Turnover Intentions and Turnover: The Moderating Role of Dispositional Affectivity

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Turnover Intentions and Turnover: The Moderating Role of Dispositional Affectivity

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ABSTRACT

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Turnover is a costly problem for organizations, with severe consequences for individuals (Hom & Griffeth, 1995). Because turnover intentions are the best predictor of turnover (Griffeth, Hom, & Gaertner, 2000), our ability to explain and predict individual voluntary turnover decisions depends upon our understanding of the intentions-turnover relationship. Allen, Weeks, and Moffitt (2005) suggested that dispositional affectivity moderates this relationship. Using a sample of 443 U.S. insurance company employees and hierarchical moderator logistic regression, I found that dispositional affectivity (i.e., positive affectivity [PA] and negative affectivity [NA]) jointly moderated the turnover intentions-turnover relationship. As hypothesized, the positive relationship was strong when employees are high in PA and low in NA, signifying the presence of an approach system and the dormancy of an inhibition system (Watson, Wiese, Vaidya, & Tellegen, 1999), and weak for the other combinations. This study contributes to the turnover field by helping to explain the moderate strength and wide variance of the intentions-turnover relationship, and by suggesting a role for dispositional affectivity. Inclusion of the three-way interaction improved the substantive significance of a model with established turnover variables. This extends the traditional role of dispositional affectivity beyond a direct effects predictor, encouraging the field to pay greater attention to personality.

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CHAPTER 1: INTRODUCTION

Turnover, defined as the “...voluntary cessation of membership in an organization by an individual who receives monetary compensation for participation in that organization” (Hom & Griffeth, 1995, p. 4), has received considerable attention in the literatures of industrial-organizational (I-O) psychology and management (e.g., Griffeth, Hom, & Gaertner, 2000, Hom, Mitchell, Lee, & Griffeth, in press; Lee & Mitchell, 1994; Mobley, Griffeth, Hand, & Meglino, 1979). That is because of its prospective costs to organizations in terms of the loss of human resources and disruption of ongoing work (George & Jones, 1996). Cascio and Boudreau (2011) noted that high performers who leave usually have organization-specific knowledge and valuable skills, and it is unlikely that a new worker would possess these characteristics or develop them quickly. Turnover of such individuals, and the necessity to replace them, reduces the value of the workforce and generates costs. Therefore, voluntary turnover is often very costly for organizations, and organizations often focus on reducing these costs (Cascio & Boudreau, 2011). Along with the consequences that turnover has for organizations, there are also consequences for individuals. These consequences include forfeiting seniority and benefits, transition stress in a new job, incurring relocation costs, and loss of important personal and family social networks (Mobley, 1982).

One way to help to reduce turnover costs is to attempt to explain and predict individual voluntary turnover decisions. Turnover intentions are the strongest predictor of turnover (Griffeth et al., 2000), but they rarely explain more than 25% of turnover variance (Hom et al., in press). Our ability to predict and explain individual voluntary

turnover decisions, though limited, depends upon our understanding of the intentions-turnover relationship. The intentions-turnover relationship fluctuates widely, suggesting the possibility of moderators (Steel & Orvalle, 1984; Vandenberg & Barnes-Nelson, 1999). To illustrate, a meta-analysis found a wide 95% credibility interval for the intentions-turnover relationship (.01 to .89; Griffeth et al., 2000). Baron and Kenny (1986) advised that nonexistence or intermittent presence of a theorized relationship between an independent variable (e.g. turnover intentions) and a dependent variable (e.g. turnover) may signify that a third variable has an effect on the direction or the strength of that relationship. In other words, the relationship may change depending upon the levels of a moderator variable. Therefore, possible moderators may help to explain the intentions-turnover relationship. Allen, Weeks, and Moffitt (2005) found that self-monitoring and risk aversion moderated the relationship between turnover intentions and turnover. They also suggested another possible moderator: dispositional affectivity.

Dispositional affectivity research has been dominated by positive affectivity (PA) and negative affectivity (NA; Brief & Weiss, 2002), and these have often been measured by the PANAS (Positive and Negative Affect Schedule; Watson, Clark, & Tellegen, 1988). PA and NA continue to attract attention based on recognition of the importance of personality traits at work (Judge & Larsen, 2001) and that affect governs workers' attitudes and behaviors (Barsade, Brief, & Spataro, 2003) (see Ng & Sorensen, 2009, for a meta-analysis). Watson, Wiese, Vaidya, and Tellegen (1999) argued that PA and NA represent the subjective components of more general systems of approach and inhibition, respectively. I hypothesize that these approach and inhibition systems moderate an

individual's propensity to follow through on turnover intentions. Specifically, high PA coupled with low NA should increase the propensity to follow through. To my knowledge, no research has investigated the interaction of turnover intentions and dispositional affectivity predicting turnover. I propose to fill this gap by studying PA and NA with respect to turnover intentions and turnover in a sample of 443 insurance company employees. My research question asks whether or not PA and NA jointly moderate the intentions-turnover relationship. These findings should contribute to turnover theory by providing a possible explanation for the moderate strength and wide variance in the relationship. Also, my use of a PA and NA together in an interaction should make a contribution to turnover theory, which so far has used them together as control variables, or used one as a control variable for the other, possibly masking a true conceptual relationship (Ng & Sorensen, 2009).

First, I briefly review the evolution of turnover models, which I refer to collectively as turnover theory. I place special emphasis on the role of individual differences, particularly on the role of personality. In particular, researchers have alluded to the possibility of dispositional affectivity moderating the relationship between turnover intentions and turnover. Thus, I review dispositional affectivity and develop hypotheses for two two-way interactions and one three-way interaction. Following formal statements of the hypotheses, I describe the methods. Next, I report the results, and finally, I discuss the results in terms of limitations, implications, and future directions.

Evolution of Turnover Models

The earliest turnover scholars believed that dissatisfaction was the main reason an individual quits a job (Hom, 2010). When March and Simon (1958) introduced the first turnover process model, and their general theory of motivation called “organizational equilibrium,” the importance of job satisfaction in turnover was cemented. Their theory specified that each organization member participates as long as the inducements from the organization match or exceed their contributions to the organization. The balance between inducements and contributions determined individuals’ perceptions of desirability of movement and ease of movement from the organization. Desirability of movement was mainly determined by job satisfaction. March and Simon (1958) proposed that prospects for alternative employment played a critical role in an individual’s turnover decision. In other words, employees do not quit unsatisfactory jobs unless they perceive opportunities for alternative employment. March and Simon (1958) emphasized individual differences in ability and bio-data (e.g., tenure, gender, age) as important determinants of perceived ease of movement.

Fifteen years later, Porter and Steers (1973) introduced an abbreviated process model focusing on single turnover antecedents that generally ignored the role of alternatives in turnover. They proposed that individuals’ “met expectations” play an important role in turnover decisions. Porter and Steers (1973) argued that intentions to leave may be the next step in the withdrawal process after dissatisfaction. They noted that personality variables seemed to have a direct effect on turnover. From limited evidence, Porter and Steers (1973) concluded that more extreme personality traits may lead to an

increased tendency to quit. Employees showing high levels of anxiety, emotional instability, aggression, independence, self-confidence, and ambition seemed to quit at a higher rate than employees with more moderate levels of these traits.

Only four years later, perhaps in response to the abbreviated nature of Porter and Steers' (1973) model, and definitely in response to Locke's (1976) observation that the negative relationship between satisfaction and turnover was not very high (it rarely surpassed .40), Mobley (1977) conceived a sequence of intermediate linkages between dissatisfaction and turnover. The steps of the model are (a) evaluation of the existing job, (b) experienced job satisfaction/dissatisfaction, (c) thoughts of quitting, (d) evaluation of the expected utility of a job search and cost of quitting, (e) intention to search for alternatives, (f) searching for alternatives, (g) evaluation of alternatives, (h) comparison of alternatives to the present job, (i) intention to quit/stay, and (j) quitting or staying. Mobley's (1977) model retained both the ease of movement and intention to leave constructs.

