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**EMPLOYEE NEEDS AND JOB-RELATED OPPORTUNITIES: FROM THE PERSON-ENVIRONMENT
FIT FRAMEWORK**

BY

Wongun Goo

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree

Of

Doctor of Philosophy

In the Robinson College of Business

Of

Georgia State University

GEORGIA STATE UNIVERSITY
ROBINSON COLLEGE OF BUSINESS
2015

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ACCEPTANCE

This dissertation was prepared under the direction of the Wongun Goo Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Doctoral of Philosophy in Business Administration in the J. Mack Robinson College of Business of Georgia State University.

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TABLE OF CONTENTS

	PAGE
Table of Contents	iv
List of Tables	v
List of Figures	vii
Abstract	1
I. Introduction	3
II. Essay 1	7
III. Essay 2	59
IV. Essay 3	94
V. Conclusion	121
Appendix (Measures)	122
References	141
VITA	152

LIST OF TABLES

	PAGE
Table 1. Study 1: Descriptive Statistics, Reliability Estimates, and Correlations among Measures	28
Table 2. Study 1: Confirmatory Factor Analysis	29
Table 3. Study 1: Results from Quadratic Regressions of Work Attitudes on Supplies and Needs for Job Characteristics	32
Table 4. Study 2: Descriptive Statistics, Reliability Estimates, and Correlations among Measures	46
Table 5. Study 2: Confirmatory Factor Analysis	48
Table 6. Study 2: Results from Quadratic Regressions of Critical Psychological States on Supplies and Needs for Job Characteristics	50
Table 7. Study 2: Results from Quadratic Regressions of Job Performance on Supplies and Needs for Job Characteristics	51
Table 8. Study 2: Path Estimates for Examinations of Relationships between the JCM and Job Performance Mediated by CPS	52
Table 9. Descriptive Statistics, Reliability Estimates, and Correlations among Measures	78
Table 10. Confirmatory Factor Analysis	79
Table 11. Results from Quadratic Regressions of Work Attitudes on Visionary Leadership Needed and Received	82
Table 12. Results from Quadratic Regressions of Work Attitudes on Visionary Leadership Needed and Received, and CSE	83

Table 13. Descriptive Statistics, Reliability Estimates, and Correlations among Measures 107

Table 14. Results from Quadratic Regressions of Well-Being on Leadership Behaviors 112

LIST OF FIGURES

	PAGE
Figure 1. Study 1: Surfaces Relating Job Satisfaction to Supplies and Needs for Job Characteristics	35
Figure 2. Study 1: Surfaces Relating Organizational Identification to Supplies and Needs for Job Characteristics	36
Figure 3. Study 1: Surfaces Relating Turnover Intention to Supplies and Needs for Job Characteristics	37
Figure 4. Study 2: Surfaces Relating Critical Psychological States to Supplies and Needs for Job Characteristics	53
Figure 5. Surfaces Relating Job Satisfaction to Visionary Leadership Needed and Received	85
Figure 6. Surfaces Relating Trust in the Supervisor to Visionary Leadership Needed and Received	86
Figure 7. Surfaces Relating Task-Oriented Leadership Behaviors to Well-Being	114
Figure 8. Surfaces Relating Relationship-Oriented Leadership Behaviors to Well-Being	115
Figure 9. Surfaces Relating Change-Oriented Leadership Behaviors to Well-Being	116

ABSTRACT

Employee needs and job-related opportunities: From the Person-Environment fit framework

BY

Wongun Goo

December 18, 2014

Committee Chair: Lisa Schurer Lambert

Major Academic Unit: Managerial Sciences

The work environment presents employees with many opportunities for meaningful experiences associated with personal and professional growth. When these opportunities match what employees need, they have favorable attitudes toward the job and the organization. My dissertation addresses questions related to work design, employees' experiences of leadership and leaders' attitudes towards their own leadership behaviors through the lens of Person-Environment (P-E) Fit theory.

In the first part of my dissertation, I revisited the Job Characteristics Model (JCM) which predicted positive attitudes and behavior when jobs were designed to increase five key job characteristics (variety; autonomy; feedback, identity, and significance). I re-conceptualized GNS as variation in employees' needs for the five job characteristics by applying the person-environment fit (P-E) framework to the JCM

The second part of my dissertation suggested that visionary leadership might also engender negative effects because it required employees' exceptional and relentless persistence and effort.

I examined the joint effect of the visionary leadership employees' receive and the amount of visionary leadership employees' need on their work attitudes. Core self-evaluation (CSE) was predicted to moderate the relationship between visionary leadership needed and received on work attitudes.

The final part of my dissertation examined the effects of leadership on the leaders themselves. I proposed that leadership roles might also be harmful for leaders because the increased responsibility for subordinates and their performance requires them to enact leadership behaviors that deviate from what is comfortable, increasing their work overload and strain.

Results showed that as supplies deviated from needs for both deficiency and excess, employees' outcomes (attitudes, well-being) decreased; when the needed amounts of job-related opportunities were matched with the supplied amounts, outcomes were most positive.

Moreover when needs and supplies were both high vs. when both were low, outcomes were more positive.

My dissertation demonstrated that desirable behaviors and experience can have negative effects on both employees and leaders when individual variations in employees' and leaders' needs are not considered. My findings suggest ways in which common advice to leaders is associated with unfavorable outcomes for employees, leaders, and their organizations.

I. INTRODUCTION

When employees work for an organization, they perform in a specific task environment and enter into a relationship with their supervisor who is charged with monitoring and motivating their performance. While they perform a variety of tasks and report to their supervisor, they may develop attitudes toward their work, job and their organization which subsequently influence their behavior and performance (Avolio, Weichun, Koh, & Bhatia, 2004; Day, Sin, & Chen, 2004; Hackman, Pearce, & Wolfe, 1978). Interestingly, each employee differently responds to the same job, their supervisor, and the organization, so researchers have investigated the role of individual characteristics in relationships associated with work attitudes and behaviors.

This dissertation is composed of three essays each one addressing an aspect of the relationship between the employees' characteristics and characteristics of the work environment. According to P-E fit theory, employees' characteristics include desires, preferences, and needs for work experiences and interpersonal treatment, and the work environment includes jobs, supervisors, groups, and the organization itself. In my dissertation, I focus on 1) the relationship between employees' needs and the job (job characteristics), 2) the relationship between employees' needs for leadership and the leadership provided, and 3) the relationship between leaders' needs to provide leadership behavior and the leadership opportunities supplied by the organization.

Essay 1: Applying the lens of P-E fit theory to job characteristics needed and supplied.

The first essay is an empirical paper to apply the framework of person-environment (P-E) fit theory to the Job Characteristics Model (JCM). Previous studies on the JCM predicted that as variety, autonomy, feedback, identity and significance of a job "fit" employees individual needs for growth, employees' work attitudes would be more positive (Hackman & Oldham, 1980;

Kulik, Oldham, & Hackman, 1987). However, empirical studies have not supported the role of fit between job characteristics and growth needs strength in the model (Graen, Scandura, & Graen, 1986; Tiegs, Tetrick, & Fried, 1992).

I propose that the conceptualization of fit in the model has been mis-specified for two reasons. First, the degree of fit may vary across job characteristics because employees' needs may vary from characteristic to characteristic. For instance, some employees may prefer a variety of tasks (e.g., high variety) but also prefer guidance from supervisors (e.g., low autonomy). For them, fit on variety occurs at high level, whereas fit on autonomy occurs at low level. Yet, the overall assessment of the job characteristics and employees' needs may not capture this possibility.

Second, the effects of increasing amounts of each job characteristic on work attitudes is predicted to be *positive*, but I predict the effects may be *negative* when job characteristics exceed what an employee needs. For instance, as the number of types of tasks (*variety*) exceeds the amount an employee needs, the employee may have difficulty managing so many tasks, begin to feel overwhelmed, and ultimately develops unfavorable attitudes toward the job.

In Study 1, I tested the proposition that employees have more positive attitudes toward their job when each job characteristic is supplied in the needed amount for each characteristic, and have negative attitudes when each job characteristic deviates from the needed amount. In Study 2, I investigated whether these attitudes mediate the relationship between job characteristics and job performance.

Essay 2: Person-Environment model of visionary leadership and work attitudes: The role of employees' needs.

The second essay investigates the relationship between visionary leadership needed and received and employees' work attitudes. Research on leadership has found that visionary leadership is positively associated with employees' work attitudes and outcomes (Barling, Weber, & Kelloway, 1996; Bass, 1985). I propose that the effect of visionary leadership may vary depending on how much visionary leadership employees' need from their leader (Ehrhart & Klein, 2001). For instance, employees who lack skills and competency for performance may need additional guidance and encouragement. However, strong performers may not need much leadership perhaps because their leaders' guidance interferes with their preferred way to perform (Podsakoff, MacKenzie, & Bommer, 1996b). I test the proposition that employees' work attitudes would become more positive when visionary leadership matches what employees' need and becomes negative when visionary leadership deviates from the needed amount. Furthermore, I propose that the joint effect of visionary leadership needed and received on work attitudes should be moderated by employees' core self-evaluation (CSE). High CSE implies that employees perceive and interpret their situation more positively (Erez & Judge, 2001). Employees with high CSE may buffer themselves from negative influences of the mismatch between visionary leadership and employees' need.

Essay 3: Leadership opportunities needed and supplied from leaders' perspective

The third essay investigates leadership opportunities needed and supplies from leaders' perspective. Leadership roles may be beneficial for leaders because leadership roles provide opportunities to develop competency, broaden skill sets, and increase self-esteem (Day et al., 2004). When these opportunities are fewer than is desired, leaders may not experience the above benefits. However, leadership behavior may also exact a personal cost because leaders may have increased responsibility for subordinates and performance. As leadership exceeds desired

amounts, leaders may become overloaded, stressed and perhaps burned out (Goode, 1960). I examined the proposition that leaders have more positive attitudes toward their job and enhanced well-being when they exhibit leadership behaviors in the amounts they personally prefer, and have negative attitudes when leadership behaviors exhibited are deviant from the desired amount.

II. ESSAY 1: APPLYING THE LENS OF P-E FIT THEORY TO JOB CHARACTERISTICS NEEDED AND SUPPLIED

ABSTRACT

Despite theoretical reasoning for the role of ‘fit’ between job characteristics and employees’ growth need strength (GNS) in Hackman and Oldham’s Job Characteristics Model (JCM), follow-up studies have shown little progress for the conceptualization of fit in the model. This essay re-conceptualized GNS as variation in employees’ needs for the five job characteristics by applying the person-environment fit (P-E) framework to the JCM; specifically I examined how the fit between job characteristics and employees’ needs for those characteristics were jointly related to work attitudes and job performance. Results from Study 1 showed that when needs and supplies were both high vs. when both were low, work attitudes were more positive. Moreover, as supplies deviated from needs for both deficiency and excess, work attitudes decreased; when the needed amounts of job characteristics were matched with the supplied amounts, work attitudes were most positive. Results from Study 2 showed that the effects of two of job characteristics on job performance were mediated by critical psychological states. These results revealed that the P-E fit approach to the JCM explained additional variance in the effects of job characteristics on employees’ attitudes and imply that tasks in the jobs should be assigned to optimize employee fit on each distinct characteristic.

Keywords:

Motivation, Job Characteristics Model, person-environment fit theory

APPLYING THE LENS OF P-E FIT THEORY TO JOB CHARACTERISTICS NEEDED AND SUPPLIED

Employees work to earn a living but may also value work because it presents opportunities for meaningful experiences associated with personal and professional growth (Alderfer, 1969; Pinder, 2008). When employees have opportunities for meaning and growth, they have more favorable attitudes toward their job and ultimately respond with positive behaviors on behalf of the organization (Allen, Eby, Poteet, Lentz, & Lima, 2004; Colquitt, LePine, & Noe, 2000; Greguras & Diefendorff, 2009; Humphrey, Nahrgang, & Morgeson, 2007; Ricketta, 2008). Because both employees and organizations benefit when jobs facilitate meaning and growth, these findings continue to spur research in job design.

One of the most prominent theories of job design is the Job Characteristics Model (JCM). The JCM suggests that jobs can be described by the extent to which they provide five core job characteristics: variety, autonomy, feedback, identity, and significance (Fox & Feldman, 1988; Hackman & Oldham, 1975; Hackman et al., 1978). The model stipulates that the presence of these core job characteristics creates a work context that fosters meaningfulness, and positive attitudes and behaviors toward the job and the organization (Birnbaum, Farh, & Wong, 1986; Greguras & Diefendorff, 2009; Griffin, 1981; Terborg & Davis, 1982).

Although the relationship between core job characteristics and work-related attitudes is positive (Fried & Ferris, 1987; Hackman et al., 1978; Spector, 1985), not every employee positively responds to high amounts of these five characteristics: instead, responses may depend on individual characteristics (Hackman & Oldham, 1980; Kulik et al., 1987; Schneider, 1987; Simmering, Colquitt, Noe, & Porter, 2003). Kulik, Oldham, and Hackman (1987) proposed that the effect of core job characteristics on attitudes might depend on the *fit* between job

characteristics and individual characteristics suggesting that the fit between the person and the job can fulfill desires for growth, leading to positive attitudes. Individual characteristics were captured in tests of the JCM with a summary assessment of employees' needs for obtaining opportunities for personal development, known as growth need strength (GNS) (Hackman & Oldham, 1975). Despite this reasonable theoretical rationale, empirical studies found limited support for the moderating effects of GNS, implying that individual characteristics were unimportant and could be eliminated from the model (Arnold & House, 1980; Fried & Ferris, 1987; Graen et al., 1986; Tiegs et al., 1992).

I suggest that the lack of support for moderating effects of GNS may have been due to two assumptions deserving reconsideration. First, measures of GNS used a single score to represent the construct, implicitly assuming that this GNS score was equally applicable to all aspects of the job. Instead, it may be that employees need to seek growth opportunities through some job characteristics but not others. For example, some employees may need to perform a variety of tasks simultaneously (e.g., high variety) but may also need a high level of guidance from the supervisor (e.g., low autonomy). Other employees may need to perform only a few types of tasks (e.g., low variety) but desire to manage their work by themselves (e.g., high autonomy). Employees' need for one characteristic may be independent from their needs for other characteristics.

The second assumption was that increasing amounts of each of the five job characteristics led to *positive* outcomes for employees, even when GNS was low (Kulik et al., 1987; Pierce & Dunham, 1976). However, increasing amounts of job characteristics may lead to *negative* outcomes especially when the amount of a job characteristic exceeds what an employee needs. For instance, as the number of types of tasks an employee performs (e.g. variety) increases, he or

she may become more interested in the job (Blau, 1987). However, as variety continues to increase beyond needed amounts, the employee may have difficulty managing so many tasks, begin to feel overwhelmed, and ultimately become frustrated. Thus, outcomes may be more favorable when the amount of each characteristic provided by the job matches employees' need for each characteristic rather than when GNS is simply high.

The fit between characteristics of employees and characteristics of their jobs have been investigated in the Person-Environment (P-E) fit literature (Cable & Edwards, 2004; Edwards, 2008; Edwards & Cooper, 1990; Kristof-Brown, Zimmerman, & Johnson, 2005). The P-E fit literature has found that the fit between employees' needs and some of the core characteristics (e.g., variety, autonomy) resulted in positive outcomes. Parallel with the reasoning of the JCM and the findings in the P-E fit literature, the joint effects of employees' need for each characteristic and each of the five core characteristics on work attitudes are comprehensively examined in this essay.

This essay re-visits the JCM through the framework of person-environment (P-E) fit theory. I show that the ideas of the fit between person and job in P-E fit theory correspond to the original theoretical foundation of the JCM model. I suggest that employee needs for job characteristics may vary by the type of characteristic and that the effects of job characteristics may depend on the fit between how much each employee needs of each characteristic and how much is presented by the job.

Based on theoretical arguments and empirical findings, I reason that it is not job characteristics per se, but it is the needed amount of each job characteristic relative to what was supplied that may drive positive work outcomes. In study 1, I develop theory to explain why work attitudes are more positive when each characteristic is matched with employees' needed

amount for each characteristic and correspondingly, why work attitudes become negative when the amount of each characteristic falls short of what is needed or exceeds what is needed. In my plan for study 2, I develop theory for mediating mechanisms to explain how job characteristics impact on employees' job performance. This essay contributes to job characteristics research by investigating the effects of fit between employees' needs and job characteristics on work attitudes and performance, and that incorporating P-E fit framework into the JCM may improve its utility in research on attitudes and motivation.

In study 1, I test my framework in a sample of respondents from a variety of occupations in diverse industries and report the results using polynomial regression and response surface analysis (Edwards, 2002). These results demonstrate that the five characteristics of the JCM are positively related to employees' work attitudes and performance but only when they are present in the amounts needed by employees. After concluding my discussion of study 1, I present my plan for study 2 which focuses on the mediators of the relationship between job characteristics and work attitudes.

Theoretical Development

A prominent model of job design, the JCM argues that job attitudes are influenced by five core characteristics; variety, autonomy, feedback, identity (the extent to which the job allows employees to perform their jobs as an entirety), and significance (the extent to which the job enables an employee to contribute to the well-being of other people). The reasoning is that these five characteristics yield opportunities for responsibility and for accomplishment, help employees meet their needs for growth and self-esteem, and thereby increase their feelings of satisfaction with their jobs (Johns, Xie, & Fang, 1992; Oldham, 1976). Early research on the JCM tended to support the positive relationship between the five core characteristics and

employees' job attitudes and performance (Hackman et al., 1978; Lawler, Hackman, & Kaufman, 1973).

Early research on the JCM also suggested that employees may more positively respond to job characteristics when job characteristics match characteristics of employees. Hackman and Oldham (1980) reasoned that “when people are well matched with their jobs, ... they try to do well because it is rewarding and satisfying to do so (p.71).” Specifically, employees with high GNS may more positively respond to the high amount of job characteristics because they are eager to experience opportunities for challenging tasks and to take responsibility in their jobs (Hackman & Oldham, 1976). Thus, “when a match is present, job characteristics theory predicts desirable outcomes for both the employee and the organization. (Kulik et al., 1987; pp. 279-280).”

Kulik, Hackman, and Oldham (1987) suggested that original theorizing regarding the JCM implied two untested assumptions. First, misfit should lead to negative outcomes, particularly when employees with low GNS have jobs presenting a high amount of core characteristics. Employees may perceive high amounts of job characteristics as threatening and burdensome. Second, fit should occur when employees' GNS is equal to the amount of core characteristics presented by the job, but outcomes for fit at low amounts should not be the same as outcomes for fit at high amounts. When employees with low GNS perform jobs that present low amounts of core characteristics, they may have limited opportunities to experience favorable psychological states compared to employees with high GNS and high amounts of core characteristics. These theoretical arguments lead to the suggestion that that the relationships between job characteristics and outcomes may be conceptualized in terms of a P-E fit framework. However, I suggest that P-E fit theory has not been applied to the JCM and that a P-E fit approach to the JCM requires consideration of additional issues as I discuss next.

I adopt the needs-supplies view of P-E fit which stipulates that employees' job attitudes are influenced by the extent to which their personal needs for job characteristics are matched to the amounts supplied by the environment (Cable & DeRue, 2002; Edwards & Harrison, 1993; Muchinsky & Monahan, 1987). Because employees vary in their skills, experiences, and personal attributes each employee may have their own individual needs for any given job characteristic (Alderfer, 1969; Murray, 1938, 1951; Pinder, 2008). Low skilled employees may need much lower amounts of variety than the amount of variety needed by highly skilled employees. The fit between the amount of variety needed and supplied for low skilled employees may occur at the lower level than for highly skilled employees. Employees can express their needs in terms of what amount of each characteristic (variety, autonomy, feedback, identity, and significance) is right for them and employees' needs may vary from employee to employee, and for each employee may vary for each of the five job characteristics. Applying P-E fit framework, I argue that when each of the five job characteristics is supplied in the needed amount, employees may experience meaningful and challenging work in the job, thereby increasing their favorable work attitudes and job performance.

When job characteristics are supplied in the needed amount, employees should have opportunities to perform jobs with less stress and boredom, to manage their tasks efficiently, and to realize values and benefits from their jobs. These positive experiences should be linked to favorable work attitudes. However, employee attitudes should become more positive when the match between needed and supplied amount of a characteristic occurs at high amounts rather than at low amounts. When the match is at low amounts, employees have fewer opportunities to perform meaningful work and to take responsibility for their job. When high needs are fulfilled with high supplies, employees may feel that they have achieved a demanding personal goal

inspiring self-satisfaction and self-esteem (Brockner, 1988; Mento, Locke, & Klein, 1992; White, 1959), leading to more favorable work attitudes (Edwards & Rothbard, 1999).

When organizational supplies of the five job characteristics are deficient of needed amounts, employees have fewer resources available for satisfying their needs – smaller amounts than what they personally consider they need, leading to low levels of job satisfaction. Deficiency may also imply that employees have fewer opportunities to improve themselves throughout job experiences, hindering employees from fulfilling needs for personal growth. As the amounts of the five job characteristics increase, employees' have increasing opportunities for fulfilling basic needs (i.e., autonomy, competence, and relatedness), leading to more positive feelings (Tay & Diener, 2011) and attitudes toward their organizations (Greguras & Diefendorff, 2009). However when organizational supplies exceed needed amounts, employee may have more of these characteristics than they need, interfering with other dimensions of the job and preventing employees from fulfilling personal needs (Edwards, 1996), ultimately increasing stress and exhaustion (Harrison, 1978). As a result, as excess increases employees' attitudes may become more negative.

Study 1

In study 1, I test the effects of N-S fit on job satisfaction, turnover intention, and organizational identification because these three attitudes are related to important employee and organizational outcomes. Job satisfaction is a prominent outcome investigated by both the P-E fit literature (Kristof-Brown et al., 2005) and the JCM literature (Fried & Ferris, 1987) and has a well-understood and robust relationship with meaningful organizational outcomes (Cheloha & Farr, 1980; Mangione & Quinn, 1975; Riketta, 2008). Employee turnover is a costly behavioral outcome (Cascio, 1991), and employees' intentions to quit is the most proximal predictor of

turnover (Fishbein & Ajzen, 1975; Hom & Griffeth, 1991). Job characteristics provide opportunities for employees to have meaningful experiences, and employees may reciprocate with positive attitudes to the organization (Liden, Wayne, & Sparrowe, 2000). Their willingness to reciprocate may be indicated by organizational identification. Lastly, all three of these attitudes predict other important work outcomes such as task performance and contextual performance (Lee, 1971; Podsakoff, MacKenzie, Paine, & Bachrach, 2000; Riketta, 2008).

Hypotheses

Needs-Supplies (N-S) fit. When the amount of a job characteristic matches the amount an employee needs there is fit. The condition of fit, where the received amount equals needed amount, allows employees to perform a variety of tasks (Blau, 1987; Hill, 1975), to better manage work tasks and procedures (Ashford & Black, 1996; Rothbaum, Weisz, & Snyder, 1982), and to have the right amount of information about the quality of their work. (Kluger & DeNisi, 1996). Also, fit enables employees to work on more complete or integrated tasks (Gabriel, Diefendorff, & Erickson, 2011; Pinder, 2008), and to understand how their work creates positive benefits for the organization or its stakeholders (Campion, Medsker, & Higgs, 1993). In the condition of fit, employees may have more responsibility and autonomy, may benefit from increased feelings of competence and meaningfulness, and perhaps they are more aware of the impact of their work they may feel more related to the beneficiaries of their work. Given that employees may need these experiences more than they currently have, employees perceive that their job allow employees to fulfill their needs, increasing job satisfaction (Locke, 1976). As aforementioned, fit on job characteristics provide meaningful opportunities for employees. Because they may not experience such opportunities if they leave their organization, employees may be more embedded in their organization (Greguras & Diefendorff, 2009; Mitchell, Holtom,

Lee, Sablinski, & Erez, 2001), enhancing organizational identification and decrease intentions to leave the organization.

Fit between needed and supplied amount of a job characteristic can occur when both the need and supply are low or when both are high, but job attitudes should vary as the variables comprising fit vary from low to high. First, as predicted by the original conceptualization of JCM, when the variables are at low amounts, the low supplies of each job characteristic may not provide opportunities for employees to perceive meaningfulness, to take responsibility, and to understand results of performance. Low amounts of these three conditions, collectively known as critical psychological states, are related to less positive job attitudes and lack of motivation. Second, when high needs are fulfilled with high supplies, employees may not only receive more tangible benefits but also experience a sense of achievement, inspiring self-satisfaction and self-esteem (Brockner, 1988; Mento et al., 1992; White, 1959). For instance, compared to the small number of tasks, the large number of tasks may bring more compensation and enthusiasm once the tasks are completed (Campion & Berger, 1990). attaining fit at high amount of supplied job characteristics may supply other values such as compensation and enthusiasm (Edwards & Rothbard, 1999; Harrison, 1978), which contribute to fulfill those values (*metafit*) (Edwards & Rothbard, 1999). I anticipate that job satisfaction and organizational identification should be higher and turnover intention lower, when the variables comprising fit are at high amounts than when they are at low amounts. Next, I explain my reasoning for each of the five characteristics in turn.

When fit for variety is at low amounts, the job supplies a low amount of variety. Employees may still perceive meaningfulness from the job, but their perceived meaningfulness may be lower than in fit at high amounts (Hackman & Lawler, 1971). Attaining fit for variety at

low amounts suggests that employees need and have a small number of tasks to perform, meaning that their job scope is narrow. Narrow job scope is related to low amount of responsibility (Steers & Rhodes, 1978), and less status and fewer rewards (Brief, Van Sell, & Aldag, 1978). Attaining fit for variety at high amount may represent ambitious goals regarding achievement and competence, increasing positive work attitudes.

When there is fit for autonomy at low amounts, it means that employees have narrow scope for making decisions about their work, decreasing satisfaction with their job (Deci, Connell, & Ryan, 1989). When employees need and receive high autonomy, they have the opportunity to manage work tasks according to their preferences, to reduce slack time, and to use saved time and effort for other purposes (e.g., self-development, training, or other preferred activities, etc.). Moreover, attaining fit for autonomy at a high amount means that employees may be better able to manage their time and personal resources for work, facilitating their personal coping strategies and limiting stress and exhaustion (Edwards & Rothbard, 1999; Latack & Havlovic, 1992).

When there is fit for feedback at low amounts, it means that employees actually receive little knowledge of results from their job. However, when needed and supplied feedback is high, employees may have access to information that may enhance their job performance. If feedback allows employees to establish standards for their performance, attaining fit at high amounts suggests that employees may achieve ambitious goals such as self-development, achievement, and competence (Kristof-Brown & Stevens, 2001). This experience may also reinforce organizational ties (Ivancevich & McMahon, 1982).

Identity is related to how much employees can complete tasks as an integrated whole or in their entirety. When fit for identity is at low, employees perform a small part of the work

process, perhaps experiencing modest amount of meaningfulness (Hackman & Oldham, 1980). Wanting and receiving a low amount of identity means that employees may have few opportunities to internalize organizational values during work processes (Gagné & Deci, 2005), leading to less positive attitudes toward their job and organization. When fit for identity is high, employees want and have many opportunities to complete broader tasks in work processes and perhaps to work with other coworkers through the integrated work. Thus, attaining fit at high amounts means that employees may have more opportunities to enhance competence and relatedness, leading to more positive work attitudes.

Lastly, when fit for significance is low, employees have job tasks which appear unrelated to the well-being of others, and perhaps these tasks limit their opportunities to experience meaningfulness. However, high needs and supplies for significance may bring more responsibility for the well-being of others. When the amount of significance needed and supplied is high, employees may believe they are contributing to the well-fare of customers or clients, or other social groups creating feelings of joy or contentment, increasing feelings of relatedness (Baumeister & Leary, 1995; Grant, 2007) and job satisfaction.

