with a sample of 14,521 adults from the following 10 countries: Australia, Belgium, Canada, Finland, France, Germany, The Netherlands, Norway, South Africa, and Spain. The UWES measures at
the interval scale using a 7-point likert-type frequency rating (0-never to 6-always) using items such as *My job inspires me* and *At my job, I feel strong and vigorous.*

**Validity and reliability**

The UWES-9 has shown to have high internally consistency with a median Cronbach’s $\alpha$ of .92 for the total scale. The cronbach’s $\alpha$ for each of the subscales is as follows: vigor has a median $\alpha$ of .77; dedication has a median $\alpha$ of .85; and absorption has a median $\alpha$ of .78. Additionally, discriminant validity was determined through the negatively correlation of the subscale of the UWES and the MBI-General Survey which measures burnout (vigor and exhaustion subscales: mean $r = -.40$; dedication and cynicism: mean $r = -.50$) and workaholicism. However, the third subscale of the MBI-GS, professional efficacy (which is scored in reverse), was the most strongly correlated with the total score of the UWES (mean $r = -.49$). Factor analysis on the UWES established a 3-factor structure that measures Vigor, Absorption, and Dedication. A second study that looked at the relationship between burnout and work engagement the authors found evidence of a second-order model consisting of the three subscales weighted together with professional efficacy as one-factor labeled engagement with the antipode burnout as the other clear factor present in the analysis (Schaufeli et al., 2002), which suggests the possibility of two useful models.

**The international positive and negative affect schedule short form (I-PANAS-SF)**

The I-PANAS-SF was developed by Thompson (2007) in response to the need for a reliable and valid short measure of trait-affect that was cross-culturally competent. The original 20-items of the PANAS scale (Watson, Clark, & Tellegen, 1988) underwent both a qualitative and quantitative evaluation in order to determine which items would be used in the shorter 10-item Likert scale. The scale asks the question Thinking about yourself and how you normally
feel, to what extent do you generally feel…, following this is a list of emotions including, upset, nervous, attentive. A focus group process determined which items translated best across cultures in order to limit the possibility of confounds. Through this process it was also determined that the 5-point likert scale should be adjusted to use less polarizing language for endorsing affect (i.e. a lot or often vs. extremely). The statistical analysis consisted of both a factor analysis and reliability tests on the original scale. The outcome of this development process resulted in 10-item scale, which loaded on two factors, positive affect (PA) and negative affect (NA), each with 5 items per subscale. The two subscales are described two ends of a continuum of affect.

**Validity and reliability**

The measure has strong reliability at both the total and subscale levels. The internal consistency of the total short measure was .80. The cronbach’s for the subscales were consequently .80 for PA and .74 for NA. The PA and NA subscales showed significant moderate correlation to each other ($r = -.32$). Test-retest coefficient of .84 for both subscales was determined through a sample of 143 with an 8-week interval.

Convergent validity was established through comparison to the SWB (measure of subjective well-being) (Diener, 1984) and the subjective happiness scale (Lyubomirsky & Lepper, 1999). As expected, the PA subscale was positively correlated with both comparison scales at $r = .33$, $p < .01$ and $r = .39$, $p < .01$. The NA subscale was negatively correlated with $r = -.33$ and $r = -.51$, $p < .01$. 
**Work preference inventory (WPI)**

The WPI was created by Amabile, Hill, Hennessey, and Tighe (1994) as a measure of motivational orientation (i.e. intrinsic and extrinsic motivation) within working adults. The scale is founded on the theoretical assumption that intrinsic and extrinsic motivation is a stable aspect of an individual’s personality. The 30 items that make up the scale are scored as two independent factors based on the assumption that within an individual both motivational orientations might exist to differing degrees. Intrinsic motivation is defined as involving an orientation toward self-determination and challenging work as well as a tendency toward task absorption or flow, curiosity, and fun. In contrast, Amabile et al. (1994) define extrinsic motivation as being concerned with evaluation, recognition, and competition from others and a focus on material incentives like money. The WPI measures these two factors on a self-report 4-item likert like scale that situates questions and responses within the world of work. For example, items such as *I am less concerned about the work I do than what I get for it* assess extrinsic motivation, while items such as *It is important for me to be able to do what I most enjoy* is focused on intrinsic motivation. Reliability and validity information was determined from multiple samples gathered over eight years totaling in 1,055 working adults (78% men and 20% women with 0.02% not reporting gender). An exploratory and confirmatory factor analyses were run resulting in a two-factor model, which they named extrinsic motivation and intrinsic motivation. Items in each factor were then analyzed to identify sub factors within the two primary factors. Each primary factor had two sub factors. Intrinsic motivation included: Challenge and Enjoyment. Extrinsic motivation included: Compensation and Outward orientation.
**Validity and reliability**

Amabile et al. (1996) found adequate reliability for each primary and secondary scale within the WPI. Cronbach’s $\alpha$ for Intrinsic Motivation (IM) was .75 and for Extrinsic Motivation (EM) .70. The reliability coefficients for the subscales ranged from adequate to the low end of adequate (.73 to .62). Test-retest reliability was established for each factor ranging from .89 to .73. Validity was established through correlations in expected direction to conceptually similar measures. Specifically, Intrinsic motivation correlated significantly to measures of playfulness ($r = .29, p < .001$). The authors reported positive correlations between IM and measures of creativity while extrinsic motivation correlated negatively to these same measures, however, the coefficients were not reported within the manuscript. The correlational coefficients provided by the authors range are weak. In order to make sure the measure is useful for this study the researchers will run correlational analyses between theoretically similar and dissimilar measures with the data provided from our sample to establish the WPI’s validity.

**Perceived fit scale**

Cable and DeRue (2002) developed a scale to measure an individual’s perception of the fit between their values, skills, and needs with the demands, supplies and values of the organization. This measure, involves a three factor model: person-organization fit, needs supplies-fit, and demands-abilities. The measure uses a 5-point likert like response scale. The person-organization fit subscale has items that reflect a subjective analysis of value matching between the individual and the organization, for example *My organization’s values and culture provide a good fit with the things that I value in life.* The needs-supplies fit subscale evaluates whether an individual perceives their job to meet their needs, for example *The job that I currently*
hold gives me just about everything that I want from a job. The third subscale, demands-abilities fit, looks at the congruence between an individual's skills and the challenges they experience at work. An example of an item in this section is, My abilities and training are a good fit with the requirements of my job.

**Validity and Reliability**

The sufficient reliability for each subscale was found through an analysis of two samples, a single firm sample and a multi-firm sample. The person-organization fit subscale has an \( \alpha \) of .91 for the single firm sample and .92 for the multi-firm sample. Demands-abilities fit is reliable at \( \alpha = .89 \) for the single firm sample and .84 for the multi-firm sample. Whereas needs-supplies fit is reliable at \( \alpha = .89 \) and .93. All the cronbach alpha’s demonstrated sufficiently high reliability.

Convergent validity was established for the subscales through a correlational analysis. Cable and DeRue (2002) looked at the relationship of their three factors to seemingly similar constructs like organizational identification, perceived organizational support, and job satisfaction. All three showed expected moderate positive correlations to the three factors under scrutiny.

**Informal assessment questions**

**Assessing Work-Play Congruence**

The web survey also included informal items that were used to further explore the relationship between play and work. The items were designed to measure the degree of congruence between work tasks and play orientations on an interval scale. The measure is
considered informal because it has not been established as reliable or valid. Creating an informal measure was necessary as no formal scales measuring congruence between play preferences and work activities could be found.

The informal assessment consisted of two sections: a list of work activities and a list of play personalities. A list of work activities was used assess the range of activities most commonly experienced on the job. The list of work activities was taken from the occupation informational website commonly used by career counselors, O*NET OnLine (http://www.onetonline.org/).

The work activities included:

1. Estimating quantifiable characteristics of products, events, or information
2. Getting information from sources
3. Identifying objects, actions and events
4. Inspecting equipment, structures or material
5. Monitor processes
6. Analyzing data or information
7. Developing objectives and strategies
8. Evaluating information to determine compliance with standards
9. Judging the qualities of things, services, or people
10. Making decisions and solving problems
11. Organizing, planning and prioritizing work
12. Processing information
13. Scheduling work and activities
14. Thinking creatively
15. Updating and using relevant knowledge
16. Controlling machines and processes
17. Documenting/recording information
18. Drafting, laying out, and specifying technical devices/parts/equipment
19. Handling and moving objects
20. Interacting with computers
21. Operating vehicles/mechanized devices, or equipment
22. Performing general physical activities
23. Repairing and maintaining electronic equipment
24. Repairing and maintaining mechanical equipment
25. Assisting and caring for others
26. Coaching and developing others
27. Communicating with supervisors, peers, subordinates
28. Coordinating the work and activities of others
29. Developing and building teams
30. Establishing and maintaining interpersonal relationships
31. Guiding, directing, and motivating subordinates
32. Interpreting the meaning of information for others
33. Monitoring and controlling resources
34. Performing administrative activities
35. Performing for or working directly with the public
36. Provide consultation and advice to others
37. Resolving conflicts and negotiating with others
38. Selling or influencing others
39. Staffing organizational units
40. Training and teaching others
Participants were asked to mark or identify the seven activities they engage in most often while at work.

Play preferences were measured by having participants read descriptions of Brown’s (2009) eight play personalities and endorse the three play personalities most like them. The play personalities were described in the survey as follows:

1. The COMPETITOR: likes to keep score and plays to win. Competitors can find enjoyment by competing with others or by trying to out do their last best score.
2. The STORYTELLER: a lover of narrative. They find joy in imagination and stories whether they are a creator or a consumer.
3. The DIRECTOR: finds enjoyment in organizing, planning, bring people together and being the center of it all.
4. The COLLECTOR: loves to have and to hold the most, the best, the most interesting collection of objects or even experiences. This player can even enjoy making order out of chaos.
5. The ARTIST/CREATOR: makes things for the joy of aesthetics or for the love of making something. You don’t have to consider yourself an artist to enjoy using your hands to build, craft, create.
6. The EXPLORER: finds joy in discovery and exploration. This exploration could be physical, intellectual or even emotional.
7. The KINESTHETE: loves to move, they need to engage physically in order to think and process.
8. The JOKER: a person who finds play and joy in silliness, humor, whimsy, or pranks.

