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For the degree of Master of Science

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THE EFFECTS OF JOB CHARACTERISTICS ON CITIZENSHIP PERFORMANCE

A Thesis

Submitted to the Faculty

of

Purdue University

by

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ABSTRACT

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The study of job performance has been a high priority for organizational researchers and practitioners alike. Models of performance have acknowledged that it is affected by both individual differences and environmental factors and also that behaviors outside the job description, called citizenship performance, have value. Despite these acknowledgements, researchers have placed much more emphasis on understanding the influence of individual differences (rather than environmental characteristics) on citizenship performance. Counter to the emphasis on individual differences, the current study sought to evaluate the relationships between environmental characteristics and citizenship performance in the context of the Job Characteristics Model (JCM) and to determine whether the relationships could be both theoretically and empirically understood. Additionally, the relative importance of the environmental variables in the JCM were evaluated and compared to well-known individual difference predictors of citizenship performance. Finally, the current study sought to provide initial evidence for different patterns of relationships between the JCM variables and the three facets of citizenship performance. Undergraduate students employed for at least 20 hours per week were recruited for participation ($n = 379$) in a cross-sectional study, and data were

analyzed using structural equation modeling and regression. Generally, model tests revealed that the JCM as configured performed poorly, though the variables did predict citizenship performance. When job satisfaction was added as another mediator in the model, results were slightly better. Regarding incremental validity, JCM variables were able to explain variance above and beyond the individual difference variables, providing additional support for the importance of the environment in understanding behavior. One implication of this is that practitioners may be able to justify changes to the work environment in an effort to increase citizenship performance. Future research should continue to explore the environment's effects on citizenship.

CHAPTER 1. INTRODUCTION

1.1. Performance in Organizations

Job performance, or an employee's successful completion of the work associated with a particular job, is critical to organizational effectiveness (Borman, 2004). The overall construct of job performance can be broken down into at least three sub-types: task performance, adaptive performance and citizenship performance. This distinction is based on research findings that the kinds of behaviors included in each subtype do not overlap and the behaviors classified within each subtype are predicted by different variables (Borman & Motowidlo, 1993). This three-factor conceptualization of performance is useful for comprehensively understanding the range of behaviors included in job performance, while acknowledging the fundamental differences between them (Schmitt, Cortina, Ingerick, & Wiechmann, 2003).

Although the current study focuses on citizenship performance, a definition of the other two constructs that encompass job performance is helpful. Behaviors that are categorized as task performance include those that involve or maintain the "technical core" of the organization, defined by Borman and Motowidlo (1993) as any behaviors involving the transformation of raw materials into the products or services offered by the organization. Task performance consists of behaviors that tend to be determined by the kind of job a person holds and have a central role in the formal reward structure. While

task performance has traditionally been the central focus of organizational research, the changing nature of work and the acknowledgement that jobs are typically comprised of more than task-related behaviors has led to the investigation of other kinds of performance. The newest type of performance with some support in the literature, adaptive performance, refers specifically to the requirement of versatility in the modern work environment (Schmitt et al., 2003). While the adaptive performance concept is still too new to have accrued much empirical support, clearly the factors suggested do not relate to the “technical core” of most jobs (critical to the definition of task performance), nor do they duplicate the factors of citizenship performance.

Citizenship Performance

Citizenship performance is defined as behaviors that support the environment in which the technical core must function and is important primarily because it “shapes the organizational, social, and psychological context that serves as the critical catalyst for task activities and processes” (Borman & Motowidlo, 1993, p. 71). Unlike task performance, citizenship performance consists of behaviors that are not prescribed by the job itself, but are nonetheless important to organizational functioning.

Behaviors under the citizenship performance categorization may include helping co-workers with their jobs, supporting the organization, and volunteering for additional responsibilities. One factor that differentiates task performance from citizenship performance is that the behaviors associated with citizenship performance are typically the same across jobs, while behaviors associated with task performance vary based on the kind of job one performs (Borman, Penner, Allen, & Motowidlo, 2001). Additionally,

citizenship performance, because of its discretionary nature, is more heavily influenced by personality and attitudinal factors than task performance (Motowidlo, Borman, & Schmit, 1997).

Research has supported a three-dimension model of citizenship performance: personal support, organizational support, and conscientious initiative (Borman et al., 2001). *Personal support* includes behaviors aimed at aiding individuals within the organization by helping, cooperating, motivating, and showing courtesy. *Organizational support* is characterized by behaviors that aid the organization in some way, including being a good representative, showing loyalty, and being compliant. *Conscientious initiative* refers to behaviors that demonstrate doing one's best, including persistence, showing initiative, and engaging in self-development.

Citizenship performance, also called contextual performance by Borman and Motowidlo (1993, 1997), is closely related to organizational citizenship behavior (OCB), which is defined as behavior not formally rewarded by compensation systems, but that contributes to effective functioning in organizations (Organ, 1988). Coleman and Borman (2000) combined OCB and prosocial behavior with the soldier effectiveness model to create the three-dimension taxonomy of citizenship performance described above. They believed that this conceptualization reflected all of the concepts from previously researched domains while maintaining parsimony. In the present study, the term used by the original authors will be used while reviewing their research, but OCB, contextual performance, and citizenship performance are considered synonymous terms for research dated after 1997 (Organ, 1997).

1.2. Person-Environment Interaction and Performance

Because performance is so important to organizations, researchers and practitioners alike have focused on determining on how to improve it. One approach is to determine what variables are related to job performance. By understanding which constructs relate to performance, organizations could make changes to their human resources processes to attempt to increase overall job performance. Two major categories of predictors have been examined to try to identify what may influence performance in organizations: individual difference factors and environmental factors.

Researchers in psychology have traditionally focused on individual differences, especially personality, as a way to understand and predict behavior. Personality and other individual difference traits are generally assumed to be relatively stable across situations and time (Staw & Ross, 1985). However, some psychologists have argued that behavior is a function of situations—that is, while personality may be stable, it may manifest into different behaviors in different situations (Mischel, 1977). One difficulty of studying trait-behavior relationships in organizational settings is that the behaviors of interest may be affected by group norms, or other characteristics of the job situation (Davis-Blake & Pfeffer, 1989, House, Shane, & Herold, 1996; Pfeffer, 1997), both of which constitute environmental factors. This has held true for the study of performance as well. Thus, given that job performance is a specific set of behaviors, a more inclusive view is that performance is a function of the interaction between a person and his or her environment (Mischel, 1977). Both individual differences and environmental factors are relevant.

Individual Difference Factors

Individual difference variables have been popular predictors in industrial-organizational psychology, especially with regard to their ability to predict task and overall job performance when selecting employees (e.g., Hunter & Hunter, 1984; Hertz & Donovan, 2000; Kuncel, Ones, & Sackett, 2010; Mount & Barrick, 1991; Reilly & Chao, 1982). In particular, cognitive ability is well recognized as the best predictor of job performance across situations, with a corrected criterion related validity $r = .51$ (Schmidt & Hunter, 1998).

Predictive relationships between individual differences and citizenship performance or similar constructs (e.g., OCB, extra-role performance, contextual performance) have also received empirical attention and support. Several meta-analyses have focused on personality predictors and repeatedly found that conscientiousness and agreeableness are the strongest Big Five predictors of citizenship performance (Borman et al, 2001; Chiaburu, Oh, Berry, Li, & Gardener, 2011; Hertz & Donovan, 2000; Organ & Ryan, 1995) Interestingly, the best individual difference predictor outside of personality is locus of control, or the extent to which individuals believe they have control over important outcomes (Borman et al., 2001; Judge & Bono, 2001). That is, employees who feel they have control of their outcomes are more likely to engage in citizenship performance.

Environmental Factors

Although the importance of examining the person and the environment in order to understand behavior has been acknowledged (Davis-Blake & Pfeffer, 1989; House,

Shane, & Herold, 1996; Mischel, 1977; Pfeffer, 1997), citizenship performance research has widely focused on individual difference predictors. Given that environment is part of the generic performance equation along with individual differences, research needs to explore other avenues of the environment to better understand citizenship performance.

Research exists that establishes citizenship performance's value to work effectiveness in organizations (Allen & Rush, 1998; Chiaburu et al, 2011; Podsakoff, Whiting, Podsakoff, & Blume, 2009). Despite this, in many organizational settings, task performance is still widely considered the most important form of performance because it is even more obviously critically related to the organization's productivity and earnings potential (Iles, Scott, & Judge, 2006). As a result, an organization may not target citizenship performance when selecting employees. However, by identifying environmental factors that affect the extent to which employees voluntarily go above and beyond, leaders and managers may be able to rearrange or alter worker environments to promote citizenship behaviors on the job.

As stated earlier, situations affect behavior. Social psychology has long acknowledged the "strong situation" as a moderator of the effect of individual differences on performance (Chatman, 1989; Hatrup & Jackson, 1996; Hough & Schneider, 1996; Mischel, 1977). As evidence related to this, Barrick and Mount (1993) found that the amount of autonomy in a job performance environment altered the strength of the personality-job performance relationship. Additionally, Beaty, Cleveland, and Murphy (2001) found that the relationship between personality and contextual performance did in fact vary depending on the situation strength. For organizations, this may mean that hiring employees based on personality traits associated with greater performance can still

be ineffective if the environment is not conducive for individuals with those traits to exhibit citizenship. Beaty et al. (2001) suggested that empirical investigations of the effects of situation and environmental influences are necessary in order to begin to understand the complexities of the person-environment interaction related to performance in organizations. The current study seeks to add to the literature by empirically testing one environmental influence model (i.e., the Job Characteristics Model) using citizenship performance as the behavioral outcome.

Long before job characteristics and citizenship were ever formally conceptualized and researched, Katz (1964) discussed the importance of fostering an organizational environment in which members of the organization would be free from constraints that might keep them from performing citizenship behaviors spontaneously. Despite this early assertion, only recently have researchers examined the relationship between job characteristics and citizenship performance.

Kerr and Jermier's (1978) "Substitutes for Leadership Model" proposed that certain employee, task, and organizational characteristics are able to neutralize the effects of leadership in organizations. Substitutes for leadership are aspects of an individual's job setting that influence performance and consequently decrease the relationship between the leader's behaviors and the subordinate employee's outcomes (Podsakoff, Niehoff, MacKenzie, & Williams, 1993). When studying specific aspects of this model, research has repeatedly found relationships between several task characteristics and employee (OCB) (Podsakoff, MacKenzie, & Bommer, 1996; Podsakoff, MacKenzie, Paine, & Bachrach, 2000). That is, task characteristics including feedback, task routinization, and autonomy have been found to relate significantly to subordinate's performance of OCB.

Though abundant research has supported the idea that certain characteristics of the job affect a person's citizenship performance, these relationships have not been studied extensively outside of substitutes for leadership. Additionally, the links between job characteristics and citizenship performance have not been thoroughly examined in the context of sound theory aimed specifically at these relationships.

Hackman and Oldham (1980) asserted that organizations too often make the error of placing most of the emphasis on individual characteristics when trying to understand behavior, essentially ignoring aspects of the work environment. These authors argue that altering the work environment is a better way to attain desired behavioral changes in employees, for example, increased performance. Hackman and colleagues focused their research on specific characteristics associated with jobs and how these characteristics might affect an individual's subsequent motivation and task performance. As they hypothesized, job characteristics were shown to directly affect employee attitudes and behaviors at work, providing support for the importance of environmental influences on performance (Hackman & Lawler, 1971). Hackman and Oldham (1975, 1976, 1980) expanded upon these findings in several subsequent publications and established the Job Characteristics Model (JCM), which is an attempt to "extend, refine, and systematize the relationships described between job characteristics and individual responses to work" (p. 255). Their model offers an organized way of examining how environmental factors may affect behavior in organizations (see Figure 1).

The Job Characteristics Model

The JCM suggests that five core job dimensions (i.e., skill variety, task identity, task significance, autonomy, and feedback) are important for work outcomes (refer to Appendix B for a brief definition of each construct in the model). Hackman and Oldham (1980) advocated for the use of the Motivating Potential Score (MPS) to measure the degree to which the task characteristic conditions of the model were met, as a way to compare the presence or absence of the core job characteristics across jobs. Following from this, previous research relied on the correlation between MPS and performance ratings as a test of the model. The MPS reflects the degree to which the job has the potential to be motivating for an individual and is calculated by combining that person's ratings of the five core job dimensions according to the following formula:

$$[(\text{Skill Variety} + \text{Task Identity} + \text{Task Significance})/3] \times \text{Autonomy} \times \text{Feedback} = \text{MPS}$$

The five core job characteristics are the antecedents of three psychological states (i.e., experienced meaningfulness, responsibility for outcomes, and knowledge of results). When skill variety, task identity and task significance are present, they lead the employee to experience the work as meaningful. When a job provides an individual with autonomy, it is believed to lead to experiencing responsibility, referring to feelings of personal responsibility for the outcomes of work. Lastly, job feedback is critical to the development of the critical psychological state of knowledge of the results of work.

These five job characteristics promote their respective critical psychological states, which then are expected to lead to beneficial personal and work outcomes at the individual level. These outcomes include work motivation, growth satisfaction, job satisfaction, and work effectiveness (synonymous with job performance). Thus, the five

core job characteristics affect outcomes to the extent that they activate the three critical psychological states. That is, the psychological states are proposed to be mediators (Hackman & Oldham, 1980). Additionally, as shown in Figure 1, the relationships between the core job dimensions and the critical psychological states, as well as the relationships between the critical psychological states and the personal and work outcomes, are thought to be moderated by an individual's growth need strength, skills and abilities, and context satisfactions (Hackman & Oldham, 1980). Overall, research on the JCM has been supportive of its elements, except results have not consistently demonstrated empirical support for the moderators (Fried & Ferris, 1987; Johns, Xie, & Fang, 1992; Tieg, Tetrick, & Fried, 1992).

1.3. The Job Characteristics Model and Citizenship Performance

The study of the relationship between the core job characteristics and various behavioral outcomes has been the most prolific area of research related to the model, with specific attention paid to job performance, typically operationalized and measured as task performance. Meta-analytic evidence has demonstrated mixed support for the relationships between job characteristics and both psychological and performance outcomes. Fried and Ferris (1987) used nearly 200 samples in their meta-analysis examining the relationships between each of the core job characteristics and several individual-level outcomes, including task performance. Findings suggested that the strongest relationship between a core job characteristic and task performance existed for task identity (corrected $r = .13$), and that the MPS, used as an overall measure of job characteristics, showed a weak relationship with performance (corrected $r = .08$).

