

CAREER CALLING, ENGAGEMENT AND WORK NONWORK POSITIVE SPILLOVER

by

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(Under the Direction of Lillian T. Eby)

ABSTRACT

In recent years, career calling and work engagement have received increased empirical attention. This study considers how viewing one's career as a calling is related to engagement at work, which in turn may positively spillover into a non-work domain. In addition, these relationships are examined in a sample of substance abuse treatment counselors; specifically, recovery status is examined as an important group variable. Results suggest that career calling can spillover into the nonwork domain and this effect is mediated by work engagement, particularly dedication and absorption. In addition, a lack of measurement and structural invariance suggests that the relationships in this study differ according to recovery status. Findings are discussed in terms of theoretical implications as well as future research directions.

INDEX WORDS: Career Calling, Work Engagement, Work Nonwork Positive Spillover, Recovery Status

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DEDICATION

To my loving family and my best friends, who provided me with encouragement and support.

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CHAPTER 1

INTRODUCTION

There has been a recent trend to explore positive psychological constructs in the organizational and management literatures, with topics such as work engagement and work-family enrichment gaining popularity (Kahn, 1990; Greenhaus & Powell, 2006). Researchers have also examined the purpose and meaning of work in one's life, arguing that the way in which an individual perceives the meaning of work can have important personal and organizational outcomes (Greenhaus, 1971; Wrzesniewski, McCauley, Rozin, & Schwartz, 1997). Perceptions of meaning can be affected by individual differences in life experiences. For example, a collection of recent research on career calling, defined as having a sense of purpose and meaning in one's work, has found that "the motivation, satisfaction, career self-assessment and development of people with a calling tends to be different from those who view daily work as merely a job" (Elangovan, Pinder, & McLean, 2009, p.428).

This study seeks to examine the relationship of viewing one's career as a calling with work- nonwork positive spillover. Spillover theory (Crouter, 1984; Staines, 1980) is a key paradigm used to explain the transfer of experiences, both positive and negative, from one domain to another. In particular, domain-specific experiences (e.g. feelings of accomplishment or satisfaction at work) can spillover into another domain (e.g. feelings of self-efficacy or satisfaction with one's family). Using spillover theory as a guide (Crouter, 1984; Staines, 1980), the present study posits that viewing one's career as a calling is related to engagement at work, which in turn may spillover into a non-work role in a positive way (Edwards & Rothbard, 2000). These relationships will be examined in a sample of substance abuse treatment counselors and as

such, one important aspect of these employees will be considered. In the substance abuse treatment field, many counselors are in recovery from substance abuse themselves (Culbreth, 2000; Hecksher, 2007). For employees who are personally in recovery, this significant life experience may be important to consider in order to more fully understand the relationships among career calling, engagement, and positive spillover. Because recovery status has not been examined in relation to calling, engagement, or positive spillover, it will be examined as an exploratory research question in the present study.

CHAPTER 2

LITERATURE REVIEW AND HYPOTHESES

Career Calling

Work represents a large portion of one's life and as such, the role of work - as a job, a career, and a calling - has received increased interest in recent years (Dik & Duffy, 2009). Career calling has its roots in the spiritual and religious meaning of work; however, its definition has been broadened both theoretically and empirically to describe the purpose and meaningfulness of work in one's life (Dik & Duffy, 2009; Dobrow, 2009; Elangovan, et al., 2009).

Bellah, Sullivan, Tipton, Madsen, and Swindler (1985) described three orientations one can have toward his or her work. First, individuals with a job orientation view their work as a means to gain resources which can benefit their time away from work. In other words, job-oriented individuals do not seek or receive rewards beyond the material benefits they receive from work. A career-oriented individual has a deeper connection with his or her work and seeks advancement and increased power within his or her organization. Finally, individuals with a calling orientation feel that their work is socially valuable and "find that their work is inseparable from their lives" (Wrzesniewski, et al., 1997, p.22). Career calling has also been described by Hansen (1997) as a "self-reflective quest for personal and professional purpose" (p.161).

Another useful way to think about career calling is derived from Novak's (1996) four qualities of a calling: (1) each person's calling is unique; (2) a calling must fit one's abilities and involves an openness to discovering one's calling; (3) a calling provides great energy, enjoyment, and vitality to one's efforts; and, finally, (4) discovering one's calling requires reflection, trial activities, and persistence. Similarly, Dobrow (2007) suggested that career

calling consists of seven core elements. Passion consists of deep enjoyment and absorption in a task. Identity consists of having a clear sense of oneself and the extent to which one's personal identity is intertwined with one's work identity. Urgency describes a sense of destiny with regard to engaging in work activities. Consciousness simply suggests that one is continuously present in and aware of one's calling domain. Domain specific self-esteem suggests that individuals feel confident in their ability to perform well in the job domain. Longevity describes the sense that individuals feel that they have always known that they would be involved in their calling domain/career. Finally, sense of meaning describes the extent to which individuals perceive their career activities as being meaningful; it consists of believing that one's work is benefiting the community or, to a greater extent, that one's work makes the world a better place.

This study will focus on the sense of meaning component of career calling as it most adequately taps into the aspects of calling that are pertinent to this study. Specifically, the sense of meaning component consists of having a meaningful existence attributed to one's involvement in the calling domain, feeling deeply moved and gratified as a result of working in the calling domain, and feeling like one's work is part of a greater whole. These components are reflected in Dobrow's (2007) sense of meaning subscale of career calling.

Although not empirically tested, Dik and Duffy (2009) suggested that constructs such as engagement (Kahn, 1990) and flow (Csikszentmihalyi, 1990) may result when individuals consider their work as a calling. Wrzesniewski (2003) proposed that a calling orientation might be related to optimism and a generally more positive outlook on life. Taking a motivational perspective, Elangovan et al. (2009) suggested that the pursuit of a calling may be associated with energetic force, direction, intensity and resilience. In other words, an individual with a calling orientation would be strongly motivated, focused, and engaged in job related activities.

Finally, Dobrow (2004) hypothesized that more engagement and motivation can result from the benefits of having employees with a calling orientation.

There has been some empirical research on the individual-level outcomes of viewing one's job as a calling. In particular, positive affect-based outcomes such as increased life satisfaction and work satisfaction have been found among those who view work as a calling (Wrzesniewski, et al., 1997). Studies have also shown that individuals who approach work as a calling report a greater vocational self-clarity (Duffy & Sedlacek, 2007), greater self-concept clarity, less avoidance coping, stress, and depression (Treadgold, 1999), and a greater commitment to their field (Serow, Eaker, & Ciechalski, 1992).