A research team of five counselor education doctoral students were given a protocol created by the lead researcher to establish matches between the work activities and the play personalities of Brown (2009) that could be used to make decisions regarding work/play
congruence decisions with the sample during the final analysis. The protocol used a consensus-building model to establish relationships between work activities and play personalities. Raters were required to first, individually group each of the 40 work activities under the eight play personalities. Following this the raters shared their groupings. If there was a unanimous agreement regarding the matching of a work activity to a play personality, that match was considered final. If individuals within the group differed in their initial matching, discussion occurred until consensus was reached. Work activities could be placed under one play personality, no play personalities, or multiple play personalities as long as the group reached consensus regarding the decision. This process culminated in the groupings shown in Table 3.1.
<table>
<thead>
<tr>
<th>Explorer</th>
<th>Director</th>
<th>Storyteller</th>
<th>Collector</th>
<th>Joker</th>
<th>Competitor</th>
<th>Kinesthete</th>
<th>Artist Creator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimating quantifiable characteristics of products, events, or information</td>
<td>Monitor processes</td>
<td>Getting information from sources</td>
<td>Getting information from sources</td>
<td>Getting information from sources</td>
<td>Developing objectives and strategies</td>
<td>Handling and moving objects</td>
<td>Thinking creatively</td>
</tr>
<tr>
<td>Getting information from sources</td>
<td>Evaluating information to determine compliance with standards</td>
<td>Thinking creatively</td>
<td>Identifying objects, actions and events:</td>
<td>Establishing and maintaining interpersonal relationships</td>
<td>Selling or influencing others</td>
<td>Operating vehicles/mechanized devices, or equipment</td>
<td>Inspecting equipment, structures or material</td>
</tr>
<tr>
<td>Identifying objects, actions and events</td>
<td>Judging the qualities of things, services, or people</td>
<td>Documenting/recording information</td>
<td>Inspecting equipment, structures or material</td>
<td></td>
<td>Training and teaching others</td>
<td>Performing general physical activities</td>
<td>Controlling machines and processes</td>
</tr>
<tr>
<td>Inspecting equipment, structures or material</td>
<td>Making decisions and solving problems</td>
<td>Assisting and caring for others</td>
<td>Judging the qualities of things, services, or people</td>
<td></td>
<td></td>
<td></td>
<td>Drafting, laying out, and specifying technical devices/parts/equipment</td>
</tr>
<tr>
<td>Analyzing data or information</td>
<td>Organizing, planning and prioritizing work</td>
<td>Communicating with supervisors, peers, subordinates</td>
<td>Documenting/recording information</td>
<td></td>
<td></td>
<td>Handling and moving objects</td>
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</tr>
<tr>
<td>Processing information</td>
<td>Scheduling work and activities</td>
<td>Establishing and maintaining interpersonal relationships</td>
<td>Interacting with computers</td>
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<td>Interacting with computers</td>
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<tr>
<td>Thinking</td>
<td>Controlling</td>
<td>Interpreting the</td>
<td>Performing</td>
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<td>Operating</td>
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</tr>
<tr>
<td>Creatively</td>
<td>Machines and processes</td>
<td>Meaning of information for others</td>
<td>Administrative activities</td>
<td></td>
<td>Creatively vehicles/mechanized devices, or equipment</td>
<td></td>
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</tr>
<tr>
<td>Updating and using relevant knowledge</td>
<td>Assisting and caring for others</td>
<td>Performing for or working directly with the public</td>
<td></td>
<td>Repairing and maintaining electronic equipment</td>
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</tr>
<tr>
<td>Establishing and maintaining interpersonal relationships</td>
<td>Communicating with supervisors, peers, subordinates</td>
<td>Resolving conflicts and negotiating with others</td>
<td></td>
<td>Repairing and maintaining mechanical equipment</td>
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<td></td>
</tr>
<tr>
<td>Interpreting the meaning of information for others</td>
<td>Coordinating the work and activities of others</td>
<td>Training and teaching others</td>
<td></td>
<td>Performing for or working directly with the public</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developing and building teams</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establishing and maintaining interpersonal relationships</td>
<td>Guiding, directing, and motivating subordinates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guiding, directing, and motivating subordinates</td>
<td>Monitoring and controlling resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring and controlling resources</td>
<td>Performing administrative activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performing administrative activities</td>
<td>Provide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>consultation and advice to others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staffing organizational units</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training and teaching others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3.1 Demonstrates the pairings between Brown’s play personalities and the O*NET work tasks established by the research team.
Since this measure was a first attempt at investigating a relationship between work activities and play orientations quantitatively, the data collected from this informal measure underwent statistical scrutiny in order to assess its usefulness as a scale and its potential for further evaluation. The outcome of this scrutiny is detailed in the following chapter.

**Demographic information**

Demographic information was collected in order to describe the sample and statistically control for extraneous variables. Participants were asked to report their age, job title, gender, race/ethnicity, education level, and length of time in current profession.
<table>
<thead>
<tr>
<th>Research Question</th>
<th>Key Variables</th>
<th>Statistical Control Variables</th>
<th>Scale of Measurement</th>
<th>Source of Data</th>
<th>Proposed Data Analysis</th>
</tr>
</thead>
</table>
| 1. Does playfulness as a character trait predict work engagement? | 1a. Playfulness (I)  
2a. Work engagement (D) | 1b. Affect (2 sub)  
2b. Perceived fit (3 sub)  
3b. Motivational orientation (2 sub) | 1a. Interval  
2a. Interval | 1a. SMAP (5 items)  
2a. UWES (9 Items) | Multiple Regression |
| 2. Does playfulness have an indirect effect on work engagement when affect and motivational orientation are considered? | 1a. Playfulness (I)  
2a. Work Engagement (D)  
3a. SMAPxPOS  
4a.SMAPxNEG  
5a. SMAPxIM  
6a. SMAPxEM | 1b. Affect (2 sub)  
2b. Perceived fit (3 sub)  
3b. Motivational orientation (2 sub) | 1a. Interval  
2a. Interval  
3a. Interaction term  
4a. Interaction term  
5a. Interaction term  
6a. Interaction term | 1a. SMAP (5 items)  
2a. UWES (9 Items)  
3a. SMAPxPANASpos  
4a. SMAPx PANAS neg  
5a. SMAPxWPI(IM)  
6a. SMAPxWPI(EM) | Multiple Regression |
| 3. Which of work engagements three dimensions does playfulness have the strongest relationship to, vigor, absorption, or dedication? | 1a. Playfulness (D)  
2a. Work Engagement subscales: Vigor, Absorption, Dedication (ID) | 1b. Positive affect  
2b. Subjective fit  
3b. Motivational orientation | 1a. Interval  
2a. Interval | 1a. SMAP (5items)  
2a. UWES (9 Items) | Multiple Regression |
4. Does congruence between day-to-day work tasks and an individual’s orientation toward play (what a person subjectively experiences as play) predict work engagement?

<table>
<thead>
<tr>
<th>1a. Work-Play Congruence (I)</th>
<th>1b. Positive affect</th>
<th>1b. Interval</th>
<th>1a. Data will be calculated to create an interval level coefficient.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2a. Work Engagement (D)</td>
<td>2b. Subjective fit</td>
<td>2b. Interval</td>
<td>2a. UWES (9 items)</td>
</tr>
<tr>
<td></td>
<td>3b. Motivational orientation</td>
<td>3b. Interval</td>
<td>1b. I-PANAS-SF (10 items)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2b. Perceived Fit Scale (9 items)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3b. WPI (30 items)</td>
</tr>
</tbody>
</table>

| 1a. Data will be calculated to create an interval level coefficient. | Multiple Regression |

5. Which is a stronger predictor of work engagement: work-play congruence or playfulness as a character trait?

<table>
<thead>
<tr>
<th>1a. Playfulness (I)</th>
<th>1b. Positive affect</th>
<th>1b. Interval</th>
<th>1a. SMAP (5 items)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2a. Work-Play Congruence (I)</td>
<td>2b. Subjective fit</td>
<td>2b. Interval</td>
<td>2a. Data will be calculated to create an interval level coefficient.</td>
</tr>
<tr>
<td>3a. Work engagement (D)</td>
<td>3b. Motivational orientation</td>
<td>3b. Interval</td>
<td>3a. UWES (9 Items)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1b. I-PANAS-SF (10 items)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2b. Perceived Fit Scale (9 items)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3b. WPI (30 items)</td>
</tr>
</tbody>
</table>

Table 3.2 Description of data analysis plan
Description of Data Analysis

Each hypothesis within this study was evaluated using hierarchical multiple regression. The trustworthiness of multiple regression results is dependent on multiple factors including the data meeting the assumptions of regression, the level of power provided by the number of participants, and validity and reliability of the measures. Steps were taken to determine if all these criteria were met. A power analysis was run, assumptions were tested, and the data was analyzed at the univariate, bivariate, and multivariate level.

The primary hypothesis, that playfulness would have a positive predictive relationship to work engagement, was tested using multiple regression. The regression used the interval data gathered from the SMAP (Proyer, 2012a) and the UWES (Schaufeli et al., 2006). The regression also included the control variables: positive affect, negative affect, and motivational orientation (intrinsic and extrinsic).

Hypothesis two suggested that playfulness might predict work engagement through an interaction affect with positive affect, negative affect, intrinsic motivation and extrinsic motivation. Four hierarchical multiple regressions were run using a UWES as a dependent variable each with SMAP, an interaction variable, and the accompanying control variable.

Hypothesis three, playfulness would have a stronger relationship to some of work engagement’s subscales than others, was evaluated using SMAP as the dependent variable and the UWES subscales, vigor, absorption, and dedication as the predictor variables.

Evaluating the fourth hypothesis required a two-step process. First, a research team established a standard of congruence between work activities and play orientations that was used to compare the participants’ responses. A coefficient was calculated for each participant that represented the degree of congruence between work tasks and their play orientation. A
hierarchical multiple regression was run to investigate the affect of congruence on each participant’s experience of work engagement. The following control variables were added to the model: positive affect, negative affect, motivational orientation (IM and EM), and the three congruence variables in order to ascertain the affect these variables have on the relationship between work-play congruence and work engagement.

The fifth hypothesis looked at whether playfulness or work-play congruence had a stronger relationship to work engagement, and was analyzed through hierarchical multiple regression as well. A model with both work-play congruence coefficient and the data from the SMAP were entered as independent variables with work engagement as a dependent variable.