Mobley and colleagues (1979) updated and expanded Mobley's (1977) model, and offered the most extensive summary of the field since March and Simon (1958). It was apparent that turnover needed to move beyond job satisfaction as the sole explanatory variable, and the field slowly began to identify other variables and note their incremental improvements over job satisfaction in predictive validity. Mobley et al. (1979) noted that intentions are consistently related to turnover, and usually account for greater turnover variance than the satisfaction-turnover relationship (less than 24%, compared to less than 16%). In a comprehensive model tied to expectancy theory,

Mobley et al. (1979) positioned individual difference variables as directly predicting labor market perceptions and job-related perceptions, immediate/delayed gratification, centrality of non-work values, beliefs regarding non-work consequences of quitting, and contractual constraints.

Based on Price's earlier work emanating from a sociological background, Price and Mueller (1981) developed a comprehensive structural model including satisfaction antecedents (e.g., pay, distributive justice, promotional opportunity) and "intent to stay" as a mediator between satisfaction and turnover. The main contribution of this model was its suggestion of a number of antecedents of job satisfaction that were omitted or otherwise deemphasized in previous turnover models.

Perhaps in response to Mobley's (1977) usage of perceived alternatives, Hulin, Roznowski, and Hachiya (1985) asserted that individuals leave jobs because of *actual* alternatives. However, subsequent research (Griffeth, Steel, Allen, & Bryan, 2005) has supported the importance of perceived alternatives in turnover, in line with March and Simon's (1958) ease of movement construct. The employment opportunity index (Griffeth et al., 2005) accounted for incremental variance beyond common turnover variables (e.g., job satisfaction, organizational commitment) and previous measures of perceived alternatives.

Although Mobley's turnover models described a modal turnover process, later conceptualizations have taken subpopulations and situational differences into account (Steel & Lounsbury, 2009). In 1994, Lee and Mitchell proposed the "unfolding model," which specified multiple decision pathways to turnover. This model was stimulated in

part by developments in decision theory that characterized human decision making as nonlinear, and also in part by Beach's (1990) image theory, which characterized human decision making as a process of comparing significant life events (e.g., shocks) to internalized "images" of values and goals (Steel & Lounsbury, 2009). In the unfolding model a shock to the system, which can be expected or positive, causes the individual to contemplate the meaning of the event (or series of events) in relation their job. This may lead the individual to consider leaving their job. The main contributions of this model were its suggestions that individuals do not necessarily quit due to dissatisfaction, and do not necessarily quit for another job.

More specifically, the unfolding model has four paths that can lead to turnover. In Path 1, a shock, generally a non-work event (e.g., pregnancy) activates an existing plan to quit. Path 2 describes the effect of negative workplace shocks that violate individuals' goals or values. Here, individuals deliberate whether or not the shock can "fit" into their goals or values. If they judge a misfit, the individual quits without offers in hand. Unsolicited job offers stimulate Path 3. Should an alternative present superior inducements to the current job, individuals will take the new job. Path 4 accommodates the intermediate linkages in Mobley (1977) and similar models. Here, dissatisfied individuals may pursue and achieve better alternatives before quitting.

Mitchell, Holtom, and Lee (2001b) found that as much as 25% of quitters do so without first searching for an alternative job, and shocks induce more quits than dissatisfaction. They estimated that almost half quit because of external shocks (e.g., pregnancies, unsolicited job offers, and relocation of a spouse). Only 37% of all quitters

took the affect-induced turnover path as conceptualized by Mobley (1977). The unfolding model, although breaking new ground in turnover, still requires predictive validation. The current findings are based on quitters' retrospective accounts, which are subject to recall errors, rationalizations, and demand characteristics (i.e., social desirability; Hom, 2010).

Next, Mitchell and colleagues (2001a) proposed a new construct, "job embeddedness," underscoring the importance of the psychology of why people stay. It is comprised of three dimensions: (a) "links," or formal/informal connections to others in the organization or the community, (b) "sacrifice," or perceived costs of forfeited benefits, and (c) "fit," or the compatibility with the work or external environment. Measures of links, sacrifice, or fit in combination cause job embeddedness. Various studies have shown that job embeddedness predicts turnover beyond the traditional antecedents (i.e., job attitudes; Hom, 2010). However, there is little support for Mitchell and Lee's (2001) argument that staying is the obverse of leaving (Hom, 2010).

In sum, the turnover field has moved beyond job satisfaction. Although the late 20th century models have extended insight into job-related and external turnover antecedents, many employees exit for reasons other than dissatisfaction or better alternatives. In the past fifteen years, there has been a minor trend investigating individual differences in turnover. For example, Barrick and Zimmerman (2005) found that self-confidence, decisiveness, and bio data measured during recruitment were negatively related to turnover, and Allen et al. (2005) investigated personality's influence as a moderator of the intentions-turnover relationship, discussed next.

Personality's Role in Turnover

Turnover researchers have traditionally focused upon environmental causes of turnover, giving less attention to dispositional variables (Zimmerman, 2008). Personality, a category of individual difference variables, suffered a period of neglect in I/O psychology. A turning point in disputes over the utility of self-report personality measures for predicting performance came with the arrival of a meta-analysis by Barrick and Mount (1991), which examined the relationships of the five factor model (FFM) of personality dimensions (emotional stability, extraversion, agreeableness, conscientiousness, and openness) with job proficiency, training proficiency, and personnel data. Their meta-analytic findings established the benefits of using personality in selection, training and development, and performance appraisal. Since then, there has been an abundance of personality research in I/O psychology (Oswald & Hough, 2010). However, this interest in personality has not permeated the turnover literature.

Turnover researchers have been generally concerned with making changes to the work environment (e.g., to increase job satisfaction) as a means to control turnover. However, some individuals are more likely to quit and some are more likely to stay regardless of the environmental circumstances. The “hobo syndrome” was first offered by Ghiselli (1974) as the “...periodic itch to move from a job in one place to some other job in some other place” (p. 81). Mobley et al. (1979) proposed that personality affects the turnover decision. In the four personality studies that they reviewed, higher need for achievement was related to higher turnover for engineers, accountants, and middle managers, and to lower turnover for entrepreneurs.

Barrick and Mount (1996) investigated personality and voluntary turnover in two applicant samples of long-haul semi-truck drivers. They tested whether or not two types of response distortion (self-deception and impression management) affected the predictive validity of two of the FFM personality dimensions, conscientiousness and emotional stability. Voluntary turnover was predicted in two samples by both conscientiousness ($r = -.23$ and $-.23$; $\rho = -.26$ and $-.26$, respectively) and emotional stability ($r = -.20$ and $-.18$; $\rho = -.23$ and $-.21$, respectively) (ρ signifies the true score correlation after corrections for unreliability in the predictor and criterion). Structural equation modeling results were consistent with theory suggesting that applicants readily distort their responses regarding both personality dimensions through self-deception and impression management. Not one of the two distortions lessened the predictive validity of either personality variable.

A recent meta-analysis found that dispositional traits influenced turnover intentions and subsequent voluntary turnover (Zimmerman, 2008). Specifically, emotional stability best predicted turnover intentions, and agreeableness and conscientiousness best predicted turnover. A meta-analytic path model by Zimmerman (2008) found important direct effects from personality to turnover intentions and turnover that were not captured through job satisfaction or performance. These findings show that workers who are low in emotional stability may have turnover intentions for reasons other than job dissatisfaction or poor performance. Direct effects on turnover show that individuals with low agreeableness or high openness may quit without planning. Recent

research has investigated personality variables as moderators of the intentions-turnover relationship, which is discussed next

Intentions-turnover relationship. Fishbein (1967) proposed a theoretical model for the prediction of behaviors based on Dulany's (1961) theory of propositional control. According to the theory, behavioral intention is the immediate antecedent to a behavior. Intention to perform a behavior is often the best predictor of a behavior (Fishbein & Ajzen, 1975). As noted earlier, turnover models have widely used the intention construct, with most models positioning it as the immediate precursor to actual turnover. A meta-analysis showed that among turnover antecedents, turnover intentions are the best predictor of actual voluntary turnover ($\rho = .45$; Griffeth et al., 2000), supporting its role in the turnover process. Griffeth et al. (2000) found that attitudes such as overall job satisfaction ($\rho = -.19$) and organizational commitment ($\rho = -.23$) were, in contrast, modest predictors of turnover.