Much of the literature on calling has been theoretical in nature and empirical evidence is emerging on predictors and outcomes of having a calling. Given the findings on individual-level outcomes and the propositions of increased involvement in the workplace, this study will examine the construct of work engagement as an outcome of a career calling orientation toward one's work and further, as a mechanism for facilitating the positive aspects of career calling to the non-work domain. Wayne, Randel, and Stevens (2006) found that having a strong work identity predicted work-family enrichment, a construct similar to positive spillover. They argued that individuals who place importance on their work identity invest more effort into their career and have more opportunity to experience positive mood states, which can then be transferred outside of work. As an affective state, I argue that engagement fits within positive spillover theory as an affective resource resulting from viewing work as meaningful, which can be transferred outside of the work domain.

Engagement

Work engagement is a “persistent, positive affective-motivational state of fulfillment in employees that is characterized by vigor, dedication, and absorption” (Maslach, Schaufeli, Leiter, 2001, p. 417). Vigor is described as having high levels of energy, persistence, and willingness to invest effort in one’s work. Shirom (2003) describes vigor as an affective state that can be attributed to work and is characterized by physical strength, cognitive liveliness, and emotional energy. Dedication is characterized as experiencing pride, significance, and enthusiasm in one’s work and absorption refers to being fully concentrated and happily immersed in work. A common theme here is the notion that engagement involves commitment, passion, and focused effort and energy toward one’s work (Macey & Schneider, 2008).

The existence of engagement as an important construct in the organizational literature has been debated among researchers and practitioners alike (Macey & Schneider, 2008; Newman & Harrison, 2008). Engagement has been conceptualized as an attitude as well as a behavior, or more specifically, as an attitude that leads to engagement behavior in an organization. As an attitude, it has been compared to satisfaction, commitment, involvement, and positive affect, among other constructs. Macey and Schneider (2008) also discuss organizational citizenship, role expansion and proactive behavior as constructs that tap into engagement behavior. However, Macey and Schneider (2008) suggest that engagement is a separate and distinct construct and that these related constructs comprise facets of engagement. The focus of the present study takes the perspective of engagement as an attitude.

Engagement has been compared to several related organizational constructs, and researchers have attempted to establish work engagement as a distinct new construct. For example, Bakker, Schaufeli, Leiter, and Taris (2008) differentiate engagement from related

constructs such as workaholism and organizational commitment. They argue that engaged workers are different from workaholics because they lack the typical compulsive drive that makes work similar to an addiction and compromises their health. Hallberg and Schaufeli (2006) also found that engagement can be empirically separated from other positive organizational constructs, namely job involvement and organizational commitment.

Predictors and outcomes of engagement. The Job-Demands-Resources model (JD-R; Bakker & Demerouti, 2007) has been used as a framework to describe predictors of engagement. Job resources are described as working conditions that induce a motivational process and stimulate personal growth, learning, and development (Bakker, et al., 2008; Schaufeli, Bakker, Van Rhenen, 2009). Kahn's (1990) seminal work on engagement provides some insight as to possible predictors of engagement. He describes three psychological conditions that influence personal engagement at work: meaningfulness, safety, and availability. Psychological meaningfulness is described as a sense of return on the investments of one's self and feeling worthwhile, useful, and valuable in their roles. Kahn (1990) also describes engagement as the "harnessing of organization's members' selves to their work roles" (p. 694). Taken together, the descriptions of engagement suggest that having a calling orientation toward one's job is an important motivational resource that may be associated with higher levels of work engagement. In other words, deriving a sense of meaning from one's job based on having a career calling orientation may be related to feelings of engagement.

Kahn (1992) suggests that engagement can result in both individual-level outcomes (such as personal growth and development) as well as organizational-level outcomes (such as performance quality). Several studies have shown that engaged employees receive higher in-role and extra-role performance ratings (Bakker, Demerouti, & Verbeke, 2004; Gierveld & Bakker,

2005). Salanova, Agut, and Peiro (2005) found that work engagement predicted organizational climate which in turn predicted employee performance and customer loyalty.

Before hypothesizing a relationship between calling and engagement, it is important to discuss the dimensionality of engagement. Using a large cross-national sample, Schaufeli, Bakker, and Salanova (2006) examined the factor structure of engagement and found that although a one factor model showed acceptable fit indices, a three factor model consisting of vigor, dedication, and absorption, fit their data slightly better. Seppala, et al. (2009) also examined the factor structure as well as the time invariance of engagement using five different samples. They also found that the three factor structure of vigor, dedication, and absorption had slightly better fit than the one factor structure, although both structures had good fit indices (Hu & Bentler, 1999). Seppala et al. (2009) concluded that both the one-factor and three-factor structures are acceptable for research and the choice of which to use depends on the purpose of the research. However, they noted that when conducting confirmatory factor analyses (CFA) or structural equation modeling (SEM), the three factor structure would be more reasonable to use. In addition to the findings on factor structure, Seppala et al. (2009) found that the nine-item shortened measure of engagement developed by Schaufeli, Bakker, and Salanova (2006) worked well across different occupations and measured engagement similarly over time (both evidence of construct validity). Following the recommendation of Seppala et al. (2009), each of the three factors will be examined separately as they relate with other variables in the present study using an SEM approach.

In summary, work engagement is a positive state of well-being resulting from high energy and a strong identification with one's work. A career calling orientation to work can serve

as a psychological resource which employees can use to facilitate feelings of engagement, which can then transfer or spillover into the non-work domain. Thus, I first hypothesize the following:

Hypothesis 1a: Career calling is positively related to vigor.

Hypothesis 1b: Career calling is positively related to dedication.

Hypothesis 1c: Career calling is positively related to absorption.

Positive Spillover

Research on life outside of the work domain has received considerable attention in recent decades. Among those commonly examined topics in work-family research are work-family conflict (Frone, Russell, & Cooper, 1992; Greenhaus & Beutell, 1985), work-family enrichment (Greenhaus & Powell, 2006), work-family facilitation (Wayne, Grzywacz, Carlson, & Kacmar, 2007), and work-family balance (Frone, 2003). However, a recent critique of the work-family literature is that the term “family” is restricted to individuals who are married and/or have children (Fisher, Bulger, & Smith, 2009). This excludes single employees, and sometimes, employees who are widowed, divorced, or have older children who no longer live at home. Research has found that these excluded groups may have different experiences outside of the work domain (Casper, Weltman, & Kwesiga, 2007). Fisher et al. (2009) suggested that researchers move to terms such as work-nonwork or work-life in order to be more inclusive when conducting studies about life outside the work domain. Thus, work-nonwork positive spillover will be examined in this study.