Hypothesis 1a: When organizational supplies are equal to employees' needs, job satisfaction will increase as the absolute levels of supplies and needs increase.

Hypothesis 1b: When organizational supplies are equal to employees' needs, organizational identification will increase as the absolute levels of supplies and needs increase.

Hypothesis 1c: When organizational supplies are equal to employees' needs, turnover intention will decrease as the absolute levels of supplies and needs increase.

Needs-Supplies (N-S) misfit. Misfit occurs when employees' needs are discrepant from organizational supplies and may occur when organizational supplies fall short of employees' needs (*deficiency*) or when organizational supplies exceed employees' needs (*excess*). I argue that both deficiency and excess on each of the five job characteristics may negatively affect employees' work attitudes. When organizational supplies of the five job characteristics are deficient of needed amounts, employees have fewer resources available for satisfying their needs and values – smaller amounts than what they personally consider they need. As the amounts of the five job characteristics increase, employees' have increasing opportunities for fulfilling basic needs (i.e., autonomy, competence, and relatedness) and values (e.g., prestige, esteem, achievement), leading to more positive feelings (Tay & Diener, 2011) and attitudes toward their organizations (Greguras & Diefendorff, 2009).

Excess characteristics may be associated with less positive attitudes. Supplied job characteristics are not necessarily concrete resources but instead may represent job related opportunities. Excess responsibilities may interfere with other dimensions of the job and prevent employees from fulfilling needs (Edwards, 1996), ultimately increasing stress and exhaustion (Harrison, 1978). For this reason, excess may not be uniformly viewed as rewarding but be perceived as increased work responsibilities. Next, I explain the theoretical reasoning for the effect of deficiency and excess for each of the five characteristics.

When variety is deficient of needed amounts, employees may be bored (Fisher, 1993; Hill, 1975), especially if tasks are simple and routine. Increasing the variety of tasks may generate employees' interest and may create opportunities for skill development enhancing the possibility of personal growth and achievement (Alderfer, 1969). However, as the amount of variety increases beyond employees' needs, they perform more types of tasks and may begin to

feel overwhelmed and emotionally exhausted (Morris & Feldman, 1996), which may lead to and dissatisfaction with the job.

When autonomy is deficient, employees lack needed opportunities for responsibility and decision making (Yukl & Latham, 1978), perhaps feeling that they are too closely monitored by their supervisor, diminishing their feelings of competence and mastery. As autonomy increases, employees may have more control over their work schedule, tasks, and procedures, which may fulfill needs for responsibility and self-determination (Ryan & Deci, 2000). However, as the amount of autonomy increases beyond their needed amount, employees may be determining work processes, schedules, and tasks without requisite guidance from their supervisors. Excess autonomy may be experienced by employees as a lack of clarity regarding role expectations (Burger & Cooper, 1979), increasing job dissatisfaction (Edwards, 1996).

Deficient amounts of feedback imply that employees lack information to regulate their performance (Goodman, 1998). As feedback increases, employees may use it to redefine task strategies, and modify goals, increasing their persistence and intensity (Locke & Latham, 1990, 2002) which can fulfill achievement needs. However, excess feedback may detract attention from the work itself, hindering employees' ability to revise their own task strategies (Campbell, 1987; Dodd & Ganster, 1996), and preventing them from experiencing autonomy.

Deficient amounts of identity mean that employees may not have needed amount of opportunities to complete work processes from beginning to end and perhaps feel alienated from some part of work processes (Kanungo, 1979). As supplied identity increases, employees may be more involved in work processes and feel more responsible for their jobs. However, as amounts of identity exceed employees' needed amounts, employees' increased responsibility for work tasks may have the effect of increasing their work load, and subsequently their feelings of stress

(Xie & Johns, 1995). Excess identity may also require employees to understand too much information, exercise too many general skills perhaps preventing them from learning specialized skills, and interfering with opportunities for developing competence and mastery.

When task significance is deficient, employees may not be able to relate their work tasks to a larger purpose or to the well-being of others, threatening their work motivation (Grant et al., 2007). As task significance increases, employees better understand how their tasks may contribute to organizational and societal goals (i.e., the welfare of organizational members and customers), fulfilling needs for relatedness (Grant, 2008). However, as the amounts of significance increase beyond what employees need, they may feel more responsibility for others. Excess responsibility for others may drain employees' resources and time for their 'caregiving' roles (Dierdorff & Ellington, 2008), reducing their feelings of relatedness .

To sum up, employees' work attitudes may be negative when organizational supplies fall short of individual needs. As supplied amounts of five job characteristics increase relative to needed amounts it is more likely that employees' needs are fulfilled leading to increased self-esteem, meaningfulness, and/or responsibility and to more positive work attitudes. Nonetheless, as amounts of each job characteristic exceed beyond needed amounts, excess may deplete or interfere with employees' abilities to fulfill other basic needs. As need fulfillment is hindered, employees' self-esteem, meaningfulness, and/or responsibility will decrease, leading to negative work attitudes.

Hypothesis 2a: Job satisfaction will increase as supplied job characteristics increase toward the needed amount and will decrease as supplied job characteristics exceed the needed amount.

Hypothesis 2b: Organizational identification will increase as supplied job characteristics increase toward the needed amount and will decrease as supplied job characteristics exceed the needed amount.

Hypothesis 2c: Turnover intention will decrease as supplied job characteristics increase toward the needed amount and will increase as supplied job characteristics exceed the needed amount.

Methods

Sample and procedure. Respondents were students at a southern university who were employed fulltime or part-time in a variety of industries. Their occupations included administrative and office support, general managers, sales associates, food preparation and serving, and research assistants. Respondents voluntarily participated in the study in return for a small percentage of course credit. Only employed respondents were included in the sample.

I used 2-wave survey procedures. At Time 1, the surveys were distributed to respondents in a paper-and-pencil format. The survey contained questions regarding needs and supplies for each of five core job characteristics, along with questions collecting demographic information. When respondents were taking the Time 1 surveys, they provided their email address in order to receive the Time 2 surveys. A total of 364 respondents participated in the Time 1 survey. The Time 2 surveys were emailed to respondents two weeks after they took the Time 1 surveys. The Time 2 surveys were completed on-line and were matched with the Time 1 surveys through confidential ID codes. The Time 2 survey contained questions regarding work attitudes (job satisfaction, organizational identification, and turnover intention). Ninety five percent of respondents completed the Time 2 surveys, but I dropped responses from respondents who

changed or quit their jobs between Time 1 and Time 2. A total of 326 respondents participated in the Time 1 and time 2 surveys.

Fifty eight percent of respondents ranged in age from 17 to 22 years, 30.4% ranged in age from 23 to 29 years, and 11.3% were 30 years or older. Fifty seven percent of the sample was female, 35.6 % was Caucasian, 29.1% was African American and the rest were Hispanic, Native American, and Asian. Organizational tenure averaged 26.2 months. Fifty two percent of the respondents were working more than 25 hours per week.

Measures.

Needs and supplies. At Time 1, respondents completed measures of needs and supplies for variety, autonomy, feedback, identity, and significance. Measures for variety and autonomy, and feedback contained 3 items, and measures of identity and significance contained 4 items, yielding 34 needs and supplies items in all (three or four items each for five needs and three or four items each for five supplies). Items for variety and autonomy were adopted from Edwards, Cable, Williamson, Lambert, and Shipp (2006). Items for identity, significance, and feedback were adopted from the Work Design Questionnaire (Morgeson & Humphrey, 2006). Following procedures developed by Edwards and Cable (2009) Items were modified to rate needs and supplies. For each item, needs were measured by the question, “How much do you feel is right for you?” and supplies were measured by the question, “How much is present in your job?”. All items were rated on a 7 point scale ranging from 1 = *none* to 7 = *A great deal*. All items are presented in the Appendix.

Work attitudes. At Time 2, respondents completed measures of job satisfaction, organizational identification, and turnover intention. Items were rated on a 7 point scale ranging from -3 = *strongly disagree* to 3 = *strongly agree*. Job satisfaction was measured with 3 items

which measured overall job satisfaction (Edwards & Rothbard, 1999). Organizational identification was measured with 6 items used by Mael and Ashford (1992). Sample item is “When someone praises this organization, it feels like a personal compliment.” Turnover intention was measured with 3 items from the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1979).

Analytic strategy. I tested surfaces relating N-S fit to work outcomes using polynomial regression analysis (Edwards, 2002). Polynomial regression analysis estimates quadratic regression equations that entail supplies and needs as the independent variables with squared and product terms from these variables to capture possible moderation and curvilinearity. The base equation is

$$A = b_0 + b_1S + b_2N + b_3S^2 + b_4SN + b_5N^2 + e \quad (1)$$

In Equation (1), S and N represent supplies and needs, respectively, and A represents work attitude (job satisfaction, organizational identification, and turnover intention). Regression coefficients from Eq. (1) are used to plot a response surface. The hypotheses correspond to features of the response surface and these features were tested for significance. Hypothesis 1a and 1b predicted that work attitudes (job satisfaction and organizational identification, respectively) would increase along the N = S line or what can be referred to as the *fit* line. These hypotheses predicted a positive slope of the surface along the fit line. Hypothesis 1c predicted that turnover intention would decrease along the fit line consistent with a negative slope of the surface along the fit line. Shape along the N = S line can be tested by equating N to S in equation (1).

$$\begin{aligned} A &= b_0 + b_1S + b_2S + b_3S^2 + b_4S^2 + e \\ &= b_0 + (b_1 + b_2)S + (b_3 + b_4 + b_5)S^2 + e \end{aligned} \quad (2)$$

In Equation 2, the quantity of $(b_3 + b_4 + b_5)$ represents the curvature of the surface along the $N = S$ line, and the quantity of $(b_1 + b_2)$ represents the slope of the surface along $N = S$ line at the point where both N and S are equal the mean of their means. Support for Hypothesis 1a and 1b would be evidenced by a positive relationship along the fit line, with a positive value for the slope $(b_1 + b_2)$ and a null value for the curvature $(b_3 + b_4 + b_5)$ in Equation 2. Hypothesis 1c would be supported with a negative value for the slope $(b_1 + b_2)$ and a null value for the curvature $(b_3 + b_4 + b_5)$ in Equation 2.

Hypothesis 2a and 2b predicted that work attitudes (job satisfaction and organizational identification, respectively) will be maximized when supplied characteristics equal needed amounts and that attitudes will decline for both deficiency and excess. These hypotheses corresponds to an inverted U shape of the response surface along the $N = -S$, or *misfit* line. Hypothesis 2c predicted that turnover intention will be minimized when supplied characteristics equal needed amounts and increase for both deficiency and excess. This hypothesis corresponds to a U shape of the response surface along the misfit line. Shape along the $N = -S$ line can be tested by equating N to $-S$ in Equation (1).

$$\begin{aligned} A &= b_0 + b_1S - b_2S + b_3S^2 - b_4S^2 + b_5S^2 + e \\ &= b_0 + (b_1 - b_2)S + (b_3 - b_4 + b_5)S^2 + e \end{aligned} \quad (3)$$

In Equation (3), the quantity of $(b_1 - b_2)$ represents the slope of the surface at the point where $S = 0$ and $N = 0$, whereas the quantity of $(b_3 - b_4 + b_5)$ represents the curvature of the surface. Support for Hypothesis 2a and 2b is indicated by a null slope $(b_1 - b_2)$ and a negative value for the term $(b_3 - b_4 + b_5)$ in Equation (3). Support for Hypothesis 2c is indicated by a null slope $(b_1 - b_2)$ and a positive value for the term $(b_3 - b_4 + b_5)$ in Equation (3).

Each pair of needs and supplies for each of five job characteristics were centered at the mean of their means consistent with best practices for testing moderated relationships (Aiken & West, 1991; Edwards, 2002).

Treatment of missing data. I applied a within person mean substitution procedure by substituting the mean of the remaining items in a given scale for the missing value (Roth, Switzer III, & Switzer, 1999). This procedure retained two cases that would have otherwise been deleted from the data set.

Screening for outliers and influential observation. Because outliers may be unduly influential in tests of moderated regression and response surface analysis (Aiken & West, 1991; Edwards, 2002), I screened each equation using studentized residuals, leverage, and Cook's D statistics criteria. Observations were deemed outliers if they exceeded the minimum cutoff on all three criteria and if they were clearly discrepant on plots that combined these criteria; two or fewer cases were discarded per each equation (Fox, 1991).

Results

Descriptive statistics.

Table 1 reports descriptive statistics, reliability estimates, and correlations for all measures. As might be expected for a sample of young respondents in the early stages of their careers, means for all needs items were higher than their corresponding supplies items, consistent with the idea that respondents may need more supplies than they had received. Yet bivariate distributions of needs and supplies scores indicated that there was adequate data dispersion on either side of the $N = S$ line for testing relationships. Reliabilities ranged from .75 to .95. Correlations between needs and supplies measures of the same job characteristics ranged from .36 to .43. Job satisfaction and organizational identification were positively and turnover

intention was negatively correlated with supplies and, to a lesser extent, with needs. These three attitudinal variables were, as expected, strongly correlated with each other.

Inspection of the data revealed that employees' needs varied both within person and between persons. Consistent with the assertion that employees' needs varied from characteristic to characteristic within person, I observed that some respondents had high needs for some characteristics but low needs for other characteristics. Also indicating that employees' needs may vary from characteristic to characteristic were modest correlations among each of five needs measures ranging from .34 to .52. In addition, data showed that the full range of the response scale was used indicating that respondents' needs varied from person to person.

Table 1. Study 1: Descriptive Statistics, Reliability Estimates, and Correlations among Measures

Measures	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
<u>Dependent Variables</u>															
1. Job Satisfaction	.80	1.55	(.95)												
2. Organizational Identification	.40	1.57	.68	(.94)											
3. Turnover Intention	-.02	1.55	-.70	-.61	(.75)										
<u>Supplies</u>															
4. Variety	4.32	1.40	.36	.40	-.33	(.78)									
5. Autonomy	4.56	1.50	.23	.27	-.20	.35	(.82)								
6. Feedback	4.39	1.65	.37	.35	-.35	.33	.28	(.89)							
7. Identity	5.13	1.43	.32	.30	-.23	.40	.35	.40	(.89)						
8. Significance	4.52	1.50	.37	.40	-.28	.44	.36	.50	.41	(.84)					
<u>Needs</u>															
9. Variety	5.01	1.16	.23	.24	-.20	.38	.14	.15	.21	.18	(.78)				
10. Autonomy	5.59	1.12	.05	.07	-.03	.11	.43	-.02	.20	.10	.35	(.81)			
11. Feedback	5.74	1.16	.16	.15	-.10	.24	.12	.36	.24	.17	.34	.34	(.84)		
12. Identity	5.78	1.09	.23	.28	-.22	.23	.22	.24	.41	.21	.52	.46	.39	(.86)	
13. Significance	5.25	1.24	.22	.29	-.16	.16	.20	.21	.22	.43	.46	.34	.45	.50	(.85)

Note: $N=326$. Reliability estimates (Cronbach's alpha) are reported along the diagonal. Correlations greater than .20 or less than -.20 were statistically significant ($p<.05$).

Confirmatory factor analysis. To assess the discriminant validity of the measures, I conducted confirmatory factor analysis (CFA) with 13 measures (three dependent variables, five needs and five supplies variables). The results of CFA showed that the 13 factor model did not fit with the data ($\chi^2 = (911, N=326) = 1997.445, p < .001$). However, alternative goodness of fit indices suggested that the measurement model was adequate (CFI=.89; RMSEA=.06; SRMR=.05), and the standardized factor loadings were high and significant, ranging from .60 to .93, and averaged .80. Given the complexity of the measurement model, I tested plausible alternative models. Results for all tested alternative models showed that chi square difference tests were significant, suggesting that all alternative models did not improve the fit with the data (See Table 2). Moreover, chi-square difference tests and other model fit indices (CFI and RMSEA) indicated that the hypothesized model was superior to alternative models. For instance, the difference in fit between the thirteen factor model and five factor model was significant ($\Delta\chi^2 (68, N=326) = 2450.32, p < .001$). Thus, I used each pair of needs and supplies of a job characteristic separately and tested the quadratic equations.

Table 2. Study 1: Confirmatory Factor Analysis

Model	χ^2	df	CFI	RMSEA	SRMR	$\Delta\chi^2$	Δ CFI
Thirteen factor model	1997.45	911	.89	.06	.05		
One factor	7048.22	989	.37	.14	.14	5050.77***	.52
Three factor model	5138.88	986	.60	.11	.09	3141.43***	.29
Five factor model	4447.77	979	.66	.10	.08	2450.32***	.23
Eleven factor model	2708.09	934	.83	.08	.05	710.64***	.06

Note: N=326, CFI= comparative fit index; RMSEA= root-mean-square error of approximation; SRMR= Standardized Root Mean Square.

Thirteen factor model: hypothesized measurement model.

One factor model: all items loaded on a common factor

Three factor model: items for dependent variables loaded on one factor, items designed to measure needs loaded on one factor, and items designed to measure supplies loaded on one factor.

Five factor model: The same as three factor model except that items for dependent variables loaded on unique factors (job satisfaction, organizational identification, and turnover intention)

Eleven factor model: The same as thirteen model except that items for dependent variables loaded on one factor.

*** $p < .001$.

Test of hypotheses, Table 3 reports the results from polynomial regression analyses. For all five characteristics for all three dependent variables the equations were significant explaining variance with R^2 values ranging from .08 to .24.

Test of N-S fit. Hypothesis 1a predicted that job satisfaction would be higher when supplies and needs were both high than when both were low. As can be seen in the column labeled $(b_1 + b_2)$, for four (variety, feedback, identity, and significance) of five job characteristics, the response surfaces were positively sloped along the $N = S$ line consistent with H1a. For autonomy, there was significant negative curvature of the slope, as seen in the column labeled $(b_3 + b_4 + b_5)$. Further inspection revealed that at high levels of fit, job satisfaction leveled off and did not decline within the range of the data. Thus, Hypothesis 1a was partially supported. Likewise, Hypothesis 1b predicted that organizational identification would increase when supplies and needs were equal and increased from low to high levels. Results largely paralleled those for job satisfaction; for four (variety, feedback, identity, and significance) of five characteristics, the surfaces exhibited positive slopes along the $N = S$ line, as shown by significant and the positive values under the column labeled $(b_1 + b_2)$. For autonomy, the quantity (b_1+b_2) was positive but non-significant, and the response surface was significantly and negatively curved along the $N = S$ line. Inspection of the response surface for autonomy showed negative curvilinearity along the fit line indicating that organizational identification declined at high levels of fit. I conclude partial support (variety, feedback, identity, and significance) for Hypothesis 1b.

Hypothesis 1c predicted that turnover intention would decrease when supplies and needs were equal and increased from low to high levels. Results showed that four (variety, feedback, identity, and significance) of five characteristics produced the negative and significant slopes

along the $N = S$ line, as seen in the column labeled $(b_1 + b_2)$. For autonomy, the value $(b_1 + b_2)$ was negative but not significant, and the value $(b_3 + b_4 + b_5)$ was significantly positive. Further inspection of the response surface showed the positive curvature along the $N = S$ line, but turnover intention was lower at high levels of fit. Thus, Hypothesis 1c was fully supported.

Test of N-S misfit. Hypothesis 2a predicted that job satisfaction would increase as supplied job characteristics increased toward the needed amount and decreased as supplied job characteristics exceed the needed amount. For all five characteristics, the surfaces exhibited the predicted inverted U-shape along the misfit line as shown by the negative values for curvature in the column labeled $(b_3 - b_4 + b_5)$ and the non-significant values for slope in the column labeled $(b_1 - b_2)$. Thus, Hypothesis 2a was fully supported.

Hypothesis 2b predicted that organizational identification would increase as supplied job characteristics increased toward the needed amount and decreased as supplied job characteristics exceeded the needed amount. For four of five characteristics (variety, feedback, identity, and significance) organizational identification declined when supplied job characteristics deviated from the needed amount. The shape of the response surface along the misfit line exhibited an inverted U-shape, as evidenced by significant and negative quantities for curvature in the column labeled $(b_3 - b_4 + b_5)$. However, for autonomy, the downward curvature along the $N = -S$ line was non-significant. Thus, Hypothesis 2b was partially supported.

Hypothesis 2c predicted that turnover intention would increase when supplied job characteristics are either deficient of or in excess of the needed amount. Four of five characteristics (variety, feedback, identity, and significance) produced the significant and positive values under the column labeled $(b_3 - b_4 + b_5)$, predicted by Hypothesis 2c. However, for autonomy, the value $(b_3 - b_4 + b_5)$ was non-significant. Hypothesis 2c was partially supported.

Table 3. Study 1: Results from Quadratic Regressions of Work Attitudes on Supplies and Needs for Job Characteristics

Dependent Variable=Job Satisfaction	Results from quadratic regression						Fit		Misfit	
	S	N	S ²	SN	N ²	R ²	Shape along N = S Line		Shape along N = -S line	
							b ₁ + b ₂	b ₃ + b ₄ + b ₅	b ₁ - b ₂	b ₃ - b ₄ + b ₅
Variety	.12	.42***	-.08*	.24***	-.20***	.21***	.54***	-.04	-.29	-.52***
Autonomy	.07	.10	-.05	.11	-.17**	.09***	.17	-.11*	-.03	-.34**
Feedback	.23*	.27*	-.00	.08	-.17**	.16***	.50***	-.09	-.04	-.25*
Identity	.12	.30**	-.06	.18**	-.03	.14***	.43***	.09	-.18	-.26*
Significance	.26**	.23*	.08	.16**	-.11*	.18***	.49***	.06	-.04	-.26***

Dependent Variable=Organizational Identification	Results from quadratic regression						Fit		Misfit	
	S	N	S ²	SN	N ²	R ²	Shape along N = S Line		Shape along N = -S line	
							b ₁ + b ₂	b ₃ + b ₄ + b ₅	b ₁ - b ₂	b ₃ - b ₄ + b ₅
Variety	.28**	.30***	-.06	.13*	-.13*	.21***	.58***	-.06	-.03	-.32**
Autonomy	.16	.00	-.08*	.03*	-.13*	.13***	.15	-.17***	.16	-.23
Feedback	.19	.22	-.03	.11	-.11*	.16***	.41***	-.03	-.03	-.24*
Identity	.10	.42***	-.07	.12*	-.08	.16***	.51***	-.03	-.32	-.27*
Significance	.12	.43***	-.08*	.24***	-.13**	.24***	.55***	.03	-.31	-.44***

Dependent Variable=Turnover Intention	Results from quadratic regression						Fit		Misfit	
	S	N	S ²	SN	N ²	R ²	Shape along N = S Line		Shape along N = -S line	
							b ₁ + b ₂	b ₃ + b ₄ + b ₅	b ₁ - b ₂	b ₃ - b ₄ + b ₅
Variety	-.13	-.36***	.07	-.23***	.15**	.18***	-.49***	.01	.23	.45***
Autonomy	-.25*	.10	.01	.02	.11**	.08***	-.15	.13**	-.25	.09
Feedback	-.10	-.23	.05	-.15*	.10*	.15***	-.32***	.00	.13	.30**
Identity	-.03	-.40***	.06	-.17**	.03	.11***	-.43***	-.07	.37*	.26*
Significance	-.13	-.23*	.04	-.19***	.11*	.13***	-.36***	-.04	.10	.34***

Note: N ranged from 323 to 326. For columns labeled S, N, S², SN, and N², table entries are unstandardized regression coefficients for equations with all predictors entered simultaneously (S=Supplies, N=Needs). The column labeled R² indicates the variance explained by the five quadratic terms. Column labeled b₁ - b₂ and b₃ - b₄ + b₅ represent the slope of each surface along the N = -S line, and columns labeled b₁ + b₂ and b₃ + b₄ + b₅ represent the slope of each surface along the N = S line (b₁, b₂, b₃, b₄, and b₅ are the coefficients on S, N, S², SN, and N², respectively)

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Illustrative surfaces. The estimated regression coefficients from Table 3 were used to plot the three dimensional response surfaces for each job characteristic with job satisfaction, with organizational identification, and with turnover intention. These relationships are illustrated in Figure 1, Figure 2, and Figure 3, respectively. For variety, Figure 1a, the surface is negatively curved along the misfit line, indicating that job satisfaction decreased as supplied variety deviated from needed variety in either direction. Job satisfaction was also higher when supplied variety and needed variety were both high than when both were low, as evidenced by the positive slope along the N = S line. The surface for job satisfaction and variety resembles the graphs for autonomy (1b), feedback (1c), identity (1d), and significance (1e) and for the graphs of organizational identification with variety (2a), feedback (2c), identity (2d), and significance (2e).

For autonomy and organizational identification (2b), the negative curvature of the surface along the misfit line was non-significant. Consistent with my predictions, the response surface was positively sloped along the fit line indicating that organizational identification increased as fit increased from low to high.

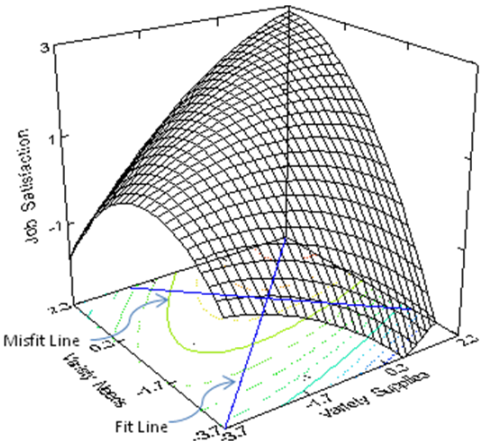
For variety and turnover intention (3a), the surface was positively curved along the misfit line, indicating that turnover intention increased as supplied variety deviated from needed variety in either direction. Turnover intention was also lower when supplied variety and needed variety were both high than when both were low, evidenced by the negative slope along the fit line. The foregoing description applies to the graphs for feedback (3c), identity (3d), and significance (3e).

For autonomy and turnover intention (3b), the effects of deficiency and excess were non-significant and the surface was negatively sloped along the misfit line showing that excess of these characteristics were associated with decreased turnover intent. The response surface was

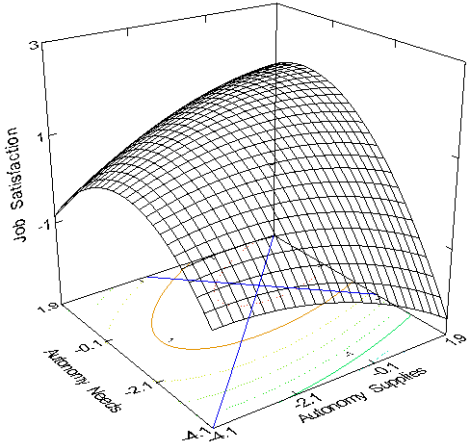
curvilinear along the fit line indicating that turnover intention decreased as fit increased from low to high, but increased at high levels.