An analysis of the residuals, an evaluation of a normal probability plot, a histogram, and a residual vs. predicted graph were created in order to determine whether the necessary assumption of regression has been met in each case.

Finally, since the attempt to establish congruence between work tasks and play orientations is a new endeavor, efforts to establish its validity were taken. Convergent validity was tested by looking for positive correlations between work-play congruence, SMAP, positive affect, and intrinsic motivation measures as positive affect, intrinsic motivation and playfulness should correlate positively to play according to theory. Convergent validity will also be examined for the final work-play congruence data and the Subjective Fit measure as they both measure perception of congruence at work.

**Summary**

In summary, this study examined the relationship between play and work. Play conceptualized in this research as both playfulness and a subjective play orientation. Play’s relationship to work is investigated through work engagement. As demonstrated in Figure 3.1
below, three control variables will also be tested: motivational orientation, affect, and subjective fit.

Figure 3.1 Research Model

Figure 3.1 Research model that demonstrates the proposed relationship of the variables to be tested.
Chapter 4

Results

Introduction

This chapter will include a description of the analysis and results of the previously identified five hypotheses. The results are organized by hypothesis, with a brief description of a pilot testing of the study procedures, and a full description of the demographics represented in the sample.

Pilot testing of survey and procedures

A small sample of 25 participants was asked to complete the survey in order to collect data for a pilot test before the survey was disseminated to the intended sample. Out of the original 25, 13 completed the survey. No major problems were identified in the administration or analysis of the sample. No changes were made to the survey or data collection process after collecting and running analyses with the data from the pilot sample.

Description of Demographics

A power analysis was run before data was collected, the results suggested a minimum of 140 participants in order to avoid a type II error. Survey monkey was used to disperse an online survey through email and social media. A total of 275 people responded to the online survey between March 2014 and December 2014. Participants were gathered from several places of
employment and through social networks on Facebook. The participant breakdown by collector group is demonstrated in Table 4.1.

Table 4.1

<table>
<thead>
<tr>
<th>Source of survey respondents (n = 275)</th>
<th></th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>No. of survey respondents</td>
<td></td>
</tr>
<tr>
<td>Mental Health Agency (Non-Profit)</td>
<td>51</td>
<td>18%</td>
</tr>
<tr>
<td>Law office</td>
<td>15</td>
<td>5%</td>
</tr>
<tr>
<td>Public Library</td>
<td>25</td>
<td>9%</td>
</tr>
<tr>
<td>Tech start up</td>
<td>4</td>
<td>0.1%</td>
</tr>
<tr>
<td>Mental Health Medical Office in Oregon</td>
<td>16</td>
<td>5%</td>
</tr>
<tr>
<td>Link shared on Facebook</td>
<td>164</td>
<td>59%</td>
</tr>
</tbody>
</table>

Places of employment were identified through personal relationships. Human resources and Directors were contacted to gain permission to invite their employees to participate in the study. A brief description of the survey and an invitation to participate, forwarded along with the link to the survey, was sent to team leaders and directors who then passed it on to their employees. The largest percentage of participants was gathered from a link posted on Facebook (59%). The next largest was from a Not-for-profit mental health agency on the west coast (18%).

The initial group of participants was filtered down from 275 to 233 using a missing data cutoff of 5% per scale (DiLalla & Dollinger, 2006). Five additional participants were removed from the data set because they did not fit the requirement of being currently employed. Two of the 5 participants removed identified as retired, 2 identified themselves as graduate students, and 1 self identified as an intern. The final number of participants used to run the analyses was \( n = 228 \). Not all participants reported their demographic information but among those who did the mean age was 42 and the median age was 37. The sample was predominantly women, employed
fulltime with about half holding graduate degrees and a quarter holding bachelor degrees (see Table 4.2).

Table 4.2

| Demographic Characteristics of Participants (n = 228) |
|---------------------------------------------|--------|------|
| Characteristic                     | n      | %    |
| Gender                           |        |      |
| Men                              | 61     | 27%  |
| Women                            | 165    | 72%  |
| Gender queer                      | 2      | 0.9% |
| Employment status                |        |      |
| Full-time                        | 198    | 87%  |
| Part-time                        | 21     | 9%   |
| Self-Employed                    | 8      | 4%   |
| Education Status                 |        |      |
| Some high school education       | 1      | 0.4% |
| High school graduate             | 6      | 3%   |
| Some college                     | 33     | 14%  |
| College graduate                 | 60     | 26%  |
| Some graduate school             | 15     | 7%   |
| Graduate school graduate         | 112    | 49%  |

Table 4.2 Describes demographic characteristics of sample used in study

The participants were largely Non-Hispanic white with the second largest group identifying as Hispanic/Latino. Seven percent of the participants identified as Black or African American and 7% identified as Asian or Asian American. 2% chose not to report their race/ethnicity (Table 4.3).
Job titles were provided by the participants and categorized into career family groupings based on a list of career categories from a commonly used career website, O*Net OnLine (O*NET OnLine, n.d.) (Table 4.4).
The largest career categories were Human Services, Administration/Management, and Education/Training with 40, 39, and 23 participants per group. Play orientations were found to group within career family categories and percentages were calculated for each career family, for example, 57% of the human service workers in the sample identified as an explorer, 50% identified as a storyteller, and 18% identified as a joker. A breakdown of play orientation by career family categories are located in Appendix B.

At the time of the survey participants reported the mean hours worked per week as 42.3 hours. There was a wide range of reported years in current position, from less than a year of
employment to 34 years. The mean for years in current position was 6.2 years and the median was 4 years.

**Reliability analyses**

Analysis of internal consistency was run on each measure used in the study (Table 4.5). Most of the measures were found to have adequate Cronbach’s alpha coefficients between 0.70 and 0.95. One measure and two subscales demonstrated inadequate reliability coefficients (below .70) specifically, the Crown Marlowe Social Desirability Scale, the enjoyment subscale of the intrinsic motivation work preference inventory, and the outward subscale of the extrinsic motivation work preference inventory.
Missing data and outliers

Missing data was found at an item level and at a participant level while preparing the data for analysis. The data were reviewed in order to assess the pattern, amount, and reason for the item nonresponse. As mentioned earlier, a decision was made to delete cases when 5% of the items in a scale were missing (DiLalla & Dollinger, 2006; Munro, 2005). This decision paired the sample down removing 45 cases out of 275 initial participants. When more than 95% of the items were complete, item nonresponse were replaced with means calculated from the sample responses to the item in question (Tabachnick & Fidell, 2013).

<table>
<thead>
<tr>
<th>Measure and Subscales</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utrecht Work Engagement Scale</td>
<td>.916</td>
</tr>
<tr>
<td>I-PANAS-SF positive affect subscale</td>
<td>.699</td>
</tr>
<tr>
<td>I-PANAS-SF negative affect subscale</td>
<td>.749</td>
</tr>
<tr>
<td>Short Measure of Adult Playfulness</td>
<td>.803</td>
</tr>
<tr>
<td>Crown Marlowe Social Desirability Scale</td>
<td>.629</td>
</tr>
<tr>
<td>Perceived Fit Total</td>
<td>.908</td>
</tr>
<tr>
<td>Person-Organization Fit</td>
<td>.944</td>
</tr>
<tr>
<td>Need-Supply Fit</td>
<td>.908</td>
</tr>
<tr>
<td>Demand-Ability Fit</td>
<td>.848</td>
</tr>
<tr>
<td>WPI: Work Preference Inventory</td>
<td>- -</td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>.749</td>
</tr>
<tr>
<td>Challenge</td>
<td>.750</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>.565</td>
</tr>
<tr>
<td>Extrinsic Motivation</td>
<td>.725</td>
</tr>
<tr>
<td>Outward</td>
<td>.620</td>
</tr>
<tr>
<td>Compensation</td>
<td>.745</td>
</tr>
</tbody>
</table>
Several outliers were identified in the preliminary analyses of the research questions. As suggested by Munro (2005), analyses were run twice: with outliers in the distribution and with outliers removed. The results with and without these two participants showed no real difference. A decision was made to leave the outliers in the sample.

**Impact of Social Desirability**

A bivariate analysis was run in order to evaluate the impact of social desirability (SD) on the self-reported data used in the study (Table 4.6).

<table>
<thead>
<tr>
<th>Table 4.6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bivariate analysis of social desirability on variables of interest (n = 228)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variables</th>
<th>Social Desirability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Engagement</td>
<td>.173**</td>
</tr>
<tr>
<td>Playfulness</td>
<td>-.062</td>
</tr>
<tr>
<td>Work-Play Congruence</td>
<td>.008</td>
</tr>
<tr>
<td>Positive Affect</td>
<td>.381**</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>-.316**</td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>.073</td>
</tr>
<tr>
<td>Extrinsic Motivation</td>
<td>-.036</td>
</tr>
<tr>
<td>Age</td>
<td>.162*</td>
</tr>
</tbody>
</table>

* *p < .05 (2-tailed), ** p < .001 (2-tailed)*

It was discovered that SD had a significant positive relationship to the dependent variable work engagement, and two control variables positive affect and negative affect. No significant relationship was found for either play variables or for either motivation variable. The correlation between social desirability scores and work engagement scores suggests that participants who scored high in social desirability also scored high in work engagement, which could influence the trustworthiness of the work engagement data and the results of the analysis. This correlation
might mean that participants who are concerned with the positive perception of others might over report the degree to which they are engaged at work. In order to account for the affect of SD on work engagement, the SD variable was entered as a first step in each hierarchical regression were work engagement was used as a dependent variable.

Univariate Analyses

Table 4.7 displays the means, standard deviations, skewness coefficients, and ranges of the variables used within this study.