As previously mentioned, spillover theory (Crouter, 1984; Staines, 1980) is a key paradigm used to explain the transfer of experiences, both positive and negative, from one domain to another. Work-nonwork positive spillover is defined as the transfer of personal characteristics such as positive affect, skills, behaviors, and values from one domain to another,

having a beneficial effect on the receiving domain (Edwards & Rothbard, 2000; Hanson, Hammer, & Colton, 2006). For example, Williams and Alliger (1994) noted that feelings such as excitement, enthusiasm, and happiness can be transferred from one role to another. Arguably, those feelings are similar to the characteristics of engagement (i.e. vigor, dedication, and absorption) and along these lines, it is expected that feelings of engagement at work might be transferred outside of the work domain. In support of this idea, Rothbard (2001) found that psychological engagement at work was linked to increasing positive emotions and decreasing negative emotions outside of work.

Similarly, enrichment theory (Greenhaus & Powell, 2006) is an extension of spillover theory and helps to explain two possible mechanisms through which the spillover of personal resources (e.g. positive affect) can occur. First, the instrumental path occurs when a resource is transferred directly from one role to another. In contrast, the affective path is less direct and occurs when a resource in one role results in positive affect in that role which in turn, can produce high performance in another role. This high performance in the receiving role can result in positive affect in that role. Examples of psychological resources that can transfer between roles include positive self-evaluations, personal hardiness, and positive emotions (Greenhaus & Powell, 2006). Engagement at work, as predicted from career calling, may serve as a psychological resource that can be transferred outside of work. In fact, Greenhaus and Powell (2006) propose that, “general tendencies to be available, engaged, and energetic in a role translate into attention and absorption in another role only when they provide a significant source of self-identity” (p. 86).

A recent study by Siu and colleagues (2010) found support for the link between engagement and work-family enrichment. Specifically, their study found that engagement is a

mediator between job resources and work-family enrichment. The present study examines an identity-based personal resource from the work domain (i.e. career calling). Further, work engagement resulting from a more identity-based source has some cross-situational consistency into the non-work domain (Maslach et al., 2001). Therefore, it is possible that feelings of engagement at work can remain with an individual long after he or she leaves the work domain and spillover into a non-work role.

The measure of positive spillover created by Hanson, et al. (2006) consists of two different types: instrumental and affective. Instrumental positive spillover includes value-based and behavior-based dimensions and implies that “values, skills and behaviors transferred from work are instrumental in helping people carry out their [non-work] responsibilities” (p. 254). Affective positive spillover items suggest that positive affective experiences at work (e.g. “positive mood,” “happy at work,” and “having a good day”) can transfer into the non-work domain. Although both types of positive spillover can be related to work engagement, the affectively based type seems more likely given the affect-based descriptions of engagement. Thus, for the present study, the type of work-nonwork spillover that is likely to occur from engagement is affective-based positive spillover.

Hypothesis 2a: Vigor mediates the relationship between career calling and affective-based work-nonwork positive spillover.

Hypothesis 2b: Dedication mediates the relationship between career calling and affective-based work-nonwork positive spillover.

Hypothesis 2c: Absorption mediates the relationship between career calling and affective-based work-nonwork positive spillover.

Thus far, this paper proposes that career calling will predict vigor, dedication, and absorption and that each of these factors of engagement will mediate the relationship between career calling and affect-based work-nonwork positive spillover. Figure 1 summarizes these hypotheses.

Recovery Status

This study uses a unique sample that provides an additional variable to be considered. The substance abuse treatment field consists of employees that can be categorized into two groups: recovering and nonrecovering. This distinction refers to counselors' previous personal experience with substance abuse. Recovery status may affect the proposed relationships between calling, engagement, and positive spillover.

The percentage of counselors in recovery from substance abuse has ranged from around 37% (McNulty, Oser, Johnson, Knudsen, & Roman, 2007) to upwards of 57% in published research (Knudsen, Ducharme, & Roman, 2006). Several studies show that recovering and nonrecovering counselors obtain similar client outcomes and perform similar job duties (McLellan, Woody, & Luborsky, 1988; Stoffelmayer, Mavis, Sherry, & Chiu, 1999). However, in terms of rewards for their performance, recovering counselors earn an average of \$2,300 less than their nonrecovering counterparts (Olmstead, Johnson, Roman, & Sindelar, 2007). As a possible explanation for this difference in pay, Olmstead et al. (2007) suggested that counselors in recovery enter this field as a way to continue and support their own recovery, and thus, accept a job in this field with less pay because they hold a personal commitment or a "calling" to the substance abuse treatment field.

Although the term recovery status can include individuals who are in recovery from drugs, as well as alcohol, the literature on the recovery process for alcoholics provides a rich

backdrop for examining career calling. Alcoholics Anonymous (AA; Alcoholics Anonymous, 1953) is an organization that was created over fifty years ago to help individuals gain sobriety from their addiction disease. AA relies on a twelve step framework to help its members through the recovery process and similar organizations have been established with the same framework to help individuals with addictions to other substances as well (e.g. Narcotics Anonymous, 1988). In particular, the twelfth step states that, “having had a spiritual awakening as the result of these steps, we [try] to carry this message to alcoholics and to practice these principles in all our affairs.” Individuals at this stage are encouraged to share their stories in order to help others achieve sobriety. Work at this stage can include volunteering at call centers, providing support for an individual at an earlier step of the recovery process, or entering the substance abuse treatment field as a career. In other words, twelfth step work can be embodied in work as a substance abuse treatment counselor. Taylor’s (1977) work on the recovery process in alcoholics noted that twelfth step workers regard their work as vital to maintaining their own recovery as well as saving the lives of others. Many recovering alcoholics view their twelfth step work as meaningful, valuable, and central to their purpose in life (Taylor, 1977). Thus, recovering substance abusers who enter the field of treatment counseling might view this as a career calling more so than non-recovering counselors. In other words, it is possible that a counselor who is personally in recovery may have a stronger sense of his or her job as a calling compared to a counselor who has not had the personal experience of substance abuse.