Figure1. Study 1: Surfaces Relating Job Satisfaction to Supplies and Needs for Job Characteristics

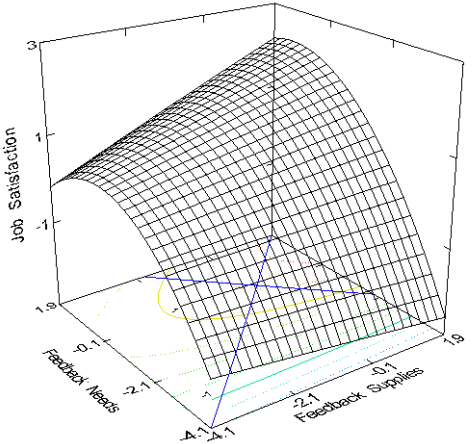
a. Variety



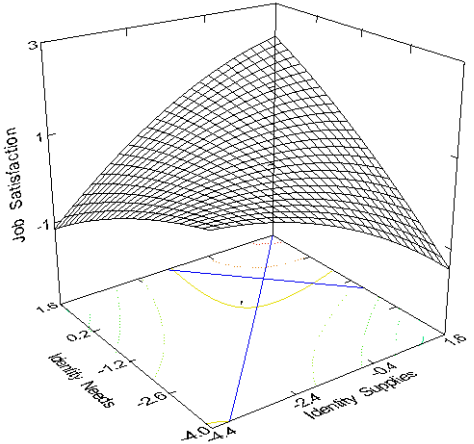
b. Autonomy



c. Feedback



d. Identity



e. Significance

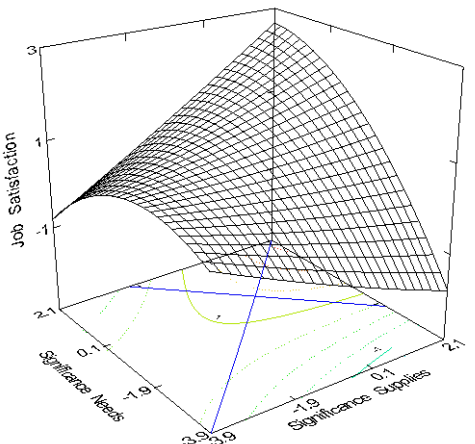
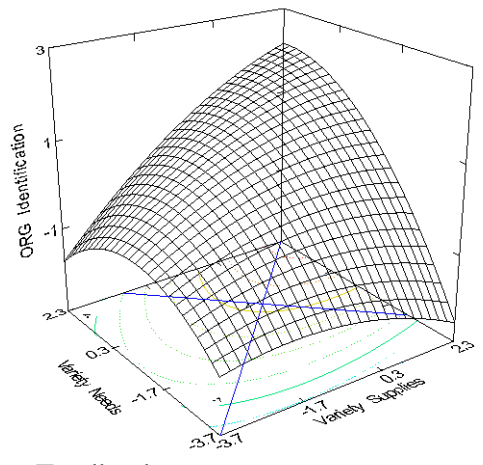
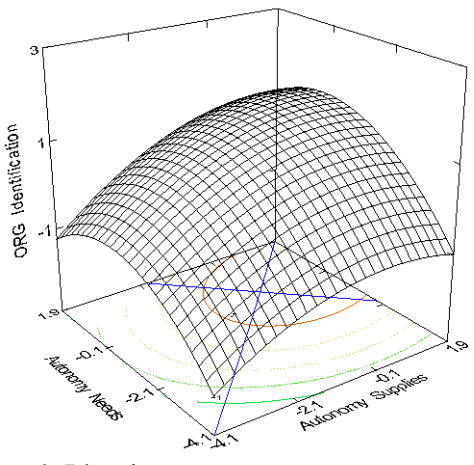


Figure 2. Study 1: Surfaces Relating Organizational Identification to Supplies and Needs for Job Characteristics

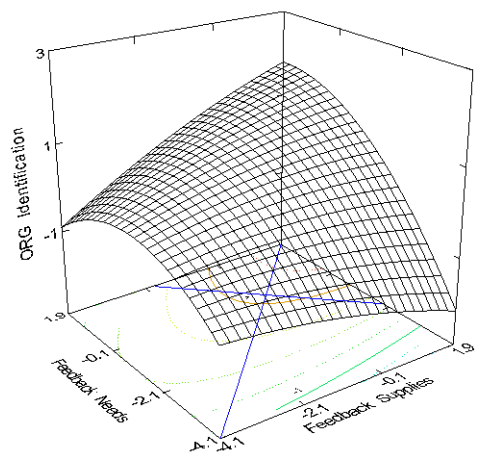
a. Variety



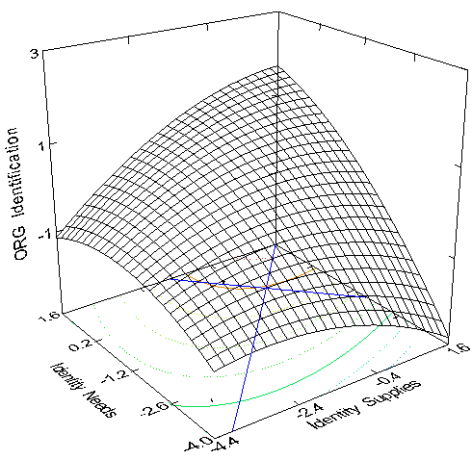
b. Autonomy



c. Feedback



d. Identity



e. Significance

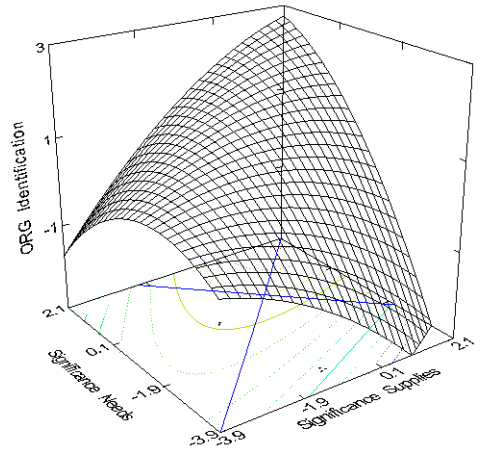
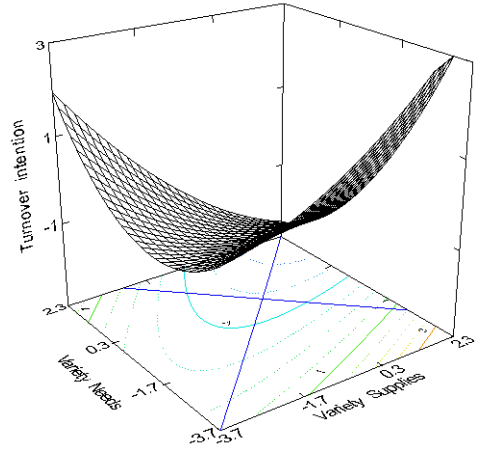
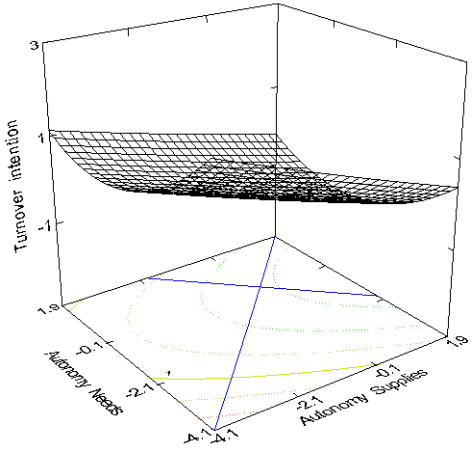


Figure 3. Study 1: Surfaces Relating Turnover Intention to Supplies and Needs for Job Characteristics

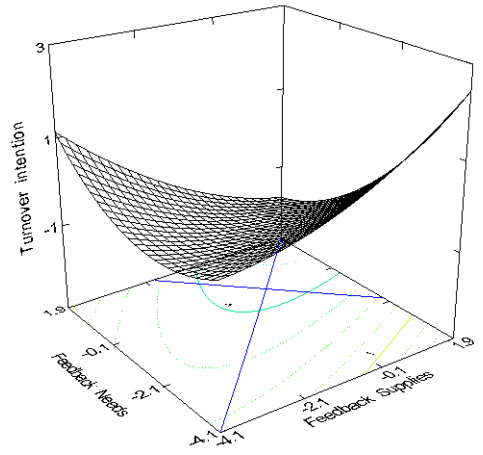
a. Variety



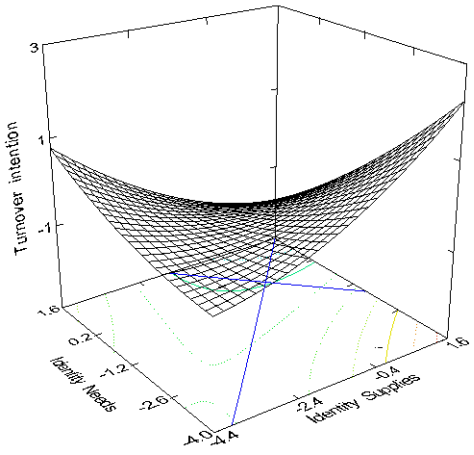
b. Autonomy



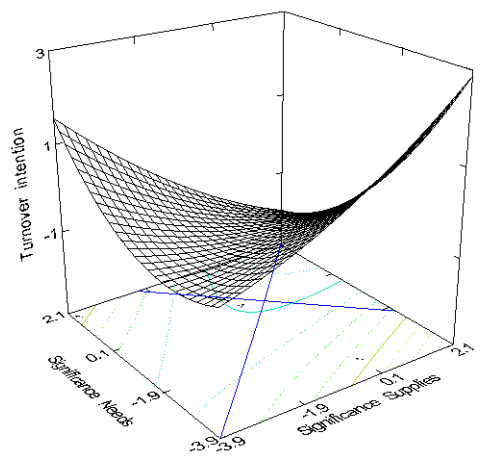
c. Feedback



d. Identity



e. Significance



Discussion and Transition to Study 2

Prior research has predicted, but not found, that the fit between the five characteristics of the Job Characteristics Model (variety, autonomy, feedback, identity, and significance) and growth needs strength (GNS) generates positive work attitudes. Study 1 revisited the idea of fit in the JCM by incorporating thinking from person-environment fit theory. Specifically, I adopted the needs-supplies view in P-E fit theory and conceptualized the five job characteristics as organizational supplies which could be matched to employees' need for each one of these characteristics. I reasoned that job satisfaction and organizational identification would be highest, and turnover intent would be lowest, when supplied job characteristics matched the amount employees' needed. Work attitudes would be more negative when supplied characteristics were deficient of, or exceeded, the needed amount.

For four of five job characteristics (variety, feedback, identify and significance), job satisfaction and organizational identification were higher when supplies and needs were both high than when both were low. Turnover intention was lower when supplies and needs were both high than when both were low. These findings were consistent with the reasoning that high amounts of fit on supplies and needs may be associated with tangible and intangible benefits (Harrison, 1978) and create feelings of accomplishment ultimately enhancing self-worth and competence (Mento et al., 1992).

Misfit between employees' needed and supplied job characteristics were associated with more negative work attitudes. For all five characteristics, needed and supplied amounts were related to job satisfaction with an inverted U shaped relationship, and four of five characteristics (variety, feedback, identity, and significance) exhibited the same relationship with organizational identification. Likewise, for four of five characteristics needed and supplied amounts had a

positive U shaped relationship with turnover intention. For each one of these relationships, work attitudes were negative when supplies were deficient of needed amounts and when supplies exceeded needs.

The results were predicted with reasoning suggesting that deficient and excess supplies hindered employees from meaningful experiences, responsibility, and knowledge of results in their job and prevented employees from fulfilling basic human needs for autonomy, competency, and relatedness. I argued that deficient supplies decreased opportunities for meaningfulness, responsibility and knowledge of results and for fulfilling needs (Kristof-Brown et al., 2005). I also argued that excess supplies would lead to negative work attitudes based upon the logic that excess amounts of work characteristics can actually have destructive influences, by increasing complexity or role ambiguity, generating exhaustion, stress or uncertainty, ultimately hindering need fulfillment (Edwards & Harrison, 1993; Yang, Che, & Spector, 2008).

Study 1 may have two limitations. First, I proposed that critical psychological states (CPS) and psychological need fulfillment served as mediating mechanisms but these mechanisms were not tested. Second, because all measures were self-report, it was not possible to ascertain whether employees' attitudes actually influenced their performance. Study 2 will examine CPS and psychological need fulfillment as distinct mediation mechanisms and include two types of job performance (task performance and organizational citizenship behavior, OCB) as distal outcomes in the model. The JCM theory predicted that match or fit between job characteristics needed and supplied would serve as self-rewards enhancing intrinsic motivation for employees, and thereby increase task performance. Indeed, fit between job characteristics needed and supplied may be seen as favorable experiences for employees, so they may reciprocate these

opportunities with not only favorable attitudes toward their job but also performance beyond their job description (OCB).

Critical psychological states (CPS) as mediation mechanisms. CPS refer to the extent to which employees perceive meaningfulness, have responsibility for their work, and have knowledge of results from their jobs (Hackman & Lawler, 1971). In the JCM, each job characteristic may enhance one of three CPS dimensions. For instance, increasing variety, identity, and significance may foster perceived meaningfulness. Increasing autonomy may enhance experienced responsibility for the work and increasing feedback enhances knowledge of results from the job (Hackman & Oldham, 1976). High amounts of CPS may be self-rewarding, improving their work attitudes and perhaps employees' job performance. In mediation terms, job characteristics may enhance job performance indirectly through one or more of these three CPS dimensions.

Previous studies have found no support for CPS dimensions as mediators in the model, but have not examined whether CPS mediated the *joint* effects of job characteristics and employees' needs on work outcomes (Renn & Vandenberg, 1996). Other studies included GNS as a proxy of employees' needs in their model, but tested moderating effects of GNS and mediating effects of CPS separately (Fried & Ferris, 1987). These examinations were inconsistent with the theoretical prediction that matches between high amounts of job characteristics and high growth needs would indirectly enhance work performance through CPS.

When supplied amount of task variety, identity, and significance matches what an employee needs, employees may perceive their job is meaningful. When task variety equals needed amount, employees perform various tasks they need (Blau, 1987; Hill, 1975). The match between task identity needed and supplied enables employees to engage in the process of work

they need. (Gabriel et al., 2011; Pinder, 2008). When task significance matches needed amount, employees may have the opportunities to foster positive benefits for the organization or its stakeholders (Campion et al., 1993). Accordingly, they may perceive that their job is worthwhile and meaningful (Hackman and Lawler, 1971; Hackman and Oldham, 1976). The match between autonomy needed and supplied allows employees to better control work tasks and procedures (Ashford & Black, 1996; Rothbaum et al., 1982), increasing perceived responsibility for the job. When the supplied amount of feedback matches what an employee needs, the employee may have the right amount of information about the quality of his or her work (Kluger & DeNisi, 1996), understanding the results from the job. Taken together, the match between job characteristics needed and supplied may increase CPS.

As the original model predicted, increasing CPS may be related to intrinsic motivation, improving job attitudes and job performance. Although CPS may be a key mechanism that transfer the effects of the job characteristics needed and supplied on job performance, CPS may only partially mediate the effects of N-S fit (and misfit) on job performance. First, empirical studies had not supported the full mediation effects of CPS on the relationships. Second, other motivational constructs (e.g., self-rewards, intrinsic motivation, self-determination) may serve as mediators the relationships in the model. Third, P-E fit theory also stipulates a number of constructs that mediated the effects of needs-supplies fit on work outcomes. Accordingly, I suggest that CPS will partially mediate relationships between job characteristics needed and supplied with job performance.

Hypothesis 3: CPS will partially mediate the relationship between job characteristics needed and supplied with job performance (task performance and OCB).

(a) Perceived meaningfulness will partially mediate the relationship between the needed and supplied amount of variety, identity, and significance with job performance (task performance and OCB)

(b) Experienced responsibility for the work will partially mediate the relationship between autonomy needed and supplied with job performance (task performance and OCB).

(c) Knowledge of results from the job will partially mediate the relationship between feedback needed and supplied with job performance (task performance and OCB).

Study 2

Methods.

Sample and procedure. The data were collected by using the snowball sampling and social network. I contacted my colleagues, family, and friends in South Korea and asked them to send out the flyer to the possible subjects. I posted the online flyer on my Facebook and Twitter. The online flyer included the message to encourage prospective participants to send out the online flyers to the eligible subjects. Two hundred forty six individuals agreed with the participations, and among them, a total of 170 participants completed surveys. Participants received a ten-dollar gift card in return for the completing surveys containing questions regarding job characteristics needed and supplied and CPS. At the conclusion of the survey, the subjects were asked to send out the flyers to their supervisor to complete the supervisor survey. The supervisor survey contained questions regarding task performance and OCBs of the subordinate and other questions for Essay 3. They also received \$10 store gift card in return for completing surveys. A total of 156 matched cases were collected.

All surveys were written in Korean, and I adopted the back-translation procedures to confirm that the translations were adequate (Brislin, 1970).

Respondents averaged 34.5 years old, and 72 % of the sample was male. Average employment tenure was 6.5 years and the average number of years working with their supervisor was 3.8 years. 85% of respondents had a bachelor's degree or higher. Their occupations included management and business (41.4%), sales and marketing (39.1%), other professionals (6.1%).

Measures. Job characteristics needed and supplied were measured with the same items described in Study 1. CPS was measured with Hackman and Oldham's (1985) items (See Appendix). I slightly revised the original items to clarify the meaning of each item. Task performance was measured with 3 items adopted from Van Dyne and LePine (1998). OCBs were measured with 14 items from Allen and Lee (2002)

Testing mediation effects. To estimate the mediation effects, I used the path-analysis with block variables (Edwards & Cable, 2009; Heise, 1972; Igra, 1979).

To test the hypotheses, I estimated the equation as below. To estimate direct and indirect effects of job characteristics needed and received on distal outcomes, I used the following Equations

$$C = a_0 + a_1S + a_2N + a_3S^2 + a_4SN + a_5N^2 e. \quad (4)$$

Equation 4 entails the basic five terms in Equation 1—again, C refers to CPS (meaningfulness, responsibility, and knowledge of results). To estimate the path from job characteristics to CPS, I created a block variable, which is the weighed linear composite of the five quadratic terms S, N, S², SN, and N². The weights are given by multiplying the estimated coefficients for the corresponding variables. Then C was regressed on the block variable, and the standard coefficient on the block variable represent a path coefficient (i.e., a path in a mediation

model) of job characteristics needed and received.). The standard coefficient of C in Equation 3 serves the path from C to job performance (i.e., b path in a mediation model).

Direct effects of job characteristics needed and supplied on job performance were examined by estimating the following equation.

$$Y = b_0 + b_1C + b_2S + b_3N + b_4 S^2 + b_5 SN + b_6 N^2C + e. \quad (5)$$

Y represent job performance (in-role performance, OCBI, and OCBOI created the new block variable from the weight composition of the five quadratic terms S, N, S², SN, and N² in Equation 5 and regressed job performance on C and the new block variable. The standard coefficient on the new block variable represents direct effects (i.e., c path in a mediation model) of job characteristics needed and received. The indirect effects of job characteristics needed and received was computed by multiplying the path coefficient from job characteristics to CPS and the path coefficient from CPS to job performance (i.e., a * b) I tested the significance of the indirect effects by using bias-corrected confidence intervals from 10,000 bootstrapped samples (Efron & Tibshirani, 1994; Shrout & Bolger, 2002)

Missing data. For missing values, I replaced missing values with the within-person's mean of the corresponding variable, retaining 5 responses (Roth, Switzer III, & Switzer, 1999).

Screening for outliers and influential observation. Outliers were dropped from the analysis if they were screened out by the same procedures described in Study 1; one or two cases were discarded per each equation (Fox, 1991).

Results.

Descriptive statistics. Table 4 shows the means, standard deviations, and correlations among variables. Correlations between variables ranged from -.11 to .65, and reliabilities ranged from .69 to .92. I checked the scatter plot of job characteristic needed and supplied for each of

five characteristics. For variety and autonomy, the data points were distributed on either side of $N = S$ line. However, for feedback, identity, and significant, I found that most of data points were distributed on deficiency (where $N > S$) or fit (where $N = S$) area. Only handful of respondents had scores on the right side of the fit line ($N < S$). This finding suggests that I should cautiously interpret the results from the models for feedback, identity, and significance.

Table 4. Study 2: Descriptive Statistics, Reliability Estimates, and Correlations among Measures

Measures	<i>Mean</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
<u>Dependent Variables</u>											
1. in-role performance	1.50	.72	(.89)								
2. OCBI	1.11	.67	.62	(.91)							
3. OCBO	.95	.66	.56	.65	(.92)						
<u>Mediation Variables</u>											
4. Meaningfulness	1.60	.80	.06	.18	.20	(.92)					
5. Responsibility	1.24	.68	.07	.18	.19	.40	(.77)				
6. Knowledge	1.42	.82	.18	.31	.30	.48	.36	(.86)			
<u>Supplies</u>											
7. Variety	4.29	1.01	.03	-.03	.11	.27	.17	.22	(.86)		
8. Autonomy	4.42	1.04	.17	.13	.17	.25	.18	.29	.43	(.84)	
9. Feedback	4.06	1.04	.21	.10	.15	.22	.10	.28	.46	.47	(.88)
10. Identity	4.63	1.12	.15	.10	.16	.23	.08	.26	.33	.47	.60
11. Significance	4.29	.96	.11	.03	.11	.31	.21	.31	.44	.35	.61
<u>Needs</u>											
12. Variety	4.52	.76	-.05	-.01	-.08	.31	.11	.11	.39	.24	.25
13. Autonomy	4.88	.90	-.08	-.06	.05	.24	.04	.32	.17	.59	.29
14. Feedback	5.00	.94	.12	.03	.03	.12	-.02	.21	.28	.26	.32
15. Identity	5.32	.87	.05	.09	.13	.31	.14	.31	.28	.27	.29
16. Significance	4.92	.86	-.03	-.02	-.07	.26	.06	.15	.16	.12	.21

Note: $N=170$. Reliability estimates (Cronbach's alpha) are reported along the diagonal. Correlations greater than .20 or less than -.20 were statistically significant ($p<.05$)

Table 4: continued.

Measures	10	11	12	13	14	15	16
10. Identity	(.89)						
11. Significance	.45	(.89)					
12. Variety	.25	.21	(.69)				
13. Autonomy	.42	.17	.40	(.86)			
14. Feedback	.29	.18	.29	.46	(.87)		
15. Identity	.57	.32	.32	.45	.56	(.88)	
16. Significance	.18	.44	.43	.29	.36	.36	(.83)

Note: $N=163$. Reliability estimates (Cronbach's alpha) are reported along the diagonal. Correlations greater than .17 were statistically significant ($p<.05$)

Confirmatory factor analysis. I conducted CFA on the measures responded by the subordinates, verifying the validity of the measures. As can be seen in Table 5, the hypothesized 13-factor model showed an adequate fit to the data, and the fit indices suggests that the model could be improved ($\chi^2 = (782), N=170) = 1601.133, p < .001$, Comparative Fit Index (CFI) = .84; Root-Mean Square Error of Approximation (RMSEA) = .08; Standardized Root Mean Residual (SRMR)=.05). I compared the hypothesized model with alternatives, and found that the hypothesized model was superior to the alternatives. The three-factor model provide the significant worse fit to the data ($\Delta \chi^2 (175) = 1596.748, p < .001$). Furthermore, the difference of CFI between the hypothesized model and the alternatives exceeded .01. Thus, the hypothesized model was examined to test the hypotheses.

Table 5. Study 2: Confirmatory Factor Analysis

Model	χ^2	df	CFI	RMSEA	SRMR	$\Delta \chi^2$	Δ CFI
Thirteen factor model	1601.13	903	.84	.08	.06		
One factor	4055.35	860	.37	.15	.13	2454.22***	.47
Three factor model	3197.88	857	.53	.13	.10	1596.75***	.31
Eleven factor model	1883.05	805	.78	.09	.07	281.92***	.06

Note: N=170, CFI= comparative fit index; RMSEA= root-mean-square error of approximation; SRMR= Standardized Root Mean Square.

Thirteen factor model: hypothesized measurement model.

One factor model: all items loaded on a common factor

Three factor model: items for mediation variables loaded on one factor, items designed to measure needs loaded on one factor, and items designed to measure supplies loaded on one factor.

Eleven factor model: The same as thirteen model except that items for mediation variables loaded on one factor.

*** $p < .001$.

Test of hypotheses. Table 6 and 7 show the results from the polynomial regression analyses.

As can be seen in the Table 6, there were significant relationships between job characteristics needed and supplied with CPS. However, the shapes of surfaces were not as expected. There were non-significant relationships between job characteristics mifit and CPS. For four of five characteristics, the shapes of the surface along the fit line were significant and positive.

The effects of job characteristics needed and received on job performance were non-significant, however, I tested the mediation effects of CPS in that there were significant indirect effects of job characteristics needed and supplied on job performance throughout CPS (Table 7). Hypothesis 3a predicted that meaningfulness might partially mediate the effects of variety, identity, and significance on job performance. For variety, the direct effect was significant when the dependent variable was OCBO. Also There was significant indirect effects of variety needed and received on OCBI and OCBO ($ab = .09, .09$, respectively). For identity and significant, meaningfulness did not predict job performance. Considering there findings, I concluded that Hypothesis 3a was not supported.

For autonomy and feedback, the relationship between CPS (responsibility and knowledge of results) and job performance was non-significant. This results did not meet condition to examine the mediation effects (i.e., b path should be presented). Thus, Hypothesis 3b and 3c were not supported.

Table 6. Study 2: Results from Quadratic Regressions of Critical Psychological States on Supplies and Needs for Job Characteristics

	Results from quadratic regression						Fit		Misfit	
	S	N	S ²	SN	N ²	R ²	Shape along N = S Line b ₁ + b ₂	b ₃ + b ₄ + b ₅	Shape along N = -S line b ₁ - b ₂	b ₃ - b ₄ + b ₅
<u>Dependent Variable = Meaningfulness</u>										
Variety	.20*	.13	.00	-.18	.32*	.16***	.33*	.13	.06	.49**
Identity	.13	.21	.06	-.03	-.03	.11***	.34***	.01	-.07	.06
Significance	.18	.12	-.01	.06	.07	.12***	.30**	.12	.06	-.01
<u>Dependent Variable = Responsibility</u>										
Autonomy	.06	.02	-.03	.15	-.03	.07*	.08	.08	.04	-.22
<u>Dependent Variable = Knowledge of Results</u>										
Feedback	.37**	.02	.12**	-.03	.00	.13***	.40***	.09	.35*	.15

Note: *N* ranged from 164 to 166. For columns labeled S, N, S², SN, and N², table entries are unstandardized regression coefficients for equations with all predictors entered simultaneously (S=Supplies, N=Needs). The column labeled R² indicates the variance explained by the five quadratic terms. Column labeled b₁ - b₂ and b₃ - b₄ + b₅ represent the slope of each surface along the N = -S line, and columns labeled b₁ + b₂ and b₃ + b₄ + b₅ represent the slope of each surface along the N = S line (b₁, b₂, b₃, b₄, and b₅ are the coefficients on S, N, S², SN, and N², respectively)

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

Table 7. Study 2: Results from Quadratic Regressions of Job Performance on Supplies and Needs for Job Characteristics

Dependent Variable=In-Role Performance	Results from quadratic regression						Fit		Misfit	
	S	N	S ²	SN	N ²	R ²	Shape along N = S Line		Shape along N = -S line	
							b ₁ + b ₂	b ₃ + b ₄ + b ₅	b ₁ - b ₂	b ₃ - b ₄ + b ₅
Variety	.01	-.01	.00	.06	-.12	.02	.00	-.06	.03	-.17
Autonomy	.14	-.01	.00	.01	-.10	.05	.13	-.09	.15	-.10
Feedback	.11	.09	.03	.07	-.01	.06	.21	-.08	.02	-.05
Identity	.23	-.09	.07	.04	.08	.12**	.13	.18**	.32	.11
Significance	.15	-.12	-.03	-.03	.06	.04	.03	.01	.27	.05

Dependent Variable=OCBI	Results from quadratic regression						Fit		Misfit	
	S	N	S ²	SN	N ²	R ²	Shape along N = S Line		Shape along N = -S line	
							b ₁ + b ₂	b ₃ + b ₄ + b ₅	b ₁ - b ₂	b ₃ - b ₄ + b ₅
Variety	.00	-.05	.04	.07	.06	.03	-.06	.17	.05	.03
Autonomy	.22*	-.19	.05	-.02	-.08	.07	.04	-.05	.41*	-.05
Feedback	.02	.14	.04	.10	-.10	.04	.15	.04	-.12	-.16
Identity	.24	-.09	.10*	-.04	.02	.07	.15*	.08	.33	.17
Significance	.06	-.09	.05	.07	.09	.06	-.03	.21**	.15	.06

Dependent Variable=OCBO	Results from quadratic regression						Fit		Misfit	
	S	N	S ²	SN	N ²	R ²	Shape along N = S Line		Shape along N = -S line	
							b ₁ + b ₂	b ₃ + b ₄ + b ₅	b ₁ - b ₂	b ₃ - b ₄ + b ₅
Variety	.07	-.06	.01	.10	-.08	.04	.02	.03	.13	-.16
Autonomy	.09	.01	-.02	.08	-.12	.05	.11	-.06	.08	-.23
Feedback	.10	.05	.04	.06	-.05	.04	.15	.05	.06	-.07
Identity	.30*	-.09	.15**	-.06	-.02	.10**	.21**	.06	.40**	.18
Significance	.11	-.12	-.03	.07	.05	.06	-.01	.10**	.24	-.05**

Note: *N* ranged from 164 to 166. For columns labeled S, N, S², SN, and N², table entries are unstandardized regression coefficients for equations with all predictors entered simultaneously (S=Supplies, N=Needs). The column labeled R² indicates the variance explained by the five quadratic terms. Column labeled b₁ - b₂ and b₃ - b₄ + b₅ represent the slope of each surface along the N = -S line, and columns labeled b₁ + b₂ and b₃ + b₄ + b₅ represent the slope of each surface along the N = S line (b₁, b₂, b₃, b₄, and b₅ are the coefficients on S, N, S², SN, and N², respectively)

* *p* < .05.