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>Skewness</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Engagement</td>
<td>4.45</td>
<td>.95</td>
<td>-1.052*</td>
<td>1.00</td>
<td>6.00</td>
</tr>
<tr>
<td>Playfulness</td>
<td>26.50</td>
<td>5.00</td>
<td>-.675*</td>
<td>10.00</td>
<td>35.00</td>
</tr>
<tr>
<td>Positive Affect</td>
<td>19.49</td>
<td>2.55</td>
<td>-.097</td>
<td>12.00</td>
<td>25.00</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>10.97</td>
<td>3.00</td>
<td>.646*</td>
<td>5.00</td>
<td>22.00</td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>3.06</td>
<td>.29</td>
<td>-.081</td>
<td>2.20</td>
<td>4.00</td>
</tr>
<tr>
<td>Extrinsic Motivation</td>
<td>2.48</td>
<td>.34</td>
<td>-.127</td>
<td>1.26</td>
<td>3.40</td>
</tr>
<tr>
<td>Work-Play Congruence</td>
<td>.696</td>
<td>.39</td>
<td>.194</td>
<td>.00</td>
<td>1.71</td>
</tr>
<tr>
<td>Person-Organization Fit</td>
<td>3.71</td>
<td>.92</td>
<td>-.787*</td>
<td>1.00</td>
<td>5.00</td>
</tr>
<tr>
<td>Need-Supply Fit</td>
<td>3.69</td>
<td>.95</td>
<td>-.735*</td>
<td>1.00</td>
<td>5.00</td>
</tr>
<tr>
<td>Demand-Ability Fit</td>
<td>4.10</td>
<td>.77</td>
<td>-1.178*</td>
<td>1.33</td>
<td>5.00</td>
</tr>
</tbody>
</table>

* Severe skewness

Initial descriptive statistics suggested a severe skew present for multiple variables.

Skewness values above 0.2 or below -0.2 indicate severe skewness (Hildebrand, 1986).
Specifically, the coefficients for the intrinsic motivation, negative affect, person-organization fit, need-supply fit, playfulness, and work engagement scales all showed that either positive or negative severe skewness was present with skewness scores ranging from 0.646 to -1.178. Tabachnick and Fidell (2013) recommend transforming variables with moderate to severe skewness values in order to meet the assumption of normal distribution for a regression. Market research scholars, Hair, et al. (2006) suggest instead using a visual analysis of graphs instead of skewness values to determine whether or not the assumption of normalcy have been met. In order to decide the best course of action, transformations were calculated and run for the variables with high skewness values. The transformations either made no visual difference in the graph or made the skewness of the graph worse.

Recent scholarship on regression analysis suggest that this methodology is robust enough to withstand violations of assumptions especially when using large sample sizes (i.e. 200 participants or more), suggesting that in this case skewness would not significantly impact the output (Field, 2009; Norman, 2010). Based on the sample size of 228 and the effect of transformation on the graphs the decision was made to run the regression analysis using the non-transformed variables.

**Bivariate Analysis**

Following the univariate analysis of the data, a correlation matrix and scatter plots (Table 4.8 and Appendix A) were produced for the variables of interest in this study are work engagement, playfulness, and the experimental measure of work-play congruence. Work engagement has a non-significant relationship with both playfulness ($r = .078$) and work-play congruence ($r = -.037$). Work Engagement did, however, have moderate statistically significant
relationships to intrinsic motivation, positive affect, negative affect, person-organization fit, and large statistically significant relationships to need-supply fit and demand-ability fit (Cohen, 1987). Playfulness demonstrated a statistically significant small positive relationship to intrinsic motivation ($r = .182$). Work-play congruence had no significant relationship with any of the variables. There are two possible reasons for the lack of correlation with other variables. This could be because there is no relationship present. There is also the potential for a type II error with this measure, because of how the measure needed to be calculated there was not enough power to ensure that a false negative could be potentially avoided. A power analysis run for this measure estimated 100,000 participants would be needed to avoid a type II error, unfortunately an unachievable sample size for this project. Scatter plots for each variable of interest are located in Appendix A.
### Table 4.8

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Work Engagement</td>
<td></td>
<td>.078</td>
<td>.439**</td>
<td>-.304**</td>
<td>.357**</td>
<td>-.056</td>
<td>-.037</td>
<td>.377**</td>
<td>.596**</td>
<td>.505**</td>
</tr>
<tr>
<td>2. Playfulness</td>
<td></td>
<td></td>
<td>.009</td>
<td>-.087</td>
<td>.182**</td>
<td>-.014</td>
<td>.072</td>
<td>-.039</td>
<td>.007</td>
<td>.086</td>
</tr>
<tr>
<td>3. Positive Affect</td>
<td></td>
<td></td>
<td></td>
<td>-.373**</td>
<td>.242**</td>
<td>-.044</td>
<td>.063</td>
<td>.167*</td>
<td>.225**</td>
<td>.206**</td>
</tr>
<tr>
<td>4. Negative Affect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.050</td>
<td>.090</td>
<td>-.093</td>
<td>-.120</td>
<td>-.189**</td>
<td>-.175**</td>
</tr>
<tr>
<td>5. Intrinsic Motivation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.058</td>
<td>.040</td>
</tr>
<tr>
<td>6. Extrinsic Motivation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.122</td>
</tr>
<tr>
<td>7. Work-Play Congruence</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>8. Person-Organization Fit</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>9. Need-Supply Fit</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>10. Demand-Ability Fit</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $p < 0.05$ (2-tailed), ** $p < 0.01$ (2-tailed)
Multivariate Analyses

Hierarchical regression was used to test each of the 5 hypotheses set out in the previous chapters. Below I will describe the results of the regressions for each of the hypotheses. As well as, any specific adjustments or post hoc analyses deemed necessary during the analysis process.

Hypothesis One

The first hypothesis proposed that the character trait playfulness as measured by SMAP (Proyer, 2012a) would have a positive relationship to work engagement as a whole, while holding constant positive and negative affect and motivational orientation. Hierarchical regression was used to analysis the variables of interest.

The full regression model was statistically significant, however, the significance was due to control variables, not the hypothesized variable, playfulness. (see Table 4.9).
Table 4.9

Hierarchical Regression Analysis Summary for Hypothesis 1: Playfulness Predicting Adult Work Engagement (n = 228)

<table>
<thead>
<tr>
<th>Step and Predictor Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>R²</th>
<th>Adj R²</th>
<th>ΔR²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Desirability</td>
<td>.078</td>
<td>.029</td>
<td>.173**</td>
<td>.030</td>
<td>.026**</td>
<td></td>
</tr>
<tr>
<td>Model 2:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Desirability</td>
<td>.080</td>
<td>.029</td>
<td>.178**</td>
<td>.038</td>
<td>.029**</td>
<td>.008</td>
</tr>
<tr>
<td>Playfulness</td>
<td>.017</td>
<td>.012</td>
<td>.089</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 3:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Desirability</td>
<td>-.011</td>
<td>.028</td>
<td>-.024</td>
<td>.287</td>
<td>.268***</td>
<td>.250</td>
</tr>
<tr>
<td>Playfulness</td>
<td>.002</td>
<td>.011</td>
<td>.008</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Affect</td>
<td>.118</td>
<td>.025</td>
<td>.316***</td>
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<td></td>
</tr>
<tr>
<td>Negative Affect</td>
<td>-.057</td>
<td>.020</td>
<td>-.179**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>.876</td>
<td>.193</td>
<td>.272***</td>
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<td></td>
</tr>
<tr>
<td>Extrinsic Motivation</td>
<td>-.032</td>
<td>.158</td>
<td>-.012</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < .05, ***p < .001

Table 4.9  Hierarchical regression analysis for Hypothesis 1

No statistically significant relationship between work engagement and the character trait playfulness was detected. SMAP was found to have a positive relationship to work engagement but not significantly so. The variables with the strongest relationship to work engagement were the two affect subscales as measured by the PANAS scale (PANAS positive and PANAS negative), positive affect being positively correlated and negative affect being negatively correlated. Also present in the analysis was a statistically significant relationship between intrinsic motivation and work engagement. Participants who scored high in positive affect and intrinsic motivation tended to have higher levels of work engagement. The full model had an
adjusted $R^2$ of .271 at a $p$ value of less than .001. Even though the analysis suggests that this constellation of variables accounts for 27% of the variance, a moderate effect size, we failed to find a significant relationship between playfulness and work engagement.

**Hypothesis 2**

The second hypothesis proposed that playfulness would have an interaction effect with positive and negative affect, intrinsic motivation, and extrinsic motivation. The preliminary analyses with the interaction variables showed evidence of high multicollinearity (VIF: 19-64, tolerance: .016-.050). In order to address this issue, the interaction variables were centered (Kraemer & Blasey, 2004). Multicollinearity was not an issue in the output when a centered interaction variable was used (VIF: 1.013-1.051 Tolerance: .951-.987). Outliers were detected for each of the interaction analyses. Outliers were removed from the data set and the analysis was run again. No significant difference in output was found with outliers removed, so a decision was reached to leave the reported outliers in the data set. Four separate analyses were run for the sake of ease of interpretation.

The first analysis, referred to as interaction Model 1, used work engagement as the dependent variable, positive affect x playfulness, playfulness, and positive affect as the independent variables. The interaction term was found to be not significant.
Table 4.10

Hierarchical Regression Analysis Summary for Hypothesis 2: Exploring Interaction Variables Affect on Work Engagement ($n = 228$)

<table>
<thead>
<tr>
<th>Step and Predictor Variable</th>
<th>B</th>
<th>SE B</th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>Adj $R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction Model 1:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playfulness x Positive Affect</td>
<td>-.006</td>
<td>.004</td>
<td>-.095</td>
<td>.207</td>
<td>.197***</td>
</tr>
<tr>
<td>Positive Affect</td>
<td>.157</td>
<td>.023</td>
<td>.421***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playfulness</td>
<td>.016</td>
<td>.011</td>
<td>.083</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction Model 2:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playfulness x Negative Affect</td>
<td>.007</td>
<td>.004</td>
<td>.114</td>
<td>.108</td>
<td>.096***</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>-.097</td>
<td>.020</td>
<td>-.307***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playfulness</td>
<td>.008</td>
<td>.012</td>
<td>.044</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction Model 3:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playfulness x Intrinsic Motivation</td>
<td>-.030</td>
<td>.012</td>
<td>.011</td>
<td>.130</td>
<td>.119***</td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>1.141</td>
<td>.205</td>
<td>.353***</td>
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</tr>
<tr>
<td>Playfulness</td>
<td>.002</td>
<td>.012</td>
<td>.011</td>
<td></td>
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</tr>
<tr>
<td>Interaction Model 4:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playfulness x Extrinsic Motivation</td>
<td>-.070</td>
<td>.043</td>
<td>-.109</td>
<td>.021</td>
<td>.008</td>
</tr>
<tr>
<td>Extrinsic Motivation</td>
<td>-.152</td>
<td>.183</td>
<td>-.055</td>
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</tr>
<tr>
<td>Playfulness</td>
<td>.015</td>
<td>.013</td>
<td>.080</td>
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<td></td>
</tr>
</tbody>
</table>

**$p < .05$, *** $p < .001$**

Interaction Model 2 was found to be statistically significant at $p < .001$. This significance, however, was again due to the moderator and not the interaction. Interaction Model 3 was found to be significant at $p < .001$, however, once again this significance was due to the moderator...
variable and not the interaction. The fourth and final model was not significant as evidenced in table 4.10. Neither the interaction variable (playfulness x extrinsic motivation) nor the single independent variables were found to have a statistically significant relationship to work engagement. Based on these four analyses we failed to find a significant interaction.