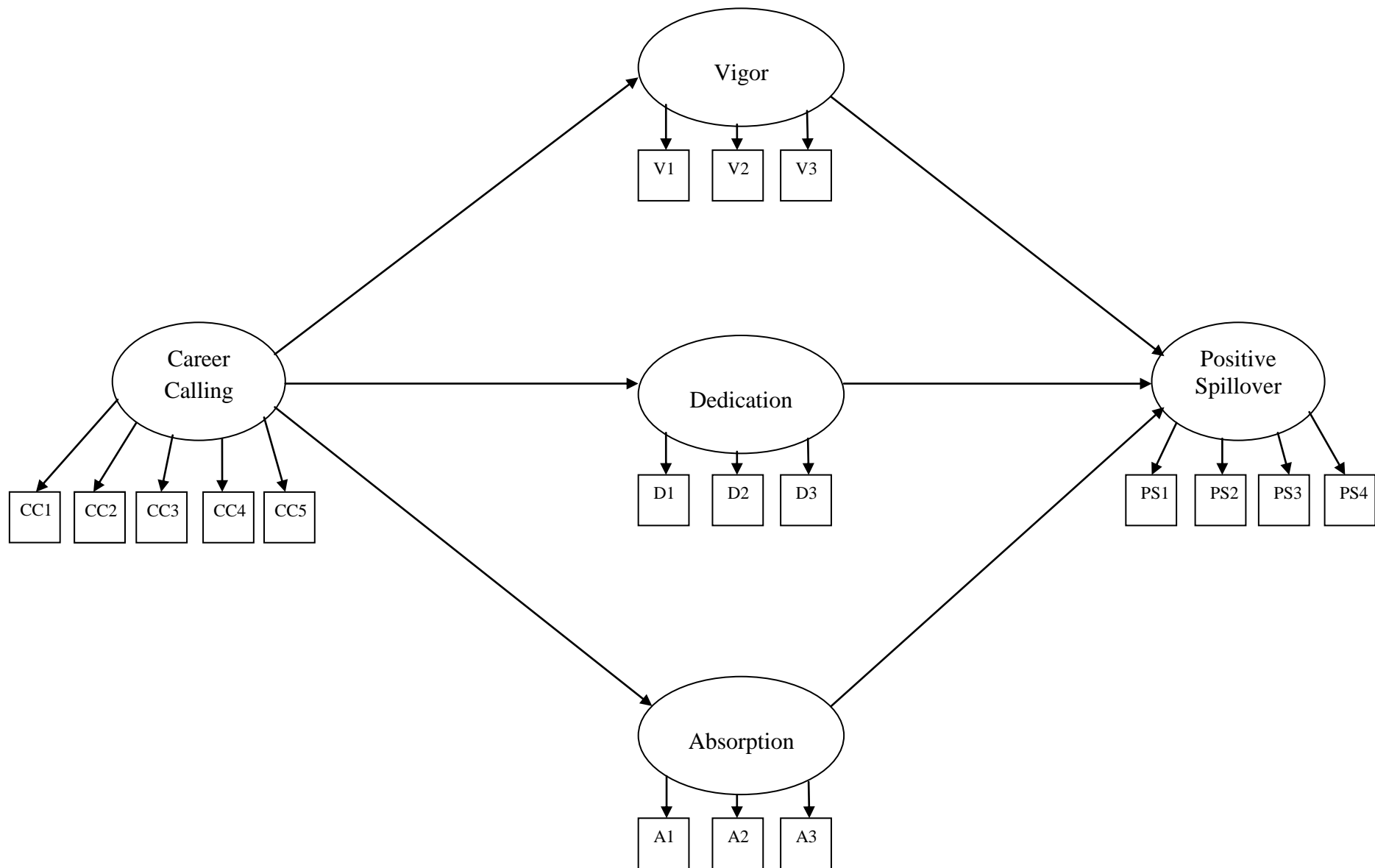
Hall and Chandler’s (2005) model of career calling suggests that feelings of psychological success, which might include self-confidence from achieving the goal of substance abuse recovery, can lead to an identity change. Recovery status represents an important achievement for an individual’s self-identity and thus, marks a significant change in his or her

life (Kellogg, 1993). Novak's (1996) four qualities of a calling are a useful description of career calling as it relates to recovery status. In particular, he notes that a calling must fit one's abilities and that discovering one's calling requires reflection, trial activities and persistence. The recovery process itself consists of a long period of reflection, persistence, and self-help through the twelve step model (Alcoholics Anonymous, 1953; Taylor, 1977).

In this light, career calling may be felt more strongly and be more salient for individuals in recovery because they may relate to their clients on a deeper level than those who are not in recovery from an addiction. On the other hand, recovering individuals may simply report having a calling orientation more so than their non-recovering counterparts. Thus, there is some evidence to believe that the proposed pattern of relationships between calling, engagement, and positive spillover might be different for those who are personally in recovery versus those who are not; however, the literature is not clear enough to propose a specific effect of recovery status. Therefore, the present study will explore whether there are differences in the proposed relationships between calling, engagement and positive spillover based on recovery status.

Research question: What is the effect of recovery status on the proposed relationships between career calling, engagement and positive spillover?

Figure 2.1.
Proposed Relationships among Study Variables



CHAPTER 3

METHOD

Sample and Procedure

The data for this study were collected as part of a larger longitudinal study examining mentoring effectiveness and outcomes among substance abuse clinical supervisors and counselors. For the present study, the third wave of data from counselors working at substance abuse treatment programs across the United States was used. Researchers traveled to 112 free-standing treatment programs and distributed paper and pencil surveys to counselors. Before filling out the surveys, the researcher explained that participation was voluntary and that their responses would be kept confidential. If participants agreed, they were asked to sign a consent form.

For this study, 1,010 counselors were eligible to participate in the third year of data collection. A total of 748 counselors provided usable data, resulting in a response rate of 74%. Counselors were primarily female (61%), Caucasian (61.4%), and, in terms of education, most had at least a college degree (79%). Counselors worked an average of 41.4 hours per week and reported an average salary of \$33,180. Thirty-nine percent of counselors had at least one child living at home and about half were either married or living with a partner (46.8%). The average age was 44.31 years and 41.8% of counselors reported that they were personally in recovery from substance abuse.

Measures

Recovery Status. Recovery status is a categorical variable and was assessed in the demographic section of the survey with the following question: “Are you personally in

recovery?” Response options were yes or no. This question has been used widely as part of a demographic section in studies in the substance abuse literature (e.g. Culbreth & Borders, 1999; Simons, Jacobucci, & Houston, 2006; Stoffelmayr, Mavis, Sherry, & Chiu, 1999). For the present study, two groups were created from this variable: recovery and non-recovery.

Career calling. Career calling was assessed using the five item sense of meaning subscale developed by Dobrow (2007). The wording of these items has been modified for the substance abuse treatment sample. An example modified item from this scale is, “Helping others overcome their addictions is a deeply moving and gratifying experience for me.” The coefficient alpha for this scale is .70.

Engagement. The three engagement factors were measured with the nine item version of the Utrecht Work Engagement Scale (UWES-9) (Schaufeli, et al., 2006). This study used the three subscales, which consist of three items each. The vigor subscale has an alpha of .83; an example item is, “At my job, I feel strong and vigorous.” The dedication subscale has an alpha of .83; an item from this scale is, “I am proud of the work that I do.” Finally, absorption has an alpha of .68, which is acceptable (Lance, Butts, & Michels, 2006; Nunnally, 1978). An example item from this measure is, “I am immersed in my work.”