Additionally, Fried and Ferris found support for the mediating effects of the critical psychological states when psychological outcomes (e.g., job satisfaction, growth satisfaction, internal motivation) were examined, but not with regard to task performance.

Though the JCM generally has more support (DeVaro, Li, & Brookshire, 2007; Fried & Ferris, 1987; Hackman & Oldham, 1976, 1980) when predicting non-performance outcomes, Namm (2004) suggested that the weak job characteristics-job performance relationships could be due to use of traditional measures of task performance, which are constrained by a person's skills and abilities related to the technical aspects of the job, even given high motivation. If this is true, then a different measure of performance (e.g., citizenship performance) that is not affected by task skills and abilities may show stronger relationships with the job characteristics. Thus, a type of performance that is driven by the individual's psychological state may be well-suited as an outcome in the JCM. This would be consistent with Fried and Ferris's (1987) finding that the critical psychological states were better mediators of the task characteristic effects on psychological outcomes (e.g., job satisfaction, growth satisfaction, internal motivation) than on task performance outcomes.

Research has suggested that performance of behaviors outside one's job description (including citizenship performance, OCB, contextual performance, and extra-role performance) is more likely to be influenced by attitudinal and affective factors (Bateman & Organ, 1983). For example, if an employee is in a good mood, perhaps because of a pleasant experience with a co-worker or a recent raise, positive affect is likely to be generalized and directed towards other co-workers or towards the organization. Previous research has linked affective states to OCB (Rioux & Penner,

2001), making a measure of a similar construct a likely candidate to result in a stronger relationship with job characteristics. Thus, the similarities between OCB and citizenship performance suggests that citizenship performance may relate better to job characteristics than do the other sub-types of performance (Borman et al., 2001; Schmitt et al., 2003).

Evidence for Relationships between JCM Variables and Citizenship

Next, empirical research will be reviewed that supports the theoretical connections between citizenship performance and job characteristics. The presence of support for links within the model, even when only examined in isolation, gives more rationale for exploring the effect of job characteristics on citizenship performance. However, as the review below reveals, most of the research has been correlational, not experimental, making a causative link more tenuous.

Based on the standards for mediation determined by Baron and Kenny (1986), in order to establish that the relationships between the core job characteristics and citizenship performance are mediated by the critical psychological states, empirical support should be provided demonstrating links between (a) the core job characteristics and critical psychological states, (b) the core job characteristics and citizenship performance, and (c) the critical psychological states and citizenship performance. The following three sections focus on evidence supportive of each of the links in this mediated model.

Core Job Characteristics and Critical Psychological States

The first of these links (i.e., relationships between the job characteristics and critical psychological states) was established in several of Hackman and Oldham's (1975, 1976, 1980) initial publications on the JCM. In the process of validating the JCM, other authors have established the links between the job characteristics and the critical psychological states as well, thus providing substantial evidence for the first link in the mediation sequence (Beheson, Eddy, & Lorenzet, 2000). Table 1 provides an empirical review of the relationships between job characteristics and the critical psychological states reported in the literature. Summarizing the data in Table 1 reveals that the five task characteristics had the following mean correlations with each of the three critical psychological states: experienced meaningfulness ($r = .39$), responsibility for work outcomes ($r = .32$) and knowledge of results ($r = .31$). Moreover, some JCM researchers have cited findings suggesting that the core job characteristics and critical psychological states are related in ways that are not specified by the JCM as evidence for a reconfiguration of the model (Johns, Xie, & Fang, 1992). While these authors have suggested additional relationships between job characteristics and critical psychological states, they have not discredited the existing, designated links in the model. A sum of this evidence, especially the mean correlations calculated from the available evidence and displayed in Table 1, provides solid support for the first relationship required to establish mediation as indicated in the JCM.

Core Job Characteristics and Citizenship Performance

Most of the evidence supporting the relationship between job characteristics and citizenship performance comes from the substitutes for leadership literature, which happened upon this connection serendipitously (Podsakoff et al., 2000). Taken together, the findings from this literature show some empirical support for the links between the core job characteristics and citizenship performance, as summarized in Table 2. The five task characteristics had the following mean relationships across the various citizenship dimensions: skill variety ($r = .19$), task significance ($r = .16$), task identity ($r = .12$), autonomy ($r = .13$) and feedback ($r = .12$). Given that some of these means are based on just one or two studies, the following narrative will focus only on the two task characteristics covered by the Podsakoff et al. (1996) meta-analysis: skill variety and feedback.

An employee's perception of the repetitive nature of the job, called task routinization in the substitutes for leadership literature (the opposite of skill variety in the JCM), was found to be related negatively to several aspects of an employee's citizenship performance. In their meta-analysis of the relationships between substitutes for leadership and various performance indicators, Podsakoff et al. (1996) found significant, corrected correlations ranging from $r = -.10$ to $-.30$ for the relationship between task routinization and the five facets of OCB. This indicates that the more routine people's jobs become, the less they engage in behaviors consistent with citizenship performance. The same meta-analysis of substitutes for leadership literature included 24 studies involving task feedback, which is synonymous with Hackman and Oldham's (1980) feedback job

characteristic. Feedback was significantly and positively correlated with five dimensions of OCB, showing corrected r values ranging from .16 to .21 (Podsakoff et al., 1996).

In sum, the findings from the substitutes for leadership literature suggest that, although the relationships are not strong, task characteristics are related to citizenship performance. That is, these findings are supportive of the direct links between the core job characteristics and citizenship performance. However, these studies fail to consider aspects of the JCM that are vital to its functionality, the critical psychological states.

Critical Psychological States and Citizenship Performance

The relationships between job characteristics and work outcomes in the JCM are fully mediated by the critical psychological states. Hackman and Oldham (1976) illustrated the importance of this relationship to their model, asserting “the psychological states....are the causal core of the model” (p. 255). Although an empirical foundation for the direct relationships between the core job characteristics and citizenship performance has been provided, a relationship between the critical psychological states and citizenship performance must be also established in order to provide evidence for the mediation prescribed by the model. As can be seen in Table 2, much less empirical research has investigated these links in the model.

Although the link between experienced meaningfulness and citizenship performance was not directly tested by Fahr, Podsakoff, and Organ (1990), they showed relationships between the task variables related to this psychological state and OCB, and this provides indirect support for an experienced meaningfulness-citizenship link. Moreover, they suggested that employees who have a better understanding of both the

needs and troubles of their co-workers within the organization will be more able to recognize when citizenship performance is needed. Additionally, these researchers suggested that understanding may be developed through experienced meaningfulness, as it may aid a person in developing the ability to understand the contextual importance of the job and better understand the interdependence of members of the organization. Namm (2004) provided additional support for this assertion with significant correlations ranging from .25 to .27 between experienced meaningfulness and four dimensions of OCB. Todd and Kent (2006) also reported a significant, positive correlation between experienced meaningfulness and altruism ($r = .36, p < .01$) and sportsmanship ($r = .19, p < .01$).

Pearce and Gregersen (1991) found support for their hypothesis that task interdependence would relate to OCB, and that the relationship would be mediated by felt responsibility. Employees who work in an environment where they perceive that their jobs are dependent on others are more likely to engage in OCB, but only when they feel responsible for the outcomes of their work. Felt responsibility was positively related to altruism ($r = .20, p < .001$). This finding suggests that employees who feel greater responsibility are more likely to assist their co-workers, providing support for one of the mediated links in the JCM.

Renn and Vandenberg (1995) suggested that positive feedback given to employees when they are working effectively may lead them to expend greater effort and persistence during task performance. Namm (2004) expanded on this idea, asserting that greater efforts may be demonstrated via citizenship performance behaviors that will benefit the organization. She found positive correlations between knowledge of results and both courtesy ($r = .15, p < .05$) and conscientiousness ($r = .20, p < .01$) supporting

her assertion. Therefore, employees who feel competent (due to their knowledge of the results of their work) may be more likely to involve themselves in organizational affairs, providing rationale for a JCM link between knowledge of results and performance of citizenship behaviors.

In sum, although less empirical evidence is available to support the proposed relationships between the critical psychological states and citizenship performance, Fahr et al. (1990) and Renn and Vandenberg (1995) provide solid theoretical reasoning for why experiencing the critical psychological states should affect a person's citizenship performance. This bolsters the empirical case provided by Namm (2004), who demonstrated a correlational relationship between two critical psychological states (i.e., experienced meaningfulness and knowledge of results) and overall OCB ($r = .25, p < .01$ and $r = .15, p < .05$, respectively).

The Role of Job Satisfaction in the JCM-Citizenship Performance Relationship

Fried and Ferris' (1987) finding that the JCM performed better with psychological outcomes, specifically job satisfaction, is even more relevant to citizenship performance than to task performance. Studies of citizenship performance predictors routinely find that individuals who are satisfied with their jobs are more likely to engage in citizenship behaviors (Bateman & Organ, 1983; Borman et al., 2001; Iles, Scott, & Judge, 2006; Rioux & Penner, 2001; Organ & Ryan, 1995). A recent meta-analysis ($n = 87$) used hierarchical regression to examine the relative influence of the Big Five components compared to job satisfaction in prediction of three types of OCB and found that job satisfaction had the bigger influence. It accounted for up to 46% of the variance in OCB

(Chiaburu et al., 2011). Previous research has clearly established that job satisfaction is a valuable predictor of citizenship performance. Therefore, job satisfaction potentially serves an important role in both theoretically and empirically linking the JCM to citizenship performance and should be included in investigations of the model's ability to predict an alternate performance outcome.

Only one study has empirically tested the JCM using OCB as an outcome while taking the importance of job satisfaction into account. In an unpublished dissertation, Namm (2004) used structural equation modeling to test four JCM models: (1) a two-stage job characteristics-OCB model, (2) a three-stage job characteristics-OCB model with the critical psychological states as mediators, (3) a three stage job characteristics-OCB model with job satisfaction as the mediator, and (4) a four-stage model that includes job satisfaction as a mediator between the critical psychological states and OCB.

Namm found that the model with both the critical psychological states and job satisfaction as mediators of the relationships between the core job characteristics and OCB was the best fit for the data, but that the models had poor fit overall. A second set of models were tested that only included job characteristics significantly related to OCB (i.e., skill variety and task significance), and subsequently included only the critical psychological state related to those task characteristics, experienced meaningfulness. Namm found that a revised, three-stage model of the JCM (with experienced meaningfulness mediating only the relationships of task significance and skill variety with OCB) was the best fit for the data.

1.4. Present Study

The goals of the current study are threefold: 1) to compare two potential JCMs and evaluate the importance of job satisfaction in predicting citizenship performance (Hypotheses 1 and 2), 2) to explore the potential for JCM variables to differentially relate to the facets of citizenship performance (Hypotheses 3, 4, and 5), and 3) to evaluate the incremental usefulness of environmental predictors of citizenship performance against their more popular individual difference predictor constructs (Hypothesis 6).

Comparing Two JCMs

While the relationships between individual links in the JCM and citizenship performance seem to be supported with evidence from previous research, the findings in general are limited in their ability to establish the usefulness of the model as a theoretical framework for explaining the relationship between task characteristics and citizenship performance, per se. Despite plentiful evidence that *individual* job characteristics and psychological states are related to citizenship performance (e.g., Podsakoff et al., 1996; Renn & Vandenberg, 1995), only one study (i.e., Namm, 2004) has tested the JCM using citizenship performance as an alternative outcome to task or overall performance. The current study sought to determine if citizenship performance can be included in the JCM as a valid performance outcome (Figure 2). However, because the moderators proposed in the model have not been supported in previous research (Fried & Ferris, 1987; Johns et al., 1992; Tiegs et al., 1992), they were excluded from the current study. As such, I hypothesized:

H1: The critical psychological states will mediate the positive relationships between the core job characteristics and citizenship performance.

Acknowledging the well-established relationship between job satisfaction and citizenship performance (e.g., Bateman & Organ, 1983; Borman et al., 2001; Chiaburu et al., 2011; Fried & Ferris, 1987; Iles, Scott, & Judge, 2006; Organ, 1988) and Namm's (2004) rationale for the role of job satisfaction in the JCM, an alternative, four-stage model with job satisfaction mediating the relationships between the critical psychological states and citizenship performance was also tested (Figure 3). I hypothesized that:

H2: An elaborated model, where job satisfaction mediates the positive relationship between the critical psychological states and citizenship performance will be a better fit to the data than the three stage model posited in H1.

Differential Prediction of Citizenship Performance

Previous research has reported relationships of differing strengths between various individual difference predictors and the facets of OCB (Chiaburu et al., 2011). Similarly, the constraints of a job's design could differentially relate to an individual's tendency to perform citizenship behaviors, via activation of the critical psychological states. Based on findings from research exploring the magnitude and direction of the relationships between the critical psychological states (Table 2), or the most proximal variable to the outcomes in the model, and facets of OCB, I hypothesize that:

H3: Experienced meaningfulness will demonstrate moderate to strong, positive correlational relationships with personal support, organizational support, and conscientious initiative.

H4: Responsibility for outcomes will demonstrate weak, positive correlational relationships with personal support, organizational support, and conscientious initiative.

H5: Knowledge of results will demonstrate weak, positive correlational relationships with personal support and organizational support, but will demonstrate a moderate, positive relationship with conscientious initiative.

Incremental Validity of JCM Variables

Keeping in mind the wealth of research establishing predictive relationships between several individual difference variables and citizenship performance, the current study aims to empirically demonstrate the potential value of considering environmental characteristics (i.e., job characteristics). If JCM variables are found to have incremental validity over key individual differences, examining job characteristics may be useful in lieu of, or in addition to, selecting employees on the basis of individual difference variables known to affect citizenship performance. As such, I hypothesized that:

H6: The JCM variables will provide incremental validity beyond agreeableness, conscientiousness, and locus of control in the prediction of citizenship performance.

CHAPTER 2. METHOD

2.1. Participants

The sample was comprised of students at a large, public, Midwestern university on an urban campus. The student body at this university was a mix of traditional and non-traditional students, the majority of whom commute. All participants were at least 18 years of age and employed at least 20 hours per week. Recruiting targeted students enrolled in psychology courses during the spring semester of 2011. Students in introductory-level courses were recruited through the human participant research pool and awarded .5 research credits towards their course requirement in exchange for participation. Students in upper-level courses were recruited indirectly through their course instructors. All faculty teaching upper-level courses were invited to allow students from their classes participate in exchange for extra credit.