Hypothesis 3

The third hypothesis in this study suggested that playfulness as measured by SMAP would have a stronger relationship to the subscales vigor and absorption than to dedication, while examining additional effects of positive and negative affect, and motivational orientation.

A hierarchical regression was run using the SMAP scale as a dependent variable and the UWES subscales as independent variables (vigor, absorption, and dedication) (Table 4.11).
Table 4.11

<table>
<thead>
<tr>
<th>Step and Predictor Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>R²</th>
<th>Adj R²</th>
<th>ΔR²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1:</td>
<td></td>
<td></td>
<td></td>
<td>.010</td>
<td>-.003</td>
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</tr>
<tr>
<td>Vigor</td>
<td>.631</td>
<td>.520</td>
<td>.135</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Dedication</td>
<td>-.202</td>
<td>.529</td>
<td>-.045</td>
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<td></td>
</tr>
<tr>
<td>Absorption</td>
<td>-.017</td>
<td>.472</td>
<td>-.003</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 2:</td>
<td>.051</td>
<td>.021</td>
<td>.041</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigor</td>
<td>.648</td>
<td>.525</td>
<td>.138</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedication</td>
<td>-.316</td>
<td>.541</td>
<td>-.070</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absorption</td>
<td>-.274</td>
<td>.489</td>
<td>-.055</td>
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<tr>
<td>Positive Affect</td>
<td>-.165</td>
<td>.151</td>
<td>-.084</td>
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<td></td>
</tr>
<tr>
<td>Negative Affect</td>
<td>-.156</td>
<td>.123</td>
<td>-.094</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>3.482</td>
<td>1.226</td>
<td>.205**</td>
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<tr>
<td>Extrinsic Motivation</td>
<td>.146</td>
<td>.966</td>
<td>.010</td>
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<td></td>
</tr>
</tbody>
</table>

**p < .05, ***p < .001

Table 4.11 Hierarchical regression analysis summary for Hypothesis 3

Once again it was clear that the SMAP has little to no relationship with the UWES. Positive affect and intrinsic motivation continue to be the strongest variables in the analyses. From a theoretical perspective, positive affect and intrinsic motivation are thought to be underlying constructs within play and playfulness. Within this study only IM demonstrated a relationship to playfulness and accounting for 3% of the variance (R² = .033). With this in mind, a decision was made to evaluate the relationship of play to the work engagement subscales in a post hoc correlation analysis using the intrinsic motivation (challenge and enjoyment) and positive affect variables as stand-ins for play to see if and how this might tease out a more nuanced story about play and work engagement from the data (Table 4.12).
Table 4.12

Intercorrelations for Hypothesis 3 post hoc analysis (\( n = 228 \))

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vigor</td>
<td>—</td>
<td>.789**</td>
<td>.646**</td>
<td>.414**</td>
<td>.261**</td>
<td>.219**</td>
<td>.218**</td>
</tr>
<tr>
<td>2. Dedication</td>
<td>—</td>
<td>.692**</td>
<td>.445**</td>
<td>.315**</td>
<td>.281**</td>
<td>.244**</td>
<td></td>
</tr>
<tr>
<td>3. Absorption</td>
<td>—</td>
<td>.319**</td>
<td>.392**</td>
<td>.372**</td>
<td>.277**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Positive Affect</td>
<td>—</td>
<td>.242**</td>
<td>.154*</td>
<td>.261**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Intrinsic Motivation</td>
<td>—</td>
<td>.867**</td>
<td>.805**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Challenge</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td>.402**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Enjoyment</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**\( p < .001 \) (2-tailed)

Vigor, dedication, and absorption were of course highly correlated to each other, since they are subscales to the larger work engagement measure. Both positive affect and intrinsic motivation had statistically significant moderate relationships with the UWES subscales. Positive affect had the strongest relationship to dedication, with vigor and then absorption following in strength. In contrast, intrinsic motivation had the strongest relationship to absorption following with dedication and then vigor. Challenge, a subscale of intrinsic motivation showed a slightly stronger relationship to work engagement than its partner, enjoyment.

Hypothesis 4

The fourth hypothesis suggested that congruence between a person’s play orientation and the tasks that occupy their time at work or work-play congruence would predict an individuals work engagement score. It is important to note that the work-play congruence variable is an experimental measure developed for this dissertation and was found to have serious drawbacks.
during analysis. For example, a power analysis determined that in order to secure enough power to trust the results of the measure and avoid a type II error one would need an unachievable sample size for this project, \(n = 100,000\). With that in mind, the results of Hypotheses 4 and 5 can only be interpreted with great tentativeness.

Hierarchical regression was used to analyze the predictive value of work-play congruence on work engagement while holding constant the following variables: positive and negative affect, intrinsic and extrinsic motivation, and the congruence subscales (person-organization fit, need-supply fit, and demand-ability fit). As evidenced in table 4.13, work-play congruence, an inversely related variable, was not found to be a significant predictor of work engagement on its own. Once all variables were included in the model, however, work-play congruence \(p\) value increased to .054, close but statistically significant. The analysis suggests that participants who scored high in needs-supply fit, intrinsic motivation, positive affect, and demand-ability fit tended to have higher levels of work engagement. This constellation of predictive variables had a large effect size, which explained 54% of the variance in the regression.
Table 4.13

Hierarchical Regression Analysis Summary for Hypothesis 4: Predictive Capacity of Work-Play Congruence on Work Engagement (n = 228)

<table>
<thead>
<tr>
<th>Step and Predictor Variable</th>
<th>B</th>
<th>SEB</th>
<th>β</th>
<th>R²</th>
<th>Adj R²</th>
<th>ΔR²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Desirability</td>
<td>.079</td>
<td>.029</td>
<td>.175**</td>
<td>.031</td>
<td>.026</td>
<td></td>
</tr>
<tr>
<td>Step 2:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Desirability</td>
<td>.079</td>
<td>.029</td>
<td>.176**</td>
<td>.033</td>
<td>.024</td>
<td>.002</td>
</tr>
<tr>
<td>Work-Play Congruence</td>
<td>-.110</td>
<td>.158</td>
<td>-.046</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3:</td>
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<td></td>
<td></td>
<td>.544</td>
<td>.525***</td>
<td>.512</td>
</tr>
<tr>
<td>Social Desirability</td>
<td>.110</td>
<td>.023</td>
<td>.024</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work-Play Congruence</td>
<td>-.219</td>
<td>.113</td>
<td>-.091</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>.704</td>
<td>.154</td>
<td>.219***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extrinsic Motivation</td>
<td>-.123</td>
<td>.128</td>
<td>-.044</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Affect</td>
<td>.081</td>
<td>.020</td>
<td>.216***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Affect</td>
<td>-.032</td>
<td>.016</td>
<td>-.102**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Person-Organization Fit</td>
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<td>.067</td>
<td>-.053</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Need-Supply Fit</td>
<td>.436</td>
<td>.067</td>
<td>.437***</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Demand-Ability Fit</td>
<td>.216</td>
<td>.069</td>
<td>.176**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < .05, ***p < .001

Table 4.13 Hierarchical regression analysis summary for hypothesis 4

Hypothesis 5

The final hypothesis suggested that work-play congruence would be a stronger predictor of work engagement than playfulness as a character trait. A hierarchical multiple regression was used to analyze the difference in predictive ability between the two play variables. The full model was found to be significant at $p < .001$, though not due to the influence of either
play variable. The strongest predictors continued to be positive and negative affect, intrinsic motivation, and two of the congruence subscales need-supply, and demand-ability (see Table 4.14).

<table>
<thead>
<tr>
<th>Step and Predictor Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>R²</th>
<th>Adj R²</th>
<th>ΔR²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1: Social Desirability</td>
<td>.079</td>
<td>.029</td>
<td>.175**</td>
<td>.031</td>
<td>.026</td>
<td></td>
</tr>
<tr>
<td>Step 2: Social Desirability</td>
<td>.081</td>
<td>.029</td>
<td>.181**</td>
<td>.040</td>
<td>.027</td>
<td>.009</td>
</tr>
<tr>
<td>Playfulness</td>
<td>.016</td>
<td>.013</td>
<td>.085</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work-Play Congruence</td>
<td>-.122</td>
<td>.158</td>
<td>-.051</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3: Social Desirability</td>
<td>.111</td>
<td>.023</td>
<td>.025</td>
<td>.544</td>
<td>.523***</td>
<td>.504</td>
</tr>
<tr>
<td>Playfulness</td>
<td>.002</td>
<td>.009</td>
<td>.009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work-Play Congruence</td>
<td>-.220</td>
<td>.113</td>
<td>-.091</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>.699</td>
<td>.157</td>
<td>.217***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extrinsic Motivation</td>
<td>-.123</td>
<td>.129</td>
<td>-.045</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Affect</td>
<td>.081</td>
<td>.020</td>
<td>.216***</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Negative Affect</td>
<td>-.032</td>
<td>.016</td>
<td>-.101**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Person-Organization Fit</td>
<td>-.054</td>
<td>.062</td>
<td>-.052</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Need-Supply Fit</td>
<td>.436</td>
<td>.067</td>
<td>.438***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demand-Ability Fit</td>
<td>.215</td>
<td>.069</td>
<td>.176**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < .05, *** p < .001

Table 4.14 Hierarchical regression analysis summary for Hypothesis 5

 Neither playfulness nor work-play congruence were found to be related to work engagement. The analysis of Hypothesis 5 continued to suggest that participants who scored
highly in needs-supply fit, intrinsic motivation, positive affect, and demand-ability fit tended to have higher levels of work engagement. The final regression model, using all of the variables, explained 54% of the variance within work engagement. This large effect size suggests that this finding as some practical significance for working adults.