Work-nonwork positive spillover. Affective work-nonwork positive spillover was assessed with a four item measure created by Hanson, et al. (2006). The alpha for this scale is .85. An item from this scale reads, “Being happy at work improves my spirits in my non-work life.”

Data Analysis Strategy

Structural equation modeling (SEM) was used to examine the hypotheses in the present study. The goals of SEM are to estimate the parameters of the hypothesized model and to assess the goodness of fit of the model as a whole (Hu & Bentler, 1998). Figure 2.1 shows the proposed model in which hypotheses one and two are examined simultaneously. For the research question, the model was examined separately for the recovery and the non-recovery groups and measurement and structural invariance was assessed in order to make comparisons across the groups.

In Figure 2.1, the measurement model shows each item as an indicator of the latent construct. Latent variables were created using the corresponding items as manifest indicators of each variable (see Measures section). Anderson and Gerbing's (1988) two step approach was used. In this approach, step one tests the measurement model and step two tests the contribution of the structural components, which were examined as specified in Figure 2.1.

Goodness of fit is assessed with indices that quantify the extent to which the variation in the data is accounted for by the proposed model (Hu & Bentler, 1998). Hooper, Coughlan, and Mullen (2008) recommend reporting the chi-square statistic and its associated degrees of freedom and p-value, root mean square error of approximation (RMSEA; Steiger & Lind, 1980) and its associated confidence interval, the standardized root mean square residual (SRMR; Hu & Bentler, 1999), and comparative fit index (CFI; Bentler, 1990). These fit indices have been found to be the most insensitive to sample size, model misspecification, and parameter estimates (Hooper, Coughlan, & Mullen, 2008; Hu & Bentler, 1998). Hu and Bentler (1998; 1999) recommend a combination strategy when reporting fit indices. Based on these recommendations, the present study used the following fit indices: chi-square statistic and its associated degrees of

freedom and p-value, CFI, SRMR, RMSEA, and the non-normed fit index, also known as the Tucker-Lewis fit index (TLI; Tucker & Lewis, 1973). The chi-square statistic, RMSEA, and SRMR are absolute fit indices, which determine how well the specified model fits the sample. The CFI and TLI are incremental fit indices, which compare the chi-square value to a baseline or null model where all the variables are specified as uncorrelated. Reporting a variety of indices is important because each fit index reflects a different aspect of model fit.

Finally, the research question was examined using tests of measurement and structural invariance (ME/I). Measurement invariance (Horn & McArdle, 1992; Vandenberg & Lance, 2000) examines whether individuals in these groups use different frames of reference when rating the constructs proposed in the present study (i.e. configural invariance), whether individuals in these groups use the scale intervals similarly (i.e. metric invariance), and whether these individuals have similar subjective "null points" or intercepts (i.e. scalar invariance). Examining measurement invariance can tell us if there are meaningful differences between recovery and non-recovery groups when it comes to the way each group conceptualizes the variables in the present study (Horn & McArdle, 1992). Structural invariance examines whether the structural paths (see Figure 2.1) are equivalent across the recovery status groups.

CHAPTER 4

RESULTS

Descriptive Statistics

Variable means, standard deviations, intercorrelations, and alphas are reported in Table 4.1. In addition, Table 4.2 shows the estimated correlations between the later factors.

Confirmatory Factor Analyses

As part of Anderson and Gerbing's (1998) 2-step method of model evaluation, the measurement model must be evaluated before analyzing the structural model. Therefore, a series of CFA's were conducted in order to confirm the hypothesized measurement model. First, a confirmatory factor analysis was conducted on all measures in the study (i.e. calling, vigor, dedication, absorption, and spillover). All items loaded onto their respective factors and the overall fit of this 5 factor model was acceptable ($\chi^2 = 477.961$, CFI = .94, TLI = .93, RMSEA = .06, SRMR = .04). For comparison purposes, a 1 factor model of engagement was examined in which all 3 engagement factors loaded onto one general engagement factor. This model showed relatively poor fit ($\chi^2(27) = 485.268$, $p < .000$, CFI = .87, TLI = .82, RMSEA = .15, SRMR = .06) suggesting that engagement is, in fact, best examined as three separate factors consisting of vigor, dedication, and absorption (Schaufeli, Bakker, & Salanova, 2006; Seppala et al., 2009).

Tests of Hypotheses

Next, the hypothesized structural model was examined. The overall model showed marginally acceptable fit ($\chi^2(129) = 862.645$, $p < .000$, CFI = .89, TLI = .86, RMSEA = .09, SRMR = .07; Hu & Bentler, 1999). Figure 4.1 shows the structural loadings. The

paths from career calling to vigor ($\beta=.80, p<.000$), dedication ($\beta=.84, p<.000$), and absorption ($\beta=.91, p<.000$), were each significant. Therefore, hypothesis 1 was supported.

The paths from vigor to positive spillover ($\beta= -.29, p<.000$), dedication to positive spillover ($\beta=.19, p<.05$), and absorption to positive spillover ($\beta=.40, p<.000$) were also significant. Interestingly, the relationship between vigor and work non-work positive spillover was negative. A closer look at the latent factor correlation (see Table 4.2) between vigor and dedication ($r=.71, p<.05$), both predictors of positive spillover, serves as evidence that this is a suppression effect. Suppression effects are quite elusive in behavioral research and occur when a third variable increases or decreases the relationship between an independent variable and a dependent variable (Conger, 1974; Cohen & Cohen, 1983). Specifically, when a variable receives a negative weight (i.e. vigor) and has positive intercorrelations with the other study variables, a negative or “net” suppression effect occurs (Conger, 1974; Cohen & Cohen, 1983). The correlation between vigor and positive spillover is significant but much smaller than the correlations between the other factors of engagement and spillover; Cohen and Cohen (1975) suggest that this also indicates a suppressor effect. Thus, hypothesis one was supported and, because of the suppressor effect on the relationship between vigor and spillover, hypothesis 2 was partially supported.

A recommended practice in studies that use structural equation modeling is to test alternative models (Vandenberg & Grelle, 2009). Two alternative models were tested. The first was a model in which a direct path from calling to positive spillover was added. This model showed similar fit compared to the proposed model ($\chi^2(129) = 862.645$, CFI = .88, TLI = .86, RMSEA = .09, SRMR = .07). Another alternative model in which the 3 engagement factors are combined was tested. This model is not nested within the hypothesized model, and also showed

similar fit compared to the proposed model ($\chi^2(133) = 784.149$, CFI = .90, TLI = .88, RMSEA = .08, SRMR = .06). Since none of the alternative models showed significant increase in fit, the proposed model is chosen as the best model.