** *p* < .01.

*** *p* < .001.

Table 8. Study 2: Path Estimates for Examinations of Relationships between the JCM and Job Performance Mediated by CPS

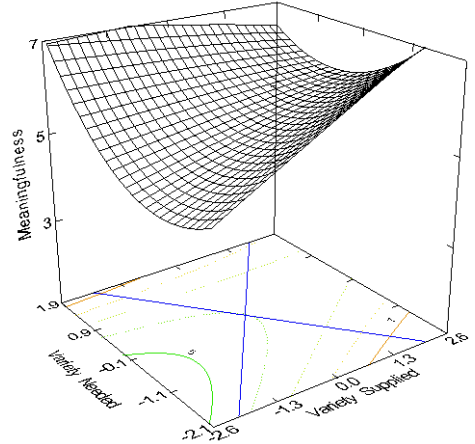
Variable	JC to CPS (a path)	CPS to DV (b path)	Direct effect of JC to DV (c path)	Indirect effect of JC to DV (a*b)
Variety				
In-role performance	.40 ^{***}	.05	.08	.02
OCBI	.40 ^{***}	.21 [*]	.14	.09 ^{**}
OCBO	.40 ^{***}	.23 [*]	.19 [*]	.09 ^{**}
Autonomy				
In-role performance	.23 ^{***}	.03	.22 ^{**}	.01
OCBI	.23 ^{***}	.13	.25 ^{**}	.03
OCBO	.23 ^{***}	.15	.22	.04
Feedback				
In-role performance	.37 ^{***}	.10	.09	.04
OCBI	.37 ^{***}	.29 ^{***}	.15	.11 ^{**}
OCBO	.37 ^{***}	.27 ^{**}	.09	.10 ^{**}
Identity				
In-role performance	.33 ^{***}	.02	.23 [*]	.01
OCBI	.33 ^{***}	.14	.14	.05
OCBO	.33 ^{***}	.13	.32 ^{***}	.04
Significance				
In-role performance	.22 ^{***}	.01	.13	.00
OCBI	.22 ^{***}	.13	.15	.03
OCBO	.22 ^{***}	.16	.17 [*]	.04

Note: All values are standardized coefficients. JC = black variables calculated from the polynomial regression equations. CPS = critical psychological states, DV = dependent variables, OCBI = organizational citizenship behaviors target to individuals, OCBO = organizational citizenship behaviors target to the organization.

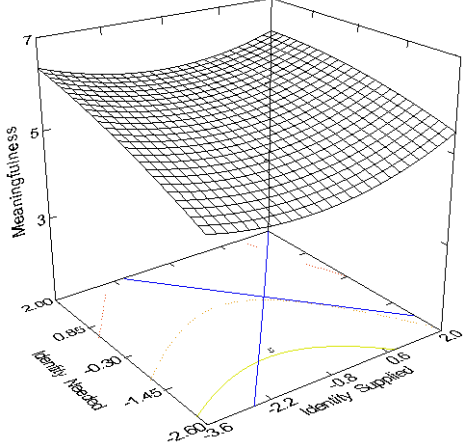
* $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 4. Study 2: Surfaces Relating Critical Psychological States to Supplies and Needs for Job Characteristics

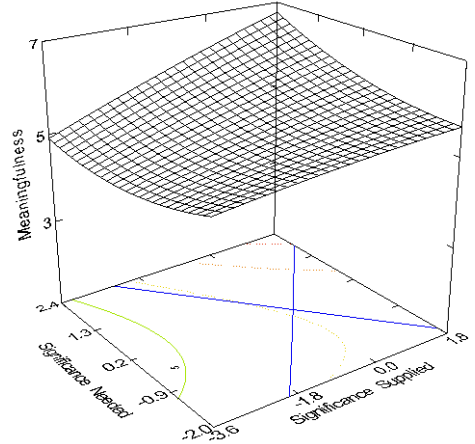
a. Variety to Meaningfulness



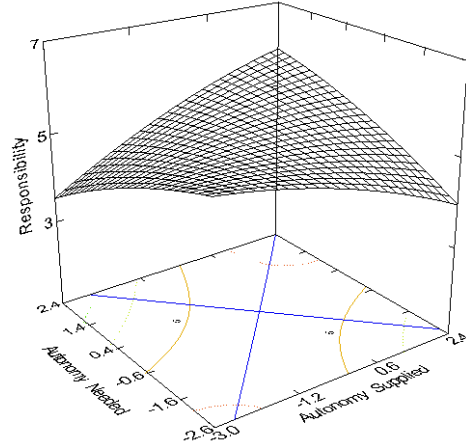
b. Autonomy to Responsibility



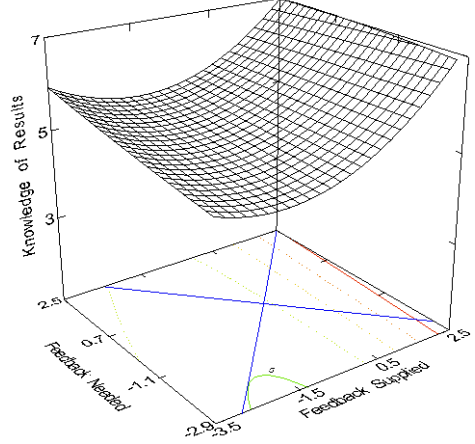
c. Feedback to Knowledge of Results



d. Identity to Meaningfulness



e. Significance to Meaningfulness



General Discussion

Prior research has predicted, but not found, the fit between the five characteristics of the Job Characteristics Model (variety, autonomy, feedback, identity, and significance) and growth needs strength (GNS) generates positive work attitudes. Specifically, I adopted the needs-supplies view in P-E fit theory which allowed us to conceptualize the five job characteristics as organizational supplies which could be matched to employees' need for each one of these characteristics. I reasoned that work attitudes and job performance would be highest, when supplied job characteristics matched the amount employees' needed. The reasoning also led me to predict that that work attitudes and job performance would be more negative when supplied characteristics were deficient of, or exceeded, the needed amount.

In Study 1, the results largely supported the predictions. For four of five job characteristics (variety, feedback, identify and significance), job satisfaction and organizational identification were higher when supplies and needs were both high than when both were low. Turnover intention was lower when supplies and needs were both high than when both were low. These findings were consistent with the reasoning that high amounts of fit on supplies and needs may yield associated with tangible and intangible benefits (Harrison, 1978) and create feelings of accomplishment ultimately enhancing self-worth and competence (Mento et al., 1992).

The results showed that misfit between employees' needed and supplied job characteristics were associated with more negative work attitudes all five characteristics needed and supplied amounts were related to job satisfaction with an inverted U shaped relationship, and four of five characteristics (variety, feedback, identity, and significance) exhibited the same relationship with organizational identification. Likewise, for four of five characteristics needed and supplied amounts had a positive U shaped relationship with turnover intention. For each one

of these relationships, work attitudes were negative when supplies were deficient of needed amounts and when supplies exceeded needs.

Despite the theoretical reasoning, none of five job characteristics needed and received was related to job performance. Indeed, the results from Study 2 did not support the prediction that CPS theoretically mediated the relationship between job characteristics and job performance (Hackman & Lawler, 1971; Hackman & Oldham, 1980). The results may not be surprising because this finding is consistent with the earlier findings that job characteristics and CPS were strongly related to attitudinal outcomes (i.e., job satisfaction) in comparison to job performance. For instance, Fried and Ferris (1987) found that CPS was unrelated to job performance, and they questioned the validity of CPS as an important mediator in the JCM. Aligned with their questions, my findings suggested need for more research on the JCM.

This essay contributes to theoretical treatments of attitudes and motivation using the JCM. The results demonstrate that there is a role for fit in the JCM but that it is essential to apply an approach that captures both the absolute amount of each characteristic needed by an employee and to compare that amount to what is supplied. By applying a P-E fit approach with polynomial regression and response surface analysis, the results will lend support to the notion that work attitudes are optimized only when employees' individualized needs fit with supplied job characteristics (Kulik et al., 1987).

The finding that employees' attitudes and motivation are not a monotonic function of the five core job characteristics contributes to managerial practice. First, managers should seek to determine employees' needs for each characteristic and to design jobs to provide supplies within range of employees' optimal amount. Second, managers should more carefully assess fit in recruiting and selection decisions. Redesigning jobs to increase variety, autonomy, feedback,

identity, and significance, as originally recommended in the JCM (Fried & Ferris, 1987; Hackman & Oldham, 1980; Lawler et al., 1973), is not likely to be effective unless employees' needs for these characteristics are considered in tandem with job redesign efforts. Third, both managers and employees may be aware of the degree of fit across dimensions and attempt to reassign employees for preferred task assignments and job opportunities.

Limitations. This essay also has several limitations. First, all measures in Study 1 were self-report, which may raise concerns about common method variance. However, I conducted a two wave survey design and two different methods by measuring the independent variables with a paper and pencil survey and the dependent variables with an online survey. Moreover, common method variance is less likely to lead to nonlinear relationships (Evans, 1985; Siemson, Roth, & Oliveira, 2010). Second, the sample in Study 1 was relatively young and included a large number of part-time workers, perhaps limiting generalization of the results to the general working population which includes older and more managerial-level employees. Third, respondents in Study 2 have scores on the deficiency area, but rarely have scores on the excess area. This may be partially due to the nature of sampling. Snow ball sampling is a kind of convenient sampling, and it was impossible to have heterogeneity sampling for Study 2. Individuals may leave their organizations if they have job-related opportunities more than they want, and these individuals may not be captured by the snow-ball sampling.

Future Research Directions. This study suggests several future research directions. First, my predictions were not consistently supported for autonomy, and future research might figure out how and why N-S fit (and misfit) for autonomy was not strongly related to work attitudes. Perhaps there are additional variables which moderate the relationship that might be investigated in future work.

Despite a previous study which indicates that organization-based attitudes may not be strongly related to N-S fit (Cable & DeRue, 2002), my results showed that N-S fit on job characteristics was significantly related to organizational identification. However, I did not directly test any possible explanatory mechanism, so future research might investigate causal mediating mechanisms explaining why job characteristics are related to work attitudes and ultimately to employees' job performance.

This study viewed the five job characteristics as organizational supplies when an alternate view might consider characteristics of a job as presenting demands that employees must fulfill. Future research might conceptualize the fit between job characteristics and individual differences with the other type of supplementary fit, demands-abilities (D-A) fit. D-A fit occurs when employees compare how much ability they possess relative to what is demanded by the job (Edwards & Harrison, 1993).

Since the JCM was developed, workplaces and occupations may have changed in fundamental ways (See Morgeson and Humphrey, 2006). Future research should extend the JCM by investigating additional dimensions of job characteristics and perhaps other relevant work outcomes (Humphrey et al., 2007). Such research might ensure that the JCM remains a current and valid approach to understanding employees' attitudes and motivation in the workplace.

Summary and Conclusion. As previous studies of the JCM suggested, fit between job characteristics needed and supplied may influence on employees' attitudes. This essay used a P-E fit approach to re-conceptualize the idea of fit in the JCM as the match between each job characteristic and employees' perceptions of how much of each characteristic they need. The joint effect of how much employees' needed and how much was supplied of the five job characteristics was tested with a polynomial regression approach. These results showed that

work attitudes varied as fit on needed and supplied job characteristics increased from low to high amounts. Moreover, the results showed that work attitudes declined as supplies deviated from needed amounts toward deficiency and toward excess. These results suggest that when each distinct characteristic available in the job is considered relative to employees' needs for that characteristic the utility of the JCM is enhanced.

III. ESSAY 2: PERSON-ENVIRONMENT FIT MODEL OF VISIONARY LEADERSHIP AND WORK ATTITUDES: THE ROLE OF EMPLOYEES' NEEDS

ABSTRACT

This essay applies person-environment fit (P-E) theory to visionary leadership theory and examines the joint effect of the visionary leadership employees' receive and the amount of visionary leadership employees' need on their work attitudes. Core self-evaluation (CSE) was predicted to moderate the relationship between visionary leadership needed and received on work attitudes. Results from 381 employees showed that work attitudes were most positive when visionary leadership received matched what each employee needed and attitudes became more negative as visionary leadership received was less than or more than the needed amount. Work attitudes were more positive when visionary leadership needed and received were both high than when both were low. Furthermore, CSE moderated the relationship such that employees' low in CSE suffered more from deficiency and excess but employees' high in CSE were apparently successful in buffering themselves against the negative effects of deficient and excess leadership. These results demonstrated that applying a P-E fit perspective further explains the effects of visionary leadership on employees' work attitudes. Practical implications include training managers to supply visionary leadership in amounts that fit what their employees need.

Keywords:

Visionary leadership, person-environment fit theory, core self-evaluation, job satisfaction, trust in the supervisor, polynomial regression and response surface analysis

PERSON-ENVIRONMENT FIT MODEL OF VISIONARY LEADERSHIP AND WORK
ATTITUDES: THE ROLE OF EMPLOYEES' NEEDS

Visionary leaders articulate an ambitious vision of the future for the organization and communicate this vision to employees (Kirkpatrick & Locke, 1996; Shamir, House, & Arthur, 1993). As a critical component of charismatic and transformational leadership, visionary leadership has been positively associated with employee work attitudes, performance, and organizational outcomes (Awamleh & Gardner, 1999; Greer, Homan, De Hoogh, & Den Hartog, 2012; Jung & Avolio, 2000; Sosik & Dinger, 2007). Employees with visionary leaders are more likely to be motivated to pursue challenging goals and persist in their efforts making visionary leadership a powerful force in achieving performance objectives (Berson, 2001; Hunt, Boal, & Dodge, 1999).

Despite the benefits, visionary leadership may present ambitious challenges for employees and require their exceptional persistence and intense effort. As visionary leaders articulate an ambitious vision and provide challenging goals, employees are more motivated to pursue their assigned goals (Shamir et al., 1993). However, as visionary leadership increases to very high levels, employees faced with increasingly demanding goals may begin to feel stressed, overwhelmed, frustrated, and exhausted (Conger, 1999; De Hoogh & Den Hartog, 2009). Thus, both too little and too much visionary leadership may lead to negative outcomes. I suggest that employees' outcomes may be most positive when the amount of visionary leadership they need matches the amount their leader provides.

Although leadership theory has long viewed the effectiveness of leadership as a consequence of processes that involve characteristics of both leaders and their employees (House, 1971; Kerr & Jermier, 1978; Shamir et al., 1993), leadership may be most effective only when

employees accept leadership (Erez & Earley, 1993). Previous research has found that a range of personality and personal differences influence employees' responses to leadership (Ehrhart & Klein, 2001; Zhu, Avolio, & Walumbwa, 2009). I suggest employees' acceptance of leadership may be determined, at least in part, by their personal preferences for leadership (Dvir & Shamir, 2003; Ehrhart & Klein, 2001) and that employees' response to leadership may become more positive when visionary leadership is presented in amounts that match the amount that what employees need.

This idea of match between employees' need for visionary leadership and how much the leader provides corresponds with the precepts of Person-Environment (P-E) fit theory. P-E fit theory stipulates that employees' work attitudes are determined jointly by what employees' need and what amount is supplied by the environment (Edwards, 2008; Harrison, 1978; Kristof, 1996). According to P-E fit theory, outcomes are maximized when what is needed is equal to what is supplied (Muchinsky & Monahan, 1987). I conceptualize visionary leadership as an organizational supply that an employee receives, suggesting that both visionary leadership needed and received jointly determine employees' work attitudes.

In this essay, I examine how much visionary leadership employees need and how much visionary leadership employees receive. I develop theoretical reasoning to explain why employees' work attitudes are more positive when employees receive the amount of visionary leadership they need, and why employees' work attitudes are more negative when visionary leadership is less than the needed amount (*deficiency*) and when it exceeds (*excess*) the needed amount. I also theorize why, when needed equals received amount, work attitudes become more positive as the absolute amount of visionary leadership needed and received increases.

I reason that employees' respond differently to deficient and excess visionary leadership depending on their own view of themselves (Judge, Locke, & Durham, 1997). Specifically, when employees view themselves as effective and capable they may cope more effectively when visionary leadership is either less than or more than they need (Kammeyer-Mueller, Judge, & Scott, 2009). In contrast, employees who view themselves as less effective and less capable may especially thrive when they receive the visionary leadership they need but suffer the negative effects of deficient and excess leadership more acutely.

I focus attention on core self-evaluations (CSE) as a critical moderator of the joint effect of visionary leadership needed and received (Judge, Locke, Durham, & Kluger, 1998). CSE refers to the extent that employees believe they have the capability to perform tasks successfully, regard themselves in high esteem, and have a strong sense of control (Judge et al., 1997). High CSE implies that employees are less influenced by the external environment and perceive and interpret their own situation more positively (Erez & Judge, 2001). I expect that when CSE is low, employees may be especially responsive to the amount of visionary leadership they receive (Howell & Shamir, 2005) and be substantially influenced by both deficiency and excess. However, when CSE is high, employees may be able to buffer themselves from negative influences of deficiency and excess visionary leadership and maintain their positive attitudes toward their job and their leaders (De Hoogh & Den Hartog, 2009).

This reasoning is tested in a diverse sample of employees who reported both how much visionary leadership they needed (i.e., visionary leadership needed) and how much visionary leadership they have received from their direct supervisor (i.e., visionary leadership received). This essay demonstrates that applying P-E fit theory to visionary leadership may better explain

the effectiveness of visionary leadership in organizations. The results have implications for visionary leadership theory and have practical implications for managers in organizations.

Theory Development

Visionary leadership. Visionary Leadership refers to leaders' behavior that expresses ideal images of the organization and transfers meaning and purpose for the organization to employees. Visionary leaders may challenge their followers with high performance expectations and encourage employees to attain desirable objectives for the organization. Visionary leadership may also convey leaders' values and beliefs to employees. Accordingly, visionary leadership may foster employees' identification with leaders, enhance employees' confidence in their work activities, and perhaps empower employees' performance.

Because visionary leadership provides employees with challenging objectives, it appears similar to leaders' goal-setting behaviors. However, goal-setting behaviors attempt to provide specific and achievable goals to employees (e.g., attaining 20% increase in total sales), whereas visionary leadership transfers desirable results and future images of the organization through abstract messages (e.g., becoming an industry leader in service and innovation). Thus, while expressing challenging and ambitious goals for the organization, visionary leadership may also create vague and idealized objectives for employees. From this perspective, visionary leadership at very high level may negatively affect employees because (a) challenging goals are stressful for employees, (b) vague and abstract messages may seem unrealistic, and (c) leaders' values and beliefs may supplant employees' self-identity decreasing their efficacy (Conger, 1999)

Linking Visionary Leadership to P-E Fit Theory. In P-E fit theory, supplies may represent not only tangible resources but also the opportunities to achieve such tangible resources (Cable & Edwards, 2004). The opportunities can be presented in jobs, tasks, and

supervisors and leaders' treatment of their employees (Kristof, 1996). According to P-E fit theory, employees' need for an organizational supply is represented by their desire or preference for an amount of the corresponding supply (Edwards, 1991). In the P-E fit framework, employees may perceive visionary leadership as presenting opportunities to attain ambitious goals related the positive future of the organization, and they may need visionary leadership to realize such opportunities. Although employees' subjective perceptions of needs and supplies may not accurately correspond to observers' assessment of their needs and supplies (e.g., their supervisor's assessment), employees' attitudes, and ultimately their behavior, is based on their perceptions of subjective needs and supplies (Harrison, 1978).

Responses to visionary leadership vary from employee to employee because employees vary in traits, personality, work experiences, job skills, and the specific circumstances of their own job (Benjamin & Flynn, 2006; Edwards, 1991; Kristof, 1996; Stam, van Knippenberg, & Wisse, 2010). These varied differences and characteristics may influence employees' views of how much visionary leadership they need from their supervisor (Dvir & Shamir, 2003; Ehrhart & Klein, 2001). For instance, achievement-oriented employees may need visionary leadership because they need challenging and ambitious goals for fulfilling their need for achievement (Ehrhart & Klein, 2001). However, employees who have high skills and cognitive abilities may not need visionary leadership because they can successfully perform their tasks and maintain their positive attitudes without leaders' additional encouragement and guidance (Podsakoff, MacKenzie, & Bommer, 1996a). Employees in virtual teams may need leaders' visionary behaviors, such as articulating a vision and communication more than employees in the face-to-face teams because the virtual team structure may increase uncertainty and communication difficulties between members (Purvanova & Bono, 2009). Employees may have a variety of

reasons why they need visionary leadership, and there is ample reason to believe they vary in how much visionary leadership they need.

I test the effects of visionary leadership fit and misfit on job satisfaction and trust in the supervisor. Job satisfaction refers to a pleasurable, positive feelings from employees' cognitive and affective evaluation of their jobs (Locke, 1976). Job satisfaction has been found to be a proximal attitude predicting favorable organizational outcomes (Podsakoff et al., 2000; Riketta, 2008). Trust in the supervisor refers to the extent to which employees are willing to be vulnerable to their supervisor (Mayer, Davis, & Schoorman, 1995; Mayer & Gavin, 2005). Employees who trust their supervisor are more likely to contribute higher in-role and extra-role performance (Dirks & Ferrin, 2002; Jung & Avolio, 2000). Moreover, trust in the supervisor is frequently used to indicate the quality of the social exchange relationship employees have with their supervisors, which is also associated with job performance (Colquitt, LePine, Piccolo, Zapata, & Rich, 2012; Colquitt, Scott, & LePine, 2007; Schoorman, Mayer, & Davis, 2007). These two outcomes have been investigated in empirical studies in leadership facilitating comparison of prior results to the results from this model.

Hypotheses

Visionary leadership misfit.

Deficiency and job satisfaction. When the amount of visionary leadership needed deviates from the amount of visionary leadership received, there is misfit. However, misfit may occur when the amount of visionary leadership received is less than the amount of visionary leadership needed (*deficiency*) or when the amount of visionary leadership received is greater than the amount of visionary leadership needed (*excess*). I argue that visionary leadership misfit will be negatively related to employees' work attitudes but that the reasons vary depending on

whether deficiency or excess is considered and whether the outcome involved is job satisfaction or trust in the supervisor.

When the amount of visionary leadership is deficient of needed amounts, employees may be deprived of numerous benefits. The essence of visionary leadership is that leaders are able to convey an inspiring vision of the organization's future to employees and can translate this future into ambitious goals that may bring a sense of purpose that makes employees' jobs meaningful (Arvey, Dewhirst, & Brown, 1978; Umstot, Mitchell, & Bell, 1978). When visionary leadership is deficient, employees may have fewer and less challenging goals and view their work as less purposeful or meaningful (Ivancevich, 1977; Latham & Yukl, 1976). The lack of goals and purpose should be associated with lower self-esteem and self-efficacy, thereby reducing job satisfaction (Howell & Shamir, 2005; Kirkpatrick & Locke, 1996; Yukl, 1999). As employees perceive that their supervisors have provided them with more visionary leadership, they should have greater clarity about the purpose of the organization and about their own role in helping the organization realize its vision (Shamir et al., 1993) and be more satisfied with their job.

Excess and job satisfaction. As visionary leadership exceeds the needed amount, employees may be faced with a vision that is especially ambitious and accompanied by increasingly challenging goals. Employees may fear that these challenging goals create expectations for their performance that are perhaps unreasonable, threatening their ability to perform well, interfering with their sense of achievement and leading to anxiety and frustration (Locke & Latham, 1990). Excess visionary leadership implies that employees have to apply leaders' ideas and values to their task strategies more than their own ideas. This experience may supplant self-efficacy and decrease self-worth. Likewise, as visionary leadership exceeds what employees need, employees may have fewer opportunities to determine their own goals and task

strategies, interfering with autonomy. These frustrating experiences may lead employees to question their own abilities and should be associated with lower job satisfaction.

Hypothesis 4a: Job satisfaction will increase as visionary leadership received increases from deficient to needed amount and will decrease as visionary leadership received exceeds needed amount.

Deficiency and trust in the supervisor. Deficient visionary leadership may be perceived by employees as indicating that their supervisors lack the ability to articulate ambitious goals in the context of a compelling and inspirational vision for the organization. When employees lack confidence in their leaders' ability to facilitate personal needs for achievement and for esteem (Kirkpatrick & Locke, 1996), deficient visionary leadership may imply that leaders are perhaps not attending to employees' needs and may not be counted on to act benevolently on behalf of employees' interests (Burke, Sims, Lazzara, & Salas, 2007). Deficient visionary leadership may also deprive employees of opportunities to understand what leaders value and reduce value congruence which is associated with reduced integrity and trust (Brown & Treviño, 2009). In short, deficient visionary leadership may trigger employees' doubts about the perceived ability, benevolence, and integrity of their leaders, which may lead to low trust in the supervisor.

As leaders increase their visionary leadership, employees may better understand their organization's vision and their own performance goals perhaps increasing their perceptions of their leaders' capability and willingness to support them. As visionary leadership increases, leaders' more frequent communication with employees regarding the organizations' future, goals, and performance creates opportunities for strengthening the social exchange relationship, increasing trust in the supervisor (Colquitt et al., 2012; Wang, Law, Hackett, Wang, & Chen, 2005).

Excess and trust in the supervisor. Visionary leadership in excess of needed amounts may communicate vague ideals, or challenging goals that are unrealistic and unattainable, and employees may conclude that their leaders lack the capabilities necessary to guide them (Hackman, 2002). Excess visionary leadership may overwhelm employees with leaders' ideas and values to pursue challenging goals, and employees may have fewer opportunities to express and use their personal vision and goals. This experience may lead employees to think that their leaders disrespect employees' desires and needs, decreasing the perception of benevolence. Excess visionary leadership may also imply that leaders' values supersede or conflict with employees values. Accordingly, they may view their leaders lack in integrity, leading to low perceptions of trustworthiness (McAllister, 1995). For these reasons, excess visionary leadership should be associated with decreasing trust in the supervisor.