Additional Analyses

Relationship of IM subscales to primary variables

A post hoc analysis was run to further explore the relationship between intrinsic motivation and the primary variables of interest: work engagement, playfulness, and work-play congruence. The intrinsic motivation measure has two subscales, challenge and enjoyment, both key underlying constructs of play present within the play scholarship. The results of the regression suggest that the challenge subscale was significantly related to work engagement but not playfulness or work-play congruence. The enjoyment subscale was significantly related to both work engagement and playfulness. Suggesting that if a person self-reports as high in playfulness they will likely have a high score in enjoyment but not challenge.

Analysis by age

Post hoc analysis was run using age as an independent variable to explore the relationship between age, work engagement, and playfulness. Social desirability was controlled by being entered first in the regression. Age was added as a second step with playfulness, IM, EM, positive affect, negative affect and the three congruence variables added as the third step in the regression. Age had a small correlation with work engagement and social desirability and no significant
correlation with playfulness. Once the third regression step was run, age no longer had a significant effect on work engagement.

**Analysis by career family**

Post hoc analyses were run on subsets of the sample, partitioning out career families. Management/administration, Education, Human services, Library science, and researchers were each used separately to look at the relationship between play and work engagement. Out of each of those career families only the management administration cohort demonstrated a significant relationship between playfulness and work engagement at \( p = .017 \), however, when intrinsic motivation and positive affect were added to the regression playfulness was no longer a significant predictor of work engagement.

**Analysis by survey collector**

The four largest collector groups were partitioned and analyzed to further understand the sample: Facebook, mental health non-profit, heterogenous group, and the law office collector. The Facebook collector demonstrated a significant relationship between playfulness and work engagement, however, this significance disappeared when intrinsic motivation and positive affect were added to the regression model.

**Conclusion**

In conclusion, the results showed no statistically significant relationship between the primary variables of interest. The strongest recurrent predictors of work engagement in the
models tested were the variables used for statistical control, specifically, positive affect, intrinsic motivation, and two of the congruence variables need-supply fit and demand-ability fit. The strengths and weaknesses and interpretive value of these results will be discussed in the following and final chapter.
Chapter 5

Discussion

Summary

A thorough literature review suggested enough theoretical overlap between play and work engagement to warrant further exploration and analysis. Previous studies found that play and work engagement are both independently correlated with positive constructs like creativity, innovative behaviors, and intrinsic motivation (Amabile et al., 1994; Lepper & Greene, 1975; Power, 2011). Similarly, play and positive engagement share both positive emotion and challenge as underlying constructs (Gray, 2011; Stairs & Galpin, 2010; Sutton-Smith, 1997). This study sought to further our understanding regarding the potential relationship between work engagement, play, and playfulness by surveying employed adults.

Work engagement is a well-studied construct that addresses the focus, well-being, and vitality experienced at work by employees (Bakker & Leiter, 2010). Play, though similarly endowed with a wealth of interested scholars, has no consensus on its definition. Play is seen as a complicated multidimensional construct, with defining features that involve behaviors, states of mind, motivational orientations, personality traits, and affective antecedents. For the purpose of this study, play was defined as an agentic, intrinsically motivated, experience that fundamentally occurs within a player’s mind that requires certain antecedents (i.e. a non-stressed state, of mind, novelty) and other qualities that are specific to the player (personal preferences, interests or personality traits which then manifests into play behaviors (Gray, 2011; Sutton-Smith, 1997).

Traditional definitions of play are most commonly focused on human child and animal play, however, several scholars have moved to expand the definition play outside the confines of
age (Eberle, 2014; Ellis, 1973; Henricks, 2012; Huizinga, 1949; Sutton-Smith, 1997). Eberle’s (2014) recent contribution to defining play stands on the shoulders of Sutton-Smith’s canonical work *The Ambiguity of Play*. He starts from the position that play is a manifestation of adaptive variability and serves an evolutionary function that contributes to development. Play is an experience that contributes to growth. He identifies six necessary elements of play: anticipation, surprise, pleasure, understanding, strength, and poise. Asserting that play first and foremost provides the potential for fun. Similarly, Henrick (2014) suggests a more general definition of play as self-realization. Most research that focuses on the play life of adults, however, tends to focus on the character trait of playfulness, perhaps because play is largely seen as a childlike activity and not something that adults do or have time to do. Playfulness was defined in this study as a virtuous personality trait (Proyer & Ruch, 2011) which predisposes an individual to “frame a situation in such a way as to provide oneself with amusement, humor, and entertainment” (L. A. Barnett, 2007, p. 955).

Since the initial literature review for this study, leisure scholars have endeavored to clarify our understanding of playfulness and anchor it more strongly in theory, suggesting that playfulness should be defined within a situational/transactional context as a stable constellation of traits that interacts with an environment manifesting in certain observable behaviors (Shen, Chick, & Zinn, 2014a). The difference between these two definitions will be discussed in greater detail within this chapter. This chapter will also include a discussion of the results of the analysis, limitations, and implications for theory, future research, practice, and counselor education.

**Discussion**

This study tested several hypotheses, each contributing to an exploration of the relationship between play and work engagement. Fundamentally asking if playfulness and work-
play congruence would influence the motivational process that produces work engagement as theory would suggest. Documented in Chapter 4, the results of the analyses found no support for the hypotheses, however, post hoc analyses found limited support within subsets of the sample. Playfulness was not related to work engagement for the sample as a whole, but was significant for a certain career family, (i.e. management and administration) and for the participants who took the survey through Facebook. Overall, positive affect, intrinsic motivation, and two of the person-environment congruence variables were the strongest predictors of work engagement. These results of the analyses seem to inspire more questions than they answer. This section will address both what the findings of the study suggest and how they fit within theory and previous research.

Work Engagement is predicted in this study by congruence variables: demands-ability fit and need-supply fit, as well as, intrinsic motivation, and positive affect, but not the hypothesized variables playfulness and work-play congruence. This finding is complicated by the consensus in the literature that intrinsic motivation (IM) is an inherent characteristic of playfulness (Proyer, 2012b; Shen et al., 2014a) and a necessary component of the play experience (Bergen, 2006; S. Brown & Vaughan, 2009; Gray, 2012; Henricks, 2012; Pavlas et al., 2012; Sutton-Smith, 1997). IM has even been used to establish convergent validity in the development of playfulness measures (Shen, Chick, & Zinn, 2014b).

Additional exploratory analyses found illuminating differences in the relationship between the intrinsic motivation subscales, challenge and enjoyment, and the primary variables playfulness and work engagement. As expected, work engagement was significantly related to both challenge and enjoyment. Playfulness, on the other hand, was only positively correlated to enjoyment. This finding suggests that challenge is not necessarily a component of playfulness but a necessary aspect of the experience of work engagement. How then does challenge relate to both play and work engagement in the literature?
Challenge is an essential characteristic of Flow, a construct that is both a component of work engagement (Bakker & Leiter, 2010) and an extension of play theory (Csikszentmihalyi, 1975; Henricks, 2014). Flow occurs when a person experiences high levels of challenge and has the skills to match. Csikszentmihalyi and LeFevre (1989) found that challenging activities at work contributed to employees experience of flow as opposed to more routine activities or leisure activities (i.e. watching TV or hanging out with friends).

The Broaden and Build (BnB) theory states that positive emotions open you up, to experiences and new challenges, which contributes to growth. Play fits this description again and again throughout the literature as it is defined as a growth oriented experience that hinges on both fun and challenge. The BnB theory is foundational to work engagement theory as well. In developing the hypothesize for this study it was thought that playfulness might contribute to growth by priming an individual to approach challenges through predisposing some individuals toward positive emotions.

The findings do not support this BnB theory. Playfulness, as measured in this study, is not significantly related to work engagement or even positive affect, not even as an interaction variable. It is only significantly related to intrinsic motivation and only to the enjoyment sub dimension, NOT challenge. What does this indicate, if anything? First there is the possibility that the scale chosen for this study falls short of capturing the true complexity of playfulness. As mentioned previously, the SMAP is a global measure and other measures of the construct are multidimensional. These findings might also suggest that playfulness does not predispose someone to seek challenges and therefore necessarily be engaged in challenging environments, for example at work. Achieving work engagement requires more than seeking enjoyment. One must also enjoy challenges and be challenged (and have the skills to meet that challenge).

The third hypothesis, suggesting that playfulness would have differing relationships toward each subscale of the work engagement measure, was designed to take a deeper look into
the relationship between playfulness and work engagement. Since no relationship between playfulness and the work engagement measure was found, there would be no relationship between playfulness and the subscales of UWES. It was decided then to explore the relationship between work engagement and playfulness based on theory instead. It is thought that intrinsic motivation and positive affect are sub dimensions of playfulness and the analysis found significant correlations between the subscales and positive affect, IM and the subscales of IM. Intrinsic motivation was most closely related to Absorption or Flow \( (r = .392) \), while positive affect was most closely related to dedication \( (r = .445) \) and then vigor \( (r = .414) \). The subscale Challenge had the strongest relationship to Absorption \( (r = .372) \), as expected due to the overlapping relationship to Flow. These findings support the argument that there should be similarity between work engagement and the experience of play and further suggest that either this measure of playfulness is not sufficient or perhaps that the construct of playfulness is itself not a sufficient stand in for the play experience of adults.

The final hypotheses looked at the relationship between all of the variables together with specific interest in the predictive capacity of the experimental measure of work-play congruence. The results of the analysis did not support this hypothesis. There was no significant relationship between work engagement and work-play congruence. To further complicate the matter, the non-significant relationship, though close \( (p = .053) \), was negative in direction. The immense sample size needed to have the appropriate amount of power for this measure suggests the outcomes of the analysis, with a sample size of 228, should be interpreted hesitantly, if interpreted at all.

The strongest predictor of work engagement was need-supply fit when all of the variables were present. This is a congruence variable that measures the degree to which an employee believes their needs are met by their job. This definition means employees are more likely to be engaged at work when they think they are being paid or rewarded according to their needs. This
finding supports previous work engagement research and the Job Demands-Resource Model (Hakanen & Roodt, 2010; Hakanen, Schaufeli, & Ahola, 2008), which finds that having more job resources and personal resources than job demands is the one of the greatest predictors of work engagement. How then does this fit with the finding that extrinsic motivation, which measures the need for external reinforcement and compensation, was not significantly related to work engagement in the final model? A post hoc analysis found that need-supply fit was significantly related to intrinsic motivation and not extrinsic motivation as might be assumed. Need-supply fit would seem to actually measure the degree an individual feels their work meets their intrinsic needs as opposed to their extrinsic or material needs.