Tests of Research Question

In order to examine the research question, a test of structural invariance in which the structural equation model was examined separately for the recovery status groups, was conducted. As a prerequisite to this, Vandenberg and Lance's (2000) recommendations on measurement invariance were followed. In order to examine potential differences between recovery and non-recovery groups, configural, metric, and scalar invariance was examined for each of the study variables. A finding of lack of invariance indicates that the groups are different on a particular aspect of measurement (Vandenberg & Lance, 2000). Subsequently, structural invariance was assessed in order to compare the relationships among the study variables between recovery status groups.

Measurement invariance. First, an omnibus test of the equality of covariances was conducted. This test served as the baseline model from which to compare further ME/I tests (Vandenberg & Lance, 2000). Table 4.3 summarizes the ME/I tests for career calling. For career calling, configural invariance was supported as well as partial metric invariance. Tests of scalar invariance did not produce proper results.

Because vigor, dedication, and absorption have 3 items each, these factors are just-identified in tests of configural invariance. Therefore, configural invariance cannot be assessed. There are sufficient degrees of freedom to examine metric and scalar invariance of each of the engagement factors, and thus, these tests were conducted. Table 4.4 summarizes the ME/I tests

for each of the engagement factors. Because tests of configural invariance did not produce proper results, tests of metric and scalar invariance were conducted keeping in mind that there may be some differences in interpretation. Metric invariance was supported for each of the three engagement factors; however, scalar invariance was not supported. In other words, individuals in both recovery status groups use the scale intervals similarly (i.e. metric invariance); however, they do not have similar subjective “null points” or intercepts (i.e. lack of scalar invariance).

Table 4.5 summarizes the ME/I tests for work non-work positive spillover. A lack of invariance on all three components of measurement invariance was found. That is, recovery and non-recovery groups differ on this measure in terms of the frame of reference used when rating the constructs in the present study (i.e. configural invariance). Recovery status groups also differ when it comes to using the positive spillover scale intervals similarly (i.e. metric invariance), as well as in the subjective “null points” or intercepts (i.e. scalar invariance) each group has.

Structural invariance. The question of whether the relationships among the study variables are different between recovery and non-recovery groups was examined by placing equality constraints on the paths in the structural equation model based on the findings from the measurement invariance analyses and comparing this to a model in which the groups were allowed to differ. Table 4.6 shows the results of the structural invariance test. A significant chi-square difference test indicates that the groups differ in pattern of the proposed structural relationships. Further, Cheung and Rensvold (1999) suggested that changes in CFI between $-.01$ and $-.02$ suggest that there may be differences between the groups tested.

In sum, differences were found in the measurement of the study variables between recovery and non-recovery groups, as well as in the structural paths of the model proposed. In

other words, the pattern of proposed relationships is different between the recovery and non-recovery groups.

Table 4.1.
Means, Standard Deviations, and Correlations among Observed Variables.

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Career Calling	3.89	.65	(.70)				
2. Vigor	3.39	.82	.32*	(.83)			
3. Dedication	4.04	.68	.43*	.71*	(.83)		
4. Absorption	3.56	.71	.38*	.54*	.58*	(.68)	
5. Positive Spillover	3.79	.74	.21*	.11*	.24*	.26*	(.85)

Note: Reliabilities are in parentheses along the diagonal. * $p < .05$

Table 4.2.
Correlations among Latent Variables.

Variable	1	2	3	4	5
1. Career Calling	1.00				
2. Vigor	.80	1.00			
3. Dedication	.91	.72	1.00		
4. Absorption	.84	.67	.77	1.00	
5. Positive Spillover	.27	.11	.27	.34	1.00

Table 4.3.
Tests of Measurement Invariance: Career Calling

Model	<i>df</i>	χ^2	SRMSR	RMSEA	TLI	CFI	Δdf	$\Delta \chi^2$	ΔCFI
1. Configural invariance	10	15.771	.02	.04	.99	.98	-	-	-
1 vs 2	-	-	-	-	-	-	4	7.753	.00
2. Metric invariance	14	23.524*	.06	.04	.98	.98	-	-	-
2 vs 3	-	-	-	-	-	-	-	-	-
3. Scalar invariance	-	-	-	-	-	-	-	-	-

Note: SRMSR = standardized root mean square residual, RMSEA = root mean squared error of approximation, TLI = Tucker-Lewis index, CFI = comparative fit index. * $p < .05$, ** $p < .01$

Table 4.4.
Tests of Measurement Invariance: Engagement Factors

Model	<i>df</i>	χ^2	SRMSR	RMSEA	TLI	CFI	Δdf	$\Delta \chi^2$	ΔCFI
Vigor									
1. Configural invariance	-	-	-	-	-	-	-	-	-
1 vs 2	-	-	-	-	-	-	-	-	-
2. Metric invariance	2	.135	.01	.00	1.00	1.00	-	-	-
2 vs 3	-	-	-	-	-	-	6	23.800**	.02
3. Scalar invariance	8	23.935**	.10	.07	.99	.98	-	-	-
Dedication									
1. Configural invariance	-	-	-	-	-	-	-	-	-
1 vs 2	-	-	-	-	-	-	-	-	-
2. Metric invariance	2	1.642	.04	.00	1.00	1.00	-	-	-
2 vs 3	-	-	-	-	-	-	6	16.464**	.01
3. Scalar invariance	8	18.106*	.10	.06	.99	.99	-	-	-
Absorption									
1. Configural invariance	-	-	-	-	-	-	-	-	-
1 vs 2	-	-	-	-	-	-	-	-	-
2. Metric invariance	2	3.822	.04	.05	.99	.99	-	-	-
2 vs 3	-	-	-	-	-	-	6	19.990**	.03
3. Scalar invariance	8	23.812**	.11	.07	.97	.96	-	-	-

Note: SRMSR = standardized root mean square residual, RMSEA = root mean squared error of approximation, TLI = Tucker-Lewis index, CFI = comparative fit index. * $p < .05$, ** $p < .01$

Table 4.5.*Tests of Measurement Invariance: Work Non-work Positive Spillover*

Model	<i>df</i>	χ^2	SRMSR	RMSEA	TLI	CFI	Δdf	$\Delta \chi^2$	ΔCFI
1. Configural invariance	4	38.119**	.03	.15	.94	.98	-	-	-
1 vs 2	-	-	-	-	-	-	3	15.145**	.01
2. Metric invariance	7	53.264**	.09	.14	.95	.97	-	-	-
2 vs 3	-	-	-	-	-	-	8	23.439**	.00
3. Scalar invariance	15	76.713**	.07	.11	.97	.97	-	-	-