Responses from a total of 406 participants were collected. Upon reviewing the data, one incomplete response was deleted because it was from a duplicate email address, and the other response from the same address was complete. Another 26 responses were deleted because the respondents did not meet the 20-hour per week work requirement for inclusion in the study. In addition, an analysis of missing data was conducted to determine if any responses needed to be excluded. The vast majority of respondents with

missing items (81 of 87) were missing 2 items or fewer, and no respondents skipped more than 1 item on a given scale. As a result, no respondents were dropped for missing data. The final sample included 379 respondents, ranging in age from 18 to 55 years old ($M = 22.87$, $SD = 5.68$). Respondents were predominately female (77% female), and all responses used in analyses were from participants who indicated they were currently employed at least 20 hours per week.

2.2. Measures

Participants completed a demographic questionnaire that asked for basic information including their age, gender, the title of the job they perform, how many hours per week they work, and the length of time employed in their current job. Additionally, participants selected the job family that best described their current job from an O*NET list. Participants then completed sections of the Job Diagnostic Survey, the Work Locus of Control Scale, two personality subscales created using the International Personality Item Pool (IPIP), a measure of job satisfaction, and a self-rating measure of citizenship performance. All of these measures are in separate sections of Appendix B.

Job Diagnostic Survey

The core job characteristics and critical psychological states were measured using the Job Diagnostic Survey (JDS) developed by Hackman and Oldham (Hackman & Oldham, 1975, 1980). These items were also used to calculate a motivating potential score for each respondent. Each section of the JDS is discussed below.

Core Job Characteristics

Two sections of the JDS were used to measure the five core job characteristics: skill variety, task identity, task significance, autonomy, and feedback from the job. Each characteristic was measured using three questions for a total of 15 items. The first section contained five questions, one for each of the core characteristics, which asked participants to rate the presence of that characteristic in their focal job on a scale ranging from 1 indicating “very little” to 7 indicating “very much.” In the second section, which contained two questions per core job characteristic, participants again responded to statements about their job on a 7-point scale with anchors of 1 indicating “very accurate” and 7 indicating “very inaccurate”. Cronbach alpha estimates for each of the core job characteristics were calculated by Taber and Taylor (1990), a meta-analysis with N greater than 8,742, and were as follows: skill variety: .71; task identity: .68; task significance: .65; autonomy: .69; and feedback: .70. In the current study, Cronbach alpha values were somewhat higher on 4 of the 5 job characteristics. These reliabilities (along with item-total correlation means and ranges) are as follows: skill variety: .65 (.39, .11); task identity: .71 (.44, .06); task significance: .79 (.55, .17); autonomy: .77 (.52, .27); and feedback: .75 (.49, .29).

Critical Psychological States

Two sections of the JDS directly asked respondents about aspects of their job related to the three critical psychological states. One section contained 15 items and asked participants to rate the statements on a scale ranging from 1, “disagree strongly” to 7 “agree strongly” describing how they personally feel about their jobs. The second

section contained 10 items measured using the same scale, but asked respondents to rate statements based on how other people doing the same work feel about the job. Cronbach alpha estimates for the critical psychological states were: knowledge of results: .72; experienced meaningfulness: .72; and experienced responsibility: .67 as calculated by Tieg, Tetrick, & Fried (1992), a study with $n = 6405$. For the current study, Cronbach alpha values were higher and are reported next (with item-total correlation means and ranges): knowledge of results: .75 (.43, .15); experienced meaningfulness: .85 (.59, .18); and experienced responsibility: .76 (.34, .48).

Motivating Potential Score

The motivating potential score (MPS) was calculated based on the responses to the aforementioned sections of the JDS. The MPS was calculated using the Hackman and Oldham (1980) multiplicative formula and also using a formula that additively combined the five job characteristics. Respectively, these are MPS_1 and MPS_2 :

$$MPS_1 = [(Skill\ Variety + Task\ Identity + Task\ Significance)/3] \times Autonomy \times Feedback$$

$$MPS_2 = Skill\ Variety + Task\ Identity + Task\ Significance + Autonomy + Feedback$$

Work Locus of Control

The extent to which individuals feel they have control over important outcomes at work was measured using Spector's (1988) Work Locus of Control Scale, which contained 16 items measured on a 6-point Likert-type scale, where 1 indicated "disagree

very much” and 6 indicated “agree very much.” The reported Cronbach alpha reliability estimate for work locus of control was .85 (Spector, 1988), and the same estimate was found in the current study.

Two Personality Dimensions

Conscientiousness and agreeableness were both measured using 10 items each, taken from the International Personality Item Pool (IPIP). Each scale included six positively worded phrases and four negatively worded phrases, and asked respondents to indicate which of the phrases sounded most like them. Participants responded using a 5-point Likert-type scale where 1 indicated the phrase was “very inaccurate” and 5 indicated the phrase was “very accurate.” Cronbach alpha reliability estimates for conscientiousness and agreeableness were .79 and .82, respectively (IPIP). For the current study, these reliabilities (and item-total correlation means and ranges) were found to be .84 (.34, .47) for conscientiousness and .83 (.34, .54) for agreeableness.

Overall Job Satisfaction

Satisfaction with the job in general was measured using five items from Brayfield and Rothe’s (1951) scale and asked participants to reflect on how they feel about their job. Responses were measured on a 7-point Likert scale where 1 indicated “strongly disagree” and 7 indicated “strongly agree.” The Cronbach alpha estimate was .89, as calculated by Judge, Bono, and Locke (2000) based on $n = 348$. In the current study, the Cronbach alpha estimate (and item-total correlation means and ranges) were found to be .90 (.64, .23).

Citizenship Performance

The dimensions of citizenship performance (i.e., personal support, organizational support, and conscientious initiative) were assessed using a 16-item, self-report measure from Motowidlo and Van Scotter (1994). Participants reported their own behavior using a 5-point Likert scale (1 = not at all likely to 5 = extremely likely). Motowidlo and Van Scotter estimated the measure's overall Cronbach alpha to be .95. Although the measure was developed based on the five-factor model of contextual performance (Borman & Motowidlo, 1993), the items map onto the three-dimension model of citizenship performance. Because the measure has not previously been used at the dimension level, a priori reliabilities cannot be reported for each dimension. In the current study, the overall citizenship performance Cronbach alpha estimate (and item-total correlation means and ranges) were .92 (.42, .49), and estimates for the three dimensions were .81 (.45, .26) for personal support, .76 (.39, .31) for organizational support, and .87 (.50, .30) for conscientious initiative.

2.3. Procedure

Data were collected during Spring of 2011. All measures were completed on-line through SurveyMonkey, an on-line survey administration service. Participants who were recruited through the human subject pool selected the current study from a list of available studies through the psychology department's research administration website, called Sona. After signing up for the study, the link to the online survey was provided to students through Sona. Students visited the survey page, completed the survey, and provided their school email addresses to receive credit. Participants in upper-level

psychology courses were made aware of the research opportunity by their course instructors either through email or via a posting on the course webpage. Those who elected to participate clicked the link on the email or webpage, completed the survey, and provided their school email address and instructor's name and course number to receive credit.

Regardless of recruitment mechanism, all participants completed the demographic information, JDS, work locus of control, personality, job satisfaction and citizenship performance measures using their current employment as the focal job. All identifying information was removed from the data prior to conducting analyses.

CHAPTER 3. RESULTS

3.1. Preliminary Analyses

Prior to conducting any analyses, data were cleaned and visually inspected. Procedures included examining the data set for out-of-range values, calculating item-level and scale-level descriptives, and identifying any missing data. Any item that was written in the reverse direction for the corresponding response scale was reverse coded. After checking each scale's internal consistency, scale-level scores were calculated by averaging each respondent's scores. Finally, all respondents who did not report working at least 20 hours per week were removed from the data set, per the initial requirements for participation, resulting in a final sample of $n = 379$. Using this sample, scale means, standard deviations, Cronbach's alpha estimates and intercorrelations for all hypothesis-relevant variables were calculated and are presented in Table 3.

Scale Intercorrelations

With regard to scale intercorrelations, the vast majority were significant, likely due to the large sample. The only exceptions were correlations between agreeableness and skill variety and task significance, .09 and .08 respectively. All calculated correlations were positive, and significant correlations ranged in magnitude from $r = .10$ (agreeableness and autonomy) to $r = .66$ (experienced meaningfulness and job

satisfaction). Intercorrelations among the core job characteristics ranged from $r = .14$ to $r = .47$. Correlations between the task characteristics and psychological states ranged from $.17$ to $.64$

The five core task characteristics and three psychological states were positively correlated with overall citizenship performance as expected. All correlations between the core job characteristics and citizenship performance were significant ($p < .01$) and ranged from $r = .21$ to $r = .34$. The core characteristic relationships with citizenship were as follows: skill variety ($r = .34$), task significance ($r = .31$), autonomy ($r = .25$), feedback ($r = .22$), and task identity ($r = .21$). Additionally, the three critical psychological states were significantly correlated with citizenship performance ($p < .01$) as follows: experienced responsibility ($r = .46$), experienced meaningfulness ($r = .43$) and knowledge of results ($r = .29$).

3.2. Model Comparison: Hypotheses 1 and 2

The original JCM model posited in Hypothesis 1 and elaborated JCM model posited in Hypothesis 2 were analyzed with observed-variable path models using LISREL 8.80 Student Edition (Jöreskog & Sorbom, 2006) The global fit of the two models was compared using several model fit statistics indicated to be the most commonly reported measures by Kline (2006) and MacDonald and Ho (2002): the model chi square, root mean square error of approximation, comparative fit index, and the standardized root mean square residual. These fit indices are described in detail below.

Fit Indices

The chi square (χ^2) statistic is a sample-based index that compares the fit of a given model to the data and essentially reflects badness of fit. A larger χ^2 value reflects a greater difference between the observed and expected matrices, and is more likely to be significant. Importantly, χ^2 tends to favor more parsimonious models, thus more complex models tend to have a larger χ^2 value and are more likely to be significant (Kline, 2006). While χ^2 is almost always reported, the statistic cannot be compared across models unless the models are nested within each other, which was not the case in the current study (Beheson et al., 2000).

The Steiger-Lind root mean square error of approximation (RMSEA; Steiger, 1990) is a population-based statistic and therefore less affected by sample size than is χ^2 . An RMSEA value of zero would indicate best fit, while ascending values indicate worse fit. The rule of thumb established by Browne and Cudek (1993) suggests that RMSEA values below .05 indicate close approximate fit, values between .05 and .08 indicate reasonable fit, and values greater than .10 indicate poor fit. Additionally, an RMSEA confidence interval indicates at least reasonable fit so long as the interval does not include .10 (Brown & Cudek, 1993).

The Bentler (1990) comparative fit index (CFI) is a comparative fit index that evaluates the proposed model against an independence model that assumes no population covariance among observed variables. To the extent that the proposed model's χ^2 distribution is less than that of the independence model, the tested model has good fit. CFI values range from 0 to 1.0, and value greater than .90 are considered to show reasonably good fit (Hu & Bentler, 1999).

The Bentler-Bonett Index, or normed fit index (NFI), like the CFI, compares the proposed model against an independence model. An NFI value above .95 is considered to be good, while above .90 is acceptable. A disadvantage of the NFI is that it is sensitive to model complexity: an increase in the number of parameters added to a model will result in an increase in the index value. As a result, the CFI is typically favored over the NFI.

The standardized root mean square residual (SRMR) is an index of the mean absolute correlation residual, or the overall difference between observed and predicted correlations (Kline, 2006). A value of zero would indicate perfect model fit, and values less than .10 are preferred (Kline, 2006).

In addition to these indices, the ratio of significant paths to predicted paths, and variance in citizenship performance accounted for in each model were calculated and recorded to provide additional information about each model. As Kline (2006) noted, fit indices address only the overall fit of the model – certain aspects of the model may have poor fit even if the overall indicator is acceptable, and vice versa. Additionally, fit indices cannot indicate whether a model is theoretically meaningful, as a model could have favorable fit, but have poor predictive power. Therefore, the ratio of significant paths and variance accounted for were included to provide additional information about each model's performance in terms of theoretical value.

Model Assessment

All fit index data for both models are presented in Table 4. The original model (see Figure 2) hypothesized that the five job characteristics would have indirect effects on citizenship performance through the critical psychological states, as specified by

Hackman and Oldham (1976). The model χ^2 was: $\chi^2(18) = 218.53, p < .01$. Other fit indices for this model were as follows: RMSEA = .17 with 90% confidence interval bounds of .15 and .19, CFI = .87, NFI = .86, SRMR = .15, all suggesting poor model fit to the data, providing no support for Hypothesis 1. However, six of eight (75%) path coefficients were significant, and the model was able to account for 26% of the variance in citizenship performance, suggesting the JCM does predict citizenship performance. At the local level (Figure 4), task identity is the only task characteristic that does not predict its respective critical psychological state ($\beta = .04$). Additionally, knowledge of results is the only critical psychological state that does not significantly predict citizenship performance ($\beta = .10$).

The elaborated model built upon the first by hypothesizing that the five job characteristics would have indirect effects on citizenship performance through the critical psychological states' collective effect on job satisfaction (see Figure 3). That is, the JCM variables indirectly affect citizenship performance through their effect on job satisfaction. The model χ^2 was: $\chi^2(26) = 309.15, p < .01$. The other fit indices for this model were as follows: RMSEA = .17 with 90% confidence interval bounds of .15 and .19, CFI = .88, NFI = .87, SRMR = .16, all suggesting that the model was a poor fit to the data. However, eight of nine (89%) path coefficients were significant, and the model accounted for 31.5% of the variance in citizenship performance, providing some support for Hypothesis 2. As with the original JCM, task identity did not significantly predict experienced meaningfulness at the local level ($\beta = .04$), while the remaining task characteristics were medium to strong predictors of the associated psychological state (β range = .36-.61) (Figure 5). All three critical psychological states significantly predicted

job satisfaction ($\beta = .48$, $.20$, and $.14$ for experienced meaningfulness, experienced responsibility, and knowledge of results, respectively, and job satisfaction was a strong and significant predictor of citizenship performance ($\beta = .50$).

3.3. Differential Prediction of Citizenship Facets: Hypotheses 3, 4, and 5

Two sets of analyses were reviewed in order to evaluate the differential ability of the JCM variables to predict the three citizenship performance facets: First, correlations between the three facets and the other study variables were calculated (and presented in Table 3) to determine if the patterns of each facet's relationships differed. Second, path models were analyzed to examine the direct and indirect effects of the JCM variables on each facet of citizenship performance.