In summary, the strongest predictor of work engagement appears to be the congruence variable need-supply fit, the second strongest predictor variable was intrinsic motivation, the third was positive affect, the fourth and last was demand-ability fit. IM and positive affect are underlying constructs of the play experience, which suggests these results tentatively hint at a relationship between work and play and would suggest the need for further exploration with different measures to better understand if any relationship is present.

**Additional Findings Related to Socio-Demographics**

The answer to the question, does playfulness predict work engagement levels of employed adults, appears to be complicated by career family and other unknown confounding variables. Playfulness did not predict work engagement when looking at the sample as a whole, but the post hoc analyses found that for a subset of the sample, the management/admin employees ($n = 40$), it does seem to be true. The predictive power of playfulness was also present for the subset of the sample that took the survey through Facebook (22 out of the 137 Facebook group were also management/admin employees). In both cases, once entered into a regression, intrinsic
motivation and positive affect were stronger predictors of work engagement than playfulness. This socio-demographic nuance is similar to other research on work engagement. Work engagement is not a given for employees and varies both between individuals and within individuals (Bakker & Leiter, 2010).

Play theory has suggested that as a person ages they are less likely to behave in a playful manner; at least one study has found support for this assertion (Barnett, 2007). Findings in this study suggest that age had no relationship with playfulness. Age demonstrated a small predictive relationship to work engagement until the more influential variables, such as IM and Need-Supply Fit, were added to the regression model.

**Limitations**

**Sampling**

The generalizibility of this study is limited due to the non-probability sampling methods used. Participants were collected through employers of personal contacts and through social networking, which represents the use of both convenience and judgment sampling. While appropriate for the exploratory nature of this type of research these sampling methods have drawbacks in that a sampling error cannot be calculated and one cannot know for certain the degree to which the sample is representative of the population you wish to generalize to.

**Measurement**

This study is limited by the relative validity, reliability, and power of its measures as with any study. Most of the measures demonstrated strong reliability coefficients, but two of the
measures were found to have limitations during the analysis phase of the study. The work-play congruence measure, an experimental measure developed for this study to quantify the congruence between an individual's play orientation and their work tasks. This measure had significant limitations due to its low power and need for an unachievable sample size.

A second possible limitation resides in the use of the SMAP as a global measure of playfulness. While a validated and reliable scale in its own right, it became clear in the post hoc analyses that there were complexities to playfulness that were not measured in the study with the use of a global scale. This raises the question; could another measure of playfulness have more accurately captured the multidimensional nature of the construct within this study? For example, a study by Maxwell et al (2005) used Glynn and Webster’s (1992) measure of Adult playfulness and found that the scale had two factors, fun-loving and frivolous. These subscales had different relationships to a measure job satisfaction. Fun-loving contributed positively to sale outcomes and job performance by contributing to a learning orientation. In contrast, the frivolous subscale did not contribute to job satisfaction or job performance outcomes. A new measure developed by Shen, Hick, and Zinn (2014b) purports to have a stronger theoretical base than previous measures and uses three factors to assess motivational cognitive qualities within playfulness: fun-seeking or intrinsic motivation, uninhibitedness, and spontaneity. The fun-seeking subscale of playfulness has an additional three subdimensions: fun-belief, initiative, and reactivity. Clearly more theoretically sound research is needed on playfulness and its related constructs to further our understanding.

**Analysis**

The lack of normal distribution for many of the scales in this study is a limitation. Additionally, further exploration with subsets of the sample was limited due to the fact that
groups within the sample were not even in numbers. This limited the inferential potential without being able to compare groups of career families, survey collectors, and play orientations.

**Implications**

**Theory**

Previous play theory describes intrinsic motivation and positive affect as underlying constructs of work engagement, play, and playfulness. One would therefore expect to find significant correlations to these variables within a statistical analysis. This study found support for the relationship of intrinsic motivation and positive affect to work engagement, which aligns with previous work engagement theory demonstrating the importance of positive emotions and challenge in the experience of work engagement. Playfulness, however, was only significantly related to intrinsic motivation and furthermore only to the subscale enjoyment rather than to both subdimensions: challenge and enjoyment. This finding potentially sheds doubt on the assumption that intrinsic motivation is embedded in the constellation of traits that make up playfulness. Without a relationship to challenge, playfulness can only be said to be related to enjoyment or pleasure rather than IM itself. These findings do not require an immediate adjustment within playfulness theory, however it would place a question mark on the relationship between challenge, enjoyment, within playfulness as a character trait and suggest the need for more exploration perhaps with different measures.

The predictive capacity of need-supply fit and demand-ability fit found in this study supports the Job Demand-Resource theory (Hakanen & Roodt, 2010; Hakanen et al., 2008). An interesting note to this, however, is the importance of intrinsic motivation as apposed to extrinsic motivation in predicting work engagement. This would suggest that theory would benefit from
differentiating between these two motivational orientations when describing the antecedents of work engagement as it relates to job and personal resources. Theory would also indicate that work-play congruence and work engagement would be related because of the shared underlying constructs relating to flow, challenge, and enjoyment. This study was unable to contribute to theory on this because of issues with measurement validity.

**Future research**

Measuring play and playfulness has proved to be challenging. For one, there is a lack of theoretical consensus in the field regarding an operational definition for both play and playfulness, which makes measurement difficult. Secondly, a global measure of playfulness, like the SMAP (Proyer, 2012a), may not be sufficient for teasing out the affect of this multidimensional construct on work engagement in particular. A recent review of measures of playfulness by Shen, Chick, and Zinn (2014a) suggests that most playfulness measures to date have serious theoretical and quantitative limitations, though it should be noted they did not review Proyer’s (2012a) short measure of adult playfulness.

The results from this study suggest that more research is needed to better understand the relationship between playfulness and intrinsic motivation, specifically how challenge and playfulness relate. The results also indicate that it would be worth exploring the predictive capacity of play on work engagement with a measure that look at play as an experience or a better measure of work-play congruence.

This study found that playfulness had predictive power for certain subsets of the sample, suggesting that playfulness could contribute to work engagement for certain individuals or within certain environments. More research on playfulness for different groups needs to be done so that
we can tease out the invisible variables present in the relationship between play and work for adults.

Practice

Mental health counselors and career counselors alike can provide benefit to their clients by attending to the potential for work engagement. Work engagement provides both material and psychological benefits to employees. When possible, job crafting has been found to help employees access higher levels of work engagement (Bakker, Tims, & Derks, 2012). Job crafting, however, is rarely something counselors have control over in which case this study provides three areas counselors can focus on when helping their clients who want to be more engaged in their work: counselors can help their clients to develop an understanding of their needs and how well their needs are being met by their career as it relates to process; clients relationship to enjoyable challenge at work (intrinsic motivation), and as any counselor might do already, their mood in general. This list of questions can help guide a conversation around how to access work engagement:

1. What needs of yours are currently being met at work?
2. What needs do you have that are not being met?
3. Is it possible to have those needs met in your current position?
4. Is it possible to have those needs met in your current place of employment?
5. IF you could change something about how your job works what would you change?
6. What kinds of challenges do you enjoy at work, at home, at play?
7. What kinds of enjoyable challenges do you experience at work?
8. What enjoyable challenges do you wish you could make a part of your job?
9. What challenges do you wish you could remove or change your relationship to?
10. When have you been happy at work?

11. What were you doing when you were happy at work?

    Practitioners would also benefit from attending to the play lives of their clients. Previous research has found playfulness to be a positive and beneficial character trait (Proyer & Ruch, 2011). Playfulness may even have value in certain work settings or for certain individuals and should be attended to by career counselors when it seems appropriate for that individual. The results of this study would suggest specifically it may be useful for counselors working with clients who identify as playful to explore how they approach challenges at work.

**Education and training**

Work takes up a considerable portion of an adult’s day, committing up to half the day in the endeavor. Experiencing engagement at work seems a worthy goal for any client a counselor sees as work engagement contributes to overall well-being. Counselors in training need to learn to attend to both the work and play within the lives of their future clients. Counselor educators should be knowledgeable about the antecedents of work engagement and help future counselors understand the importance of work, work engagement, and play within their clients lives.

**Conclusions**

Work engagement is a desirable experience for adults, though not guaranteed by simply having a job. Contributing factors such as job resources, personal resources, an orientation toward intrinsic motivation, positive affect, and perhaps playfulness for some can set the stage for an individual to benefit from this positive growth oriented experience. With the psychological well-
being of individuals hanging in the balance, more research is needed to better understand the complexities within the relationship between play and work for adults.
References


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http://doi.org/10.1080/14927713.2011.578398


http://doi.org/10.3389/neuro.08.013.2009


Appendix A

Scatter Plots
Appendix B

Play Orientation Characteristics within Career Family Categories
### Play Orientation Characteristics within Career Family Categories (n = 228)