Hypothesis 5a: Trust in the supervisor will increase as visionary leadership received increases from deficient to needed amount and will decrease as visionary leadership received exceeds needed amount.

Visionary leadership fit

Fit and job satisfaction. When the amount of visionary leadership received matches the amount of visionary leadership needed, there is fit. In the condition of fit, employees may be able to envision the future of the organization, align their individual goals with organizational goals and have clarity about their roles, which should be associated with favorable attitudes (Kohles, Bligh, & Carsten, 2012). However, fit between visionary leadership needed and received can occur when the absolute values of both are low or when both are high. I argue that job satisfaction and trust in the supervisor will increase as fit increases from low to high

When visionary leadership needed and received are both low employees may want and be presented with less inspiring goals, perhaps entailing less challenge and less meaningfulness (Umstot et al., 1978). Accordingly, their attitudes, while positive, may not be as positive as in conditions of fit at high amounts. When employees need and have visionary leadership at high amounts, it suggests that not only do employees have, but also prefer to have, challenging and ambitious goals. This may lead to sense of accomplishment as employees attain their goals, fueling feelings of self-worth, satisfaction, and self-esteem, increasing their satisfaction with the job (Edwards & Rothbard, 1999).

Hypothesis 4b: When visionary leadership received is equal to visionary leadership needed, job satisfaction will increase as the absolute levels of visionary leadership received and needed increase.

Fit and trust in the supervisor. When fit for visionary leadership is low, indicating that employees both need and have received low amounts of visionary leadership, employees may be communicating less with their leaders, and perhaps have fewer opportunities to engage in a high quality social exchange relationship. This condition may not be associated with distrust but may be related to a relatively lower level of trust. However, as fit increases to high, employees who need and receive higher amounts of visionary leadership can benefit from the increased opportunities presented by visionary leadership. These employees may especially identify with ambitious visions, may more proactively engage in goal related efforts, and may benefit from the higher quality social exchange relationship with leaders (Wang et al., 2005). For these reasons, trust in the supervisor should be higher when both visionary leadership needed and received are both high than when both are low.

Hypothesis 5b: When visionary leadership received is equal to visionary leadership needed, trust in the supervisor will increase as the absolute levels of visionary leadership received and needed increase.

Moderating effects of CSE. Both deficient and excess visionary leadership may be associated with lower job satisfaction and with lower trust in the supervisor, but CSE should moderate the effectiveness of visionary leadership. CSE captures a critical difference in how employees understand themselves and their environment (Judge, Bono, Erez, & Locke, 2005). Employees who are high in CSE may have confidence in their performance and in their ability to control the environment, maintaining more positive attitudes toward their jobs (Erez & Judge, 2001). Employees who vary in CSE may employ different coping mechanisms as they manage deficient and excess visionary leadership.

Misfit, CSE, and job satisfaction. When CSE is low, employees may be more susceptible to the influence of their leaders and more ‘malleable’ to visionary leadership (Howell & Shamir, 2005). Deficient visionary leadership provides fewer opportunities for identifying with leaders’ visions and goals. Employees who are low in CSE have fewer abilities to ameliorate these deficiencies for themselves; they are less able to proactively create meaningful work experiences for themselves and are likely to have lower job satisfaction. However, as visionary leadership increases, leaders communicate their visions, values, and faith in the positive future of the organization to these employees and enabling them to benefit from their leadership, increasing their job satisfaction. When visionary leadership is in excess of needed amounts, visionary leaders articulate ambitious and challenging goals at higher amounts. However, employees low in CSE have less confidence in their abilities and bring fewer personal resources to bear. For these reasons, they are also more likely to perceive challenging goals as burdensome and

frustrating (Judge, Bono, & Locke, 2000). The heavier demands of visionary leadership may threaten the self-esteem of employees low in CSE which is associated with lower job satisfaction (Orth, Robins, & Meier, 2009).

When CSE is high, employees are better able to establish and pursue challenging goals by themselves, create and find meaning in their job, and their job satisfaction tends to be higher (Judge et al., 2005). When visionary leadership is deficient, employees may not receive guidance from their leaders regarding performance and goals. However, employees high in CSE may make their own opportunities to establish goals and pursue their ambitions, and be better able to maintain higher levels of job satisfaction (Erez & Judge, 2001). As visionary leadership increases to needed amounts, leaders may assist employees high in CSE by presenting an encompassing vision of the future and by reinforcing challenging goals and high expectations, but employees high in CSE may be less influenced by visionary leadership than employees with low CSE. When visionary leadership exceeds needed amounts, high expectations and challenges are more than employees high in CSE need. However, these employees may have the confidence and ability to better manage the stress and be able to buffer themselves against negative effects induced by excess visionary leadership (Judge & Hurst, 2007). In short, employees with high CSE may cope with both deficient and excess visionary leadership more successfully and be able to sustain their higher level of job satisfaction.

Hypothesis 6: The negatively curved relationship between visionary leadership needed and received with job satisfaction will be more pronounced when CSE is low, and the curvature should be lessened when CSE is high.

Misfit, CSE, and trust in the supervisor. When visionary leadership is deficient, employees low in CSE may not trust their leader because employees in CSE more negatively

respond to unpredictable future of the organization (Kammeyer-Mueller et al., 2009). However, as visionary leadership increases, employees low in CSE may benefit more from leaders' visionary behavior than employees high in CSE do. Employees low in CSE may depend on their leader more and be more attuned to the integrity and ability of their leader compared with employees high in CSE. When visionary leadership is in excess, employees low in CSE may not trust their leader. As employees low in CSE face high levels of challenge and increased performance expectations they may be more likely to doubt their own abilities, and face increased stress and anxiety compared with employees high in CSE. Accordingly, employees low in CSE may experience more negative emotions regarding their leader and have less trust in their leader compared with high CSE employees.

When CSE is high, employees evaluate their external environment (e.g., their job and organization) more positively, implying that they maintain evaluations of their leader that are more positive as well. When visionary leadership is deficient, employees high in CSE may have fewer opportunities to communicate with their leaders, but they may be less affected by this deficiency because they rely less on their leaders, so their evaluations of their leaders' ability and benevolence does not suffer as much. As visionary leadership increases, employees with high CSE may trust their leader more. However, for employees high in CSE increasing visionary leadership may be less vital in their evaluation of their leader because trust in the supervisor may not substantially increase (Podsakoff et al., 1996b). When visionary leadership exceeds needed amounts, employees high in CSE face higher expectations and increased challenges greater than what they need and perhaps increasing frustration and stress. However, these employees may view this situation as an opportunity to enhance their capabilities and develop more positive

relationships with their leader, partially offsetting the negative effects of excess, with little effect on their trust in the supervisor

Hypothesis 7: The negatively curved relationship between visionary leadership needed and received with trust in the supervisor will be more pronounced when CSE is low, and the curvature should be lessened when CSE is high.

Methods

Sample and Procedure. I tested the hypotheses in a dataset used in the study by Lambert et al., (2012). This essay differs from their study in that I used visionary leadership needed and received as independent variables which were not used in the researchers. Job satisfaction and trust were used in the study of Schurer Lambert, Tepper, Carr, Holt, & Barelka (2012). The data were collected by a two-wave survey procedure with a panel from the StudyResponse Center at Syracuse University. 8000 panelists were randomly selected and they received emails recruiting participants who were full-time workers and reported to a supervisor in their workplace. The recruiting emails informed them that study participants had an opportunity to earn one of ten cash prizes worth fifty dollars in return for their participation. Nine hundred and forty nine eligible panelists responded within a twenty four period and agreed to participate in the study. At Time 1, the researchers sent them emails with the link to the online survey. One week later, the researchers sent a reminder to those who didn't complete the first survey, and 537 responses in total were collected by this procedure. Three weeks later, the researchers sent emails to the 537 panelists who participated in the first survey and invited them to complete the second survey. The researchers sent a reminder one week later, and in three weeks, 403 responses were collected and matched to respondents at Time 1.

Respondents' average age was forty years, and sixty-five percent of the sample was female. Averaged employment tenure was 7.2 years, and average years working with their supervisor were 4.1 years. More than 50 % of respondents had bachelor or above level degree. Their occupations included administrative and office support (20.8%), general managers (10.9%), sales associates (10.2%), and science and engineering professionals (9.1%), service work (7.4%).

Measures. At Time 1, visionary leadership needed and received, CSE, and demographic information were measured. At Time 2, job satisfaction and trust in the supervisor were measured.

Visionary leadership needed and received. Visionary leadership needed and received was measured with three items. The items were adapted from Podsakoff, MacKenzie, Moorman & Fetter (1990) and revised to capture the core elements of visionary leadership behavior. The items were "Transmitting a sense of mission," "Communicating a vision of the future," and "Providing a vision of where our unit is going." For each item, visionary leadership needed is measured by asking respondents how much of each behavior would be adequate for them, and visionary leadership received by asking how much each of behavior they received from their supervisor. Respondents used a response scale ranging from 1 = *Hardly any* to 7 = *A great amount*.

CSE. CSE was measured with the 12 items developed by Judge and Hurst (2007). The sample item is "I feel that I am a person of worth, on an equal basis with others." Six of twelve items were negatively worded and the researchers reversed them and aggregated all twelve items into a measure of CSE. The scale of the measure ranged from -3= strongly disagree to 3 = strongly agree, but I recoded scores from 1 to 7 for reporting purposes.

Dependent variables. Job satisfaction and trust in the supervisor were measured with the scale ranging from -3 = strongly disagree to 3= strongly agree, but I also recoded these scores to range from 1 to 7. Job satisfaction was measured with three items that capture overall job satisfaction (Edwards & Rothbard, 1999). Trust in the supervisor was measured with three items; “I trust my supervisor to look out for my best interests”, “My supervisor is trustworthy”, and “I can count on my supervisor to protect my interests.”

Analytic strategies. I tested hypotheses with polynomial regression analysis and response surface analysis (Edwards, 2002). Polynomial regression analysis estimates quadratic regression equations that include visionary leadership needed and received as the independent variables and the squared and product terms from these variables to capture possible moderation effects and curvilinear relationships. The base equation is

$$Y = b_0 + b_1R + b_2N + b_3R^2 + b_4RN + b_5N^2 + e \quad (6)$$

In Equation (6), R and N represent visionary leadership received and needed, respectively, and Y represents dependent variables (job satisfaction and trust in the supervisor, respectively). The estimated coefficients (b_0, b_1, \dots, b_5) from Eq. (6) were used to plot a response surface in three dimensions.

Hypotheses correspond to the features of the response surface at the point in the plane defined by visionary leadership needed and received. Hypothesis 4a and 5a predicted that the dependent variable will increase as visionary leadership received increases toward the needed amount and decrease as visionary leadership received exceeds the needed amount. Support for Hypothesis 5a and 6a can be concluded when the test of the slope and curvature of the surface indicates a null value for ($b_1 - b_2$) and a negative value of ($b_3 - b_4 + b_5$) respectively in Equation (6).

Hypothesis 4b and 5b predicted that the dependent variable will increase as the absolute level of fit between visionary leadership needed and received increases. To support these hypotheses, the response surface should be positively sloped along the $N = R$ line or the *fit* line on the plane. Hypothesis 5b and 6b will be supported when the $(b_1 + b_2)$ is positive and the $(b_3 + b_4 + b_5)$ is a null value in Equation 6.

Visionary leadership received and needed were grand-mean centered by subtracting the mean of their means to reduce the problem of multicollinearity and for easier interpretation (Aiken & West, 1991; Edwards, 2002).

Testing moderating effects. I examined the moderating effects of CSE on work attitudes by using hierarchical regression (Aiken & West, 1991; Cohen & Cohen, 1983; Edwards & Rothbard, 1999). To test the hypotheses, I estimated the equation as below.

$$Y = b_0 + b_1R + b_2N + b_3R^2 + b_4RN + b_5N^2 + b_6W + b_7WR + b_8WN + b_9WR^2 + b_{10}WRN + b_{11}WN^2 + e \quad (7)$$

Equation (7) entails the basic five terms in equation (6) and the product terms (the five terms multiplied by CSE, referring to W). Support for a moderating effect is inferred when the incremental R^2 of the set of these product terms is significant. H6 and H7 concern the shape of the surface along the misfit line at low and high values of CSE. After ascertaining that moderation is present, a simple slopes analysis is combined with response surface analysis. Equation 4 is rewritten at low and high values of W (when $W = 1SD$ for the high CSE condition and $W = -1SD$ for the low CSE condition). The slopes and curvatures of the surface along the misfit line are tested for correspondence to the hypothesis. Hypothesis 6 and Hypothesis 7 predict that the curvature along the misfit line will be more pronounced when W is low compared to when W high.

Equation (7) can be rewritten as follow.

$$\begin{aligned}
 Y &= b_0 + b_6W + b_1R + b_7WR + b_2N + b_8WN + b_3R^2 + b_9WR^2 + b_4RN + b_{10}WRN + b_5N^2 + \\
 &b_{11}WN^2 + e \\
 &= (b_0 + b_6W) + (b_1 + b_7W)R + (b_2 + b_8W)N + (b_3 + b_9W)R^2 + (b_4 + b_{10}W)RN + (b_5 + \\
 &b_{11}W)N^2 + e
 \end{aligned} \tag{8}$$

The simple surface along the misfit line can be examined by equating N to -R in Equation (8).

$$\begin{aligned}
 Y &= (b_0 + b_6W) + (b_1 + b_7W)R - (b_2 + b_8W)R + (b_3 + b_9W)R^2 - (b_4 + b_{10}W)R^2 + (b_5 + \\
 &b_{11}W)R^2 + e \\
 &= (b_0 + b_6W) + (b_1 + b_7W - b_2 - b_8W)R + (b_3 + b_9W - b_4 - b_{10}W + b_5 + b_{11}W)R^2 + e \\
 &= (b_0 + b_6W) + (b_1 + b_2 - b_7W - b_8W)R + (b_3 - b_4 + b_5 + b_9W - b_{10}W + b_{11}W)R^2 + e
 \end{aligned} \tag{9}$$

The curvature of the response surface along the misfit line, the quantity of $(b_3 - b_4 + b_5 + b_9W - b_{10}W + b_{11}W)$, when W is low will be compared to the curvature when W is high.

Missing data. I deleted responses with missing values in three-item measures; this procedure deleted 22 cases. For missing values on CSE, I replaced the missing value with the within-person's mean of CSE, retaining 10 responses (Rothbaum et al., 1982). Thus, I used 381 data points for my analysis.

Screening for outliers and influential observation. I screened each of the equations for multivariate outliers using studentized residuals, leverage, and Cook's D statistics (Fox, 1991). Observations were judged as outliers and dropped from the analysis if they exceeded the

minimum cutoff on all three criteria; four or fewer cases were discarded per each equation (Fox, 1991).

Results

Descriptive statistics. Table 9 indicates descriptive statistics, correlations, and reliability for all measures. The mean of visionary needed was higher than the mean of visionary received, corresponding to the expectation that employees may need visionary leadership more than they currently receive. Correlations between measures were .22 to .58. Reliabilities ranged from .88 to .97. Job satisfaction and trust in the supervisor were positively correlated with visionary leadership received and, to a lesser extent, with visionary leadership needed. Before testing hypotheses, I checked the scatter plot of visionary leadership needed and received, and it showed that the data was dispersed on either side of the $N = R$ line and was adequate for testing relationships (Edwards, 2002).

Table 9. Descriptive Statistics, Reliability Estimates, and Correlations among Measures

	<i>Mean</i>	<i>SD</i>	1	2	3	4	5
1. Job satisfaction	5.24	1.39	(.96)				
2. Trust in the supervisor	4.97	1.69	.58	(.97)			
3. CSE	4.87	.90	.43	.22	(.88)		
4. Visionary leadership received	4.31	1.63	.42	.52	.25	(.92)	
5. Visionary leadership needed	5.00	1.30	.26	.25	.23	.56	(.89)

$N = 381$. Cronbach alpha (reliability estimates) appear in parentheses along the diagonal. All correlations were significant at $p < .01$.

Confirmatory factor analysis. Table 10 shows results of the confirmatory factor analyses (CFA) assessing the dimensionality of the measures. The results of CFA showed that the five factor model had significant chi-square test ($\chi^2 = (242, N=381) = 1106.45, p < .001$) indicating that the model did not fit the data; alternative fit indices suggest that fit could be improved but was adequate (CFI=.89, and SRMR=.08, RMSEA =.10). Moreover, chi-square difference tests and the fit indices of other alternative models (CFI, SRMR and RMSEA) showed that the measurement model was superior to alternative models. The difference in fit between the hypothesized five factor model and three factor model (combining leadership items and dependent variables, and CSE) was significant ($\Delta\chi^2 (7, N=381) = 695.15, p < .001$). Furthermore, the change in the CFI between the measurement model and the alternative models exceeded .01, further supporting that the measurement model was superior to all alternative models (Cheung & Rensvold, 2002). Therefore, I used all four measures for estimating the quadratic equations.

Table 10. Confirmatory Factor Analysis

Model	χ^2	df	CFI	RMSEA	SRMR	$\Delta\chi^2$	Δ CFI
Five factor model	1106.45	242	.89	.10	.08		
Four factor	1283.54	246	.87	.11	.08	177.09***	.02
Three factor model	1801.60	249	.80	.13	.09	695.15***	.09
One factor model	4145.88	252	.50	.20	.20	3039.43***	.39

Note: N= 381, CFI= comparative fit index; RMSEA= root-mean-square error of approximation; SRMR= Standardized Root Mean Square.

Five factor model: hypothesized measurement model (job satisfaction, trust in the supervisor, CSE, visionary leadership needed, visionary leadership received).

Four factor model: the same as five factor model except that items for dependent variables loaded on one factor (dependent variable, CSE, visionary leadership needed, visionary leadership received).

Three factor model: the same as four factor model except that items for independent variables loaded on one factor (dependent variable, CSE, independent variable).

One factor model: all items loaded on a common factor.

*** $p < .001$.

Tests of hypotheses. Table 11 shows the results from the polynomial regression analyses. Hypothesis 4a predicted that job satisfaction would increase as visionary leadership received increased toward the needed amount and decreased as visionary leadership received exceed the needed amount. As can be seen in the column labeled ‘misfit’, the value for curvature ($b_3 - b_4 + b_5$) was negative ($-.20, p < .05$) and the value for ($b_1 - b_2$) was not different from zero ($-.09, N.S.$), indicating that the feature of the slope along the misfit line was an inverted U shape. Thus, Hypothesis 4a was supported.

Hypothesis 5a predicted that trust in the supervisor would increase as visionary leadership received increased toward the needed amount and decreased as visionary leadership received exceed the needed amount. The result was similar to that of Hypothesis 4a and showed significant and negative curvature ($b_3 - b_4 + b_5; -.46, p < .01$) and null value for the slope ($b_1 - b_2; .07, N.S.$). Thus, Hypothesis 5a was also supported.

Hypothesis 4b predicted that job satisfaction would be higher when visionary leadership needed and received were both high than when both were low. As can be seen in the column labeled ‘fit’, the quantity ($b_1 + b_2$) was significant and positive ($.40, p < .001$). The positive value for ($b_3 + b_4 + b_5$) was significant ($.07, p < .05$), indicating that job satisfaction increased at a higher rate as the absolute level of fit between visionary leadership needed and received. Further inspection revealed that job satisfaction began to ‘accelerate’ where both visionary leadership needed and received were high. Thus, I conclude that Hypothesis 4b was fully supported.

Hypothesis 5b predicted that trust in the supervisor would increase when visionary leadership needed and received were both high than when both were low. Results showed that the surfaces exhibited positive slope and null curvature along the fit line as predicted ($b_1 + b_2 = .47, p < .001; b_3 + b_4 + b_5 = -.05, N.S.$). Thus, Hypothesis 5b was supported.

Hypothesis 6 predicted that high CSE lessens the negative effects of visionary leadership misfit on job satisfaction. Hierarchical regression analysis showed that the incremental R^2 of the set of the product terms was significant ($\Delta R^2=.04$ $p<.001$) indicating that CSE moderated the relationship between needed and received for both satisfaction. In Table 12, when CSE was low the curvature of the surface was negative and significant but when CSE was high the curvature was non-significant. Thus, Hypothesis 6 was supported.

Hypothesis 7 predicted that the relationship between visionary leadership misfit and trust was stronger when CSE was low than when CSE was high. Hierarchical regression analysis indicated that incremental R^2 of the set for the multiplied terms was significant ($\Delta R^2=.02$ $p<.01$). As can be seen, when CSE was low the curvature of the surface was negative and significant. However, when CSE was high the negative curvature of the surface along the misfit line was non-significant fully supporting Hypothesis 7.

Table 11. Results from Quadratic Regressions of Work Attitudes on Visionary Leadership Needed and Received

	Results from quadratic regression						Misfit Line		Fit line	
	R	N	R ²	RN	N ²	R ²	Slope	Curvature	Slope	Curvature
	b ₁	b ₂	b ₃	b ₄	b ₅		(b ₁ - b ₂)	(b ₃ - b ₄ + b ₅)	(b ₁ + b ₂)	(b ₃ + b ₄ + b ₅)
Job Satisfaction	.14	.26**	-.04	.15***	-.03	.21***	-.12	-.23**	.40***	.07*
Trust in the Supervisor	.28**	.23*	-.14***	.16***	-.12*	.37***	-.05	-.41***	.52***	.10**

Note: $N =$ from 377 to 380. For columns labeled R, N, R², RN, and N², table entries are unstandardized regression coefficients for equations with all predictors entered simultaneously (R=Received, N=Needed). The column labeled R² indicates the variance explained by the five quadratic terms. Column labeled b₁ - b₂ and b₃ - b₄ + b₅ represent the slope of each surface along the N = -R line, and columns labeled b₁ + b₂ and b₃ + b₄ + b₅ represent the slope of each surface along the N = R line (b₁, b₂, b₃, b₄, and b₅ are the coefficients on R, N, R², RN, and N², respectively)

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

Table 12. Results from Quadratic Regressions of Work Attitudes on Visionary Leadership Needed and Received, and CSE

	I	R	N	R ²	RN	N ²	W	WR	WN	WR ²	WRN	WN ²	R ²	ΔR ²
	b ₀	b ₁	b ₂	b ₃	b ₄	b ₅	b ₆	b ₇	b ₈	b ₉	b ₁₀	b ₁₁		
Job Satisfaction	5.31 ^{***}	.12	.21 ^{**}	-.05	.14 ^{***}	-.05	.54 ^{***}						.35 ^{***}	
	5.33 ^{***}	.16 [*]	.24 ^{**}	-.03	.15 ^{***}	-.06	.60 ^{***}	.00	-.16	.04	-.08	.00	.38 ^{***}	.04 ^{***}
Trust in the Supervisor	5.35 ^{***}	.18 [*]	.26 ^{**}	-.14 ^{***}	.21 ^{***}	-.12 ^{**}	.27 [*]						.36 ^{***}	
	5.38 ^{***}	.25 ^{**}	.20 [*]	-.13 ^{***}	.17 ^{***}	-.11 [*]	.29 [*]	.19	-.31 [*]	.03	-.06	.09	.38 ^{***}	.02 [*]

Dependent Variable = Job Satisfaction

	Results from quadratic regression					Misfit Line		Fit line	
	R	N	R ²	RN	N ²	Slope	Curvature	Slope	Curvature
	(b ₁ +b ₇ W)	(b ₂ +b ₈ W)	(b ₃ +b ₉ W)	(b ₄ +b ₁₀ W)	(b ₅ +b ₁₁ W)	(b ₁ -b ₂ +b ₇ W-b ₈ W)	(b ₃ -b ₄ +b ₅ +b ₉ W-b ₁₀ W+b ₁₁ W)	(b ₁ +b ₂ +b ₇ W+b ₈ W)	(b ₃ +b ₄ +b ₅ +b ₉ W+b ₁₀ W+b ₁₁ W)
CSE = High	.16	.10	.01	.09	-.06	.58	-.14	.25 ^{***}	.03
CSE = Low	.16	.38 ^{***}	-.06	.22 ^{***}	-.06	-.22	-.34 ^{***}	.54 ^{***}	.11 ^{**}

Dependent Variable = Trust in the Supervisor

	Results from quadratic regression					Misfit Line		Fit line	
	R	N	R ²	RN	N ²	Slope	Curvature	Slope	Curvature
	(b ₁ +b ₇ W)	(b ₂ +b ₈ W)	(b ₃ +b ₉ W)	(b ₄ +b ₁₀ W)	(b ₅ +b ₁₁ W)	(b ₁ -b ₂ +b ₇ W-b ₈ W)	(b ₃ -b ₄ +b ₅ +b ₉ W-b ₁₀ W+b ₁₁ W)	(b ₁ +b ₂ +b ₇ W+b ₈ W)	(b ₃ +b ₄ +b ₅ +b ₉ W+b ₁₀ W+b ₁₁ W)
CSE = High	.42 ^{**}	-.08	-.11 [*]	.12	-.04	.50	-.26	.33 ^{***}	-.03 ^{**}
CSE = Low	.08	.47 ^{***}	-.15 ^{***}	.23 ^{***}	-.19 ^{**}	-.40	-.57 ^{***}	.55 ^{***}	-.11 [*]

Note: N = from 377 to 380. For columns labeled R, N, R², RN, N², W and five product terms, table entries are unstandardized regression coefficients for equations with all predictors entered simultaneously (I = Intercept, R=Received, N=Needed, W=CSE). b₀, b₁, b₂, b₃, ... ,and b₁₁ are the coefficients on I, R, N, R², RN, N², W, WR, WN, WR², WRN, WN² respectively. The column labeled R² indicates the variance explained by the 11 quadratic terms. ΔR² indicates the increment variance in a dependent variable by the five product terms (WR WN WR2 WRN WN2), controlling other terms. Column labeled (b₁+b₇W) (b₂+b₈W) (b₃+b₉W) and (b₄+b₁₀W) (b₅+b₁₁W) represent computed values for quadratic relationship. Column labeled (b₁-b₂+b₇W-b₈W) and (b₃-b₄+b₅+b₉W-b₁₀W+b₁₁W) represent the slope of each surface along the N = -R line, and columns labeled (b₁+b₂+b₇W+b₈W) and (b₃+b₄+b₅+b₉W+b₁₀W+b₁₁W) represent the slope of each surface along the N = R line.

* p < .05.

** p < .01.

*** p < .001.

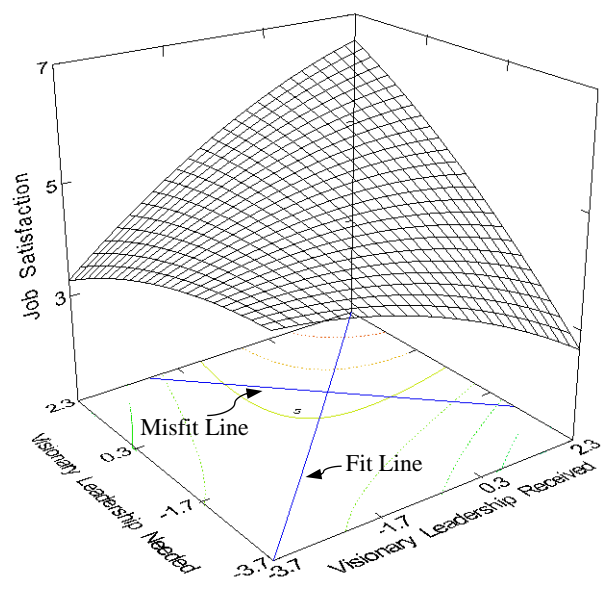
Illustrative surfaces. By using the estimated regression coefficients from Table 11 and Table 12, I plotted the response surfaces for visionary leadership needed and received with job satisfaction and with trust in the supervisor. These response surfaces are illustrated in Figure 6 and Figure 7 respectively.