Correlations with the Citizenship Performance Facets

Overall, comparing the three citizenship facets, conscientious initiative seems to be more strongly related to all of the other study variables except two (i.e., knowledge of results and agreeableness). Prime examples of this are the relationships between the citizenship facets and the critical psychological states (the most proximal JCM variables in both models tested in the current study.) First, even though experienced meaningfulness had the widest range in correlations with the citizenship facets, its strongest relationship was with conscientious initiative ($r = .44$), followed by personal support ($r = .38$), and organizational support ($r = .32$). All three relationships were positive and significant ($p < .01$), supporting Hypothesis 3.

Responsibility for outcomes, another critical psychological state, demonstrated the strongest overall correlations with the three citizenship facets, and again all were significant ($p < .01$). The strongest relationship existed between responsibility and conscientious initiative ($r = .45$), and the relationships between experienced responsibility and the two remaining facets were the same ($r = .40$). The strength of the observed relationships do not support Hypothesis 4.

Knowledge of results had consistently the weakest magnitude relationships with the facets of citizenship performance when compared to the other critical psychological states. Again, all three correlational relationships were significant ($p < .01$), with the strongest relationship existing between knowledge of results and organizational support ($r = .30$), followed by personal support ($r = .26$) and conscientious initiative ($r = .25$), demonstrating support for Hypothesis 5.

In sum, the overall pattern of correlational relationships between the critical psychological states and facets of citizenship performance in the current study (especially the conscientious initiative facet) reflects stronger relationships than previous research has suggested (Table 2). Note that conscientious initiative also had a stronger relationship with job satisfaction, the mediator of the critical psychological state-citizenship performance relationship added in the four-stage model.

Differential Model Fit using Facets of Citizenship

In order to evaluate the potential for differential patterns of prediction of the facets of citizenship performance, path models of the three-stage JCM with each outcome were tested, again using LISREL. Whereas overall model indices were calculated and

reported in Table 5, now the direct and (where appropriate) indirect effects of the JCM variables on each facet of citizenship were calculated to evaluate the actual effects of the job characteristics and critical psychological states on each citizenship performance facet as a way to determine whether certain job characteristics have differential effects on the facets.

Model Fit Assessment

Three JCM path models, one with each facet of citizenship performance as an outcome, were analyzed using LISREL in order to evaluate each model's overall fit to the data. In general, none of the models met the rules of thumb for good fit on any of the fit indices (Table 5). For all three models (Figures 6, 7, and 8), the link between identity and experienced meaningfulness was not significant, as it was not significant in the model using overall citizenship performance as an outcome. For two models, personal support and conscientious initiative the path between knowledge of results and the facet of citizenship was also not significant. The model was able to account for 20% of the variance in personal support, 19% of the variance in organizational support, and 26% of the variance in conscientious initiative, suggesting that the model is better at predicting conscientious initiative than it is at predicting the other two facets (i.e., evidence of differential prediction), providing some support for the general idea underlying Hypotheses 3, 4, and 5.

Direct and Indirect Effects of JCM Variables on Facets of Citizenship Performance

The standardized direct and indirect effects of the JCM variables on each facet of citizenship performance were calculated using LISREL. Direct effects are represented by either the effect of each job characteristic on its respective critical psychological state, or the effect of each critical psychological state on the facets of citizenship performance. The indirect effects of the job characteristics on the citizenship facets are represented by both the direct effect of the job characteristics on their respective critical psychological states and the direct effect of the critical psychological states on each citizenship facet. Indirect effects are calculated by multiplying the coefficients for each section of a linear path between the exogenous variable (i.e., job characteristics) and the final endogenous variable (i.e., facets of citizenship performance). Each standardized indirect effect can be interpreted using the following as an example: For each 1 standard deviation increase in skill variety, the level of personal support is expected to increase by .08 standard deviations. A summary of these findings is presented in Table 6.

Regarding *direct* effects, four of the five hypothesized direct paths between the job characteristics and critical psychological states were significant ($p < .05$), and seven of the nine direct paths between the critical psychological states and then citizenship facets were significant ($p < .05$). In all three facet models, one specific direct effect was not significant; it involved the first half of a mediated path (i.e., the path between a job characteristic and a critical psychological state). Specifically, the path between task identity and experienced meaningfulness was not significant for any of the facets. Additionally, for two of the facet models, the second half of a mediated path was not significant. In the models with personal support and conscientious initiative as outcomes,

the direct path between knowledge of results and the respective citizenship facet was not significant.

Examining the *indirect* effects of the job characteristics on the three facets of citizenship performance, some variation exists. Skill variety had a greater indirect effect on conscientious initiative (.09) and personal support (.08) than it did on organizational support (.04). Task significance followed the same pattern, with the indirect effect larger on conscientious initiative (.12) and personal support (.10) than on organizational support (.05). Task identity had the smallest effects on each facet of citizenship performance, with a total effect of .01 for both personal support and conscientious initiative, and no effect on organizational support. Autonomy had the same effect on organizational support as it did on conscientious initiative (.11) and a slightly smaller effect on personal support (.09). Finally, feedback demonstrated the widest range of effects on the citizenship performance facets, with the strongest effect on organizational support (.09), a weaker effect on personal support (.05) and finally the smallest effect on conscientious initiative (.03).

In summary, the strongest indirect effect on personal support was task significance followed by autonomy and skill variety. Conscientious initiative demonstrated an identical pattern, where task significance had the strongest indirect effect, followed by autonomy and then skill variety. The strongest indirect effect on organizational support was autonomy followed by feedback. Again, these pattern differences between the three facets support the notion that the JCM is better able to predict some facets of citizenship performance than others.

Although the sizes of these individual direct and indirect effects are informative, Cohen and Cohen (1983) suggested a rule of thumb for evaluating the *significance of an entire mediation path* that required each segment of the path to be significant to the same level of Type I error (i.e., alpha) in order to assume the entirety of the mediated path was significant. Examining the pattern of significant paths reported in Table 6, only 10 of the possible 15 mediated paths meet this requirement because one of the direct effects (as reported above) was not significant: The effect of skill variety and task significance on each facet of citizenship performance was mediated by experienced meaningfulness, whereas the effect of autonomy on each citizenship facet is mediated by experienced responsibility. Additionally, the effect of feedback was mediated by knowledge of results in the JCM with the organizational support facet as an outcome.

3.4. Incremental Validity of JCM Variables: Hypothesis 6

In order to determine the potential value of making changes to the work environment via the JCM, the incremental validity of the JCM variables over well-established individual difference variables (i.e., locus of control, agreeableness, and conscientiousness) was tested. A series of hierarchical regression analyses were used to determine if the job characteristics components could uniquely contribute to the prediction of an individual's citizenship performance above and beyond the predictive power of these important individual differences.

In the first step of every regression, the three individual difference variables were entered simultaneously. The second step involved entering either the five job characteristics or three critical psychological states. For the two regression analyses that

involved a third step, the final step involved entering the set of JCM variables that was not entered at the second step. Thus, the first step always involved entering locus of control, agreeableness, and conscientiousness, whereas Steps 2 and 3 were designed to tease out the specific incremental validity provided by the job characteristics and critical psychological states.

As expected, given the meta-analytic strength of their relationships with citizenship performance, locus of control ($\beta = .25, p < .01$), agreeableness ($\beta = .13, p < .05$), and conscientiousness ($\beta = .32, p < .01$) were significant predictors of citizenship performance at Step 1, accounting for 29% of its variance. Next, the change in R^2 at the second and third steps, as well as the magnitude and significance of individual JCM predictors, was evaluated to determine the unique contribution of the JCM variables above and beyond individual difference variables. A summary of the results is provided in Table 7.

Regression Sequence 1 tested the incremental validity of the five job characteristics above and beyond agreeableness, conscientiousness, and locus of control. At the second step, there was an 8% significant increase in R^2 ($p < .01$), accounting for a total of 37% of the variance in citizenship performance. Additionally, the Beta weights for skill variety and task significance were significant ($p < .01$) at the second step, indicating that the addition of the job characteristics resulted in improved model prediction, and that two job characteristics in particular were significant contributors to the prediction of citizenship performance beyond the individual difference variables, partially supporting Hypothesis 6.

Regression Sequence 2 tested the incremental validity of the three critical psychological states over the individual difference variables. At the second step, the addition of the critical psychological states resulted in an 11% significant R^2 increase, with the overall model accounting for 40% of the variance in citizenship performance. Both experienced meaningfulness and experienced responsibility had significant Beta weights ($p < .01$) at the second step, indicating that they contributed to the prediction of citizenship performance, again providing partial support for Hypothesis 6.

Regression Sequence 3 differed from Sequences 1 and 2 in that it had an extra step and included all of the JCM variables in the analysis. The individual difference variables were again entered at Step 1, followed by the job characteristics in Step 2, and finally the critical psychological states in Step 3. Following from the JCM, this analysis tested the incremental validity of the critical psychological states (i.e., the variables most proximal to citizenship performance in the JCM) over the individual difference variables and the job characteristics (i.e., the variables believed to contribute to the critical psychological states in the JCM). As in Regression Sequence 1, an 8% significant R^2 increase occurred at Step 2 with the addition of the job characteristics variables, and both skill variety and task significance had significant beta weights. At Step 3, R^2 increased significantly again, with the addition of the critical psychological states contributing an additional 4% of variance accounted for in citizenship performance. Examining the individual predictors at Step 3, none of the job characteristics significantly predicted citizenship performance, and experienced responsibility was the only critical psychological state that was a significant predictor.

A fourth hierarchical sequence, reversing the order of the critical psychological states and job characteristics (i.e., ordering not following from the JCM), was conducted to see if the job characteristics added to the predictability of citizenship beyond the variance accounted for by the psychological states. Again at the third step, none of the job characteristics significantly contributed to the prediction of citizenship performance. More importantly, in the fourth sequence, no significant change in the R^2 occurred at Step 3 when job characteristics were added after entering the critical psychological states. Thus, partial support for Hypothesis 6 was demonstrated, as only some variables in the JCM contributed to prediction of citizenship performance beyond individual differences.

CHAPTER 4. DISCUSSION

Both researchers and practitioners alike are becoming more aware of the value of citizenship performance, and subsequently employees who display it, in improving overall organizational effectiveness. As a result, understanding aspects of the work environment that are related to increased citizenship performance can benefit organizations by providing practitioners with tools to design a work environment that might be more conducive to unrestricted citizenship performance. The current study aimed to examine the viability of Hackman and Oldham's (1976) JCM as a predictive/explanatory model of citizenship performance. First, the current study sought to compare two potential JCM models explaining previously established relationships between job characteristics and citizenship performance. Although neither the original model nor the or elaborated model of the JCM using citizenship performance as an outcome faired particularly well against contemporary standards, both models had a majority of paths significant and were able to account for 25%-33% of the variance in citizenship performance. Second, the current study sought to examine citizenship at the facet level and the potential for differential patterns of prediction for each facet. Again, none of the three models tested met established standards for goodness of fit, but an examination of the direct and indirect effects of the JCM variables suggests that they had differential relationships with each facet of citizenship performance.

Finally, to provide support for the theoretical importance of examining the environment in addition to individual differences when evaluating the causes of behavior in organizations, the incremental validity of the JCM variables beyond well-established individual difference variables was tested using a series of hierarchical regression analyses. When the JCM variables were added into the regression analyses they explained an additional 8-11% of the variance in citizenship, though not all of the JCM variables were significant contributors to this increase in variance. The following sections will address each of these three goals independently and discuss practical and theoretical contributions of the current study.

4.1. Comparing the Original and Elaborated JCMs

The original and elaborated models of the JCM tested in the first two hypotheses did not meet standards for fit on any of the fit indices reported. Even though the models did not fit the data well, both models accounted for more than 25% of the variance in citizenship performance, indicating that the JCM variables are able to explain a substantial portion of variance in citizenship performance, even if the model's theoretical configuration was not empirically supported. However, one could speculate that the elaborated model including job satisfaction fared better because it accounted for more variance in citizenship performance and had a greater proportion of significant paths compared to the original model. Previous research has suggested that job satisfaction is one of the most accurately predicted outcomes to be tested in the JCM (Fried & Ferris, 1987). Unfortunately, the majority of this JCM research using job satisfaction as the outcome was conducted with less sophisticated methods of analysis than the current

study, so drawing any comparisons becomes difficult. Many previous studies evaluating the usefulness of the JCM at predicting various performance and affective outcomes simply correlated the MPS specified by Hackman and Oldham (1980) with the desired outcome, and considered a significant correlation to be evidence that the model worked. The current study aimed to use more modern, appropriate statistical techniques to evaluate the relationships between the JCM and citizenship performance.

While the current study did not aim to directly support the predictability of job satisfaction by the JCM, both theoretical and empirical evidence suggested that job satisfaction could potentially be an important meditational link in the relationship between the JCM and citizenship performance (Bateman & Organ, 1983; Fried & Ferris, 1987; Namm, 2004). An individual's satisfaction with his/her job is an important precursor to the likelihood of engaging in citizenship behaviors. The difference in factor loadings for the critical psychological states onto job satisfaction in the elaborated model as compared to the factor loadings of the critical psychological states onto citizenship performance in the original model does support stronger prediction of job satisfaction than citizenship performance. Additionally, the final link in the elaborated model is strong and significant (.50) vs. the final links in the original model (.22, .28 and .10), supporting previous research demonstrating the value of job satisfaction for predicting citizenship performance (Chiaburu et al., 2011) and providing some support for Hypothesis 2. For researchers, this finding may provide a clearer basis for understanding the process by which job design could affect employee performance of citizenship behaviors. Moreover, practitioners may consider including both job satisfaction and

increased citizenship performance to the list of benefits an organization accrues when jobs are enriched and engaging.

One potential explanation for the poor overall model fit indices in both models lies in the configuration of the relationships between the task characteristics and the critical psychological states, rather than the direct relationships between each JCM component and citizenship performance. The strength of bivariate relationships presented in Table 3 suggests that Hackman and Oldham's (1976) orientation of the job characteristics within the JCM may not include all relationships between job characteristics and psychological states that ought to be included. That is, while their theory postulated specific relationships between each job characteristic and only one critical psychological state, empirical evidence suggests that each job characteristic may in fact trigger more than one critical psychological state. To that end, some researchers (Fried & Ferris, 1987; Johns et al., 1992) have postulated that the job characteristics are more useful as a unidimensional characteristic, unilaterally activating the three critical psychological states than they are as five independent characteristics directed at specific critical psychological states. In the current study, a post-hoc analysis found that the correlation between Hackman and Oldham's (1980) original MPS configuration and citizenship performance was .37, slightly smaller than, but not significantly different from the .41 correlation found between a modified MPS calculation (where each job characteristic's influence is evenly averaged) and citizenship performance.