As a promising new direction, Allen (2004) proposed investigating personality as a moderator of the intentions-turnover relationship rather than a direct effect predictor. Given the wide range of findings regarding this relationship, Allen et al. (2005) hypothesized that the relationship is moderated by personality (e.g., self-monitoring, locus of control, risk aversion, proactivity). Specifically, they hypothesized that low self-monitors, relative to high self-monitors, would show a stronger positive intentions-turnover relationship, because high self-monitors' attitudes and beliefs (and intentions) are more influenced by perceptions of external expectations. They also hypothesized a stronger positive intentions-turnover relationship for individuals with internal locus of

control than for individuals with external locus of control, because “internals” are more likely to believe it is possible to master their environment and control outcomes than “externals.” They hypothesized that the positive intentions-turnover relationship would be stronger for less risk-averse individuals than for more risk-averse individuals because of the risks inherent in quitting a job. Finally, they hypothesized that the positive intentions-turnover relationship would be stronger for more proactive, relative to less proactive, individuals. A proactive individual encountering various push and pull factors may be more likely to actively pursue options that entail quitting.

Allen et al. (2005) found that risk aversion and self-monitoring were moderators of the intentions-turnover relationship. Specifically, the positive relationship between intentions and turnover was stronger for individuals with low risk aversion and those who were low self-monitors. In one of two samples, locus of control was found to moderate the relationship, such that it was stronger for individuals who had internal locus of control. However, the intentions-turnover relationship was not moderated by proactive personality. The current study investigates dispositional affectivity as a moderator of this relationship. Dispositional affectivity is discussed next.

Dispositional Affectivity

Personality research has identified two dimensions of affective responding: (1) trait positive affect (PA) and (2) trait negative affect (NA; Cropanzano, James, & Konovsky, 1993). Together, they comprise dispositional affectivity. At the conclusion of their article, Allen et al. (2005) pointed out that Judge (1993) found “...dispositional affectivity influenced the translation of job dissatisfaction into turnover...,” and they

suggested that it “...could conceivably play a similar role in the intentions-turnover relationship” (p. 989). In other words, turnover intentions make a better turnover predictor for individuals with a positive disposition than for individuals with a negative disposition. That is because turnover is less adaptive for those with a negative disposition. Individuals with a negative disposition are usually dissatisfied with their job situation--Ng & Sorensen (2009) found that NA was negatively correlated with global job satisfaction (sample size weighted corrected correlation $r_c = -.35$)--and changing jobs would do little to improve their satisfaction. Judge (1993) found that dispositional affectivity moderated the relationship between satisfaction and turnover, such that the negative relationship was stronger for individuals with a positive disposition.

The current study differs from Judge’s (1993) study because it measures dispositional affectivity with the PANAS instrument. Judge (1993) used a unidimensional measure of dispositional affectivity (Weitz’s [1952] gripe index), which was a departure from other research (non-turnover) that used measures of PA and NA (cf. Watson et al., 1988). Judge’s (1993) adaptation of the gripe index proposed that positive disposition was at one pole, and negative disposition was at the other. Weitz’s (1952) measure was originally intended as a trait measure of general satisfaction. An individual’s propensity to gripe, measured in terms of the number of dissatisfactions, does not constitute dispositional affectivity as is measured by PA and NA because PA and NA represent unidimensional bipolar constructs.

There is an ongoing debate over the dimensionality of affect. One side advocates for a model with two unipolar dimensions (PA and NA; e.g., Watson et al., 1988; Watson

et al., 1999); the other side advocates using a model with one bipolar dimension (e.g., Barrett & Russell, 1998; Russell & Carroll, 1999). The two unipolar dimensions are PA and NA, where the high poles represent the presence of PA and NA, respectively (Watson et al., 1999). Barrett and Russell (1998) found that positive affect was the bipolar opposite of negative affect, and Russell and Carroll (1999) found that bipolarity provided a parsimonious fit to existing data. Most studies of affect in organizations used a model that contains two unipolar dimensions (Barsade et al., 2003; Thoresen, Kaplan, Barsky, Warren, & de Chermont, 2003). Although the current study cannot resolve this controversy, it uses a model with two unipolar dimensions based on theory that relates PA and NA to approach and inhibition, respectively (Watson et al., 1999). Next, dispositional affectivity is discussed in terms of PA and NA.

The PA and NA dimensions are amenable to dispositional analyses, and they have been extensively studied in this way (Watson et al., 1999). That is, trait measures of PA presumably measure stable individual differences in the propensity for positive emotional states, and trait NA scales assess individual differences in the propensity to experience aversive emotional states. Specifically, PA measures an individual's propensity for pleasurable engagement with the environment. People high in PA are active, elated, enthusiastic, excited, peppy, and strong, and people low in PA are drowsy, dull, sleepy, and sluggish (Watson & Tellegen, 1985). NA measures an individual's tendency to experience aversive feelings. High-NA individuals are distressed, fearful, hostile, jittery, nervous, and scornful; and low-NA individuals are at rest, calm, placid, and relaxed (Watson & Tellegen, 1985). Watson and colleagues (1999) viewed PA and NA as

unipolar constructs that are defined by their high poles; the low poles of these dimensions reflect the *absence* of a particular kind of activation. To underscore this, they also adopted the newer terms “positive activation” (PA) and “negative activation” (NA) to replace positive and negative affectivity, respectively.

Ng and Sorensen (2009) performed a meta-analysis examining the relationship between PA and NA. They found that the sample-size weighted corrected correlation between PA and NA was $-.30$ (95% CI: $-.31$ to $-.28$). Roughly 9% of the variance overlapped between PA and NA. I calculated $\rho = -.36$ by dividing the sample-size weighted corrected correlation by the square root of the product of the provided reliability coefficients for PA (.86) and NA (.83). Ng and Sorensen (2009) also made meta-analytic comparisons between PA’s and NA’s nomological networks, and found that enough differences emerged to confirm that PA and NA are relatively independent. Specifically, they found that PA was less strongly related to stressors, withdrawal cognitions, and withdrawal behaviors (e.g., role conflict and work overload) than NA, and more strongly related to positive job and organizational contexts (e.g., job significance and job autonomy) than NA. They interpreted these findings as empirical evidence supporting Watson and colleagues’ (1999) view that PA represents an approach system and NA represents an inhibition system.

Few studies have investigated dispositional affectivity and turnover. One such study (Wright & Cropanzano, 1998) that investigated emotional exhaustion as a predictor of performance and turnover reported bivariate correlations between PA and turnover and NA and turnover (PA and NA were control variables). PA was unrelated to turnover ($r =$

.00, $p > .05$), and NA was positively related to turnover ($r = .25, p \leq .05$). The relationship between NA and turnover disappeared after controlling for emotional exhaustion, suggesting that emotional exhaustion shares variance with NA. More research is needed, because their small sample size ($n = 52$) limits the interpretability and meaningfulness of these findings. In a study of 148 employees of an electronics company, Pelled and Xin (1999) found that NA positively predicted turnover ($b = 1.31, p < .05$) after controlling for PA, job satisfaction, and demographic variables. The PA-turnover relationship was non-significant. Based on these findings, PA appears to have no relationship with turnover, and NA appears to have a positive relationship with turnover. However, an application of theory about PA and NA (Watson et al., 1999) offers the basis for making different predictions.