In Figure 5a, the surface exhibited negative curvature along $N = -R$ line (misfit line) that moves from the left to the right corner on the plane of the graph. This feature indicates that job satisfaction increased as visionary leadership received increased toward the needed amount and decreased as visionary leadership received exceeded the needed amount. The $N = R$ line (fit line) begins at the near corner and proceeds to the far corner on the plane of the graph. As can be seen, job satisfaction increased as the absolute level of fit increased and increased at the higher rate after the absolute level of fit substantially exceeded the midpoint of both N and R . When CSE was low (Figure 5b), the negative curvature of the surface along the misfit line was steeper than when CSE was high (Figure 5c).

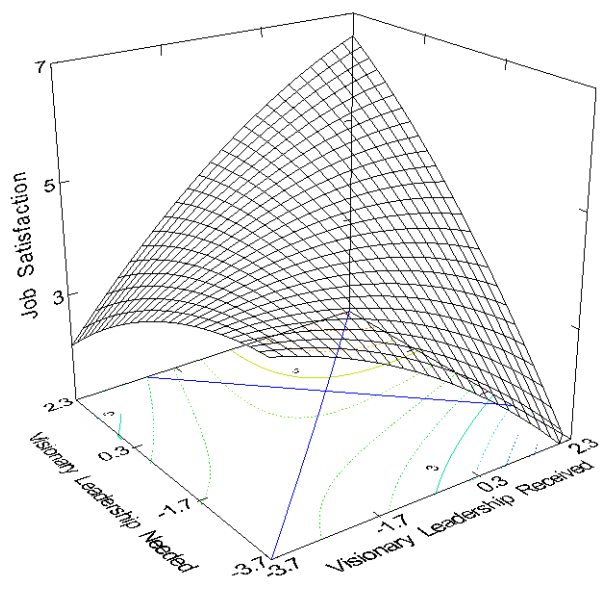
The feature of the response surface for trust in the supervisor resembles the surface for job satisfaction. As can be seen in Figure 6a, the surface was negatively curved along the misfit line, indicating that trust in the supervisor decreased as visionary leadership received was deficient of and exceeded the needed amount. The surface along the fit line was positively sloped, indicating that trust in the supervisor increased as the absolute level of fit increased from low to high. Furthermore, when CSE was low (Figure 6b), the negative curvature of the slope was steeper than when CSE was high (Figure 6c).

Figure 5. Surfaces Relating Job Satisfaction to Visionary Leadership Needed and Received

a. CSE = Mean



b. CSE = Low



c. CSE = High

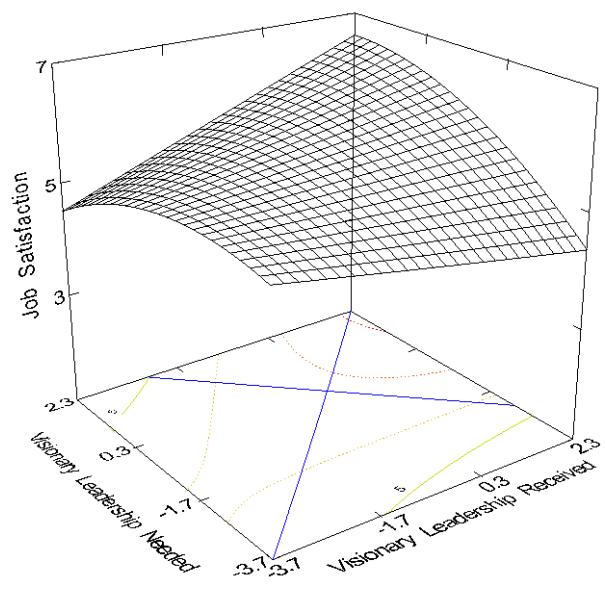
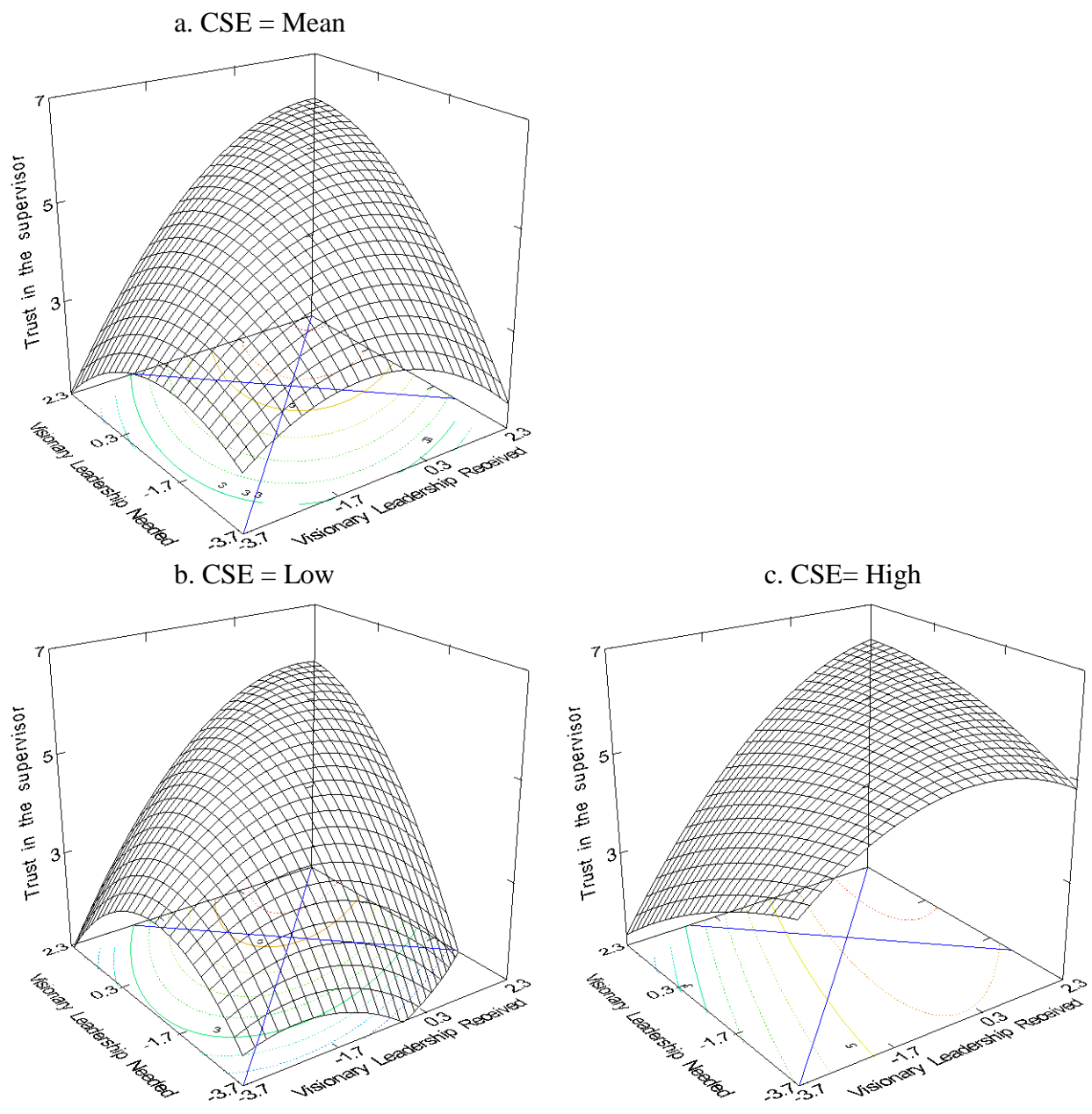


Figure 6. Surfaces Relating Trust in the Supervisor to Visionary Leadership Needed and Received



Discussion

This essay investigated the effects of visionary leadership on employees' attitudes from the perspective of P-E fit theory. Specifically, I conceptualized visionary leadership as an organizational supply which when matched with employees' needs for visionary leadership predicts employees' attitudes (i.e., job satisfaction and trust in the supervisor). I predicted that attitudes would be more positive when leadership received was in the amounts employees' needed but that attitudes would become more negative when the amount of visionary leadership needed was deficient or in excess of the amount needed. In addition, I reasoned that employees' attitudes would be more positive when the absolute level of fit between visionary leadership needed and received increased from low to high amounts. I also predicted that the effects of deficient and excess visionary leadership on work attitudes should be lessened by core self-evaluation (CSE) because CSE might enable employees to buffer themselves from the negative effects of low and high leadership on their work attitudes.

As predicted, deficient visionary leadership needed and received was negatively related to employees' work attitudes. This finding is consistent with the reasoning that deficient visionary leadership hinders employees from identifying themselves with leaders, pursuing ambitious goals, and receiving benevolent treatment from leaders. The negative relationship between excess visionary leadership employees' work attitudes supported the rationale that excess visionary leads to stress, frustration, and value incongruence between a leader and an employee. Moreover, employees' attitudes were higher when visionary leadership needed and received were both high than when both were low. This finding is consistent with the reasoning that the fit at high amount yield a sense of accomplishment and indicates a high quality social relationship with their supervisor.

CSE was found to moderate the relationship between visionary leadership misfit and work attitudes such that when CSE is high, there was a non-significant relationship between visionary leadership needed and received and work attitudes. This finding aligns with the notion that employees high in CSE may be able to buffer themselves from the negative effects of deficient and excess visionary leadership and enable them to maintain their positive attitudes in the stressful situations. In contrast, employees low in CSE may suffer from both deficient and excess visionary leadership to a greater extent, presumably because they must rely on their leaders for inspiration, guidance and support.

Theoretical contribution. This essay contributes to the leadership literature. First, the results demonstrate that employees' need for visionary leadership moderates the relationship between leadership and employees' attitudes. Previous studies on leadership moderators (e.g., contingency theories of leadership) have found modest support for the moderating effects of employees differences on the relationship between leadership behavior and employees' work outcomes (de Vries, Roe, & Taillieu, 2002; House, 1971; Hunter, Bedell-Avers, & Mumford, 2007). The findings support this notion and suggest that applying P-E fit theory to leadership theory may contribute to more meaningful results in the studies of leadership moderators.

Second, the results suggest that visionary leadership may be detrimental for employees when visionary leadership is supplied in amounts more than what employees' need. The results are consistent with theoretical reasoning that suggests that excess visionary leadership may induce stress because the challenge and pressure are greater than what employees wish to bear, perhaps harming their feelings of self-efficacy, and ultimately decreasing employees' performance (Conger, 1999).

Third, the findings reinforce the role of individual differences in leadership effectiveness and offer an explanation for prior inconsistent findings. The results showed that CSE moderated the inverted U shape relationship between leadership and employees' attitudes. Previous studies found that components of CSE (e.g., self-efficacy, self-esteem) moderated the relationship between leadership and employees' work outcomes (Rank, Nelson, Allen, & Xian, 2009; Walumbwa, Avolio, & Zhu, 2008), but their findings were inconsistent. Some studies found that the relationship was positive when the components of CSE were high, whereas other studies found that the relationship were negative when the components of CSE were high. The findings partially explain this discrepancy by showing that moderating effects of CSE in the conditions of deficiency and excess. Testing the moderating effects of CSE on deficient and excess visionary leadership can contribute to our understanding of how and why individual differences play a role in the leadership process.

Fourth, the results suggest that the effect of the fit between leadership and an employee on employees' work attitudes may vary depending on whether fit is at low or high amounts. Previous studies have found that employees' work attitudes are positive when leadership style is matched with employees' characteristics, but neglected to consider the effect of the absolute level of fit between leadership and employees' characteristics. Distinguishing between fit at low amounts and fit at high amounts appears to explain a meaningful difference in employees' attitudes.

Finally, this essay may contribute to the P-E fit literature by investigating leadership content as a dimension of complementary fit e.g., (needs-supplies fit). Previous research has investigated the fit between an employee and a leader in terms of supplementary fit (e.g., how much the characteristic of an employee is similar to the characteristic of his/her leader). By

conceptualizing leadership as a function of both needed and received amount of leadership, this essay extends the domains in P-E fit (Edwards, 2008).

Practical implications. Previous recommendations have encouraged managers to exhibit visionary leadership as much as possible. However, the results suggest that managers should exhibit visionary leadership within close range of employees' needed amount. Contrary to prior recommendations, my essay suggests that excess visionary leadership is associated with decreased employee job satisfaction and trust in the supervisor. Thus, organizations should train managers to exhibit visionary leadership at the needed amount and to develop practices to capture employees' needs for visionary leadership. For instance, organizations may ask employees their needs for visionary leadership through 360 degree feedback programs or developmental performance appraisals. CSE may be a stable trait and difficult to increase, but organizations may positively influence employees' state-specific perceptions of their esteem, confidence, ability, and negative affect. For instance, organizations may train managers to offer legitimate feedback that reinforces and builds employees' esteem and capabilities.

Limitations. My essay also has some limitations. First, I used self-reported measures, and the results may be affected by common method variance. However, common method variance cannot create curvilinear relationships (Siemson et al., 2010). More importantly, I explicitly investigated employees' *subjective* perceptions of visionary leadership needed and received, and work attitudes, and these perceptions may not be measured from other observers. Second, the research design is cross-sectional and I cannot conclude causal relationships between visionary leadership needed and received and employees' work attitudes. It is unlikely that employees' work attitudes have influenced their perception of visionary leadership needed and received, in part because the measurements were separated, but longitudinal research designs are

necessary to confirm my predictions and findings. Third, the sample was U.S. employees, and my findings may not generalize across different samples from different cultures.

Future research directions. My essay suggests some future research directions. First, future research should investigate how the content of leaders' visions for their organizations (e.g., forecasting a positive future of the organization vs. warning of a negative future of the organization) moderate the effects of visionary leadership needed and received on employees' work attitudes (Stam et al., 2010). Such research can help to expand our understanding of the effects of visionary leadership needed and received on employees' work attitudes.

Second, future research should investigate the unexplored mediation mechanisms in my model. Although I discuss possible mechanisms such as self-esteem, stress, and social exchange, I did not directly examine causal pathways. Testing these mediating mechanisms would help to understand *how* visionary leadership needed and received enhances employees' work attitudes.

Third, future research should examine the effects of visionary leadership needed and received on other criteria of leadership effectiveness (e.g., employee performance, OCB, other work-related attitudes). Specifically, work attitudes may be one of the important mediators between visionary leadership and employees' distal outcomes, and investigating these mechanisms will help leadership researchers to understand the relationship between visionary leadership and leadership effectiveness.

Fourth, future research should investigate other possible moderators of the relationship between visionary leadership needed and received with work attitudes. For instance, employees' affect has been expected to influence on the strengths of the relationship between perceived fit and work attitudes (Yu, 2009), and may moderate the relationship between visionary leadership fit (or misfit) and employees attitudes.

Fifth, CSE might be an antecedent of visionary leadership needed and received. Previous studies on CSE found that CSE was strongly related to job complexity and challenging jobs (Judge et al., 2000). Also, some studies on self-efficacy implicitly assumed that self-efficacy leads to desire for challenging goals (Den Hartog & Belschak, 2011; Kacmar, Collins, Harris, & Judge, 2009). Future research may investigate whether CSE can predict how much employees need visionary leadership and how much receive visionary leadership they actually receive.

Lastly, future research may apply P-E fit theory to other types of leadership. Given that visionary leadership is a core dimension of transformational leadership and charismatic leadership, applying P-E fit theory to theory of transformational (and charismatic) leadership can contribute to research stream on these important types of leadership.

Summary and conclusion. As previous studies of leadership suggested, employees' need for leadership behavior may influence the effect of visionary leadership on employees' work attitudes. This essay used a P-E fit framework to conceptualize work attitudes as a function of the amount of visionary leadership needed and the amount of visionary leadership employees receive from their leaders. The joint effect of visionary leadership received and visionary leadership needed on employees' work attitudes was investigated with polynomial regression and response surface analysis. Results showed that work attitudes become more negative as visionary leadership received deviated from what employees needed. Job satisfaction and trust in the supervisor were lower for deficiency and excess than when needed visionary leadership equaled received amounts. My results also showed that work attitudes varied as fit on visionary leadership needed and received increased from low to high levels. Moreover, CSE was found to lessen the negative effects of visionary leadership misfit on work attitudes. These results suggest

that introducing P-E fit approach to studies of visionary leadership informs our understanding of visionary leadership theory.

IV. ESSAY 3: LEADERSHIP BEHAVIORS NEEDED AND EXHIBITED FROM LEADERS' PERSPECTIVE

ABSTRACT

Despite both academic and practical interest in leadership, it is unclear how being a leader influences the work attitudes and well-being of leaders themselves. By applying the person-environment fit (P-E) framework to the leadership behaviors, I examined how leadership behaviors and needs for leadership behaviors were related to leader's well-being. Results showed that leaders' well-being increased as relationship-oriented leadership behaviors increased to the needed amount, but decreased as relationship-oriented leadership behaviors exceeded the needed amount. When leaders want and exhibited relationship-oriented leadership behaviors at high level, well-being increased. However, there were not significant relationships task-oriented leadership and changed-oriented leadership with leaders' well-being. By investigating the effect of leadership behaviors on the leaders themselves this project addresses unanswered question, "what leaders take from leading their followers" and contributes to developing more comprehensive framework of leadership theory.

Keywords: Leadership, well-being, Person-Environment Fit theory

LEADERSHIP BEHAVIORS NEEDED AND EXHIBITED FROM LEADERS' PERSPECTIVE

Beginning with research on the 'great man' theory of leadership emergence (Bowden, 1926; Zaccaro, 1998), researchers have offered explanations for why individuals seek leadership roles in organizations (Chen & Drasgow, 2001). Leadership roles may offer opportunities for obtaining prestige and tangible rewards, accomplishing important goals, and exercising power (Day et al., 2004). Also, leadership roles may allow individuals to mentor promising talent and to "give back" to others in the organization or in society (Kram, 1983; Weinberg & Lankau, 2011). Leadership experiences may fulfill employees' psychological needs for recognition, intimacy, and power (House & Howell, 1992; Sosik & Dinger, 2007) enhancing happiness and enthusiasm, and have been associated with higher performance (Day et al., 2004).

When individuals are deprived of leadership experiences, they may be deprived of these desirable opportunities (e.g., mentoring, initiating change, goal achievement). Although leadership behaviors may provide rewards including self-satisfaction, personal growth, and social-exchange relationships with employees, I assert that leadership behaviors may also have negative effects on leaders. First, the responsibility for organizational performance and challenging goals may be accompanied by physiological and psychological strains (Goode, 1960). Second, multiple and diverse interpersonal relationships with peers and followers require leaders to regulate their emotions perhaps bringing stress, exhaustion, and burnout (Ashkanasy & Tse, 2000).

Applying a Person-Environment (P-E) fit theory approach to leadership behaviors suggests that leaders' well-being is enhanced when the leadership behavior exhibited by them are in the amounts they personally prefer. Because preferences for leadership behavior may depend

on their personality, ability and previous experiences, leaders may prefer different amounts of leadership behaviors. For instance, extraverted leaders may prefer high amounts of leadership experience, whereas leaders who are somewhat introverted may prefer fewer leadership experience (Judge & Bono, 2000). The optimal amounts of leadership behavior may depend on leaders' needs or preferences and may vary from leader to leader. When leadership behavior is equal to the preferred amounts, leaders' well-being should be higher than when leadership behavior deviates from the preferred amounts.

Theoretical Reasoning and Hypotheses

Task-oriented leadership behaviors and leader well-being. Task-oriented leadership behavior refers to the degree that leaders establish performance goals, motivate followers to persist in tasks related to goal achievement, and ultimately increase followers' task performance (Derue, Nahrgang, Wellman, & Humphrey, 2011). Task-oriented leadership behaviors include what has been called initiating structure leadership behavior (Stogdill, 1963) and transactional leadership behavior (Bass, 1985; Burns, 1978). Leaders' engaging in initiating structure leadership behavior defines employees' roles, provides performance standards, and coordinates employees' tasks (Stogdill, 1963). Transactional leaders' clarify performance expectation and emphasize the contingent reciprocal relationship between employees' performance and their rewards (Bass, 1985).

Task-oriented leadership behaviors misfit. When leaders' task-oriented behaviors are deficient of the amount they need, leaders may lack opportunities to establish goals, manage work schedules, and supervise their employees. This deficiency may hinder employees' performance and leaders' own job performance threatening their rewards, but may also deprive leaders' of managerial experiences which increase feelings of competence and self-esteem.

Accordingly, the deficiency perhaps decrease experienced meaningfulness in leaders' jobs (Ruderman, Ohlott, Panzer, & King, 2002). As task oriented leadership behavior increases to the needed amount, leaders are more likely to exercise their managerial skills perhaps facilitating employees' task accomplishment, and fulfilling leaders' needs for competence (Porter, 1963). This experience foster positive emotions and reduce negative emotions in leaders, increasing their well-being.

When task-oriented leadership behaviors exceed the needed amount, leaders may be performing more behaviors related to employees' tasks including defining roles, establishing high performance, and monitoring their employees' performance (Weinberg & Lankau, 2011). These experiences may require intense mental, physical and emotional effort, depriving leaders of opportunities for recovery leaving them stressed and fatigued (Baumeister, Bratslavsky, Muraven, & Tice, 1998). However, these negative effects may be partially offset by other beneficial outcomes. Excess task-oriented leadership behaviors may also increase employees' performance which may indirectly bring leaders favorable tangible and intangible outcomes such as increased compensation, enhanced reputation, and may boost self-efficacy (Day et al., 2004). Based on this reasoning, I predict that the effects of deficient task-oriented leadership will be negative for leaders themselves.

Hypothesis 8: For task-oriented leadership behaviors (H8a: initiating structure and H8b: transactional leadership), leaders' well-being will increase as leadership behaviors increase the needed amount and will gradually decrease as leadership behaviors exceed the needed amount.

Task-oriented leadership behaviors fit. When leaders need and perform a low amount of task oriented behaviors, they engage in few behaviors associated with guiding and direction employees' performance. This experience may not necessarily decrease leaders' well-being, but

may increase role ambiguity in employees, decreasing employees' performance. Because leaders are accountable for employees' performance, lower level of employees' performance may hamper leaders' well-being (Hall et al., 2006; Laird, Perryman, Hochwarter, Ferris, & Zinko, 2009). Thus, their well-being should be lower than those who want and exhibit high amount of task-oriented leadership behavior. When leaders need and receive high amount of opportunities, leaders may more engage in establishing ambitious task-related goals and performance standard. If ambitious goals are attained by their employees, leaders may also receive positive feedback and evaluation from organizations, increasing self-efficacy and sense of competence.

Hypothesis 9: For task-oriented leadership behaviors (H9a: initiating structure and H9b transactional leadership), leaders' well-being will be higher when both leadership behaviors needed and exhibited are high than when both are low.

Relationship-oriented leadership behaviors and leader well-being. Relationship-oriented leadership behaviors refer to the degree that leaders motivate their employees by empowering and supporting their employees (Derue et al., 2011). These types of leadership behaviors encompass several related research domains including consideration (Stogdill, 1950), empowering leadership (Conger & Kanungo, 1988), and individualized support (Bass, 1985)(a specific dimension of transformational leadership). Consideration describes leaders that exhibit friendliness and show respect for their employees(Kerr, Schriesheim, Murphy, & Stogdill, 1974). Empowering leadership refers to leaders' behaviors delegating their authority to employees and allowing employees to make important decisions (Conger & Kanungo, 1988). Individualized support describes leaders that identify employees' personal needs and values and support employees to fulfill employees' own need and values (Bass, 1990). Generally, relationship-oriented leadership behaviors may contribute to develop social exchange relationship between

leaders and employees, increasing favorable outcomes for both employees and organizations (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012).

Relationship-oriented leadership behaviors misfit. Deficient relationship-oriented leadership behaviors imply that leaders engage in few opportunities to understand employees' needs and to support employees. Accordingly, leaders may have few experiences on which to develop meaningful relationships with employees (Patrick, Knee, Canevello, & Lonsbary, 2007). Indeed, deficient amount of empowering leadership may imply that leaders have more responsibility for decision making than they wish to bear, increasing burden (Lee & Ashforth, 1993). As the amount of relationship-oriented leadership behaviors increases to the needed amount, leaders show more support their employees, express personal concern about employees, fostering positive relationship with employees which fulfill needs for relatedness (La Guardia, Ryan, Couchman, & Deci, 2000)..

As the amount of relationship-oriented leadership behaviors increase beyond the needed amount, leaders may still maintain high quality of social exchange relationship. Employees may want to reciprocate excess relationship-oriented leadership by providing both instrumental and emotional support to their leaders (Baumeister & Leary, 1995). However, these benefits may be more offset by the cost of leadership behaviors. For instance, addressing the personal needs of employees and managing interpersonal relationships may tax leaders' emotional resources, increasing their exhaustion (Maner & Mead, 2010). Delegating too much amount of authority to employees may prevent leaders from expressing leaders own opinions and ideas in work processes, interfering with need for autonomy. On balance, I expect that excess amount of relationship-oriented leadership behaviors may decrease well-being.

Hypothesis 10: For relationship-oriented leadership behaviors (H10a: consideration, H10b: empowering leadership, and H10c: individualized support), leaders' well-being will increase as leadership behaviors increase the needed amount and decrease as leadership behaviors exceed the needed amount.

Relationship-oriented leadership behaviors fit. When leaders need and receive low amount of opportunities, leaders may develop low quality of social exchange relationship with their employees. Low quality of social exchange relationship may not hamper leaders' well-being but may yield only a small amount of reciprocated support from employees, perhaps limiting the upward growth of well-being. When leaders need and receive high amount of opportunities, leaders may have and have attained ambitious goals regarding strong relationships with employees, increasing their social support from employees, increasing sense of competence in interpersonal relationships. Leaders' well-being should be lower than when leaders want and exhibit high amount of relationship-oriented leadership behaviors.

Hypothesis 11: For relationship-oriented leadership behaviors (H11a: consideration, H11b: empowering leadership, and H11c: individualized support), leaders' well-being will be higher when both leadership behaviors needed and exhibited are high than when both are low.

Change-oriented leadership behaviors and leader well-being. Change-oriented leadership behavior refers to the degree that leaders articulate ambitious vision, challenge employees to establish novel idea, and ultimately lead the fundamental change in employees' attitudes and behaviors (Bass, 1985). Change-oriented leadership behavior include what has been called charismatic leadership and transformational leadership behavior (Bass, 1985; Burns, 1978). Charismatic leaders articulate organizational vision, provide meaning of work to employees, and lead employees by example. Transformational leaders infused inspirational vision of their

organization, require their employees to be more creative, and increase employee's commitment to pursuing organizational goals. Both charismatic leadership and transformational leadership behavior has been found to motivate employees to identify themselves with leaders, bring high quality of social exchange relationship between leaders and employees, and increase individual and team performance.

Change-oriented leadership behaviors misfit. When change-oriented leadership behavior is less than what is preferred, leaders may not have the opportunity to lead the change, the evidence that employees admire and respect their leaders. The absence of change-oriented leadership may decrease the opportunity for leaders to share their vision and value with employees implying that employees may less identify with their leaders. Lack of identification with leaders may decrease trustworthiness of leaders, lowering the social exchange relationship. Accordingly, deficient change-oriented leadership behaviors may deprive leaders of benefits such as achievement, reputation, and social-exchange relationships with employees.

As change oriented leadership behavior increases toward the needed amount, leaders have more opportunities to engage in these leadership experiences and may benefit from social exchange relationships and increasing employees' performance. First social exchange relationships with employees can enhance both instrumental and social support from followers, decreasing strains and increasing well-being of leaders (Wilson, Sin, & Conlon, 2010). Second, increasing employees' performance may enhance leaders' reputation (Blass & Ferris, 2007), leading to more tangible rewards (Johnson, Kiker, Erez, & Motowidlo, 2002) and perhaps increasing well-being of leaders.