Additionally, a post-hoc model created using modifications suggested by LISREL was tested to see if a different configuration would fit better to the data. When all five task characteristics were indirectly related to citizenship through experienced

responsibility, the model performed much better: $\chi^2(4) = 14.99, p = .004$, RMSEA = 0.085, [0.04, 0.13], CFI = 0.98, NFI = 0.98, SRMR = 0.03. Interestingly, findings from the incremental validity analyses suggested that only experienced responsibility was a significant contributor to the prediction of citizenship performance beyond individual differences when all JCM variables were included in the hierarchical regression, providing some additional support for the value of experienced responsibility. While a more sophisticated analysis of the dimensionality of the job characteristics was outside the scope of the current study, future research might examine whether the factor structure of the job characteristics would affect the performance of the JCM with alternative outcomes.

Additionally, the model fails to consider any direct effects of the task characteristics on outcomes, despite evidence that the task characteristics were correlated (although some with less strength) with both job satisfaction and citizenship performance. Whereas Hackman and Oldham's (1980) theoretical explanation of the JCM insisted that the job characteristics activated the critical psychological states, and the heightened psychological experience resulted in affective and behavioral outcomes of importance to organizations, both previous research (see Table 2) and the current study (see Table 3) have demonstrated that relationships exist between the task characteristics and various conceptualizations of citizenship performance. The exclusion of direct relationships between task characteristics and outcomes in the JCM may have limited the models' performance against index standards. A potentially fruitful avenue for research could be a meaningful redesign of the JCM that attempts to better specify its internal links. Future research could focus on strengthening understanding of the relationships between job

characteristics and critical psychological states and their direct and indirect effects on important organizational outcomes to improve upon Hackman and Oldham's (1980) JCM configuration. Regardless, both theoretical and empirical evidence, like the results of the current study, provide a basis for acknowledging that the JCM variables do play a role in the prediction of citizenship performance.

A second potential factor affecting the poor model fit in the current study is the exclusion of the three moderators (i.e., knowledge and skills, growth need strength, and "context" satisfactions) described by Hackman and Oldham (1976) at both steps in the JCM. Moderators were excluded in the current study due to a paucity of empirical evidence supporting their value in prior JCM research, and because the sample size required to appropriately test moderation using the intended path analysis techniques was too large for the scope of the current study. As previously described, a post-hoc analysis in a similar study did suggest that an unexpectedly weak relationship between autonomy and OCB was explained by the inclusion of growth need strength as a moderator (Namm, 2004). Any of the proposed moderators, if acting in the manner suggested by Hackman and Oldham, could explain a weak or non-existent relationship or effect. The poor model fit in the current study provides ample rationale for future research to include the moderators proposed by Hackman and Oldham (1976, 1980) in empirical tests of the JCM, as the moderators are critical to the theory upon which the model was built.

4.2. Differential Prediction of Citizenship Performance Facets

The second set of hypotheses examined the JCM's ability to predict facets of citizenship performance: personal support, organizational support, and conscientious

initiative. As predicted, all of the relationships between JCM variables and the three facets were positive and significant. However, structural equation model path analyses showed poor global fit for each of the three models, providing little support for the use of the JCM as theorized by Hackman and Oldham (1976, 1980) as a model for understanding citizenship performance facets.

If the facets of citizenship performance are related to different combinations of task characteristics and critical psychological states, practitioners may be able to adjust the work environment to guide behaviors toward a specific citizenship dimension as desired. The current study did find support for this conjecture by showing different patterns of correlations between the JCM variables and facets of citizenship performance, as well as evidence for different significant mediated paths for each facet. Examining the models independent of their fit indices, the patterns of significance and strength of each direct and indirect path suggest that the three facets are affected differently by the job characteristics. As previously discussed with regard to the first two hypotheses, the results for the path analyses of the facets suggest that the model design and specification, though theoretically meaningful, may not be reflective of reality. Although testing various model modifications based on empirical suggestions was beyond the scope of the current study, one post-hoc model was tested because it best summarized and simplified the most productive model modifications suggested by LISREL. As reported above, this post-hoc model did perform much closer to standards of good fit, suggesting that model revisions based on a theoretically meaningful rationale should be tested in the future to further the field's understanding of the relationships among the variables in the JCM.

Despite this potential model specification concern, the JCM variables still had some significant, differential direct and indirect effects on the facets of citizenship. Actual predictive differences, though slight, seemed to occur across the three facets. While it is unclear from the current study's findings what the potential value of the job characteristics might be with regard to predicting facets of citizenship performance, research should focus on developing an understanding of these relationships, even if outside the context of the Hackman and Oldham's JCM. Initial findings suggest that for researchers and practitioners alike, meaningful differences may exist in the prediction of facets of citizenship. For researchers, understanding that a unique combination of task characteristics and critical psychological states affects each facet of citizenship may provide additional support for the existence of the separate dimensions of citizenship performance specified by Borman and Motowidlo (1993). Following from this, practitioners may take more targeted approaches to job design changes based on the organization's preference for a particular type of citizenship performance. For example, if based on the results of this study, an organization that values interpersonal assistance and cooperation could consider making changes to increase task significance, employee autonomy, and the variety of skills needed to do the job.

4.3. Incremental Validity of JCM Variables

The finding that the JCM does provide incremental validity beyond individual difference variables is probably the most promising result of the current study. In the two-step regressions, the job characteristics and the critical psychological states separately accounted for an additional 8% and 11% increase in R^2 , generally supporting

Hypothesis 6, although some variables in the JCM contribute more incremental validity than do others. Findings from the current study suggest that experiencing work as meaningful and feeling responsible for outcomes of work are most likely to relate to an increase in citizenship performance.

Whereas further research is needed in order to establish that job design changes cause an increase in citizenship performance, the current study demonstrates relationships that serve as a starting point to further investigation. This finding in particular could be useful for employers who are unable to justify a selection system that focuses on prediction of citizenship performance, but would still like to prioritize citizenship in the workplace. The current study provides an empirical, as well as a theoretical, rationale to begin to justify modifications in job design. This rationale may be especially helpful for practitioners, as they may be able to justify a slight change in work design to improve an individual's likelihood of engaging in citizenship performance in lieu of additional training or a major change to a selection system. Practitioners aware of the importance and benefits of citizenship performance (see Chiaburu et al., 2011; Podsakoff, et al., 2009 among others) may be able to make changes to job design more readily than they are able to adjust major human resource systems in order to enhance the potential for citizenship behaviors to be readily performed in organizations.

Additionally, the incremental validity of the JCM variables beyond well-established individual difference variables provides some support for those who ascribe to a person-environment interaction theory of workplace performance by demonstrating that the environment, beyond the individual, is a significant contributor to performance (Beatty et al., 2006; Mischel, 1968; Pfeffer, 1997). The incremental validity analyses

provide support for the importance of the environment's influence on performance and demonstrate that individual differences and the environment account for different pieces of the variance in the performance puzzle. In a practical sense, employers who are unable to assess prospective employees for likelihood to perform citizenship behaviors could consider altering the design of jobs, using JCM theory, to increase task performance. Similarly, employers who wish to improve the chance that their current employees engage in citizenship could also alter the structure of jobs, rather than trying other, more costly interventions (e.g., termination or coaching).

Although the model variables generally do provide incremental validity over locus of control, agreeableness, and conscientiousness, not all variables in the JCM were significant contributors to incremental validity. As such, more research should be done to replicate these findings before employers focus exclusively on the variables determined to be significant here. Additionally, although feedback from the job itself and gaining knowledge of the results of work are both practically and theoretically important in many ways, findings from the current study suggest that these two task characteristics are not particularly predictive of an individual's tendency to perform citizenship.

4.4. Study Limitations

In the future, research should use rigorous methods to improve upon some of the current study's methodological limitations. For example, the current investigation used a cross-sectional design that was susceptible to common method variance and excluded all three of the proposed JCM moderators (e.g., growth need strength). Previous research by Namm (2004) found that these moderator growth need strength explained the weak

relationship between autonomy and OCB. Therefore, inclusion of moderators in future analyses could lead to better model performance, and subsequently a more accurate understanding of the JCM.

Additionally, work should continue to revise Hackman and Oldham's (1980) JCM to include both theoretical and empirical considerations of the relationships between the variables. In the past, many tests of the model using performance as an outcome lacked the sophistication of modern statistical techniques. The present study attempted to employ a more appropriate technique (i.e., structural equation modeling) to test the JCM with citizenship as an outcome, and results suggest that more emphasis may need to be placed on properly specifying the first half of Hackman and Oldham's (1980) conceptualization in order to better predict job-related outcomes.

The current study focused on the relationships between JCM variables and citizenship performance, however, future research could aim to manipulate key JCM variables and observe the effects on important work outcomes, including citizenship. Employing experimental designs would help answer cause-and-effect questions in a clearer way and lead to more direct advice for theorists, as well as practitioners in the field, by establishing exactly what changes in job design lead to increased citizenship performance.

In addition, the current study was conducted using a sample of students, a fact that many would argue could have affected the results obtained. However, responses included in the analyses came from students who worked at least part time, and these students were sampled from a non-traditional undergraduate population comprised of many students who work and attend school simultaneously. Nevertheless, future studies could

choose to test the JCM-citizenship performance relationship using field samples to see whether individuals with even stronger work backgrounds respond differently.

4.5. Conclusions

The current study did not support all of its hypotheses, but did yield some interesting results with regard to citizenship facets and the influence of the environment. Any new evidence showing the influence of the environment undergirds the importance of the individual differences-environment interaction as an explanation for performance behaviors at work. The present study provides support for practitioners and researchers interested in studying the environment by demonstrating that environmental factors do affect performance. Additionally, the current study provides valuable information about the usefulness of the JCM and presents several suggestions for future research involving the examination of modifications to improve the model's performance. As previously described, adjusting environmental factors may be more feasible in an organizational setting than the firing, hiring and training employees for the sake of increasing citizenship performance. Given the growing acknowledgement that citizenship performance benefits the functioning of the task-based core of the organization, it will not be long before organizations become more aware of, and open to, environmental interventions for improving employee citizenship performance in order to bolster organizational performance outcomes.

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*Asterisks denote references cited only in Appendix A: Proposal Introduction.

TABLES

Table 1 Correlations between Task Characteristics and Psychological States

Critical Psychological State	Article	Task Characteristics				
		Skill Variety	Task Significance	Task Identity	Autonomy	Feedback
Experienced Meaningfulness	Arnold & House (1980)	.37	.29	.32	.40	.37
	Champoux (1991)	.43*	.50*	.32*	.40*	.43*
	Johns, Xie, & Fang (1992)	.45**	.41**	.30**	.40**	.39**
	Tiegs, Tetrick, & Fried (1992)	.46*	.46*	.23*	.43*	.39*
	Renn & Vandenberg (1995)	.39*	.49*	.18*	.22*	.32*
	Namm (2004)	.61**	.61**	.45**	.42**	.31**
	Mean	.45	.46	.30	.38	.37
	Median	.44	.48	.31	.40	.38
SD	.09	.11	.10	.08	.05	
Responsibility for Outcomes	Arnold & House (1980)	.24	.17	.35	.31	.32
	Champoux (1991)	.41*	.44*	.32*	.56*	.37*
	Johns, Xie, & Fang (1992)	.18**	.23**	.27**	.33**	.26**
	Tiegs, Tetrick, & Fried (1992)	.35*	.34*	.27*	.4*	.36*
	Renn & Vandenberg (1995)	.19*	.34*	.13	.15*	.11
	Namm (2004)	.46**	.46**	.41**	.41**	.29**
	Mean	.31	.33	.29	.36	.29
	Median	.30	.34	.30	.37	.31
SD	.12	.12	.10	.14	.10	
Knowledge of Results	Arnold & House (1980)	.29	.11	.50	.41	.54
	Champoux (1991)	.20*	.25*	.12*	.27*	.46*
	Johns, Xie, & Fang (1992)	.12*	.17**	.21**	.25**	.44**
	Tiegs, Tetrick, & Fried (1992)	.15*	.23*	.20*	.30*	.50*
	Renn & Vandenberg (1995)	.24*	.14	.29*	.55*	.58*
	Namm (2004)	.29**	.24**	.35**	.20**	.50**
	Mean	.22	.19	.28	.33	.51
	Median	.22	.20	.25	.29	.50
SD	.07	.06	.13	.13	.05	

Note: * $p < .05$, ** $p < .01$. Unweighted means were calculated for each critical psychological state using the values listed.