Watson et al. (1999) proposed that PA and NA represented the subjective components of two evolutionarily adaptive motivational systems that mediate goal-directed approach and withdrawal behaviors. They referred to the approach system as the “behavioral facilitation system” (BFS), and the withdrawal system as the “behavioral inhibition system” (BIS). The BFS is an appetitive approach system that directs organisms toward situations and experiences that potentially may yield reward by activating behavior. It serves a basic adaptive function to ensure that organisms obtain the resources that are necessary for their survival. Therefore, the positive feelings associated with high PA are thought to increase the likelihood that goal-directed activities will be carried out. These individuals, when intention to quit is high, are more ready to “follow through” because they believe positive consequences (e.g., improved satisfaction) will

occur. The BIS is a withdrawal system that inhibits behavior that might lead to dangerous consequences. In other words, the adaptive function of this system is to help organisms avoid aversive stimuli. The negative feelings associated with NA promote vigilant apprehensiveness. Therefore, they are thought to decrease the likelihood of performing goal-directed activities because they are worried about possible negative consequences that can occur (e.g., problems finding a job).

Applying the above suggests one major reason one does not follow through with turnover intentions is fear of the unknown aversive effects that might follow turnover. High-NAs know about the problems of their current job, but know little about the problems of another job. These individuals are more prone to worry about these potential problems than low-NA individuals. Likewise, there is one major reason why an employee follows through with their turnover intentions: the positive expectation of a successful outcome.

As stated before, PA and NA represent the subjective components of two evolutionarily adaptive motivational systems that mediate goal-directed approach and inhibition behaviors. These two systems may coexist in an individual in four possible combinations, depicted in Figure 1.

	<u>Low-PA</u>	<u>High-PA</u>
<u>High-NA</u>	Low-PA/High-NA	High-PA/High-NA
<u>Low-NA</u>	Low-PA/Low-NA	High-PA/Low-NA

Figure 1. The four combinations of dispositional affectivity.

Ng and Sorensen (2009) noted that it would be interesting for research to examine the interaction effect of NA and PA on attitudinal and behavioral variables at work (when suggested by theory), and surprisingly little has been done in this area. My literature search returned no studies where PA and NA interact with each other. Ng and Sorensen (2009) warned that treating NA and PA as control variables may mask that there are true conceptual relationships between NA and PA with work outcomes. Past work has used PA and NA together as control variables (e.g., Price, 2001; Wright & Cropanzano, 1998), or used one as a control for the other (e.g., Agho, 1993; Chiu & Francesco, 2003; Cropanzano, James, & Konovsky, 1993). The present study should contribute to turnover theory by supporting a more significant role for PA and NA in turnover.

Hypothesis Development

In sum, turnover is a costly problem for individuals and organizations (Hom & Griffeth, 1995). For a half-century turnover theory and research have attempted to explain and predict the individual turnover decision, often times with weak results. Turnover intentions are the best predictor of turnover (Griffeth et al., 2000), but this

relationship varies widely, suggesting the possibility of moderators (Steel & Orvalle, 1984; Vandenberg & Barnes-Nelson, 1999). Dispositional affectivity may moderate this relationship (Allen et al. 2005) and be one reason for the wide variance. Next, I develop moderator hypotheses using PA and NA. Specifically, two two-way interaction hypotheses are based on theory and research on PA and NA and withdrawal behaviors that imply a negative PA-turnover relationship and a positive NA-turnover relationship. A competing hypothesis is based on Watson et al. (1999) that implies a *positive* PA-turnover relationship and a *negative* NA-turnover relationship.

Two-way interactions. Theory and research support two moderator hypotheses: PA will attenuate the positive intentions-turnover relationship, such that high-PA individuals are less likely to follow through with turnover intentions than low-PA individuals; and NA will *strengthen* the relationship, such that high-NA individuals are *more* likely to follow through than low-NA individuals. “Withdrawal” refers to behaviors (e.g., turnover, turnover intentions) intended to place physical and/or psychological distance between employees and aversive work environments (Rosse & Hulin, 1985). George (1989) noted that when individuals have a choice, they will avoid situations where they experience high negative affect, and approach situations in which they experience high positive affect. Therefore, PA should negatively relate to withdrawal behaviors, and NA should positively relate to withdrawal behaviors.

No research has investigated the two-way interactions of turnover intentions and PA predicting turnover and turnover intentions and NA predicting turnover; however, research on the relationships of PA and NA to withdrawal behaviors (e.g., turnover,

turnover intentions) offers qualified support for these two moderator hypotheses. NA is positively related to turnover; however, PA is unrelated to turnover (Pelled & Xin, 1999; Wright & Cropanzano, 1998). Ng and Sorensen (2009) found that PA was negatively related to turnover intentions ($r_c = -.35$), and NA was positively related to turnover intentions ($r_c = .29$). Therefore, I propose the following two-way interaction hypotheses:

Hypothesis 1a: There will be a two-way interaction between turnover intentions and PA, such that the positive relationship between turnover intentions and turnover will be weaker for individuals with high PA than for individuals with low PA.

Hypothesis 1b: There will be a two-way interaction between turnover intentions and NA, such that the positive relationship between turnover intentions and turnover will be stronger for individuals with high NA than for individuals with low NA.

The expected interactions are depicted graphically in Figures 2 and 3.

Figure 2. Expected two-way interaction between turnover intentions and PA. High: +1SD, Low: -1SD.

Figure 3. Expected two-way interaction between turnover intentions and NA. High: +1SD, Low: -1SD.

Three-way interaction. Jaccard (2001) recommended conceptualizing a three-way interaction as a second-order moderator variable that moderates the impact of a first-order moderator on the relationship between a focal independent variable and a dependent variable. Therefore, let turnover intentions be the focal variable, let PA be the first-order moderator variable, and let NA be the second-order moderator variable. I expect to find a positive intentions-turnover relationship (Griffeth et al., 2000); I expect that PA will moderate this relationship because PA is the subjective component of approach behavior (Watson et al., 1999); and I expect the effects of NA will dampen the

impact of PA because NA is the subjective component of withdrawal behavior (Watson et al., 1999).

One way to explore and interpret this hypothesized three-way interaction is to specify the conditions under which the positive relationship between turnover intentions and turnover should be strong or weak depending upon levels of PA and NA. I expect the positive intentions-turnover relationship will be strong for high-PA/low-NA individuals. They are likely to follow through with turnover intentions because their approach system is present and their inhibition system is absent (high-PA and high-NA represent the presence and low-PA and low-NA represent the absence of activation; Watson et al., 1999). The relationship will be weak for high-PA/high-NA individuals. They are unlikely to follow through because their approach and inhibition systems are present, and they cancel each other. The relationship will also be weak for low-PA/low-NA individuals. They are unlikely to follow through because their approach system is attenuated. Finally, the relationship will be weak for low-PA/high-NA individuals. They are unlikely to follow through because their inhibition system is present and their approach system is inactive. Therefore, I propose the following three-way interaction hypothesis:

Hypothesis 2: There will be a three-way interaction between turnover intentions, PA, and NA, such that individuals who intend to leave, and have high PA and low NA, will be more likely to turnover than any other individuals.

The expected interaction is depicted graphically in Figure 4. Notice that when PA is high and NA is low there is a steep positive relationship between intentions and turnover. In contrast, when PA is high and NA is high, when PA is low and NA is low,

and when PA is low and NA is high, there is essentially no relationship between these variables.

Figure 4. Expected three-way interaction between turnover intentions, PA, and NA.

High: +1SD, Low: -1SD.

CHAPTER 2: METHOD

Sample and Procedure

The survey used for this study was part of a larger survey about workplace attitudes and outcomes. Employees of a large national insurance company in three locations in the United States voluntarily completed surveys during work time. A letter was provided to the respondents assuring confidentiality. Respondents provided employee ID numbers so that their responses could later be tied to organizational records providing turnover data. Four hundred forty-three individuals responded to the survey. Three hundred fifty-one remained after listwise deletion of study variables. Their average organizational tenure was 4 years, and their average age was 30. Respondents consisted mostly of women (79%), Caucasians (73%), and African-Americans (25%). The rate of voluntary turnover was 7%.