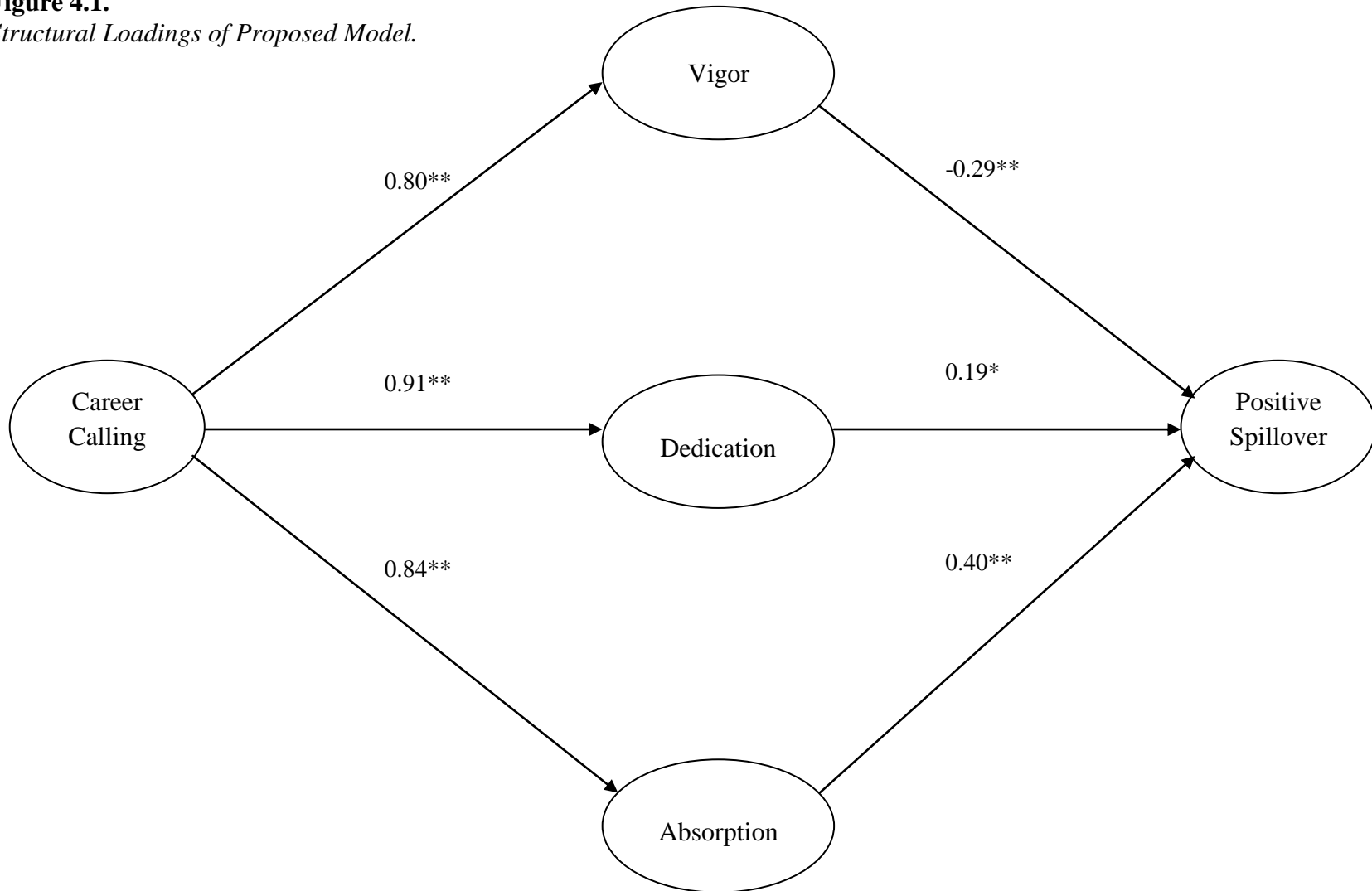
Note: SRMSR = standardized root mean square residual, RMSEA = root mean squared error of approximation, TLI = Tucker-Lewis index, CFI = comparative fit index. * $p < .05$, ** $p < .01$

Table 4.6.
Tests of Structural Invariance

Model	<i>df</i>	χ^2	SRMSR	RMSEA	TLI	CFI	Δdf	$\Delta \chi^2$	ΔCFI
1. Without equality constraints	271	988.778**	.08	.09	.86	.88	-	-	
1 vs 2	-	-	-	-	-	-	23	63.118	-.01
2. With equality constraints	294	1051.896**	.12	.08	.86	.87	-	-	

Note: SRMSR = standardized root mean square residual, RMSEA = root mean squared error of approximation, TLI = Tucker-Lewis index, CFI = comparative fit index. * $p < .05$, ** $p < .01$

Figure 4.1.
Structural Loadings of Proposed Model.



Note: * $p < .05$, ** $p < .01$

CHAPTER 5

DISCUSSION

Research on career calling has started to accumulate in recent years (Dik & Duffy, 2009; Dobrow, 2009; Elangovan, et al., 2009). The purpose of the present study was to examine the relationship between career calling, work engagement, and work non-work positive spillover. It was hypothesized that work engagement would mediate the effects of career calling on work nonwork positive spillover. In addition, the effect of recovery status on the proposed relationships was considered. In general, findings suggest that career calling can spillover into the nonwork domain and this effect is mediated by work engagement, particularly dedication and absorption.

This study makes several contributions to research in psychology as well as in the substance abuse treatment literature. First, this study was the first to examine work role outcomes of having a calling within this population. Cannan (2003) describes the career trajectory of recovering addicts as a calling. However, empirical research on career calling among this population has not been done. Interestingly, differences were found in both the measurement of the study variables and in the pattern of the proposed model between recovery and non-recovery groups. Second, this study adds to the relatively young literatures on career calling and work engagement by providing some empirical evidence of a relationship among these constructs.

The relationships between career calling and the engagement factors were much stronger than the relationships between the engagement factors and work nonwork positive spillover. It

could be that career calling and engagement are more proximal to one another than engagement and spillover. Indeed, career calling is a construct that pertains to the work domain, as does work engagement. Thus, it seems reasonable that these variables would show stronger relationships if they affect the same life domain.