Table 2 Correlations between Task Characteristics, Psychological States, and OCB

OCB Facet	Article	Task Characteristics					Psychological states		
		SV	TS	TI	A	FB	EM	ER	KR
Altruism	Fahr, Podsakoff, & Organ (1990)	.24**	.14	.13	.30**	.21*			
	Pearce & Gregerson (1991)							.20**	
	Podsakoff, Niehoff, MacKenzie & Williams (1993) ^b	-.33**				.14*			
	Podsakoff & MacKenzie (1995) ^b	-.15				.17			
	Podsakoff, MacKenzie, & Bommer (1996) ^a	-.25*				.18*			
	Namm (2004)	.20**	.16*	.12	.04	.01	.25**	.10	.12
	Todd & Kent (2006)	-.05	.27**		.22**		.36**		
	Mean	.20	.19	.13	.19	.13	.31	.15	.12
	Median	.22	.16	.13	.22	.16	.31	.15	
SD	.10	.07	.01	.13	.09	.08	.07		
Courtesy	Podsakoff & MacKenzie (1995) ^b	-.14				.15			
	Podsakoff, MacKenzie, & Bommer (1996) ^a	-.15*				.19*			
	Namm (2004)	.21*	.14	.10	.08	.01	.26**	.06	.15*
	Mean	.17	.14	.10	.08	.12	.26	.06	.15
	Median	.15				.15			
	SD	.04				.09			
Civic Virtue	Fahr, Podsakoff, & Organ (1990)	.20*			.20*				
	Podsakoff & MacKenzie (1995) ^b	-.25				.11			
	Podsakoff, MacKenzie, & Bommer (1996) ^a	-.30*				.16*			
	Namm (2004)	.30**	.17*	.18*	.18*	-.01	.27**	.12	.11
	Mean	.26	.17	.18	.19	.09	.27	.12	.11
	Median	.28			.19	.11			
SD	.05			.01	.08				
Sportsmanship	Podsakoff & MacKenzie (1995) ^b	-.13				.14			
	Podsakoff, MacKenzie, & Bommer (1996) ^a	-.10				.17*			
	Namm (2004)	.00	.07	-.02	-.08	.01	.07	-.08	.08
	Todd & Kent (2006)	-.17**	.12*		.11*		.19**		
	Mean	.10	.10	.02	.10	.11	.13	.08	.08
	Median	.12	.10		.10	.14	.13		
SD	.07	.04		.02	.09	.08			
Conscientiousness	Podsakoff, Niehoff, MacKenzie & Williams (1993) ^b	-.37**				.14*			
	Podsakoff & MacKenzie (1995) ^b	-.18				.20			
	Podsakoff, MacKenzie, & Bommer (1996) ^a	-.23*				.21*			
	Namm (2004)	.20**	.20**	.17*	.12	.04	.27**	.12	.20**
	Todd & Kent (2006)	-.13*	.23**		.04				
	Mean	.22	.22	.17	.08	.15	.27	.12	.20
Median	.20	.22		.08	.17				
SD	.09	.02		.06	.08				

^a Values from Podsakoff, MacKenzie, & Bommer (1996) are corrected correlation coefficients based on their meta-analysis.

^b These references were included in Podsakoff et al.'s (1996) meta-analysis.

^c Negative values reflect correlations between task routinization, the opposite of skill variety, and the respective outcome. Absolute values of these correlation coefficients were used to calculate descriptive statistics.

Note: * $p < .05$, ** $p < .01$. Means are unweighted and were calculated for each OCB facet using the values shown. SV = skill variety, TS = task significance, TI = task identity, A = autonomy, FB = feedback, EM = experienced meaningfulness, ER = experienced responsibility, KR = knowledge of results.

Table 3 Means, Standard Deviations, and Correlations between Job Characteristics, Critical Psychological States, Individual Difference Variables, and Citizenship Performance

	M	SD	IM	IR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1. Skill Variety	3.89	1.41	.39	.11	.65																
2. Task Significance	4.81	1.56	.55	.17	.47**	.79															
3. Task Identity	4.90	1.40	.44	.06	.16**	.14**	.71														
4. Autonomy	4.77	1.35	.52	.27	.46**	.26**	.24**	.77													
5. Feedback	4.92	1.29	.49	.29	.24**	.22**	.36**	.29**	.75												
6. Experienced Meaningfulness	4.56	1.46	.59	.18	.59**	.64**	.17**	.37**	.27**	.85											
7. Experienced Responsibility	5.20	1.03	.34	.48	.47**	.46**	.26**	.40**	.38**	.66**	.76										
8. Knowledge of Results	5.32	1.05	.43	.15	.25**	.20**	.34**	.24**	.61**	.31**	.47**	.75									
9. Job Satisfaction	4.77	1.44	.64	.23	.43**	.33**	.26**	.45**	.38**	.66**	.58**	.38**	.90								
10. Locus of Control	4.51	0.66	.27	.83	.18**	.14**	.25**	.22**	.30**	.27**	.32**	.38**	.38**	.85							
11. Conscientiousness	3.91	0.64	.34	.47	.14**	.13*	.13*	.16**	.16**	.19**	.23**	.23**	.31**	.33**	.84						
12. Agreeableness	4.16	0.55	.34	.54	.09	.08	.18**	.10*	.20**	.14**	.27**	.28**	.29**	.44**	.40**	.83					
13. Citizenship Performance	4.11	0.59	.42	.49	.34**	.31**	.21**	.25**	.22**	.43**	.46**	.29**	.50**	.41**	.45**	.36**	.92				
14. Personal Support	4.21	0.65	.45	.26	.25**	.29**	.19**	.17**	.19**	.38**	.40**	.26**	.41**	.36**	.33**	.34**	.88**	.81			
15. Organizational Support	4.17	0.61	.39	.31	.28**	.23**	.17**	.19**	.19**	.32**	.40**	.30**	.40**	.36**	.41**	.32**	.86**	.62**	.76		
16. Conscientious Initiative	4.00	0.67	.50	.30	.36**	.30**	.20**	.28**	.22**	.44**	.45**	.25**	.51**	.37**	.45**	.32**	.95**	.78**	.71**	.87	

Note: n = 379, M = mean, SD = standard deviation, IM = inter-item correlation mean for scale, IR = inter-item correlation range for scale ** $p < .01$ (2-tailed). * $p < .05$ (2-tailed). Cronbach alpha internal consistency estimates are presented on the diagonal.

Table 4 Indices of Model Fit for Original and Elaborated Models

	χ^2	df	RMSEA	90% CI	CFI	NFI	SRMR	Paths	R ²
Original JCM	218.53	18	0.17	[0.15, 0.19]	0.87	0.86	0.15	6/8	.260
Elaborated JCM	309.15	26	0.17	[0.15, 0.19]	0.88	0.87	0.16	8/9	.315

Note: n = 379. RMSEA = root mean square error, 90% CI = confidence interval around RMSEA, CFI = comparative fit index, NFI = normed fit index, SRMR = standard root mean residual.

Table 5 Indices of Model Fit for JCM with Citizenship Facets as Outcomes

	χ^2	df	RMSEA	90% CI	CFI	NFI	SRMR	Paths	R ²
Personal Support	221.39	18	0.17	[0.15, 0.19]	0.86	0.86	0.14	6/8	.20
Organizational Support	217.88	18	0.17	[0.15, 0.19]	0.86	0.85	0.15	7/8	.19
Conscientious Initiative	216.85	18	0.17	[0.15, 0.19]	0.87	0.86	0.15	6/8	.26

Note: n = 379, RMSEA = root mean square error of approximation, 90% CI = confidence interval around RMSEA, CFI = comparative fit index, NFI = normed fit index, SRMR = standardized root mean square residual.

Table 6 Direct and Indirect Effects of JCM Variables on Facets of Citizenship Performance

Endogenous Variables	Task Characteristics					Critical Psychological States		
	Skill Variety	Task Significance	Task Identity	Autonomy	Feedback	Experienced Meaningfulness	Responsibility for Outcomes	Knowledge of Results
Experienced Meaningfulness	.36*	.46*	.04					
Responsibility for Outcomes				.40*				
Knowledge of Results					.61*			
Personal Support	(.08*)	(.10*)	(.01)	(.09*)	(.05)	.22*	.23*	.09
Organizational Support	(.04*)	(.05*)	(.00)	(.11*)	(.09*)	.10*	.27*	.15*
Conscientious Initiative	(.09*)	(.12*)	(.01)	(.11*)	(.03)	.26*	.27*	.05

Note: n = 379. * $p < .05$ using Cohen and Cohen (1983) rule of thumb. Indirect effects are within parentheses. Only relationships hypothesized in the model are presented in this table.

Table 7 Hierarchical Multiple Regression Analyses Examining Incremental Validity of Job Characteristics Model Variables beyond Individual Differences

Regression Sequence	Step	Beta									ΔR^2	Cum R^2
		Job Characteristics					Critical Psychological States					
		SV	TS	TI	A	FB	EM	ER	KR			
1	1. Individual Differences											.29**
	2. Job Characteristics	.17**	.14**	.04	.03	-.00					.08**	.37**
2	1. Individual Differences											.29**
	2. Psychological States						.19**	.20**	-.02		.11**	.40**
3	1. Individual Differences											.29**
	2. Job Characteristics	.17**	.14**	.04	.03	-.00					.08**	.37**
	3. Psychological States	.10	.04	.04	-.01	-.03	.13	.19**	-.01		.04**	.41**
4	1. Individual Differences											.29**
	2. Psychological States						.19**	.20**	-.02		.11**	.40**
	3. Job Characteristics	.10	.04	.04	-.01	-.03	.13	.19**	-.01	.01		.41

Note: n = 379. Individual differences include agreeableness, conscientiousness, and locus of control. * $p < .05$ ** $p < .01$. SV = skill variety, TS = task significance, TI = task identity, A = autonomy, FB = feedback, EM = experienced meaningfulness, ER = experienced responsibility, KR = knowledge of results