Measures

Turnover intentions. Turnover intentions were measured with a three-item scale often used in the turnover literature (Allen, Shore, & Griffeth, 2003; Hom & Griffeth, 1991). The three items were “What are the chances that you will leave --- during the next 12 months,” “I intend to leave --- during the next 12 months,” and “I intend to quit my present job.” Responses to the first item were given on a five-point scale (1 = *no chance*, 2 = *25% chance*, 3 = *50% chance*, 4 = *75% chance*, and 5 = *100% chance*). Responses to the second and third items were given on a five-point scale (1 = *definitely not*, 2 = *probably not*, 3 = *uncertain*, 4 = *probably yes*, and 5 = *definitely yes*). Evidence about the

validity of this scale was reported by Hom and Griffeth (1991). The internal consistency reliability of this measure was Cronbach's $\alpha = .90$.

Positive affectivity. The PANAS (Watson et al., 1988; see Appendix A) was used to measure PA with ten items on a five-point scale (1 = *very slightly or not at all* to 5 = *extremely*). This scale consists of a number of words that describe positive feelings and emotions. Respondents gave responses reporting the extent to which they had generally felt that way. Extensive evidence about the reliability and validity of the PANAS was offered by Watson et al. (1988). The test-retest reliability coefficients for the general measure of the PA and NA scales were .68 and .71, respectively. The PANAS instrument had good stability and predictive validity over time, including long periods of time (Watson & Walker, 1996). Long-term stability correlations for retest intervals as long as 7.5 years were moderate in magnitude, usually falling in the range of .40 to .45. The internal consistency reliability of the measure of PA was $\alpha = .90$.

Negative affectivity. The PANAS (Watson et al., 1988; see Appendix A) was used to measure NA with ten items on a five-point scale (1 = *very slightly or not at all* to 5 = *extremely*). This scale consists of a number of words that describe negative feelings and emotions. Respondents gave responses reporting the extent to which they had generally felt that way. The internal consistency reliability of this measure was $\alpha = .85$.

Turnover. Turnover data were collected from organizational records approximately one year after the survey. Respondents were coded as 0 for stayers and 1 for voluntary leavers. Several involuntary leavers were omitted from the analyses.

Control variables. Research shows that the best attitudinal predictors of voluntary turnover are job satisfaction and organizational commitment (Griffeth et al., 2000). Although evidence is mixed about the importance of perceptions of mobility and the labor market (Allen et al., 2005), turnover theory suggests that perceived ease of movement is an important turnover antecedent (March & Simon, 1958). I have included these variables in the analysis to avoid omitting important variables, and to show whether or not the hypothesized two way and three-way interactions improve the Nagelkerke R^2 over a model with these variables (Carlson & Wu, 2012). Global job satisfaction was measured with four items developed by Price (1977). As suggested by Bozeman and Perrewe (2001), organizational commitment was measured with a nine-item version of the organizational commitment questionnaire (OCQ; Mowday, Steers, & Porter, 1979). Several items in the OCQ may be confounded with withdrawal cognitions, and this nine-item version removes these items. Perceived ease of movement was measured with three items from the employment opportunity index (EOI; Griffeth et al., 2005).

Analysis

A power analysis was conducted using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) to determine the appropriate sample size. One hundred thirty-three participants are necessary for an effect size of .10, with .95 power, $\alpha = .05$, and 10 predictors. Model change in R^2 was used for this analysis. My sample size is adequate to detect a true difference if one exists.

I will use logistic regression because turnover is a dichotomous variable. For linear regression, the observed data should show a linear relationship, but when the

outcome is dichotomous, this assumption is violated. The logistic regression equation expresses the linear regression in logarithmic terms and overcomes this. Parameter values are estimated using maximum likelihood estimation, which chooses coefficients that make the observed values most likely to have occurred. The measure used to assess model fit is log-likelihood, based on summing the probabilities associated with predicted and actual outcomes (Tabachnick & Fidell, 2007). It shows how much unexplained information is left after fitting the model. There is some controversy over finding an equivalent to the R^2 value in linear regression for use in logistic regression. I will use Nagelkerke's (1991) amendment to Cox and Snell's (1989) measure. These pseudo R^2 measures are similar to the R^2 in linear regression inasmuch as they offer a gauge of the substantive significance of the model (Field, 2009).

The Wald statistic, which has a chi-square distribution, shows whether or not a coefficient is significantly different than zero. If it is significant, it shows that the predictor is making a significant contribution to predicting the outcome. Caution is advised, however, because when a coefficient is large, the standard error is inflated and the Wald statistic is underestimated. I will use the odds ratio to interpret the logistic regression results. It shows the change in odds resulting from one unit change in the predictor. If a value is greater than 1, as a predictor increases, the odds of the outcome increase; if a value is less than 1, as the predictor increases, the odds of the outcome decrease.

I will use hierarchical moderator logistic regression to test my hypothesized double and triple interactions. Kleinbaum (1992) noted that interaction analysis in logistic

regression generally uses hierarchically well-formulated models, where all lower-order components of the highest-order interaction term are included in the model. My independent variables will be entered in Step 1. These include variables of interest (turnover intentions, PA, NA), as well as control variables (job satisfaction, organizational commitment, and ease of movement). In Step 2, I will enter each multiplicative two-way interaction term (turnover intentions x PA, turnover intentions x NA, and PA x NA), and in Step 3, I will enter the multiplicative three-way interaction term (turnover intentions x PA x NA). All predictor variables will be standardized before the analysis to reduce multicollinearity and increase the interpretability of the interaction effects (Aiken & West, 1991). Unstandardized betas will be used for the analyses; the predictors are all z-scores or their products, and they should not be further standardized (Aiken & West, 1991).

The significant interactions will be probed using post-hoc simple slopes analyses, with high and low levels specified at 1 SD above and below the mean, respectively (Aiken & West, 1991). In logistic regression, the ratio of a variable's regression coefficient to its standard error, when squared, is a Wald chi-square statistic with one degree of freedom (Hayes & Mathes, 2009). The Wald test for the significance of a simple slope indicates whether the simple slope term is significantly different than zero.

To aid in interpretation of a significant three-way interaction, I will plot the relationships between turnover intentions and turnover at high and low values of PA and NA (specified at 1 SD above and below the mean, respectively; Aiken & West, 1991). This allows for a visual depiction of the nature of the interaction effect, and the direction

of the slopes can be interpreted on the basis of face validity (Dawson & Richter, 2006).

The four simple slopes will be plotted with turnover intentions on the x-axis and probability of turnover on the y-axis.

CHAPTER 3: RESULTS

Analyses with Control Variables

Means, standard deviations, alpha reliabilities, and bivariate intercorrelations among the study variables are reported in Table 1. Turnover intentions ($r = .21$) were significantly correlated with turnover at the .01 level (two-tailed). NA ($r = .11$) and organizational commitment ($r = -.11$) were significantly correlated with turnover at the .05 level. All measure reliabilities exceeded standards (Nunnally & Bernstein, 1994).

Table 1.

Means, Standard Deviations, Alpha Reliabilities, and Intercorrelations

Variables	Mean	SD	1	2	3	4	5	6	7
1. EOM ^a	4.54	1.06	.70						
2. Job Satisfaction	4.59	1.27	-.02	.84					
3. Organizational Commitment	4.84	0.99	.05	.68**	.85				
4. Turnover Intentions	1.70	0.87	.10†	-.45**	-.52**	.89			
5. PA ^b	3.54	0.73	.16**	.54**	.53**	-.28**	.90		
6. NA ^c	1.70	0.57	-.17**	-.40**	-.38**	.30**	-.32**	.85	
7. Turnover	.07	0.25	.07	-.09†	-.11*	.21**	.00	.11*	--

N = 351.

Cronbach alpha reliability coefficients are on the diagonal.

^aEase of Movement, ^bPositive Affectivity, ^cNegative Affectivity

* $p < .05$ ** $p < .01$, † $\leq .10$

A hierarchical moderated logistic regression was performed with turnover as the DV, and ease of movement, job satisfaction, organizational commitment, turnover

intentions, PA, and NA as predictor variables. Results are reported in Table 2. A total of 351 cases were analyzed, and the full model significantly predicted turnover status (omnibus X^2 [10, N = 351] = 33.83, $p < .01$). The model Nagelkerke R^2 was .24, with 99% of the stayers successfully predicted. However, only 17% of the leavers were successfully predicted. Overall, 94% of the predictions were accurate.