Of the three factors of engagement, absorption appears to show the strongest relationship with positive spillover. Absorption is described as similar to the idea of flow in that people who are absorbed do not view themselves as separate from their activities (Csikszentmihalyi, 1990) and implies intrinsic motivation and interest (Rothbard, 2001). Further, intrinsic motivation theories suggest that intrinsic interest prompts individuals to participate in multiple roles and activities (Deci & Ryan, 1991). In fact, Rothbard (2001) found a link between absorption and increased positive emotions. Given that absorption is motivation-based, it is not surprising that this component of engagement showed the strongest relationship with spillover.

On the other hand, vigor showed the weakest zero-order correlation with spillover and was highly correlated with dedication as well. Vigor is described as an affective state characterized by having high levels of physical strength, cognitive liveliness, emotional energy and persistence (Shirom, 2003). As such, the relatively weaker relationship between vigor and positive spillover could be because the potentially positive effects of vigor may be offset by negative reactions such as exhaustion. The three dimensions of engagement (i.e. energy, involvement, and efficacy) have been conceptualized as being opposites of the three burnout dimensions (Maslach & Leiter, 1997). In other words, when burnout occurs, energy becomes exhaustion instead of vigor, involvement becomes cynicism instead of dedication, and efficacy becomes ineffectiveness instead of absorption. Bakker et al. (2008) suggested that there may be a dark side to engagement; that is, burnout can occur if there is too much engagement. In

addition, Gonzalez-Roma, Schaufeli, Bakker, and Lloret (2006) also consider vigor as the opposite of exhaustion and dedication as the opposite of cynicism. They refer to the continuum spanned by vigor and exhaustion as “energy” and the continuum spanned by dedication and cynicism as “identification”. Therefore, because engagement and burnout are closely related, vigor may not be as likely to *consistently* carry over outside of the work role in a positive manner.

A unique aspect of the study is the recovery status of the sample. Because the sample comes from the substance abuse treatment field, a large proportion of participants are personally in recovery from substance abuse. As such, it would be interesting to see if the variables and relationships in this study differ between the groups. Interestingly, differences were found in the structural paths between recovery and nonrecovery status as well as in the measurement of the constructs between the groups.

Implications for Theory

The present study provides some insight and new directions for theory on career calling, work engagement, and positive spillover. Although relatively young, the career calling literature is benefiting from a recent increase in published empirical work (e.g. Duffy, Dik, & Steger, 2011; Hirschi, in press; Duffy, Manuel, Borges, & Bott, in press). Career calling can be an influential variable which can spillover to other domains in life. Therefore, identifying what an individual is being “called” to and having a calling orientation to one’s work can translate into positive work attitudes, such as commitment (Duffy, Dik, & Steger, 2011) and engagement. While this study adds additional empirical evidence to potential outcomes of career calling, it is clear that an overarching theoretical model is needed. Many of the recent studies on career calling note theory development as a direction for future research. With the growing interest in

this construct, creating a solid theory on calling is a pressing issue. This study, along with several other recently published works can help to create the nomological network of career calling and aid in the development of a modern theory of calling.

Although progress has been made, the battle remains in defining engagement as a trait, state, behavior, or some combination of each (Macey & Schneider, 2008; Christian, Garza, & Slaughter, 2011). However, just as burnout was initially thought of as a “pop” construct (Maslach, et al., 2001), and is now a valid construct in the occupational stress and health literature, engagement seems to be following in that direction. We know that engagement translates into positive organizational outcomes such as improved job performance (Christian, et al., 2011), customer satisfaction, and profits (Harter, Schmidt, & Hayes, 2002). However, at an individual level, engagement reflects the personal, emotional, and cognitive efforts that individuals bring to their work role (Rich, LePine, & Crawford, 2010) and as such, it represents a connection to one’s work on multiple levels. This study helps to identify a personal or individual attitude one can have toward their career as a predictor of engagement at work. In other words, because solid engagement theory is still developing, career calling can be added to theory on work engagement as an individual or personal resource for engagement. The present study adds a personal benefit of engagement at work: the potential to spillover outside of work. It is important to note, again, that the potential for engagement to spillover should be paired with the caveat that too much engagement at work may result in burnout. The present finding of the negative relationship between vigor and spillover, suggests that too much engagement during work hours might increase the potential for exhaustion in non-work domains of life.

Finally, research on positive spillover theory is the most developed of the variables in the present study. Findings suggest that identity-based work attitudes can spillover in a positive way

into non-work domains. Future theoretical developments might consider adding identity-based constructs (e.g. calling) to predictors of work non-work spillover. In addition, similar role theories such as work-family enrichment and work-family conflict could also include an identity-based variable.

Boundary Conditions and Future Research

Findings of the present study should be taken with a few boundary conditions in mind. As with most research using cross sectional and self-report data, common method bias is a concern. James, Mulaik, and Brett (1982) suggest research strategies such as temporal separation between predictors and outcomes in order to make conclusions about causality. Future research might include additional waves of measurement. In addition, it is important to mention the relatively low reliabilities for some variables (e.g. absorption, career calling). While this may be a commonly reported limitation, the statistical techniques used in this study (i.e. SEM) take into account the reliabilities of the variables used in estimating model parameters. Therefore, “low” reliabilities of the variables in this study are not considered a limitation of this study. Still, additional measures for career calling exist (Dik, Eldridge, & Steger, 2008); future research might consider using other measures of career calling.

Substance abuse researchers may continue to research differences between counselors in recovery and not in recovery. This research only scratches the surface of differences between these two groups in the proposed pattern of relationships. Future research could further examine where these differences lie as well as additional aspects of work in which group differences exist.

Another interesting avenue for research in the substance abuse field is the expansion of the concept of recovery status. While much of the sample identified as personally in recovery,

those who did not identify as such may have close friends or family members in recovery. Therefore, the non-recovering group may contain a subsample of individuals who have had influential personal experiences with recovery, through friends or family members. Perhaps then, recovery status could be expanded in order to solicit attitudes about friends and family members in recovery, not just one's own personal recovery. Future research could examine whether there are differences in constructs between those who have had limited personal experience or exposure to recovery and those who have experienced or witnessed substance abuse personally. In other words, recovery status could be examined as more than a dichotomous variable; consideration of how much of a presence substance abuse has had in one's life could reveal differences in work attitudes. For example, a non-recovering individual with several friends or relatives in recovery might assess the constructs in the present study similarly to someone who has gone through addiction and recovery personally.

Finally, future research could consider additional mediators and outcome variables. For example, job satisfaction or organizational commitment may be an important outcome of career calling. Duffy, Dik, and Steger (2011) have done some research on calling and work-related outcomes (e.g. turnover). Career calling in particular has caught the interest of many researchers, and going along with a movement toward studying positive psychology, it is predicted that research will continue to study calling in the near future.

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