FIGURES

Figure 1 The Job Characteristics Model

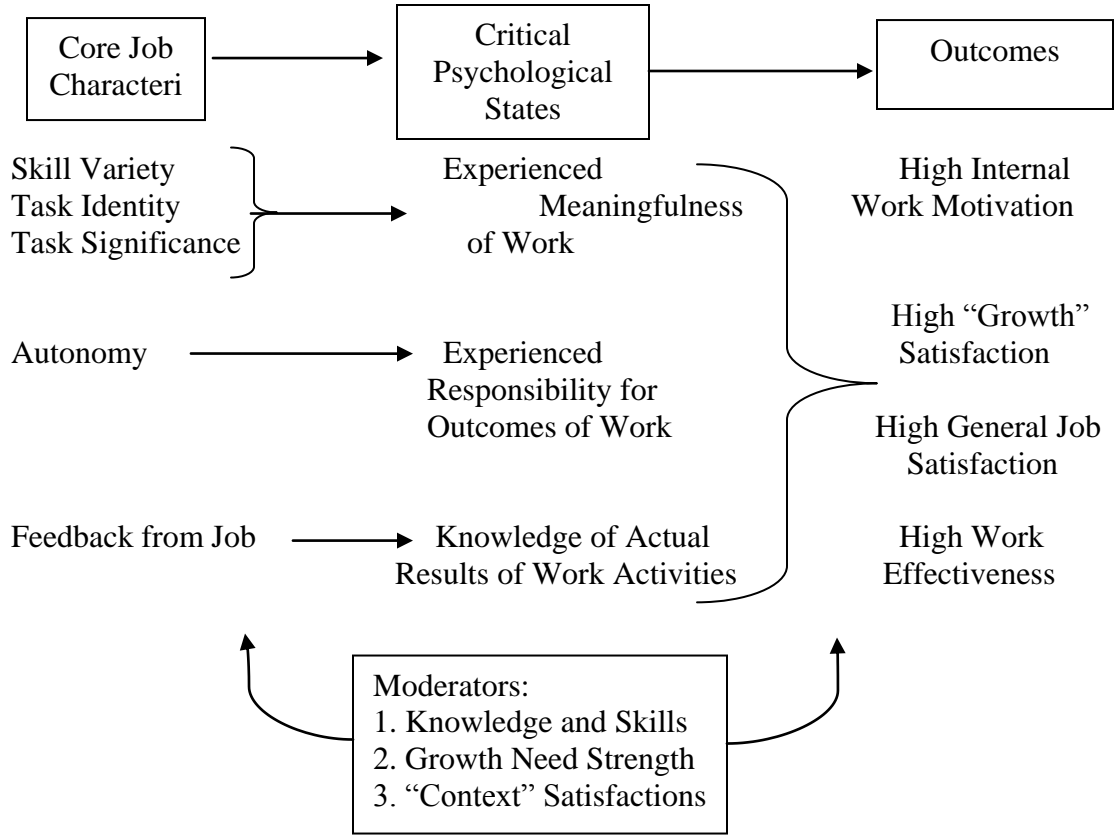


Figure 2 Hypothesis 1: Original JCM with Citizenship Performance as Outcome

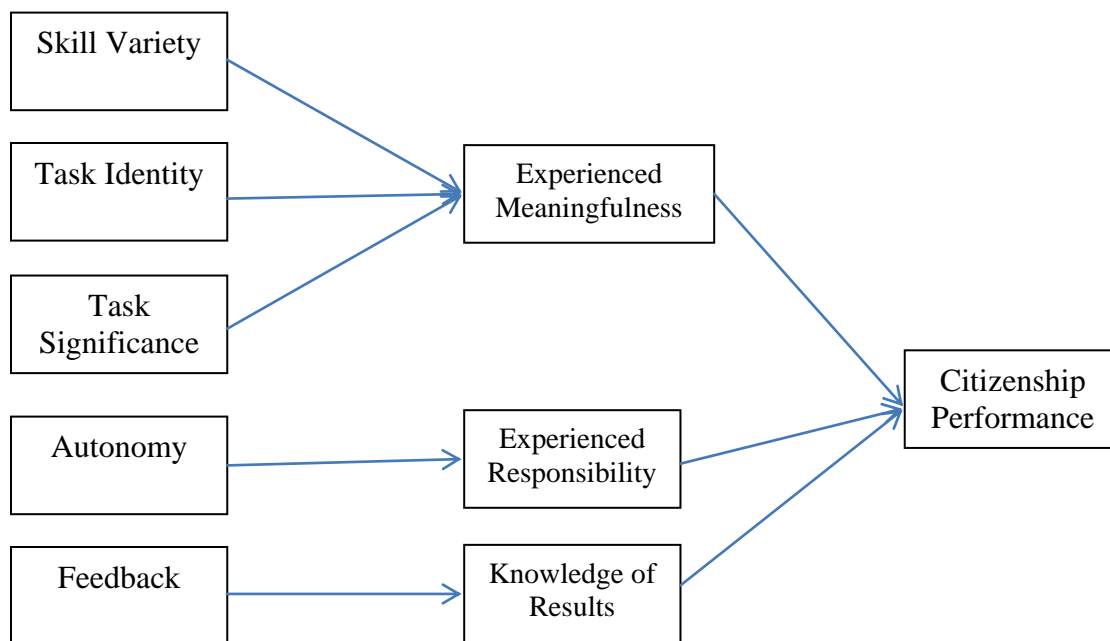


Figure 3 Hypothesis 2: Elaborated JCM with Citizenship Performance as Outcome

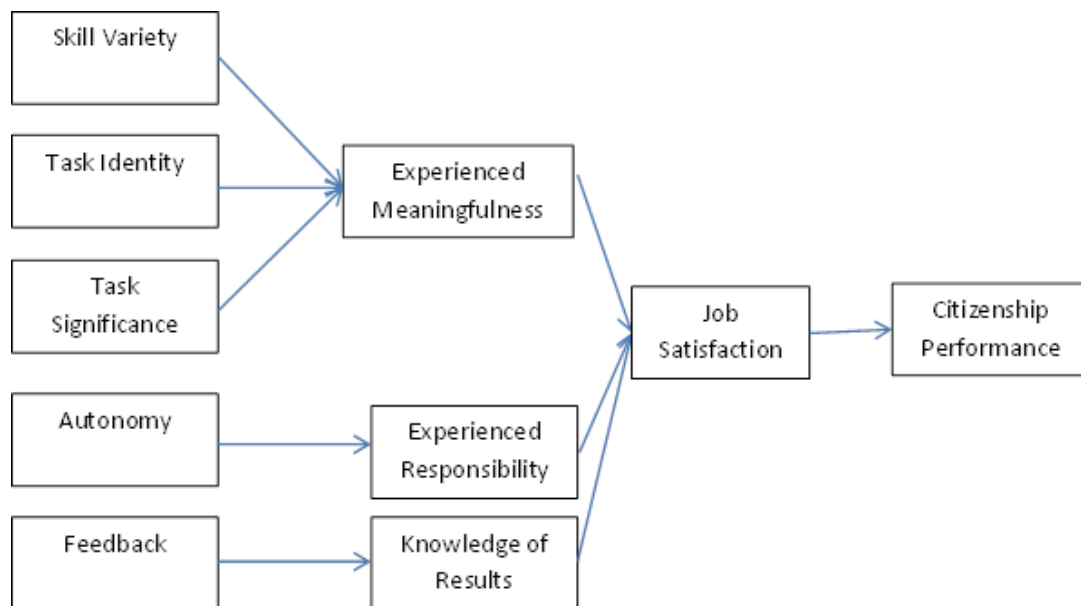
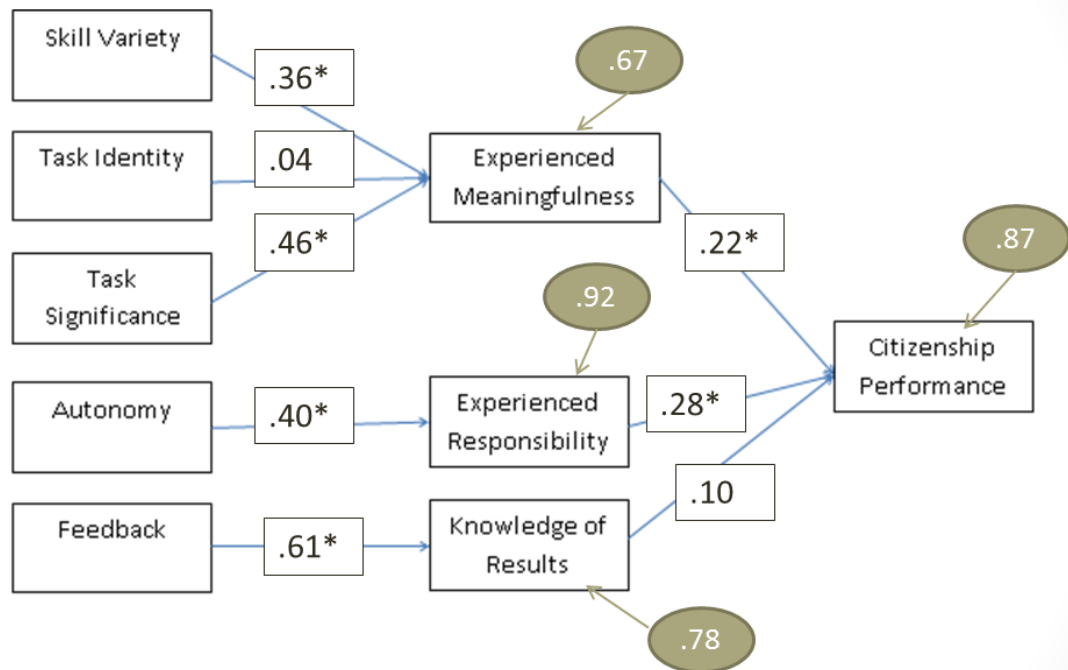
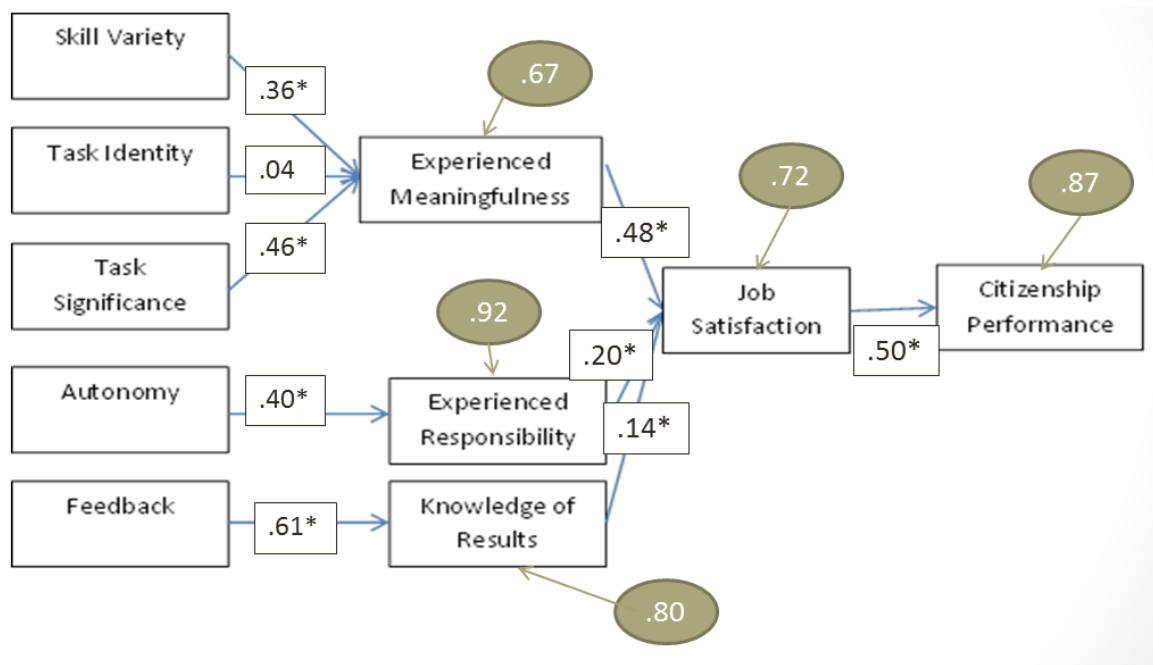


Figure 4 Path Model of Original JCM



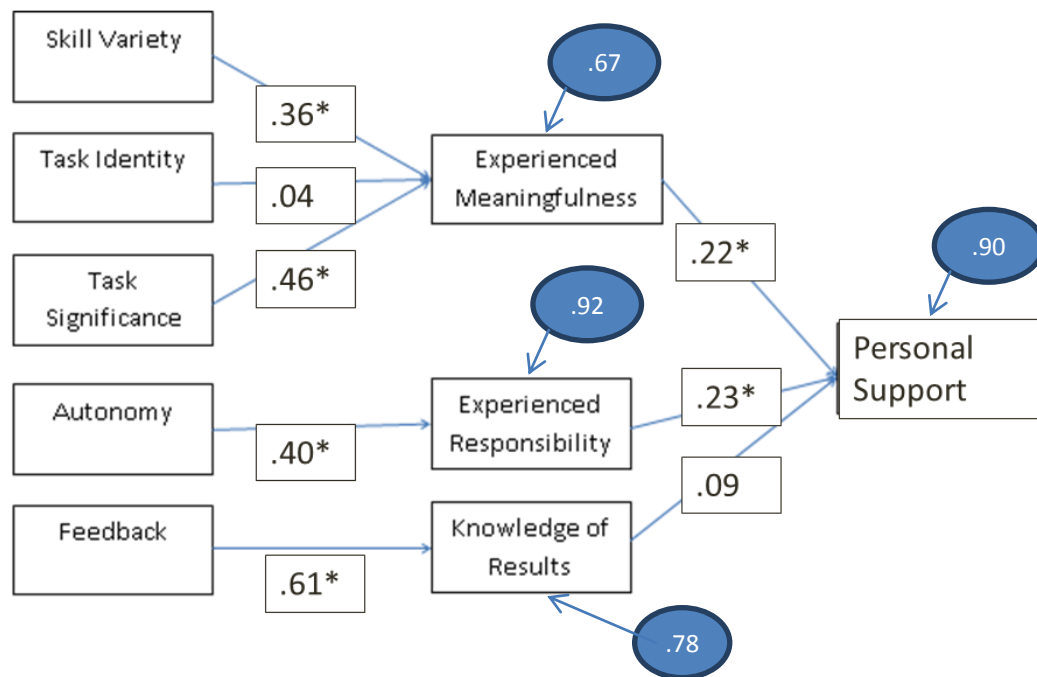
Note: Terms in ovals represent disturbances. * $p < .05$

Figure 5 Path Model of Elaborated JCM



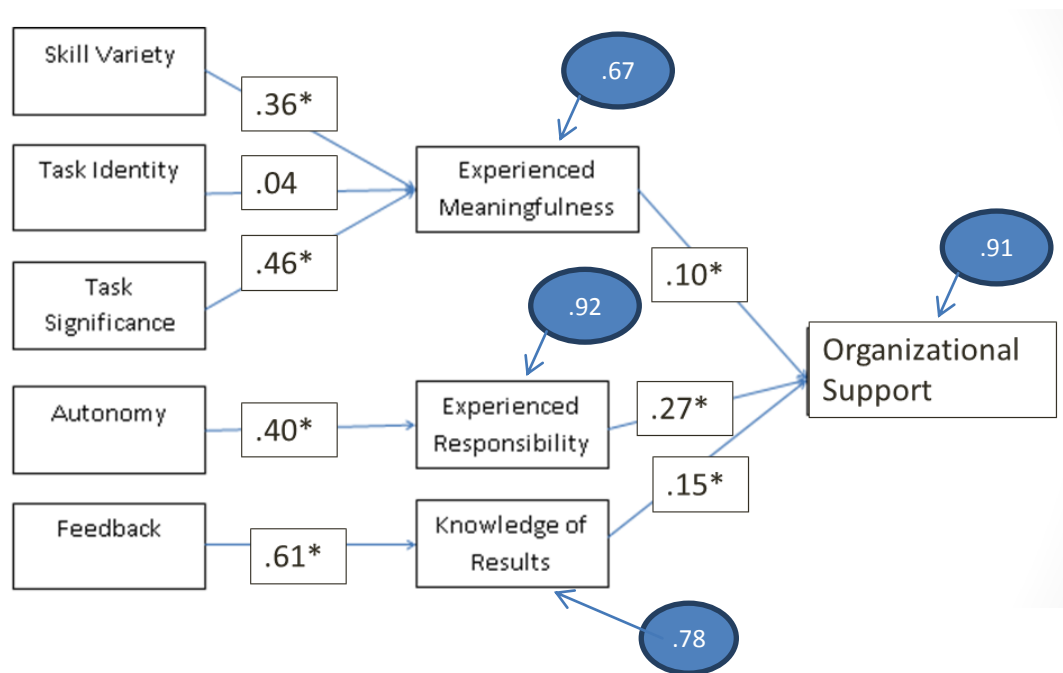
Note: Terms in ovals represent disturbances. * $p < .05$

Figure 6 Path Model of JCM with Personal Support as Outcome



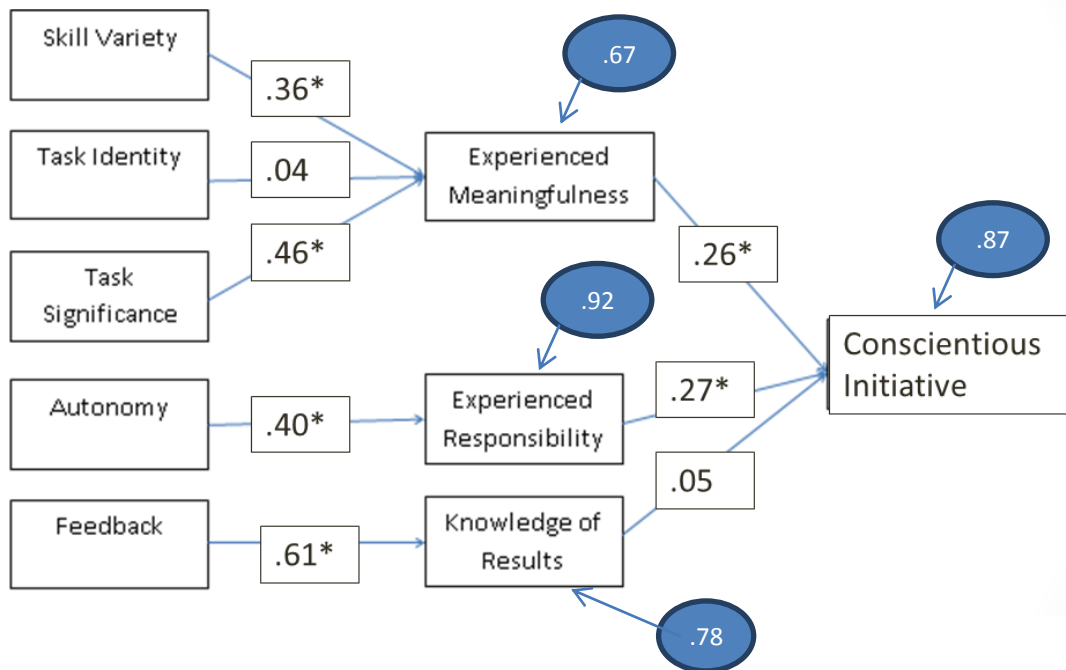
Note: Terms in ovals represent disturbances. * $p < .05$

Figure 7 Path Model of JCM with Organizational Support as Outcome



Note: Terms in ovals represent disturbances. $*p < .05$

Figure 8 Path Model of JCM with Conscientious Initiative as Outcome



Note: Terms in ovals represent disturbances. * $p < .05$

APPENDICES

Appendix A: Proposal Introduction

CHAPTER 1 INTRODUCTION

Kerr and Jermier's (1978) "Substitutes for Leadership Model" proposed that certain employee, task, and organizational characteristics are able to neutralize the effects of leadership in organizations, and as a result may actually weaken the relationships between leader behaviors and subordinate performance. When studying specific aspects of this model, research has repeatedly found relationships between several task characteristics and employee organizational citizenship behavior (OCB) (Podsakoff, MacKenzie, & Bommer, 1996; Podsakoff, MacKenzie, Paine, & Bachrach, 2000). That is, task characteristics including feedback, task routinization, and autonomy have been found to relate significantly to subordinate's performance of OCB. Though abundant research has supported the idea that certain characteristics of the job affect a person's citizenship performance, these relationships have not been studied extensively outside of substitutes for leadership. Additionally, the links between job characteristics and citizenship performance have not been thoroughly examined in the context of sound theory aimed specifically at these relationships.