Table 2.

Hierarchical Moderator Logistic Regression Predicting Turnover

Variables	β^a	$\text{Exp}(\beta)^b$	95% lower	95% upper
<u>Step 1:</u> $X^2(6, N = 351) = 15.71, p = .02$, Nagelkerke $R^2 = .11$				
EOM ^a	0.14	1.15	0.73	1.83
Organizational Commitment	-0.17	0.84	0.46	1.55
Job Satisfaction	0.02	1.02	0.57	1.85
Turnover Intentions	0.54**	1.72	1.11	2.66
PA ^b	0.34	1.40	0.84	2.34
NA ^c	0.22	1.25	0.81	1.93
Constant	-2.91**	0.05		
<u>Step 2:</u> $X^2(3, N = 351) = 11.31, p = .01$, Nagelkerke $R^2 = .19, \Delta R^2 = .08$				
EOM	0.17	1.19	0.72	1.94
Organizational Commitment	-0.43	0.65	0.33	1.27
Job Satisfaction	0.33	1.39	0.73	2.64
Turnover Intentions	0.72**	2.04	1.22	3.42
PA	0.27	1.31	0.68	2.54
NA	0.16	1.18	0.63	2.21
Turnover Intentions x PA	0.37*	1.45	1.00	2.11
Turnover Intentions x NA	-0.14	0.87	0.62	1.20
PA x NA	-0.53**	0.59	0.40	0.85
Constant	-3.15**	0.04		
<u>Step 3:</u> $X^2(1, N = 351) = 6.81, p = .01$, Nagelkerke $R^2 = .24, \Delta R^2 = .05$				
EOM	-0.00	1.00	0.59	1.68
Organizational Commitment	-0.50	0.61	0.30	1.24
Job Satisfaction	0.46	1.59	0.79	3.19
Turnover Intentions	0.57*	1.77	1.00	3.15
PA	0.23	1.26	0.66	2.37
NA	0.30	1.35	0.76	2.39
Turnover Intentions x PA	0.92**	2.51	1.38	4.54
Turnover Intentions x NA	-0.30	0.74	0.50	1.09
NA x PA	-0.26	0.77	0.50	1.19
Turnover Intentions x PA x NA	-0.41**	0.66	0.48	0.92
Constant	-3.08**	0.05		

^a β = log odds^b $\text{Exp}(\beta)$ = odds^aEase of Movement, ^bPositive Affectivity, ^cNegative Affectivity* $p \leq .05$, ** $p \leq .01$

Ease of movement, organizational commitment, job satisfaction, turnover intentions, PA, and NA were entered in Step 1, which was significant: $X^2 (6, N = 351) = 15.71, p < .05$, Nagelkerke $R^2 = .11$. Only turnover intentions were significantly related to turnover in the presence of the other predictors ($p < .01$). The coefficient shows that an increase of one standard deviation in turnover intentions is associated with an increase in the odds of turnover by a multiplicative factor of 1.72 (95% CI: 1.11-2.66).

The interaction term for turnover intentions and PA, the interaction term for turnover intentions and NA, and the interaction term for PA and NA were entered in Step 2. This step was significant ($X^2 [3, N = 351] = 11.31, p = .01$, Nagelkerke $R^2 = .19, \Delta R^2 = .08$). The interaction terms of turnover intentions and PA, and of PA and NA, were significant in the presence of the other predictors ($p = .05$ and $p < .01$, respectively). The coefficient for the interaction term of turnover intentions and PA shows that for each one standard deviation rise in PA, the relationship between turnover intentions and turnover changes by a factor of 1.45 (95% CI: 1.00-2.11). Because this value is greater than 1, as PA increases, the effects of turnover intentions on turnover get stronger. The coefficient for the interaction term of PA and NA shows that for each one standard deviation rise in NA, the relationship between PA and turnover changes by a factor of .59 (95% CI: .40-.85). Because this value is less than 1, as NA increases, the effects of PA on turnover weaken. Hypothesis 1a (turnover intentions x PA) was not supported and Hypothesis 1b (turnover intentions x NA) was not supported.

Simple slope analyses were used to interpret these two-way interactions (see Figures 5 and 6 for graphical depictions of the interactions). The relationship between

turnover intentions and turnover was examined for both high and low levels of PA.

Simple slopes tests found the slope of the regression lines at 1 SD above the mean of PA and 1 SD below the mean of PA were not significantly different from zero. The

relationship between PA and NA was examined for both high and low levels of NA.

Simple slopes tests found the slope of the regression lines at 1 SD above the mean of NA and 1 SD below the mean of NA approached significance (Wald = 2.91, $p = .09$).

Figure 5. The two-way interaction between turnover intentions and PA. Unstandardized coefficients were plotted. All variables were standardized. High: +1SD, Low: -1SD.

Figure 6. The two-way interaction between PA and NA. Unstandardized coefficients were plotted. All variables were standardized. High: +1SD, Low: -1SD.

Hypothesis 2 predicted a triple-order interaction for turnover intentions, PA, and NA. This test was accomplished by entering the term in Step 3. This step was significant ($X^2(1, N = 351) = 6.81, p = .01$, Nagelkerke $R^2 = .24$, $\Delta R^2 = .05$), and the triple order interaction was significant ($p = .01$), controlling for the other predictors. The coefficient for the interaction term shows that for each one standard deviation rise in NA, the relationship between turnover intentions, PA, and turnover changes by a factor of .66 (95% CI: .48-.92). The exponent of the logistic coefficient for the three-way product term is the multiplicative factor by which the two-way interaction parameter for turnover

intentions and PA changes, given a one standard deviation increase in NA (Jaccard, 2001). Because this value is less than 1, as NA increases, the two-way interaction between turnover intentions and PA weakens. The hypothesized three-way interaction received support, adding an improvement in Nagelkerke R^2 of .05 over a model with ease of movement, organizational commitment, job satisfaction, and all main effects and two-way interactions.

Simple slope analyses were used to interpret the three-way interaction (see Figure 7 for a graphical depiction of the interaction). The relationship between turnover intentions and turnover was examined for both high and low levels of PA, at both high and low levels of NA. Simple slopes tests found the slope of the regression lines at 1 SD above the mean of NA and 1 SD below the mean of NA to be significantly different from zero in three of four cases. For individuals with high-PA and low-NA, the simple slope was significantly different than zero (Wald = 5.83, $p < .05$). For those with high-PA and high-NA, the simple slope was also significant (Wald = 5.56, $p < .05$). The simple slope for low-PA/low-NA individuals was non-significant, and the simple slope for low-PA/high-NA individuals was significant (Wald = 5.56, $p < .05$).

Figure 7. The three-way interaction between turnover intentions, PA, and NA.

Unstandardized coefficients were plotted. All variables were standardized. High and low values are ± 1 SD from the mean.

Analyses without Control Variables

Carlson and Wu (2012) offered recommendations for improved control variable practice in research. They noted that control variables very often have little effect on results and interpretations, creating the illusion of statistical control when little control actually happens. Carlson and Wu (2012) suggested that any control variable that has no correlation greater than $r = .10$ with another study variable can be omitted from analysis

without substantially affecting the results. Ease of movement and job satisfaction do not meet this standard for inclusion, and organizational commitment has a bivariate relationship just exceeding this standard ($r = -.11$).

The two purposes for including control variables were (1) to account for other meaningful variables, and (2) to establish the incremental improvement in the overall prediction of the regression model. Mathematically partialing the shared variance between control variables and independent variables may cause coefficients to have ambiguous interpretations (Carlson & Wu, 2012). Reporting and interpreting the regression coefficients aligns with the purpose of accounting for other variables, but when the control variable covaries with the independent variable, β represents the effect of changing the mathematically derived residual. This offers statistical control, but the estimated effects may not replicate. Turnover intentions, PA, and NA are both correlated with job satisfaction and organizational commitment in this study. Carlson and Wu (2012) suggested that a conservative approach to control variables is "...when in doubt, leave them out" (p. 414). Therefore, I report the results and interpretations of analyses that omit the control variables.