When leadership behavior exceed the needed amount, leaders engage in more leadership behaviors including transmitting vision to employees leading employees by example, and

managing employees to achieve high performance. These behaviors may require leaders to spend psychological resources such as time, energy, and attention. However, leaders may have limited psychological resources, and excess leadership behaviors may require more energy and time, leading to exhaustion. Likewise, efforts devoted to excess articulating vision may increase workload, leading to stress. Thus, both too little and too much leadership behaviors should be detrimental for leaders.

Hypothesis 12: For change-oriented leadership behaviors (H12a: visionary leadership, H12b: intellectual stimulation, H12c: High performance expectation), leaders' well-being will increase as supplied experiences increase the needed amount and will decrease as supplied experiences exceed the needed amount

Change-oriented leadership behaviors fit. When leaders need and exhibit a small number of change-oriented leadership behavior, they may want and attain fewer opportunities to share organizational vision and value with employees and to foster collaboration among their employees. These experiences imply that leaders may be less competent at leadership skills, may devote less time to articulating organizational visions, and have fewer social exchange relationships with employees. However, when leadership need and actually exhibit change-oriented leadership behaviors at high level, they may want and attain these ambitious goals such as managerial proficiency, competence in social exchange relationships, and pride in teamwork. Accordingly, attaining fit at high amount foster sense of accomplishment, leading to self-worth, self-satisfaction, and self-esteem. Thus, when leadership opportunities needed and supplied are equal, well-being of leaders should increase as change-oriented leadership behaviors fit increases from low to high.

Hypothesis 13: For relationship-oriented leadership behaviors (H13a: visionary leadership, H13b: intellectual stimulation, H13c: Higher performance expectation), leaders' well-being will be higher when both leadership behaviors needed and exhibited are high than when both are low.

Methods

Sample and procedure. I collected the data from supervisors who took the leadership roles in their organization. When supervisors of participants in Study 2 in Essay 1 agreed to complete surveys for this Study, they also responded to questions regarding their leadership behaviors and well-being. All other procedures for this study are exactly same as Study 2 in Essay 1.

Averaged age was 44 years, and more than 85% of the participants were male. All participants were Asian, and their organizational tenure was averaged 13.3 years. Eighty eight percent of participants had a bachelor's degree or higher. Their occupations included management and business administration (37.3%) and marketing and sales (36.7%). They had averaged seven subordinates.

Measures. For each item for leadership behaviors, needs were measured by the question, "How much is do you feel is right for you?" and supplies were measured by the question, "How much do you actually doing?". All items for leadership behaviors were rated on a 7 point scale ranging from 1 = *none* to 7 = *A great deal*.

Task-oriented leadership behaviors. Measures for initiating structure were adopted from Lambert et al. (2012). Transactional leadership was measured by using the five items from the revised version of Podsakoff et al., (1990). Sample items are "Rewarding him/her when he/she performs well", "Giving him/her rewards when his/her work is very good", "Rewarding him/her

when he/she does a better than average job”, “Personally rewarding him/her when he/she does outstanding work”, and “Frequently rewarding him/her good performance”.

Relationship-oriented leadership behaviors. Consideration was measured by 4 items from Lambert et al., (2012). Items for empowering leadership were measured by 3 items from Conger and Kanungo (1993). Individualized support was measured by using three items from Podsakoff et al.(1990): Acting with considering his/her feelings”, “Showing respect for his/her feelings”, and “Behaving in a manner thoughtful of his/her needs”.

Change-oriented leadership behaviors. Intellectual stimulation, high performance expectation, and visionary leadership were measured by the revised version of Podsakoff et al. (1990). Items are as follow: “Challenging him/her to think about old problems in new ways”- intellectual stimulation, “Insisting on only the best performance”-high performance expectation, and “Transmitting a sense of mission”-visionary leadership, “Communicating a vision of the future”, “Providing a vision of where your team/department is going.” Lastly, High performance expectation was measured with three items from Podsakoff et al. (1990). “Expecting a lot from him/her”, “Not settling for second best performance.”

Well Being. Following Edwards and Rothbard (1999), I measured leaders’ well-being including job satisfaction, anxiety, depression, and irritation (Caplan, Cobb, French, Harrison, & Pinneau, 1980).

Analytic strategy. Hypotheses were tested by using polynomial regression and response surface analysis (Edwards, 2002). The base equation is

$$WB = b_0 + b_1E + b_2N + b_3E^2 + b_4EN + b_5N^2 + e. \quad (1)$$

In Equation 1, WB represents well-being of leaders. E represents leadership behavior exhibited, and N represents leadership behavior needed. By using the estimated coefficients from Equation 1, I tested shapes of surfaces along the $N = -E$ and $N = S$ lines.

Hypothesis 8, 10, and 12 predicted that leaders' well-being will increase as leadership behavior exhibited increases toward the needed amount and decrease as leadership behaviors exhibited exceeds the needed amount. For job satisfaction, the surface along the $N = -E$ line should be curvilinear, indicating the null value of $(b_1 - b_2)$ and a significant negative value of $(b_3 - b_4 + b_5)$. For depression, anxiety, and irritation, there should be significant and positive curvature along the misfit line. Hypothesis 9, 11, and 13 predicted that well-being increase as the absolute level of fit between visionary leadership needed and exhibited increases. Hypothesis 9 will be supported when the surface is positively sloped along the $N = E$ line for job satisfaction, such that the value for the slope $(b_1 + b_2)$ is significant and positive but the value of $(b_3 + b_4 + b_5)$ does not differ from zero. For depression, anxiety, and irritation, the slope should be significant and negative. Like Essay 1 and Essay 2, Visionary leadership received and needed were centered by subtracting the mean of their means for easier interpretation (Aiken & West, 1991; Edwards, 2002).

Screening for outliers and influential observation. Each of the equations was screened for multivariate outliers using studentized residuals, leverage, and Cook's D statistics (Fox, 1991).one to three cases were discarded from each equation.

Results

Descriptive statistics. Descriptive statistics, correlations and reliabilities for all measures are reported in Table 13. Reliabilities ranged from .73 to .92, and the median is .82. Correlations between measures ranged from -.17 to .76. The scatter plots of leadership behavior

needed and exhibited were checked for each type of leadership behaviors. The data was dispersed on either side of the fit line and was adequate for testing hypotheses (Edwards, 2002).

Table 13. Descriptive Statistics, Reliability Estimates, and Correlations among Measures

Measures	<i>Mean</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
<u>Dependent Variables</u>											
1. Job Satisfaction	1.61	.76	(.90)								
2. Depression	1.02	.83	-.26	(.84)							
3. Anxiety	1.63	###	-.12	-.46	(.84)						
4. Irritation	1.49	.93	-.15	.61	.47	(.77)					
<u>Leadership Exhibited</u>											
5. Initiating Structure	4.92	.76	.00	.12	-.03	.01	(.82)				
6. Transactional Leadership	4.52	.96	.16	-.11	-.28	-.21	.25	(.92)			
7. Empowering Leadership	4.46	.89	.06	-.01	-.22	-.13	.45	.27	(.86)		
8. Consideration	5.01	.78	.08	-.08	-.10	-.06	.47	.49	.45	(.79)	
9. Individualized Support	5.05	.89	.03	-.08	-.11	-.03	.36	.47	.20	.59	(.88)
10. Visionary Leadership	4.88	.88	.15	-.18	-.04	-.11	.47	.40	.21	.41	.34
11. High Performance Exp	4.56	.82	.12	-.02	-.05	-.00	.54	.26	.40	.36	.19
12. Intellectual Stimulation	4.99	.81	.09	-.02	.09	.06	.42	.45	.16	.38	.42
<u>Leadership Needed</u>											
13. Initiating Structure	5.41	.64	.22	-.01	.12	-.05	.55	.07	.23	.21	.24
14. Transactional Leadership	5.21	.83	.20	-.07	.02	-.09					
15. Empowering Leadership	4.61	.96	.10	.03	-.04	-.07	.38	.20	.75	.37	.15
16. Consideration	5.30	.69	.24	-.16	.04	-.18	.27	.26	.24	.63	.40
17. Individualized Support	5.31	.75	.15	-.03	.11	-.03	.28	.23	.28	.36	.54
18. Visionary Leadership	5.57	.79	.16	-.05	.22	-.04	.22	.11	.05	.21	.22
19. High Performance Exp	4.89	.79	.15	.01	-.00	-.07	.28	.25	.27	.18	.15
20. Intellectual Stimulation	5.49	.61	.18	-.00	.10	.05	.23	.12	.08	.20	.29

Table 13. continued

Measures	10	11	12	13	14	15	16	17	18	19	20
10. Visionary Leadership	(.81)										
11. High Performance Exp	.50	(.75)									
12. Intellectual Stimulation	.56	.35	(.87)								
<u>Leadership Needed</u>											
13. Initiating Structure	.32	.32	.23	(.77)							
14. Transactional Leadership	.10	.26	.16	.42	(.87)						
15. Empowering Leadership	.11	.34	.08	.34	.33	(.82)					
16. Consideration	.22	.30	.17	.47	.40	.36	(.81)				
17. Individualized Support	.23	.29	.34	.34	.43	.28	.57	(.84)			
18. Visionary Leadership	.56	.30	.30	.59	.37	.13	.43	.37	(.84)		
19. High Performance Exp	.31	.66	.25	.39	.36	.30	.32	.35	.48	(.74)	
20. Intellectual Stimulation	.24	.24	.49	.48	.40	.15	.36	.48	.50	.38	(.81)

Note: $N=156$. Reliability estimates (Cronbach's alpha) are reported along the diagonal. Correlations greater than .16 or less than -.15 were statistically significant ($p < .05$)

Polynomial regression analyses. Table 14 shows the results from the polynomial regression analyses.

Task-oriented leadership fit. Hypothesis 8 predicted that well-being would increase as task-oriented leadership behaviors increased toward the needed amount and would decrease as task-oriented leadership behaviors exceed the needed amount. However, the negative curvature along the misfit line was not significant for well-being. Thus, Hypothesis 8 was not supported.

Hypothesis 9 predicted that well-being would be higher when task-oriented leadership behavior needed and exhibited were both high than when both were low. The negative slope along the $E = N$ line was significant only for transactional leadership when the dependent variable was irritation ($b_1 + b_2 = -.31, p < .05$; Figure 7). However, there were not significant relationships between task-related leadership behavior fit and well-being. Overall, I concluded that Hypothesis 9 was not supported.

Relationship-oriented leadership fit. Hypothesis 10a stated that leaders' well-being would be higher when the amount of consideration are equal to the needed amount. Only for irritation (Figure 8b), there was evidence of positive curvature along the misfit line ($b_1 - b_2 = .82, p < .01$; $b_3 - b_4 + b_5 = .72$). Further inspection revealed that the stationary point of the surface located at the left side of the midpoint ($E = N = 0$). Hypothesis 11a stated that leaders' well-being should be higher when both leadership behaviors needed and exhibited were high than when both were low. For two of four dependent variables, well-being was higher when both consideration needed and exhibited scores were high than when both were low (Figure 8a, Figure 8b). Thus, Hypothesis 10a and 11a was partially supported.

Hypothesis 10b proposed that for empowering leadership, well-being increased as leadership behaviors increased to the needed amount, but decreased as leadership behaviors

exceeded the needed amount. However, the negative curvature along the misfit line was non-significant for all dependent variables. Thus, Hypothesis 10b was not supported.

Hypothesis 11b stated that leaders' well-being would increase as the absolute values of both empowering leadership needed and exhibited increased. For job satisfaction, the surface along the fit line was upward curvature (Figure 8c). For other three dependent variables, there were not significant relationships between leadership behaviors fit and well-being. Thus, Hypothesis 11b was not supported.

Hypothesis 10c proposed the negatively curved relationship between individualized support and well-being. For anxiety, there was negative curvature along the misfit line ($b_1 + b_2 = -.05$, n.s.; $b_3 - b_4 + b_5 = .73$, $p < .01$), partially supporting Hypothesis 10c (Figure 8e). Contrary to the prediction, anxiety was higher when both individualized support needed and exhibited were high. For other three dependent variables, leadership behaviors had non-significant relationships with well-being. Thus, I concluded that Hypothesis 12c was not supported.

Change-oriented leadership fit. Hypothesis 13 predicted that well-being would increase as change-oriented leadership behaviors increased toward the needed amount and would decrease as change-oriented leadership behaviors exceed the needed amount. For job satisfaction, the curvature along the misfit line was not negative but positive (Figure 8b). Moreover, the negative curvature along the misfit line was non-significant for three dependent variables (Figure 8a). Thus, Hypothesis 13 was not supported.

Hypothesis 14 stated that well-being would be higher when change-oriented leadership behavior needed and exhibited were both high than when both were low. The positive slope along the $E = N$ line was significant only for job satisfaction ($b_1 + b_2 = .20$, $p < .01$; Figure 8b).

However, there were not significant relationships between change-oriented leadership behavior fit and well-being. Overall, I concluded that Hypothesis 14 was not supported.

Table 14. Results from Quadratic Regressions of Well-Being on Leadership Behaviors

	Results from quadratic regression						Misfit		Fit	
	E	N	E ²	EN	N ²	R ²	Shape along N = E Line		Shape along N = -E line	
							b ₁ - b ₂	b ₃ - b ₄ + b ₅	b ₁ + b ₂	b ₃ + b ₄ + b ₅
<u>Initiating Structure</u>										
Job Satisfaction	-.09	.22	.03	-.12	.22	.09*	-.31	.37	.13	.13
Depression	.08	-.13	.03	-.10	.10	.00	.21	.22	-.06	.03
Anxiety	-.20	.22	.01	.03	.10	.02	-.43	.07	.02	.13
Irritation	.10	-.14	.07	.03	.06	.01	.25	.09	-.04	.16
<u>Transactional Leadership</u>										
Job Satisfaction	.07	.11	.00	-.05	.00	.05	-.04	.05	.18	-.05
Depression	-.07	.00	.00	.07	-.03	.01	-.07	-.10	-.07	.04
Anxiety	-.28	.23	.11	.01	-.13	.11**	-.51	-.03	-.06	.00
Irritation	-.06	-.25	.02	-.22*	.12	.08**	.20	.36	-.31*	-.08
<u>Consideration</u>										
Job Satisfaction	-.13	.34*	-.07	-.12	.13	.11**	-.47*	.18	.20*	-.06
Depression	.08	-.34	.11	-.27	.01	.07	.43	.39	-.26*	-.15
Anxiety	-.16	.12	.26	-.33	-.09	.07*	-.28	.50	-.04	-.16
Irritation	.28	-.54***	.19	-.43*	.10	.08*	.81**	.72*	-.26*	-.14
<u>Empowering Leadership</u>										
Job Satisfaction	-.03	.13	-.03	.06	.12	.07*	-.16	.04	.10	.15**
Depression	.01	.00	.10	-.06	-.11	.03	.00	.05	.01	-.07
Anxiety	-.43***	.31*	.23*	-.23	.02	.11**	-.74**	.48	-.12	.02
Irritation	-.15	.00	.08	-.03	-.13	.06	-.14	-.02	-.15	-.08
<u>Individualized Support</u>										
Job Satisfaction	-.15	.36**	-.01	.11	-.03	.07	-.51*	-.16	.22*	.07
Depression	-.01	-.06	.07	-.14	.02	.02	.05	.23	-.08	-.06
Anxiety	.05	.09	.26**	-.41**	.06	.13***	-.05	.73**	.14	-.08
Irritation	.09	-.14	.09	-.24	.06	.02	.23	.39	-.05	-.09

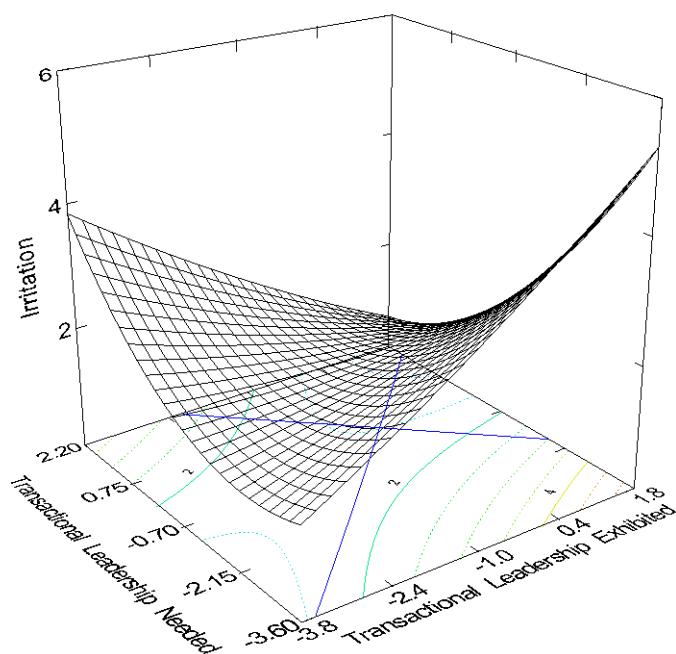
Table 14. Continued.

	Results from quadratic regression						Misfit		Fit	
	E	N	E ²	EN	N ²	R ²	Shape along N = E Line		Shape along N = -E line	
							b ₁ - b ₂	b ₃ - b ₄ + b ₅	b ₁ + b ₂	b ₃ + b ₄ + b ₅
<u>Visionary Leadership</u>										
Job Satisfaction	.11	-.11	-.06	-.13	.34**	.10**	.22	.41	-.01	.15
Depression	-.34	.22	-.12	.14	-.06	.04	-.57	-.31	-.12	-.04
Anxiety	-.43	.63**	-.07	.13	-.07	.09**	-1.06*	-.27	.20	-.01
Irritation	-.04	.04	.07	-.07	.03	.01	-.08	.16	.00	.03
<u>Intellectual Stimulation</u>										
Job Satisfaction	.12	.18	.03	-.19	.04	.07	-.06	.26	.30*	-.11
Depression	-.08	.05	-.07	-.05	-.06	.01	-.12	-.08	-.03	-.17
Anxiety	.00	.33	-.01	.09	-.13	.02	-.34	-.23	.33	-.04
Irritation	.15	-.02	.04	-.12	-.03	.01	.16	.13	.13	-.11
<u>High Performance Expectation</u>										
Job Satisfaction	.37*	-.17	.22**	-.40*	.26	.08*	.55	.88*	.20*	.07
Depression	-.02	-.03	.01	-.16	.14	.01	.02	.31	-.05	.00
Anxiety	-.28	.19	-.01	.06	-.20	.04	-.47	-.27	-.09	-.15
Irritation	.06	-.20	.01	-.02	.13	.02	.26	.15	-.14	.11

Note: N = from 149 to 163. For columns labeled E, N, E², EN, and N², table entries are unstandardized regression coefficients for equations with all predictors entered simultaneously (E=Exhibited, N=Needed). The column labeled R² indicates the variance explained by the five quadratic terms. Column labeled b₁ - b₂ and b₃ - b₄ + b₅ represent the slope of each surface along the N = -E line, and columns labeled b₁ + b₂ and b₃ + b₄ + b₅ represent the slope of each surface along the N = E line (b₁, b₂, b₃, b₄, and b₅ are the coefficients on E, N, E², EN, and N², respectively)

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

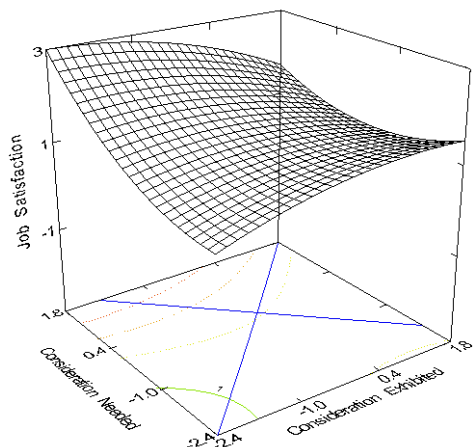
Figure 7. Surfaces Relating Task-Oriented Leadership Behaviors to Well-Being



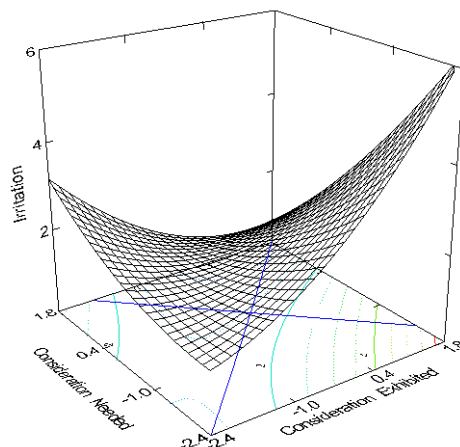
a. Transactional Leadership to Irritation

Figure 8. Surfaces Relating Relationship-Oriented Leadership Behaviors to Well-Being

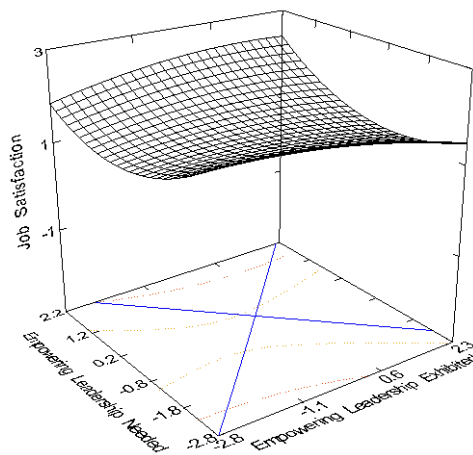
a. Consideration to Job Satisfaction



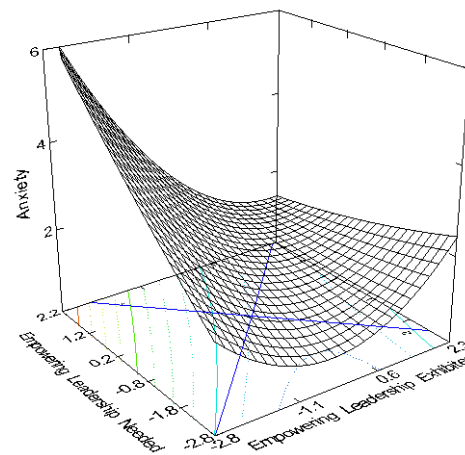
b. Consideration to Irritation



c. Empowering Leadership to Job Satisfaction



d. Empowering to Anxiety



e. Individualized Support to Anxiety

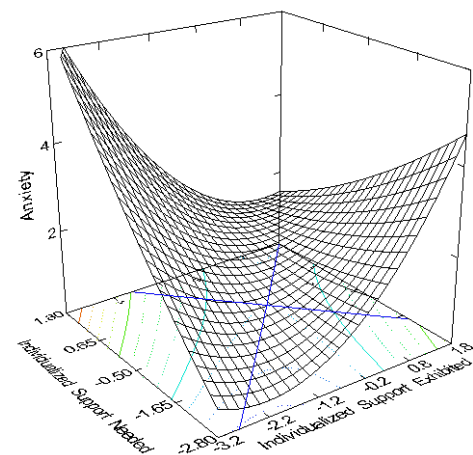
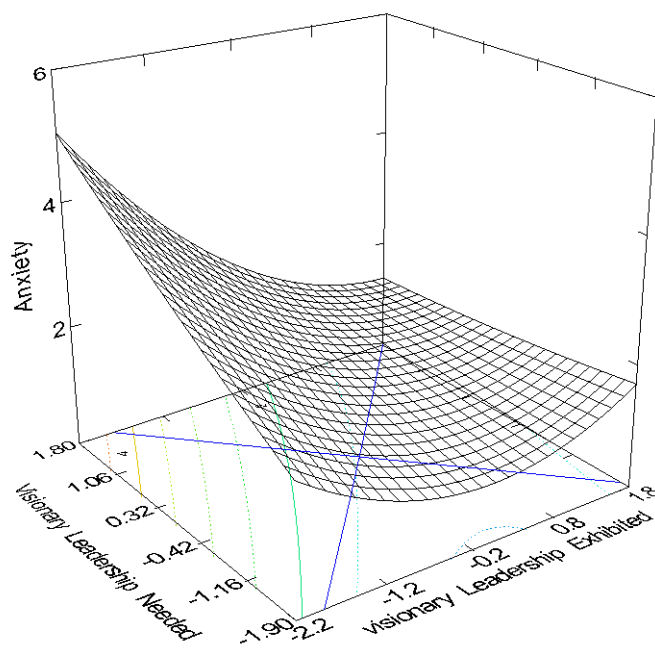
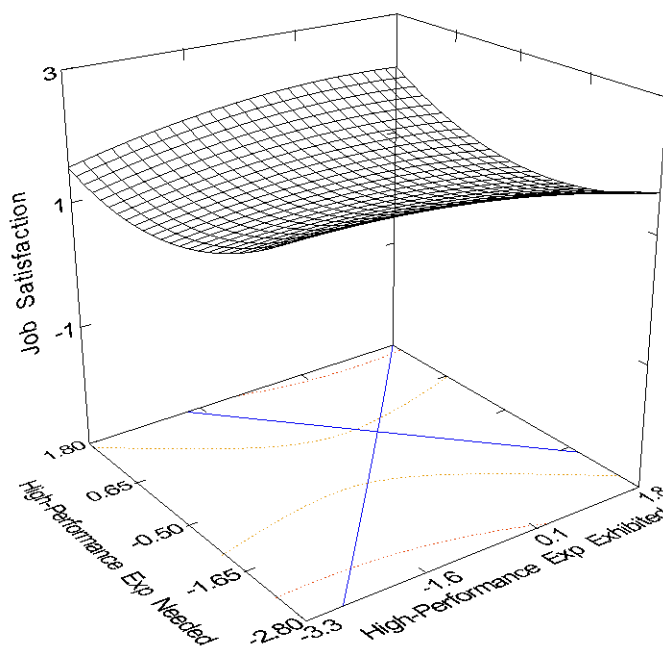


Figure 9. Surfaces Relating Change-Oriented Leadership Behaviors to Well-Being**a. Visionary Leadership to Anxiety****b. High Performance Expectation to Job Satisfaction**

Discussion

The results for relationship-oriented leadership behaviors partially supported our prediction. Both deficient and excess relationship-oriented leadership behaviors increase leaders' anxiety at their workplace. However, anxiety and irritation was lower when leaders wanted and exhibited the high amount of leadership behaviors. This finding suggests that both too few and too many leadership behaviors may hinder employees to fulfill their needs for intimacy and achievement, hampering employees' well-being. The result for fit hypothesis is consistent with our prediction that high amounts of fit on relationship-oriented leadership behaviors may be interpreted as an accomplishment of high quality of social exchange relationship, ultimately enhancing self-worth.

Contradicted with our prediction, leaders' job satisfaction decreased when relationship-oriented leadership behaviors increased to and exceeded the needed amount. It may be that leaders may regard relationship-oriented leadership behaviors no as in-role, but as extra-role behaviors; Thus, deficient extra role behaviors may not deplete job-related opportunities, but preserve psychological resources for leaders.

The results for task-oriented and change-oriented leadership behaviors were inconsistent with the theoretical reasoning. Leadership behaviors needed and exhibited did not predict meaningful variance in leaders' well-being. There may be two conflict mediation mechanisms between leadership behaviors and leaders' well-being. For instance, when leadership behaviors are deficient, leaders may lack opportunities to guide employees to complete their task assignment and to achieve ambitious goals, decreasing well-being. However, they may preserve their psychological resources, increasing well-being. When leadership behaviors are excess, leaders' psychological resources may be drained, increasing emotional exhaustion and

decreasing well-being. However, high levels of expectation and ambitious mission may bring both tangible and intangible outcomes if employees meet leaders' expectation and attain ambitious goals. These positive and negative mediation effects may offset the effect of one another. Future research should investigate the possible mediation and moderation mechanisms in leadership-well-being relationships.