<table>
<thead>
<tr>
<th>Career Family Categories</th>
<th>n</th>
<th>Top Play Orientations</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration/Management</td>
<td>39</td>
<td>Explorer</td>
<td>45%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Director/Artist</td>
<td>38%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Storyteller</td>
<td>31%</td>
</tr>
<tr>
<td>Government/Public Service</td>
<td>5</td>
<td>Director</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Storyteller/Explorer/Competitor</td>
<td>40%</td>
</tr>
<tr>
<td>Fundraising/Development</td>
<td>10</td>
<td>Director</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Storyteller</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explorer</td>
<td>50%</td>
</tr>
<tr>
<td>Accounting/Finance</td>
<td>12</td>
<td>Explorer</td>
<td>42%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Collector</td>
<td>33%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Storyteller</td>
<td>33%</td>
</tr>
<tr>
<td>Art/Creative work</td>
<td>8</td>
<td>Artist/Creator</td>
<td>86%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Director</td>
<td>71%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explorer</td>
<td>43%</td>
</tr>
<tr>
<td>Information technology</td>
<td>5</td>
<td>Explorer</td>
<td>67%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Artist/Creator</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Director</td>
<td>50%</td>
</tr>
<tr>
<td>Human services</td>
<td>40</td>
<td>Explorer</td>
<td>57%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Storyteller</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Joker</td>
<td>18%</td>
</tr>
<tr>
<td>Education/Training</td>
<td>23</td>
<td>Storyteller</td>
<td>61%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explorer</td>
<td>48%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Joker</td>
<td>35%</td>
</tr>
<tr>
<td>Research</td>
<td>9</td>
<td>Explorer</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Director</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Artist/Creator</td>
<td>40%</td>
</tr>
<tr>
<td>Science/Technology</td>
<td>3</td>
<td>Artist/Creator</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Director</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Storyteller</td>
<td>50%</td>
</tr>
<tr>
<td>Library science</td>
<td>19</td>
<td>Storyteller</td>
<td>47%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Director/Artist/Creator/Explorer/joker</td>
<td>32%</td>
</tr>
<tr>
<td>Health Science</td>
<td>13</td>
<td>Storyteller</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explorer</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Director/Collector</td>
<td>33%</td>
</tr>
<tr>
<td>Legal</td>
<td>12</td>
<td>Explorer</td>
<td>54%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Storyteller</td>
<td>38%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Director</td>
<td>38%</td>
</tr>
<tr>
<td>Marketing/Sales</td>
<td>13</td>
<td>Joker/Competitor</td>
<td>57%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Storyteller/Director</td>
<td>43%</td>
</tr>
<tr>
<td>Category</td>
<td>Count</td>
<td>Top Profile</td>
<td>Percentage</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------</td>
<td>-------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Hospitality/Service</td>
<td>4</td>
<td>Artist Creator</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explorer</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kinesthete</td>
<td>60%</td>
</tr>
<tr>
<td>Facilities/Maintenance</td>
<td>3</td>
<td>No consensus</td>
<td></td>
</tr>
<tr>
<td>Theology/Religious</td>
<td>3</td>
<td>Storyteller</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Artist/Creator</td>
<td>67%</td>
</tr>
</tbody>
</table>
Appendix C

Measures used in Study
SMAP

(Proyer, 2012)

The following statements refer to your feelings, actions, and perceptions in general. There are no correct or false answers. Please try as much as possible to describe your habitual behaviour patterns and attitudes by marking an X through one of the four alternatives. Please use the following scale:

- (1) strongly disagree
- (2) disagree
- (3) slightly disagree
- (4) neither agree nor disagree
- (5) slightly agree
- (6) agree
- (7) strongly agree

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am a playful person.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>2. Good friends would describe me as a playful person.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>3. I frequently do playful things in my daily life.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>4. It does not take much for me to change from a serious to a playful frame of mind.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>5. Sometimes, I completely forget about the time and am absorbed in a playful activity.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>
Work & Well-being Survey (UWES) ©

The following 9 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, cross the “0” (zero) in the space after the statement. If you have had this feeling, indicate how often you feel it by crossing the number (from 1 to 6) that best describes how frequently you feel that way.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. At my work, I feel bursting with energy</td>
<td>0-6</td>
</tr>
<tr>
<td>2. At my job, I feel strong and vigorous</td>
<td>0-6</td>
</tr>
<tr>
<td>3. I am enthusiastic about my job</td>
<td>0-6</td>
</tr>
<tr>
<td>4. My job inspires me</td>
<td>0-6</td>
</tr>
<tr>
<td>5. When I get up in the morning, I feel like going to work</td>
<td>0-6</td>
</tr>
<tr>
<td>6. I feel happy when I am working intensely</td>
<td>0-6</td>
</tr>
<tr>
<td>7. I am proud of the work that I do</td>
<td>0-6</td>
</tr>
<tr>
<td>8. I am immersed in my work I get carried away when I’m working</td>
<td>0-6</td>
</tr>
</tbody>
</table>

© Schaufeli & Bakker (2003). The Utrecht Work Engagement Scale is free for use for non-commercial scientific research. Commercial and/or non-scientific use is prohibited, unless previous written permission is granted by the authors.
**Work Preference Inventory Scale**  
Amabile, Hill, Hennessey, and Tighe, 1994

1. I am not that concerned about what other people think of my work.  
2. I prefer having someone set clear goals for me in my work.  
3. The more difficult the problem, the more I enjoy trying to solve it.  
4. I am keenly aware of the income goals I have for myself.  
5. I want my work to provide me with opportunities for increasing my knowledge and skills.  
6. To me, success means doing better than other people.  
7. I prefer to figure things out for myself.  
8. No matter what the outcome of a project, I am satisfied if I feel I gained a new experience.  
9. I enjoy relatively simple, straightforward tasks.  
10. I am keenly aware of the promotion goals I have for myself.  
11. Curiosity is the driving force behind much of what I do.  
12. I'm less concerned with what work I do than what I get for it.  
13. I enjoy tackling problems that are completely new to me.  
14. I prefer work I know I can do well over work that stretches my abilities.  
15. I'm concerned about how other people are going to react to my ideas.  
16. I seldom think about salary and promotions.  
17. I'm more comfortable when I can set my own goals.  
18. I believe that there is no point in doing a good job if nobody else knows about it.  
19. I am strongly motivated by the money I can earn.  
20. It is important for me to be able to do what I most enjoy.  
21. I prefer working on projects with clearly specified procedures.  
22. As long as I can do what I enjoy, I'm not that concerned about exactly what I'm paid.  
23. I enjoy doing work that is so absorbing that I forget about everything else.  
24. I am strongly motivated by the recognition I can earn from other people.  
25. I have to feel that I'm earning something for what I do.  
26. I enjoy trying to solve complex problems.  
27. It is important for me to have an outlet for self expression.  
28. I want to find out how good I really can be at my work.  
29. I want other people to find out how good I really can be at my work.  
30. What matters most to me is enjoying what I do.
The International Positive and Negative Affect Schedule Short Form (I-PANAS-SF)  
Question, Measure, and Item Order  
(Thompson, 2007)

Question: Thinking about yourself and how you normally feel, to what extent do you generally feel:

Upset
Hostile
Alert
Ashamed
Inspired
Nervous
Determined
Attentive
Afraid
Active

Interval measure: never 1 2 3 4 5 always
Perceived Fit Measure

Cable & DeRue (2002)

Person-organization fit:

The things that I value in life are very similar to the things that my organization values

My personal values match my organization's values and culture

My organization's values and culture provide a good fit with the things that I value in life

Needs-supplies fit:

There is a good fit between what my job offers me and what I am looking for in a job

The attributes that I look for in a job are fulfilled very well by my present job

The job that I currently hold gives me just about everything that I want from a job

Demands-abilities fit:

The match is very good between the demands of my job and my personal skills

My abilities and training are a good fit with the requirements of my job

My personal abilities and education provide a good match with the demands that my job places on me

Measurement: Likert scale
Informal questionnaires

Please identify 7 tasks that you participate in at work on a regular basis

The work activities included:

1. Estimating quantifiable characteristics of products, events, or information
2. Getting information from sources
3. Identifying objects, actions and events
4. Inspecting equipment, structures or material
5. Monitor processes
6. Analyzing data or information
7. Developing objectives and strategies
8. Evaluating information to determine compliance with standards
9. Judging the qualities of things, services, or people
10. Making decisions and solving problems
11. Organizing, planning and prioritizing work
12. Processing information
13. Scheduling work and activities
14. Thinking creatively
15. Updating and using relevant knowledge
16. Controlling machines and processes
17. Documenting/recording information
18. Drafting, laying out, and specifying technical devices/parts/equipment
19. Handling and moving objects
20. Interacting with computers
21. Operating vehicles/mechanized devices, or equipment
22. Performing general physical activities
23. Repairing and maintaining electronic equipment
24. Repairing and maintaining mechanical equipment
25. Assisting and caring for others
26. Coaching and developing others
27. Communicating with supervisors, peers, subordinates
28. Coordinating the work and activities of others
29. Developing and building teams
30. Establishing and maintaining interpersonal relationships
31. Guiding, directing, and motivating subordinates
32. Interpreting the meaning of information for others
33. Monitoring and controlling resources
34. Performing administrative activities
35. Performing for or working directly with the public
36. Provide consultation and advice to others
37. Resolving conflicts and negotiating with others
38. Selling or influencing others
39. Staffing organizational units
40. Training and teaching others

Brown’s Play Personality Descriptions: Please choose 3 you identify with the most.

The storyteller is a lover of narrative. They find joy in imagination whether they are a creator or a consumer.

The director finds enjoyment in organizing, planning, and being the center of it all.
The collector loves to “have and to hold the most, the best, the most interesting collection of objects or experiences” (S. Brown & Vaughan, 2009, p. 68).

The artist/creator makes things for the joy of aesthetics or for the love of making something work that was broken.

The explorer finds joy in discovery and exploration.

The kinesthete loves to move, they need to engage physically in order to think and process.

The joker is a person who finds play and joy in silliness, humor, whimsy, or pranks.
VITA

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EDUCATION

**Ph.D. in Counselor Education**
The Pennsylvania State University, University Park, PA December 2015

**M.Ed. in Counselor Education**
The Pennsylvania State University, University Park, PA May 2011

**B.A. in Liberal Arts**
The Evergreen State College, Olympia, WA May 2004

WORK EXPERIENCE

**Central Region Early Childhood Program Coordinator**
DCFS/Erikson Institute, Urbana, IL September 2015 to current

**Editorial Assistant, Journal of Counseling and Development**
Penn State University, University Park, PA May 2012 to December 2012

**Undergraduate Adviser, Rehab and Human Services**
Penn State University, University Park, PA August 2011 to May 2012

**Staff Development Specialist**
Mental Health America of Los Angeles Long Beach, CA October 2007 to January 2009

PEER REVIEWED PUBLICATIONS


TEACHING

- CNED Intro to Human Development and Counseling Fall 2012

COUNSELING EXPERIENCE

**Social Emotional Development Specialist (Intern)**
Champaign County Head Start, Urbana, IL January 2014 to Current

**Career Counselor (Practicum)**
Penn State University, University Park, PA January 2012 to May 2012

**Counselor (Practicum), CEDAR Clinic**
Penn State University, University Park, PA September 2011 to December 2011

**Elementary School Counselor (Intern)**
Easterly Parkway Elementary School, State College, PA January 2010 to June 2011