A hierarchical moderated logistic regression was performed with turnover as the outcome variable, and turnover intentions, PA, and NA as predictor variables. Results are reported in Table 3. Again, a total of 351 cases were analyzed, and the full model significantly predicted turnover status (omnibus $X^2 [7, N = 351] = 31.31, p < .01$). The model Nagelkerke R^2 was .22, with 99% of the stayers successfully predicted. However,

only 17% of the leavers were successfully predicted. Overall, 94% of the predictions were accurate.

Table 3.

Hierarchical Moderator Logistic Regression Predicting Turnover - No Control Variables

Variables	β^a	$\text{Exp}(\beta)^b$	95% lower	95% upper
<u>Step 1:</u> $X^2(3, N = 351) = 14.99, p < .01$, Nagelkerke $R^2 = .11$				
Turnover Intentions	0.63**	1.88	1.29	2.73
PA ^a	0.32	1.38	0.88	2.16
NA ^b	0.22	1.25	0.82	1.89
Constant	-2.89**	0.06		
<u>Step 2:</u> $X^2(3, N = 351) = 9.91, p = .02$, Nagelkerke $R^2 = .18, \Delta R^2 = .07$				
Turnover Intentions	0.81**	2.26	1.45	3.51
PA	0.26	1.29	0.70	2.40
NA	0.13	1.13	0.62	2.06
Turnover Intentions x PA	0.31†	1.37	0.96	1.95
Turnover Intentions x NA	-0.15	0.86	0.62	1.20
PA x NA	-0.47**	0.63	0.44	0.89
Constant	-3.07**	0.05		
<u>Step 3:</u> $X^2(1, N = 351) = 6.41, p = .01$, Nagelkerke $R^2 = .22, \Delta R^2 = .04$				
Turnover Intentions	0.65**	1.92	1.17	3.16
PA	0.20	1.22	0.67	2.20
NA	0.28	1.32	0.78	2.26
Turnover Intentions x PA	0.75**	2.12	1.24	3.63
Turnover Intentions x NA	-0.34†	0.71	0.49	1.05
NA x PA	-0.19	0.83	0.54	1.27
Turnover Intentions x PA x NA	-0.38*	0.68	0.50	0.94
Constant	-2.97**	0.05		

^a β = log odds

^b $\text{Exp}(\beta)$ = odds

^aPositive Affectivity, ^bNegative Affectivity

* $p \leq .05$, ** $p \leq .01$, † $p < .10$

Turnover intentions, PA, and NA were entered in Step 1, which was significant: $X^2(3, N = 351) = 14.99, p < .01$, Nagelkerke $R^2 = .11$. Only turnover intentions were significantly related to turnover in the presence of the other predictors ($p < .01$). The coefficient shows that an increase of one standard deviation in turnover intentions is

associated with an increase in the odds of turnover by a multiplicative factor of 1.88 (95% CI: 1.29-2.73).

The interaction term for turnover intentions and PA, the interaction term for turnover intentions and NA, and the interaction term for PA and NA were each entered in Step 2. This step was significant ($X^2 [3, N = 351] = 9.91, p = .02$, Nagelkerke $R^2 = .18$, $\Delta R^2 = .07$). The interaction term of turnover intentions and PA approached significance ($p = .09$), and the interaction term of PA and NA was significant ($p = .01$), in the presence of the other predictors. The coefficient for the interaction term of turnover intentions and PA shows that for each one standard deviation rise in PA, the relationship between turnover intentions and turnover changes by a factor of 1.45 (95% CI: 1.00-2.11). Because this value is greater than 1, as PA increases, the effects of turnover intentions on turnover get stronger. The coefficient for the interaction term of PA and NA shows that for each one standard deviation rise in NA, the relationship between PA and turnover changes by a factor of 0.63 (95% CI: 0.44-0.89). Because this value is less than 1, as NA increases, the effects of PA on turnover weaken. Hypothesis 1a (turnover intentions x PA) was not supported and Hypothesis 1b (turnover intentions x NA) was not supported.

Simple slope analyses were used to interpret these two-way interactions (see Figures 8 and 9 for graphical depictions of the interactions). The relationship between turnover intentions and turnover was examined for both high and low levels of PA. Simple slopes tests found the slope of the regression lines at 1 SD above the mean of PA and 1 SD below the mean of PA were not significantly different from zero. The

relationship between PA and turnover was examined for both high and low levels of NA. Simple slopes tests found the slope of the regression lines at 1 SD above the mean of NA and 1 SD below the mean of NA approached significance (Wald = 2.91, $p = .09$).

Figure 8. The two-way interaction between turnover intentions and PA. Unstandardized coefficients were plotted. All variables were standardized. High and low values are ± 1 SD from the mean.

Figure 9. The two-way interaction between PA and NA. Unstandardized coefficients were plotted. All variables were standardized. High and low values are +/- 1 SD from the mean.

The triple-order interaction term for turnover intentions, PA, and NA, testing Hypothesis 2, was entered in Step 3. This step was significant ($X^2(1, N = 351) = 6.41, p = .01$, Nagelkerke $R^2 = .22$, $\Delta R^2 = .04$), and the triple order interaction was significant ($p = .02$), controlling for the other predictors. The coefficient for the interaction term shows that for each one standard deviation rise in NA, the relationship between turnover intentions, PA, and turnover changes by a factor of .68 (95% CI: .50-.94). The exponent of the logistic coefficient for the three-way product term is the multiplicative factor by which the two-way interaction parameter for turnover intentions and PA changes, given a one standard deviation increase in NA (Jaccard, 2001). Because this value is less than 1,

as NA increases, the two-way interaction between turnover intentions and PA weakens. The hypothesized three-way interaction received support (Hypothesis 2), adding an improvement in Nagelkerke R^2 of .04 over models with all main effects and two-way interactions.

Simple slope analyses were used to interpret the three-way interaction (see Figure 10 for a graphical depiction of the interaction). The relationship between turnover intentions and turnover was examined for both high and low levels of PA, at both high and low levels of NA. Simple slopes tests found the slope of the regression lines at 1 SD above the mean of NA and 1 SD below the mean of NA to be significantly different from zero in three of four cases. For individuals with high-PA and low-NA, the simple slope was significantly different than zero (Wald = 5.83, $p < .05$). For those with high-PA and high-NA, the simple slope was also significant (Wald = 5.56, $p < .05$). The simple slope for low-PA/low-NA individuals was non-significant, and the simple slope for high-NA/low-PA individuals was significant (Wald = 5.56, $p < .05$).

Figure 10. The three-way interaction between turnover intentions, PA, and NA.

Unstandardized coefficients were plotted. All variables were standardized. High and low values are ± 1 SD from the mean.

CHAPTER 4: DISCUSSION

This study provides additional evidence that personality moderates the intentions-turnover relationship. Turnover researchers have examined this relationship with personality variables (Allen et al., 2005), but never with PA and NA. In analyses with and without control variables, the three-way interaction hypothesis was supported. Dispositional affectivity jointly moderated the intentions-turnover relationship.

An explanation for the unsupported two-way interaction between intentions and PA suggests that the theorized direction was incorrect (Hypothesis 1a). An application of Watson and colleagues' (1999) theory implies that a positive relationship between PA and turnover strengthens rather than attenuates the positive intentions-turnover relationship. The hypothesized two-way interaction between intentions and PA was significant, but in the wrong direction. These findings imply that the intention-turnover relationship depends, at least in part, on PA. That is because high-PA employees tend to expect positive outcomes (e.g., an improved job situation), and if they have turnover intentions, they will follow through in anticipation of those outcomes. Conversely, employees that are low in PA tend to be lackluster, and will not tend to follow through on turnover intentions.