Contribution. This essay contributes to both leadership research and business practice. First, this essay contributes to leadership research by investigating the effect of leadership behaviors on the leaders themselves. Previous research has primarily focused on employee outcomes, but this essay recognizes that leaders are a part of employees as well. This essay may be useful in developing leadership theory from the perspective of the leaders.

Second, this essay suggests that the relationship between relation-oriented leadership behaviors and outcomes may be not linear but curvilinear. Leadership may be undesirable for leaders when leadership opportunities deviate from the needed amount. The expected results should contribute to the research stream by investigating *when* leadership is effective or detrimental for leaders (and ultimately for the organizations).

Third, this essay will contribute to P-E fit theory by adding additional content dimensions related to leadership behavior (i.e., how much supervisors exhibit leadership behaviors at their workplace) to needs-supplies (N-S) fit theory extending the breadth of P-E fit theory (Edwards, 2008).

Fourth, a practical implication of this research may be recommendations for how organizations may optimize the effectiveness of their leaders' behavior by considering individuals' needs to engage in leadership. The expected results may suggest guidelines for the organizational selection and staffing procedures.

Limitations and future research directions. First, all variables were measured by respondents, and one may concern about common method bias. Leadership behaviors are typically measured by followers (i.e., employees, or subordinates), and future research may measure leadership behaviors from not only peers and subordinates but also superiors of leaders. Second, the data was collected by using a snow-ball sampling method, and the generalizability of the findings may be weak. Third, sample size is relatively small, and power and effect size of regression may be problematic. Fourth, despite a theoretical reasoning, the researcher did not directly test moderation and mediation mechanisms in leadership process. Future research should investigate the mediating mechanisms such as psychological resources, resource depletion, and need fulfillment. Fifth, the research design is cross-sectional, and the researcher could not rule out the reverse causality. In fact, leaders' job attitudes and well-being may influence leaders' motivation to lead employees. Future research should consider longitudinal research design.

Summary and conclusion. As earlier studies of leadership suggested, it may be interesting to examine how leadership behaviors are associated with leaders' own attitudes. This essay examined leadership behaviors from leaders' perspective. Although the results from this essay weakly supported the researcher's predictions, it was worthwhile to investigate the meaning of being a leader and how leadership behaviors are related to leaders' well-being.

V. CONCLUSION

My dissertation used the P-E fit framework to predict employees' attitudes as a function of what employees need and what their organization supplies job-related opportunities. The joint effect of needs and supplies on employees' outcomes was examined with polynomial regression analysis and response surface methodology. Overall, results showed that employees' attitudes increased when there is fit between needs and supplies. However, results also indicated that excess amount of supplies would be related to lower attitudes and well-being. These results suggest that job-related opportunities may detrimental for employees when these opportunities are both too few and too many. Therefore, organizations should consider individual variations in how much they need job-related opportunities.

APPENDIX: MEASURES**Supervisor**

	Variables	# of items	Sources
Dependent Mediator	Job Satisfaction	3	Edwards
	Depression	3	Caplan et al.
	Anxiety	3	Caplan et al.
	Irritation	3	Caplan et al.
	Trust in the organization	3	Lambert
	Prestige	3	Edwards
	Self-esteem	3	Rosenberg
	Perceived Meaningfulness	3	May
	Responsibility for Others	3	
Moderator	Regulatory Focus	18	
Independent	Empowering	6	De Cremer Lambert Lambert StudyResponse StudyResponse
	Self-sacrificial leadership	6	
	Initiating Structure	6	
	Consideration	8	
	Visionary Leadership	6	
	Performance Expectation	6	
	Individualized Support	6	
	Intellectual Stimulation	8	
	Transactional Leadership	10	
Follower Outcomes	OCBI/O	16	Lee and Allen
	Subjective Task Performance	3	Van Dyne
	Absenteeism		
	Demographic	10	

Total: 136

Subordinates

	Variables	# of Items
Mediator	Emotional Exhaustion	3
	Work Disengagement	9
	Trust in the supervisor	3
	Workload	3
	PANAS	20
	Frustration	3
	Boredom	3
	LMX7	5
	Meaningfulness	3
	Responsibility	3
	Knowledge of Results	3
	Self-Esteem	3
	Satisfaction with the supervisor	3
Dependent Variables	Job Satisfaction	3
	Organizational Identification	6
	Turnover Intention	3
Independent Variables	Variety	6
	Autonomy	6
	Feedback	6
	Identity	8
	Significance	8
Moderator	Regulatory Focus	18
Control Variable	Demographic	10

Total: 138

Measures

NOTE: the direction is like this: Please indicate the degree to which you personally agree or disagree with each statement.

If necessary, I put the direction for the measures.

SUPERVISORS**Dependent variables**

Measured at T1 and T2

7 pt scale, -3=strongly disagree, 0=neither agree nor disagree, +3=strongly agree

Job Satisfaction (Edwards & Rothbard, 1999)

Your feelings about your job

- In general, I am satisfied with my job.
- All in all, the job I have is great.
- My job is very enjoyable.

Psychological Strain

Instruction: Here are some items about how people may feel. When you think about yourself and your job nowadays, how frequently do you feel this way?

(revised response scale to reflect meaning of anchors)

0: Never

1: Once in a while

2: Sometimes

3: Fairly often

4: Often

5: Constantly

6: Always

Depression

I feel sad

I feel unhappy

I feel good (R).

I feel depressed.

I feel blue.

I feel cheerful (R)

Anxiety

I feel nervous.

I feel jittery.

I feel calm (R).

I feel fidgety.

Irritation

I get angry.

I get aggravated.

I get irritated or annoyed.

-Original items-

Caplan et al., 1980 used by Edwards & Rothbard, 1999

Here are some items about how people may feel. When you think about yourself and your job nowadays, how much of the time do you feel this way?

(Original items used 4 point likert scale as below, so I changed it into 7 point scale)

- 1: never or a little of the time.
- 2: Some of the time.
3. A good part of the time.
4. Most of the time.

(items same as above)

Trust in the Organization

- “I trust my organization to look out for my best interests.”
- “My organization is trustworthy.”
- “I can count on my organization to protect my interests.”

Note: revise the measures to reflect the reference as employee’s organization.

-Original Items-
(Lambert et al., 2012)

- “I trust my supervisor to look out for my best interests.”
- “My supervisor is trustworthy.”
- “I can count on my supervisor to protect my interests.”

Prestige

Direction: Please indicate how much you have of each characteristic in your job.

Scale: 1=None, 4=Moderated Amount, 7=A Great Deal

- Gaining respect
- Obtaining status
- Being looked up to by others

(Source: Work Value Survey, Edwards and Cable 2002)

Direction: How important is this to you?

Scale: 1= not important at all , 5= extremely important

Gaining respect
Obtaining status

Being looked up to by others

Self-Esteem (Rosenberg)

- I feel I have much to be proud of.
- I have a positive attitude about myself.
- On the whole, I am satisfied with myself.

Note: I revise and adopt three items from Rosenberg, 1983's 10 items because these three items capture how much an employee has positive belief about himself or herself. Original 10 items are listed as below (I used the bold statements).

-Original Items-

Source: Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

4 point Likert scale (3: strongly agree, 2: agree, 1: disagree, 0: strongly disagree)

1. I feel that I am a person of worth, at least on an equal plane with others.
2. I feel that I have a number of good qualities.
3. All in all, I am inclined to feel that I am a failure. (R)
4. I am able to do things as well as most people.
5. **I feel I do not have much to be proud of. (R)**
6. **I take a positive attitude toward myself.**
7. **On the whole, I am satisfied with myself.**
8. I wish I could have more respect for myself. (R)
9. I certainly feel useless at times. (R)
10. At times I think that I am no good at all. (R)

Perceived Meaningfulness

- The work I do on this job is very important to me.
- My job activities are personally meaningful to me.
- The work I do on this job is significant to me.

Some of the original items were adopted from the JDS and other items were developed by the authors. Lisa Schurer Lambert choose three items to capture perceived meaningfulness in the job.

-Original Items (May et al., JOOP 2004)-

Source: May, D. R., Gilson, R. L., & Harter, L. M., (2004). The psychological conditions of meaningfulness, safety, and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology*, 77, 11-37

- **The work I do on this job is very important to me.**

- **My job activities are personally meaningful to me.**
- The work I do on this job is worthwhile.
- **My job activities are significant to me.**
- The work I do on this job is meaningful to me.
- I feel that the work I do on my job is valuable.

-Original Items-

(Job Diagnostic Survey, Hackman & Oldham, 1980)

- The work I do on this job is very meaningful to me.
- Most of the things I have to do on this job seem useless or trivial. (R)
- Most people on this job find the work very meaningful.
- Most people on this job feel that the work is useless or trivial. (R)

Responsibility for others

Definition: The degree that managers have accountability for work-related outcomes of other employees such as the quality of performance, the the health or safety of employees (Strong et al.,1999; adapted by Dierdorff and Ellington, 2008 JAP)

(Revised)

Direction: Please answer each question.

Scale: 1: none to 7: a great deal

- How much are you accountable for the performance of other employees?
- To what extent are you held responsible for the work outcomes of other employees?
- How much responsibility do you have for the performance of other employees?

-Original Items-

Dierdorff and Ellington, 2008 JAP

How responsible are you for work outcomes and results of other workers?
How responsible are you for the health and safety of other workers?

Independent Variables

Leadership items have been slightly revised to ask Leader about his/her leadership toward subordinates as a group

7 pt scale, 1=none, 4=moderate amount, 7=a great deal

All items are asked with two different types of questions (N-S fit)

How much of each behavior is right for you? (Needed)

How much of each behavior is present in your work? (Received/ Supplied).

Self Sacrificial Leadership

Definition: Leadership that includes “an abandonment or postponement of personal interests and privileges for the collective welfare” (Choi & Yoon, 2005, p. 52) adopted by De Cremer et al 2009 JAP.)

- self-sacrificing for organizational objectives,”
- Taking high personal risk for the sake of the organization,”
- Showing a lot of self-sacrifice”

-Original Items-

Conger and Kanungo (1998) adapted by De Cremer et al., (2009)

“In pursuing organizational objectives, my boss engages in activities involving considerable self-sacrifice,”

“My boss takes high personal risk for the sake of the organization,” and

“My boss is somebody who shows a lot of self-sacrifice”

Empowering Leadership

Definition: the degree that leaders share their power with followers (Conger & Kanungo, 1988); delegating authority.

- “Giving your subordinates the power to make important decisions”
- “Giving your subordinates decision making responsibility”
- “Delegating authority to your subordinates”

-Original Items-

- “Giving me the power to make important decisions”
- “Giving me decision making responsibility”
- “Delegating authority to me”

NOTE: Based on old leadership measures (e.g., MLQ, Conger, Podsakoff’s measures), I revised it to capture the core aspect of each type of leadership.

(Konczak et al., 2000)

Delegation of Authority (a dimension of empowering leadership)

1. My manager gives me the authority I need to make decisions that improve work processes and procedures.

2. My manager gives me the authority to make changes necessary to improve things.
3. My manager delegates authority to me that is equal to the level of responsibility that I am assigned.

Initiating Structure (Lambert et al., 2012)

- “Letting your subordinates know what is expected of them”
- “Encouraging your subordinates to use uniform procedures”
- “Deciding for your subordinates what should be done and how things should be done”
- “Maintaining definite performance standards with your subordinates”

-Original Items-

- “Letting me know what is expected of me”
- “Encouraging me to use uniform procedures”
- “Deciding what should be done and how things should be done”
- “Maintaining definite performance standards with me”

Consideration (Lambert et al., 2012)

- “Acting friendly and approachable to your subordinates”
- “Acting concerned for your subordinates’ personal welfare”
- “Acting supportive when talking to your subordinates”
- “Consulting with your subordinates before taking action”

-Original Items-

- “Acting friendly and approachable”
- “Acting concerned for my personal welfare”
- “Acting supportive when talking to me”
- “Consulting with me before taking action”

Transformational Leadership

Note: Most of items were adopted from Podsakoff’s (1990) measures and revised. Source for items is specified if the items were adopted from other references.

Articulating Vision

Definition: A behavior aimed at identifying and articulating vision of the future for the organization

- “Transmitting a sense of mission”
- “Communicating a vision of the future”
- “Providing a vision of where your unit(might need to change unit to org or dept) is going”

-Original Items-

- Has a clear understanding of where we are going.
- Paints an interesting picture of the future for our group.
- Is always seeking new opportunities for the organization
- Inspires others with his/her plans for the future.
- Is able to get others committed to his/her dream.

High Performance Expectation

Definition: A behavior of the leader that demonstrates the leader's expectations for excellence, quality, and/or high performance on the part of followers

Citation here

- Expecting a lot from your subordinates.
- Insisting on only the best performance.
- Not settling for second best (performance?).

Individualized Consideration

NOTE: In his review, Bass defined that 'individualized consideration as considering followers' needs and developing followers by mentoring, coaching and training. Considering personal needs can be captured by the construct, 'Consideration (Ohio State Study)' or 'individualized support (Podsakoff et al.). So I also put coaching and mentoring as a dimension of transformational leadership.

Providing Individualized Support

Definition: A behavior of the leader that respects subordinates and considers their personal feelings and needs.

- Acting with considering your subordinates' feelings.
- Showing respect for your subordinates' feelings.
- Behaving in a manner thoughtful of your subordinates' needs.

Intellectual Stimulation

Definition: A behaviors of the leader that challenge subordinates to re-examine some of their assumptions about their work and to re-think how it can be performed.

- Challenging your subordinates to think about old problems in new ways.
- Prompting your subordinates to think about their work.
- Stimulating your subordinates to rethink the way they do things.
- Challenging your subordinates to reexamine some of basic assumptions about their work.

-Original items (Podsakoff et al, 1990)

Challenges me to think about old problems in new ways.

Asks questions that prompt me to think.

Has stimulated me to rethink the way I do things.

Has ideas that have challenged me to reexamine some of basic assumptions about my work.

Transactional Leader Behavior

Definition: leaders' behavior that motivates followers by promising or giving rewards in exchange for their performance.

Always rewards me when I perform well.

Gives me rewards when my work is very good.

Rewards me when I do a better than average job.

Personally rewards me when I do outstanding work.

Frequently rewards my good performance.

The items below specify one type of reward (feedback or recognition) but the definition specifies rewards in general in exchange for performance.

-Original Items-

Always gives me positive feedback when I perform well.

Gives me special recognition when my work is very good.

Commends me when I do a better than average job.

Personally compliments me when I do outstanding work.

Frequently does not acknowledge my good performance. (R)

Items rewritten to be more general about rewards

Subordinate Outcomes

7 pt scale, -3=strongly disagree, 0=neither agree nor disagree, +3=strongly agree

DIRECTION: These questions ask about the performance of [name]. Please indicate the degree to which you personally agree or disagree with each statement.

OCB (Lee and Allen 2002, JAP)

OCBI (OCB target to Individuals)

1. Help others who have been absent.
2. Willingly give your time to help others who have work-related problems.
3. Adjust your work schedule to accommodate other employees' requests for time off.

4. Go out of the way to make newer employees feel welcome in the work group.
5. Show genuine concern and courtesy toward coworkers, even under the most trying business or personal situations.
6. Give up time to help others who have work or non-work problems.
7. Assist others with their duties.
8. Share personal property with others to help their work.

OCBO (OCB target to the organization)

1. Attend functions that are not required but that help the organizational image.
2. Keep up with developments in the organization.
3. Defend the organization when other employees criticize it.
4. Show pride when representing the organization in public.
5. Offer ideas to improve the functioning of the organization.
6. Express loyalty toward the organization.
7. Take action to protect the organization from potential problems.
8. Demonstrate concern about the image of the organization.

Task Performance

NOTE (from Lisa Schurer Lambert): Revised from [Van Dyne, 1998]; items changed to eliminate “specified in his/her job description”, “expected”, and “expectations” respectively

1. Fulfill the responsibilities of his/her job.
2. Perform tasks that are part of his/her job.
3. Meet performance standards.

Open-End Questions

IS THERE ANYTHING ELSE YOU WOULD LIKE US TO KNOW ABOUT YOUR JOB?

IS THERE ANYTHING ELSE YOU WOULD LIKE US TO KNOW ABOUT [NAME]?

EMPLOYEES

(Only the items that are different from those of the supervisor survey or that capture new constructs are listed below)

Dependent variables

Measured at T1 and T2

7 pt scale, -3=strongly disagree, 0=neither agree nor disagree, +3=strongly agree

Job Satisfaction (Edwards & Rothbard, 1999)

Your feelings about your job

- In general, I am satisfied with my job.
- All in all, the job I have is great.
- My job is very enjoyable.

Frustration

(revised)

- When I think about my job, I feel frustrated.
- I am frustrated with my job.
- In general, I experienced frustration with my job.

NOTE: original items were developed for an experiment, so I revised items for survey.

Source: Peters, O'Connor, & Rudolf (1980) The behavioral and affective consequences of performance-relevant situational variables. *Organizational Behavior and Human Performance*, 25, 79-96

- Trying to get this "job" done was a very frustrating experience,
- Being frustrated comes with this "job," and
- Overall, I experienced very little frustration on this "job" (reverse scored).

Turnover intention

Modified from Adams and Beehr (1998)

Source: Adams, G. A., & Beehr, T. A. (1998). Turnover and retirement: A comparison of their similarities and differences. *Personnel Psychology*, 51, 643-665

- I am planning to leave my job.
- I often think of quitting this job.
- I would like to quit this job.

Trust in the supervisor

(Lambert et al., 2012)

- "I trust my supervisor to look out for my best interests."
- "My supervisor is trustworthy."
- "I can count on my supervisor to protect my interests."

Perceived Workload

Source: Work Value Survey, Edwards and Cable, (2002)

Direction: Please indicate how much you have of each characteristic in your job.
7 pt scale, 1=None, 4=Moderate Amount, 7=A Great Deal

- The workload you will have.
- The quantity of work you have to do.
- The workload, the amount of things that need to be done.

Organizational Identification (Mael & Ashforth, 1992)

Your feelings about the organization where you work

- When someone criticizes my organization, it feels like a personal insult.
- I am very interested in what others think about my organization.
- When I talk about this organization, I usually say 'we' rather than 'they'.
- This organization's successes are my successes.
- When someone praises this organization, it feels like a personal compliment.
- If a story in the media criticized the organization, I would feel embarrassed.

-original items-

With the exception of sentimentality, all the variables below are measured with items specific to an educational organization. However, these variables can be modified for use in other organizations. For example, the terms student, alumni, instructor, school, and conference can be replaced with employee, employees, manager, organization, and industry.

[1 = Strongly agree; 5 = Strongly disagree]

1. When someone criticizes (name of school), it feels like a personal insult.
2. I am very interested in what others think about (name of school).
3. When I talk about this school, I usually say "we rather than 'they'
4. This school's successes are my successes.
5. When someone praises this school, it feels like a personal compliment.
6. If a story in the media criticized the school, I would feel embarrassed.

Perceived Organizational Support (Eisenberger et al. 1997)

Source: Eisenberger, R., J. Cummings, J., Armeli, S., & Lynch, P., (1997). "Perceived organizational support, discretionary treatment, and job satisfaction." *Journal of Applied Psychology* 82(5): 812-820.

Your opinions about the organization where you work

- My organization cares about my opinion.
My organization really cares about my well-being.
- My organization strongly considers my goals and values.
- Help is available from my organization when I have a problem.
- My organization would forgive an honest mistake on my part.

- If given the opportunity, my organization would take advantage of me. (R)
- My organization shows very little concern for me. (R)
- My organization is willing to help me if I need a special favor.

-Original items & scales are same as above-

LMX (Liden et al., 1996 JoM) 12 items –multi dimensions

- “I like my supervisor as a person”
- “My supervisor one would like to have as a friend”
- “My supervisor is a lot of fun to work with”
- “My supervisor defends my actions to a superior”
- “My supervisor would come to my defense if I were attacked”
- “My supervisor would defend me to others if I made an honest mistake”
- “I do work for my supervisor that goes beyond my job description”
- “I am willing to apply extra efforts to meet supervisors work goals”
- “I do not mind working my hardest for my supervisor”
- “I am impressed with my supervisors knowledge of the job”
- “I respect my supervisors knowledge and competence on the job”
- “I admire my supervisors professional skills”

Note: Items captured four dimensions of LMX (affect, loyalty, contribution, respect) and can be aggregated into one measure).

LMX 7 items) –these were not used because Liden’s measure may have superceded the older items and the LMX7 items are more problematic than the Liden measure.

Leader Member Exchange (LMX) Scandura & Graen 1984 JAP

Source: Scandura, T. A., & Graen, G. B. 1984. Moderating effects of initial leader-member exchange status on the effects of a leadership intervention. *Journal of Applied Psychology*, 69: 428-436.

- I always know how satisfied my supervisor is with what I do.
- My supervisor understands my problems and needs well enough.
- My supervisor recognizes my potential some but not enough. (R).
- My supervisor would personally use his/her power to help me solve my work problems.
- I can count on my supervisor to bail me out at his/her expense when I really need it.
- I have enough confidence in my supervisor to defend and justify my decisions when I am not present to do so
- My working relationship with my supervisor is extremely effective

Mediator

Perceived Meaningfulness

- The work I do on this job is very important to me.

- My job activities are personally meaningful to me.
- The work I do on this job is significant to me.

Some of the original items were adopted from the JDS and other items were developed by the authors. Lisa Schurer Lambert chose three items to capture perceived meaningfulness in the job.

-Original Items (May et al., JOOP 2004)-

Source: May, D. R., Gilson, R. L., & Harter, L. M., (2004). The psychological conditions of meaningfulness, safety, and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology*, 77, 11-37

- **The work I do on this job is very important to me.**
- **My job activities are personally meaningful to me.**
- The work I do on this job is worthwhile.
- **My job activities are significant to me.**
- The work I do on this job is meaningful to me.
- I feel that the work I do on my job is valuable.

-Original Items-

(Job Diagnostic Survey, Hackman & Oldham, 1980)

- The work I do on this job is very meaningful to me.
- Most of the things I have to do on this job seem useless or trivial. (R)
- Most people on this job find the work very meaningful.
- Most people on this job feel that the work is useless or trivial. (R)

Experienced responsibility for the work (JDS)

- I feel a very high degree of personal responsibility for the work I do on this job.
- I feel I should personally take the credit or blame for the results of my work on this job.
- Whether or not this job gets done right is clearly my responsibility.
- It's hard, on this job, for me to care very much about whether or not the work gets done right. (R)

-Original Items-

I feel a very high degree of personal responsibility for the work I do on this job.

I feel I should personally take the credit or blame for the results of my work on this job.

Whether or not his job gets done right is clearly my responsibility.

It's hard, on this job, for me to care very much about whether or not the work gets done right. (R)

Most people on this job feel a great deal of personal responsibility for the work they do.

Most people on this job feel that whether or not the job gets done right is clearly their own responsibility. (R)

Knowledge of results

- I usually know whether or not my work is satisfactory on this job.
- I can figure out whether I'm doing well or poorly on this job.
- I have a pretty good idea of how well I perform my work.

-Original Items-
(Hackman & Oldham, 1980)

- I usually know whether or not my work is satisfactory on this job.
- I often have trouble figuring out whether I'm doing well or poorly on this job. (R)
- Most people on this job have a pretty good idea of how well they are performing their work.
- Most people on this job have trouble figuring out whether they are doing a good or a bad job. (R)

Moderator

Independent Variables

Five Core Job Characteristics

7 pt scale, 1=none, 4=moderate amount, 7=a great deal

All items are asked with two different types of questions (N-S fit)

- a. How much do you feel is right for you? (Need)
- b. How much is present in your job? (Supply)

Variety (Edwards et al. 2006 JAP)

- Doing a variety of things.
- Doing something different every day.
- Doing many different things on the job.

Original items: same as mentioned above.

AUTONOMY

- Doing your work in your own way.
- Determining the way your work is done.
- Being able to make you own decisions.

Original Items (Edwards et al. 2006 JAP): Same as above.

FEEDBACK

- Getting Direct and clear information about the effectiveness of the job through the work activities
- Receiving feedback on your performance from the job itself.
- Getting Information about your performance from the job itself.

Original items (Morgeson & Humphrey, 2006 JAP)

Feedback From Job

1. The work activities themselves provide direct and clear information about the effectiveness (e.g., quality and quantity) of my job performance.
2. The job itself provides feedback on my performance.
3. The job itself provides me with information about my performance.

IDENTITY

- Completing a piece of work that has an obvious beginning and end.
- Being able to do an entire piece of work from beginning to end.
- Finishing completely the pieces of work you begin.
- Completing the work you start.

Original items (Morgeson & Humphrey, 2006 JAP)

Task Identity

1. The job involves completing a piece of work that has an obvious beginning and end.
2. The job is arranged so that I can do an entire piece of work from beginning to end.
3. The job provides me the chance to completely finish the pieces of work I begin.
4. The job allows me to complete work I start.

SIGNIFICANCE

- Significance to the lives of other people.
- Being significant and important in the broader scheme of things
- Impact of my job on people outside the organization.
- Impact of my work-performance on people outside the organization.

Original items (Morgeson & Humphrey, 2006 JAP)

Task Significance

1. The results of my work are likely to significantly affect the lives of other people.
2. The job itself is very significant and important in the broader scheme of things.
3. The job has a large impact on people outside the organization.
4. The work performed on the job has a significant impact on people outside the organization.

Control Variables

7 pt scale, 1=none, 4=moderate amount, 7=a great deal

PA/NA (from SD)

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063-1070

These items describe different feelings people may have. Read each item and indicate to what extent you generally feel this way, that is, how you feel on average. There are no right or wrong answers; we simply want to know how you feel. Use the following scale to record your answers.

- Interested
- Distressed
- Excited
- Upset
- Strong
- Guilty
- Scared
- Hostile
- Enthusiastic
- Proud
- Irritable
- Alert
- Ashamed
- Inspired
- Nervous
- Determined
- Attentive
- Jittery
- Active
- Afraid

Other Questions

GENDER “What is your gender?”

“Male” 2 “Female”

AGE “What was your age on your last birthday?”

EDUC “Highest level of education”

1 “High School” 2 “Some college” 3 “Associates degree” 4 “College degree” 5 “Advanced degree”

SUP_POS “Which of the following best describes your supervisor’s management position?”

1 “Top mgt” 2 “Middle mgt” 3 “Supervisory”

The questions for education level & supervisor position should be revised for the sample properly.

SUP_GENDER “Supervisor’s gender”

1 “Male” 2 “Female”

SUP_AGE “Supervisor’s age”

SUPWORK “How many years have you worked for your supervisor?”

SUPREprt “How many people report directly to your supervisor (including yourself)”

YOUREprt “How many people report directly to you?”

OCC “Which occupational category best describes your job duties?”

- 1 “Management/Business/Financial”
- 2 “Science/Engineering/Computing Professional”
- 3 “Healthcare Practitioner Professional”
- 4 “Other Professional”
- 5 “Technician”
- 6 “Sales/Marketing/Communication/Customer Services”
- 7 “Administrative Support/Clerical/Secretarial”
- 8 “Construction/Extractive Craft”
- 9 “Installation/Maintenance/Repair”
- 10 “Production Operations/Quality Control”
- 11 “Purchasing/Logistics/Distribution/Transportation”
- 12 “Laborer/Helper”
- 13 “Protective Service/Military/Police”
- 14 “Service Work (except protective)”
- 15 “Other”

EMPTENURE “How long have you worked for your current employer?”

OCCTENURE “How long have you been in your current occupation?”

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