An explanation for the unsupported two-way interaction between intentions and NA suggests high PA is also important for following through with turnover intentions (Hypothesis 1b). If an employee has average-level PA (as was the case in this analysis, which controlled for PA), that may not be high enough, regardless of the level of NA.

The significant three-way interaction implies that it was necessary to consider intentions, PA, and NA simultaneously.

The hypothesized three-way interaction between intentions, PA, and NA was supported (Hypothesis 2). These findings imply that as NA increases, the two-way interaction between intentions and PA weakens. As hypothesized, employees with turnover intentions, high PA, and low NA were more likely to follow through on those intentions than any other individuals. That was because their high-PA positivity was dampened by high-NA negativity. Given their mixed feelings, why should they bother with the trouble of turnover? On the other hand, employees that are low in NA tend to be calm, cool, and collected -- they have no high NA to dampen their hopes for a positive outcome.

Study findings regarding the two-way interaction have implications for turnover theory, which assumes that individuals with intentions to quit will make every reasonable effort to carry out those intentions (Allen et al., 2005). PA matters for carrying out turnover intentions. Study findings for the three-way interaction also have implications for turnover theory. NA dampens the degree to which PA matters for carrying out turnover intentions. Inclusion of the three-way interaction greatly improved the substantive significance of a model with established turnover variables. This goes well beyond the traditional role of dispositional affectivity as a direct effects predictor, or a control variable, encouraging the field to pay greater attention to personality.

There are at least several study limitations. Three-way interactions are problematic. They tend to be difficult to perceive and understand. That is because higher-

order interactions (interactions including more than two independent variables) are associated with higher cognitive processing loads (Halford, Baker, McCredden, & Bain, 2005). McClelland and Judd (1993) noted that field studies are at a major disadvantage in detecting interactions relative to optimally designed experiments. Measurement errors in the independent variables are exacerbated when they are multiplied to form a product variable. Any range restriction or low variance problems are exacerbated when attempting to detect moderator effects. Given these conceptual and methodological challenges, finding the three-way interaction was very noteworthy.

The sample base rate of turnover was sub-optimal. Hypothetically speaking, a correlation of .20 between turnover intentions and turnover from a study with a low turnover base rate of .10 signifies a much stronger relationship than the same correlation from a study with a base rate of .50, which is the stochastically optimal level (Steel, Shane, & Griffeth, 1990). This suggests that the results would be even more significant in a sample with a more favorable base rate.

Despite following practices that are the standard for turnover research, the measurement of voluntary turnover was a limitation. The organization coded terminations as either voluntary or involuntary, but evidence about the validity of this coding scheme is not available. Criterion contamination may affect company records when managers intentionally miscode involuntary quits as voluntary. This may be done to protect reputations or avoid discrimination lawsuits (Campion, 1991). Also, low performers may leave before being fired (Price, 1997). Turnover theory focuses upon voluntary turnover, and its models are assumed to be more accurate in predicting voluntary turnover than

involuntary turnover. Therefore, if involuntary turnover was included in the analyses due to miscoding, it would attenuate the relationship. Finding a three-way interaction in the presence of this challenge implies that the relationship is stronger in the population.

Social desirability bias response set may have been a limitation. An individual who wishes to seem socially desirable may claim to have high levels of PA and low levels of NA (Furr & Bacharach, 2008). This occurs through conscious impression management, where respondents intentionally attempt to appear socially desirable, or through unconscious self-deception, where respondents have unrealistically positive self-views (Paulhus, 2002). Arnold, Feldman, and Purbhoo (1985) noted a generalized tendency to underreport turnover intentions independent of social-desirability bias. Chen, Dai, Spector, and Jex (1997) found that the relationship between PA and NA varied as a function of respondent's social desirability, such that it was moderately strong in the group with high social desirability, and weaker in the group with low social desirability. Both of these studies used the Marlowe-Crowne social desirability scale (Crowne & Marlowe, 1960, 1964), which cannot separate the self-deception component from the impression management component. Further research is needed to establish social desirability's effect on the study variables. A ceiling effect for PA, or a floor effect for NA or turnover intentions, would limit variability in the data and attenuate their correlations with turnover (Shadish, Cook, & Campbell, 2002). Given these limitations, finding a three way interaction was significant.

This study addressed limitations related to control variables. Removing the control variables resulted in reductions in statistical significance and Nagelkerke R^2 . The

two-way interaction between turnover intentions and PA went from significance at the .05 level to approaching significance at the .10 level, the three-way interaction went from significance at the .01 level to significance at the .05 level, and the model change in Nagelkerke R^2 was reduced from .05 to .04 when controls were removed. This was likely due to suppression. Cohen, Cohen, West, and Aiken (2003) explained that this happens when the relationships between the independent variables suppress the real relationships with the dependent variable. Inclusion of the control variables in the model suppressed the unwanted variance in the other predictors, and enhanced their relationships with turnover. The control variables had negligible bivariate correlations with the criterion, but were related to the other predictors in the model. Eliminating these variables would undercut the model's predictive power. Therefore, all theoretically relevant independent variables should be retained, even though they may not be correlated with the dependent variable.

There are several management implications. Knowledge gleaned from this study can contribute to creating cost-effective means of reducing turnover. For example, high-PA/low-NA incumbents can be targeted for interventions to improve their job satisfaction, although further research is needed to determine the ways in which members of different groups may respond to interventions (Allen, Bryant, & Vardaman, 2010). Research has supported the relationship between dispositional affectivity and job satisfaction. Meta-analytic findings showed that PA was positively correlated with global job satisfaction ($r_c = .49$), and NA was negatively correlated with global job satisfaction ($r_c = -.35$) (r_c signifies the sample-size weighted corrected correlation).

Organizations have sought to determine which applicants are most likely to remain, and organizations will benefit by including personality trait predictors in the hiring process (Barrick & Zimmerman, 2009). Using the PANAS instrument to screen applicants also has possible utility for organizations because high PA is associated with lower absenteeism and increased pro-social behavior (George, 1989; 1991; George & Bettenhausen, 1990). Employers wishing to use the PANAS in employment settings should await disparate impact analyses on the PANAS. Applying such a selection practice outside of the insurance industry should wait for evidence of the generalizability of these results.

Study results imply a direction for future research: PA and NA may jointly moderate the intentions-*retirement* relationship. Retirement is a special case of voluntary turnover (Hanisch & Hulin, 1990, 1991). Schwerha, Ritter, Robinson, Griffeth, and Fried (2011) adapted Mobley's (1977) model of intermediate linkages to the retirement decision process, noting that retirement intentions are the immediate antecedent to retirement. Future research should seek to test this model and investigate a possible role for PA and NA as joint moderators of the intentions-retirement relationship.

In conclusion, the present research is the first to simultaneously examine the relationships among turnover intentions, PA, and NA predicting voluntary turnover. It remains for future research to more thoroughly investigate the intentions-turnover relationship with PA and NA. Over fifty years ago, turnover theory was focused on job satisfaction. Locke (1976) defined the affective variable job satisfaction as a positive emotional state resulting from an appraisal of one's job, and Weitz (1952) was interested

in whether or not dispositional affectivity interacts with job satisfaction to predict turnover. The turnover field has moved beyond job satisfaction to consider the role of personality in the intentions-turnover relationship (Allen et al., 2005). This study has helped to clarify the role of dispositional affectivity in that relationship, offering an explanation for its moderate strength and wide variance. All signs point to an increased interest in affect and personality in the years to come.

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APPENDIX A: THE PANAS

The PANAS

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you generally feel this way, that is, how you feel on the average. Use the following scale to record your answers.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely
	☐ interested		☐ irritable	
	☐ distressed		☐ alert	
	☐ excited		☐ ashamed	
	☐ upset		☐ inspired	
	☐ strong		☐ nervous	
	☐ guilty		☐ determined	
	☐ scared		☐ attentive	
	☐ hostile		☐ jittery	
	☐ enthusiastic		☐ active	
	☐ proud		☐ afraid

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