The current study seeks to resolve this issue by examining the relationship between job characteristics and citizenship performance using Hackman and Oldham's (1975, 1976, 1980) Job Characteristics Model (JCM) as a way to explain the relationships suggested by previous research. First, the construct of job performance will be reviewed to provide a working definition of citizenship performance. Second, predictors of job

performance and its sub-dimensions will be addressed. Third, a review of the literature will provide background for the study of the JCM and its relationship with job performance, and a rationale for examining citizenship performance as a possible outcome in the JCM. Finally, the hypotheses and methods for the current study will be presented.

1.1 Performance in Organizations

Job Performance

The overall construct of job performance can be broken down into at least three sub-types: task performance, citizenship performance, and adaptive performance. This distinction is based on research findings that the kinds of behaviors included in each subtype do not overlap and the behaviors classified within each subtype are predicted by different variables. However, to date, more research on predictors has focused on task and citizenship performance than adaptive performance. Adaptive performance is newer and reflects the overarching, dynamic nature of today's workplace (Motowidlo & VanScotter, 1994). Behaviors consistent with adaptive performance include those that allow an employee to navigate the changing requirements of organizations. This three-factor conceptualization of performance is useful for comprehensively understanding the range of behaviors included in job performance, while acknowledging the fundamental differences between them (Schmitt, Cortina, Ingerick, & Wiechmann, 2003).

Task Performance

Behaviors that are categorized as *task performance* include those that involve or maintain the “technical core” of the organization, defined by Borman and Motowidlo (1993) as any behaviors involving the transformation of raw materials into the products or services offered by the organization. Task performance consists of behaviors that tend to be determined by the kind of job a person holds and have a central role in the formal reward structure. Simply put, task performance includes behaviors outlined in the job description and rewarded with a paycheck. While task performance has traditionally been the central focus of organizational research, the changing nature of work and the acknowledgement that jobs are typically comprised of more than task-related behaviors has led to the investigation of other kinds of performance.

Adaptive Performance

The newest type of performance, adaptive performance, refers specifically to the requirement of versatility in the modern work environment (Schmitt et al., 2003). Pulakos, Arad, Donovan, and Plamondon (2000) have suggested that adaptive performance is comprised of eight factors: (a) handling emergencies or crisis situations, (b) handling work stress, (c) solving problems creatively, (d) dealing with unpredictable work situations, (e) learning work tasks, technologies, and procedures, (f) demonstrating interpersonal adaptability, (g) demonstrating cultural adaptability, and (h) demonstrating physically oriented adaptability. While the concept is still too new to have accrued much empirical support, clearly the factors suggested do not relate to the “technical core” of most jobs (critical to the definition of task performance), nor do they duplicate the factors

of citizenship performance. The unique composition of adaptive performance suggests it is a separate sub-type of job performance.

Citizenship Performance

Citizenship performance is defined as behaviors that support the environment in which the technical core must function and is important primarily because it “shapes the organizational, social, and psychological context that serves as the critical catalyst for task activities and processes” (Borman & Motowidlo, 1993, p. 71). Unlike task performance, citizenship performance consists of behaviors that are not prescribed by the job itself, but are nonetheless important to organizational functioning. Behaviors under the citizenship performance categorization include helping co-workers with their jobs, supporting the organization, and volunteering for additional responsibilities. One factor that differentiates task performance from citizenship performance is that the behaviors associated with citizenship performance are typically the same across jobs, while behaviors associated with task performance vary based on the kind of job one performs (Borman, Penner, Allen, & Motowidlo, 2001).

Research has supported a three-dimension model of citizenship performance: personal support, organizational support, and conscientious initiative (Borman et al., 2001). *Personal support* includes behaviors aimed at aiding individuals within the organization by helping, cooperating, motivating, and showing courtesy. *Organizational support* is characterized by behaviors that aid the organization in some way, including being a good representative, showing loyalty, and being compliant. *Conscientious*

initiative refers to behaviors that demonstrate doing one's best, including persistence, showing initiative, and engaging in self-development.

Citizenship performance, also called contextual performance by Borman and Motowidlo (1993, 1997), is closely related to organizational citizenship behavior (OCB), which is defined as behavior not formally rewarded by compensation systems, but that contributes to effective functioning in organizations (Organ, 1988). Coleman and Borman (2000) combined OCB, prosocial behavior, and a third concept called the solidier effectiveness model to create the three-dimension taxonomy of citizenship performance described above. They believed that this conceptualization reflected all of the concepts from previously researched domains while maintaining parsimony. Namm (2004) noted that the major difference between citizenship performance and OCB is that only citizenship performance includes in-role and extra-role behavior and can be rewarded. However, this statement should apply only to the original conceptualization of OCB because a later revision of the definition allowed for OCB to be rewarded (Organ, 1997). In the present study, the term used by the original authors will be used while reviewing their research, but OCB, contextual performance, and citizenship performance are considered synonymous terms for research dated after 1997.

Predictors of Job Performance

Because performance is so important to organizations, researchers and practitioners alike have focused on determining on how to improve it. One approach is to determine what variables are related to job performance. The rationale is that by understanding which constructs drive performance, organizations can make changes to

their human resources processes to attempt to increase overall job performance.

However, as the review below reveals, most of the research has been correlational, not experimental, making a causative link more tenuous. Two major categories of predictors have been examined to try to identify what may influence performance in organizations: individual difference factors and environmental factors.

Individual Difference Factors

Individual differences have been extensively researched in industrial-organizational psychology, especially with regard to the prediction of task and overall job performance and the selection of employees (e.g., Hunter & Hunter, 1984; Mount & Barrick, 1995; Reilly & Chao, 1982). For example, measures of cognitive ability and personality have continually received support as performance correlates. Meta-analytical studies strongly suggest that measures of cognitive ability are the best predictors of job performance, with a corrected criterion-related validity $r = .51$ (Schmidt & Hunter, 1998). Past meta-analyses have also supported the use of personality measures to predict job performance, especially those measuring the conscientiousness facet of the Big Five, by finding a mean corrected $r = .22$ between conscientiousness and all task performance measures across occupational groups (Barrick & Mount, 1991; Organ & Ryan, 1995; Tett, Jackson, & Rothstein, 1991). Additionally, self-esteem (corrected $r = .18$), internal locus of control (correct $r = .14$), self-efficacy (corrected $r = .19$), and emotional stability (correct $r = .19$) have shown meta-analytic relationships to job performance (Judge & Bono, 2001).

Because of the novelty of adaptive performance, relatively few articles are available that empirically examine individual difference variables that might predict performance. Theory suggests that dispositional variables may be good predictors of adaptive performance (LePine, Colquitt, & Erez 2000), and Schmitt et al. (2003) suggest the leading candidates could be behavioral flexibility, emotional stability, and situational awareness. However, until more research supports these propositions, definitive conclusions cannot be made about the individual difference variables that best relate to adaptive performance.

Predictive relationships between individual differences and citizenship performance and similar constructs (e.g., OCB, extra-role performance, contextual performance) have also received empirical support. Organ and Ryan (1995) conducted a meta-analysis investigating personality correlates of OCB and found strong support for its relationship with conscientiousness (corrected $r = .22, p < .05$). Miller, Griffin, and Hart (1999) also looked at personality factors and found that conscientiousness was a significant predictor of contextual performance ($r = .42, p < .01$). Another study found that positive mood was positively related to self-reports of OCB, indicating that people who are in better moods may be more likely to engage in behaviors that can be categorized as citizenship performance (Rioux & Penner, 2001). Todd and Kent (2006) also found evidence that job self-efficacy, or individuals' belief that they are capable of doing their jobs, is a significant predictor of OCB ($\beta = .109, p < .001$). This means that people who feel confident that they can do their job well are more likely to perform behaviors outside of their role prescriptions.

Organizational Context

The second category of predictors often examined in relation to performance is environmental factors, specifically the context of the organization. Hackman and Oldham (1980) asserted that organizations too often make the error of placing most of the emphasis on individual characteristics when trying to understand behavior, essentially ignoring aspects of the work environment. These authors argue that altering the work environment is a better way to attain desired behavioral changes in employees, for example, increased performance. At the global level, environmental factors could be organization-level characteristics including firm size, organizational culture, industry culture, and the type of organization and industry. For example, research on stress has connected a stressful work environment with increases in physiological illness (i.e., cold and flu, headaches, insomnia), decreases in psychological well-being (i.e., anxiety, depression, burnout), as well as increases in counterproductive behaviors including absenteeism among employees, all of which decrease an individual's overall job performance (Cooper, Dewe, & O'Driscoll, 2001; Krantz & McCeney, 2002).

A narrower definition of environmental factors would focus on characteristics specific to the job or task, rather than the organization as a whole. In fact, job characteristics have been shown to directly affect employee attitudes and behaviors at work (Hackman & Lawler, 1971). Hackman and Oldham (1975, 1976, 1980) expanded upon these findings in several subsequent publications and established the Job Characteristics Model (JCM), which is an attempt to “extend, refine, and systematize the relationships described between job characteristics and individual responses to work” (p.

255). Their model offers an organized way of examining how environmental factors may affect behavior in organizations (see Figure 1).

The JCM suggests that five core job dimensions (i.e., skill variety, task identity, task significance, autonomy, and feedback) are the antecedents of three psychological states (i.e., experienced meaningfulness, responsibility for outcomes, and knowledge of results) (Hackman & Oldham, 1980). *Skill variety* refers to the degree to which a job requires various activities involving the use of a number of different skills and talents of the person. *Task identity* refers to the degree to which a job involves the completion of a task from start to finish, resulting in a complete, individual piece of work. *Task significance* refers to the degree to which the job has a substantial effect on the lives of others, both inside and outside of the organization. When these three job characteristics are present, they lead the employee to experience the work as meaningful. *Experienced meaningfulness* refers to an individual's perception of the work being important or worthwhile based on one's own values system. *Autonomy* is the degree to which the job allows for freedom, independence, and discretion when both scheduling work activities and determining the procedures to be used. When a job provides an individual with autonomy, it is believed to lead to *experienced responsibility*, referring to feelings of personal responsibility for the outcomes of work. *Job feedback* is the degree to which the job activities per se result in direct and clear information about the effectiveness of an employee's performance. This job characteristic is critical to the development of knowledge of the results of work. *Knowledge of the results of work activities* is the extent to which a person is aware of the effects of his/her performance, whether good or bad.

The presence of these five job characteristics, which then promote their respective critical psychological states, is expected to lead to beneficial personal and work outcomes at the individual level. These outcomes include work motivation, growth satisfaction, job satisfaction, and work effectiveness (synonymous with job performance). The five core job characteristics affect the aforementioned outcomes to the extent that they activate the three critical psychological states (Hackman & Oldham, 1980). Additionally, as shown in Figure 1's theoretical model, the relationships between the core job dimensions and the critical psychological states, as well as the relationships between the critical psychological states and the personal and work outcomes, are thought to be moderated by an individual's growth need strength, skills and abilities, and context satisfactions (Hackman & Oldham, 1980).

The authors advocated for the use of the Motivating Potential Score (MPS), a measure of the degree to which the conditions of the model are met, as a way to compare the presence or absence of the core job characteristics across jobs. The MPS reflects the degree to which the job has the potential to be motivating for an individual and is calculated by combining that person's ratings of the five core job dimensions according to the following formula:

$$[(\text{Skill Variety} + \text{Task Identity} + \text{Task Significance})/3] \times \text{Autonomy} \times \text{Feedback} = \text{MPS}$$

Here, potential for job motivation increases when (a) the job is high on at least one of the three dimensions related to experienced meaningfulness, (b) the job is high on autonomy, and (c) the job is high on feedback. The effect of each job characteristic on outcomes (e.g., job performance) is mediated by its specified critical psychological state in the

model, and all three critical psychological states need to be activated for a job to have a high motivating potential score (Hackman & Oldham, 1980).

1.2 The Job Characteristics Model and Performance

Task Performance as an Outcome

The study of the relationship between the core job characteristics and various behavioral outcomes has been the most prolific area of research related to the model, with specific attention paid to job performance, typically operationalized and measured as task performance rather than adaptive performance or citizenship performance. Meta-analytic evidence has demonstrated mixed support for the relationships between job characteristics and both psychological and performance outcomes. Fried and Ferris (1987) used nearly 200 samples in their meta-analysis examining the relationships between each of the core job characteristics and several individual-level outcomes, including task performance. Findings suggested that the strongest relationship between a core job characteristic and task performance existed for task identity (corrected $r = .13$), and that the MPS, used as an overall measure of job characteristics, showed a weak relationship with performance (corrected $r = .08$). Additionally, Fried and Ferris found support for the mediating effects of the critical psychological states when psychological outcomes (e.g., job satisfaction, growth satisfaction, internal motivation) were examined, but not with regard to task performance.

Though the JCM generally has solid support (DeVaro, Li, & Brookshire, 2007; Hackman & Oldham, 1976, 1980) with non-performance outcomes (e.g., job

satisfaction), Namm (2004) suggested that the weak job characteristics-job performance relationships could be due to use of traditional measures of task performance, which are constrained by a person's skills and abilities related to the technical aspects of the job, even given high motivation. If this is true, then a different measure of performance (e.g., citizenship performance) that is not affected by task skills and abilities may show stronger relationships with the job characteristics. Thus, a type of performance that is driven by the individual's psychological state may be well-suited as an outcome in the JCM. This would be consistent with Fried and Ferris's (1987) finding that the critical psychological states were better mediators of the task characteristic effects on psychological outcomes (e.g. job satisfaction, growth satisfaction, internal motivation) than on task performance outcomes.

Research has suggested that performance of behaviors outside one's job description (including citizenship performance, OCB, contextual performance, and extra-role performance) is more likely to be influenced by attitudinal factors (Bateman & Organ, 1983). For example, if an employee is in a good mood, perhaps because of a pleasant experience with a co-worker or a recent raise, that positive affect is likely to be generalized and directed towards other co-workers or towards the organization. Previous research has linked affective states to OCB (Rioux & Penner, 2001), making a measure of a similar construct a likely candidate to result in a stronger relationship with job characteristics. Thus, the similarities between OCB and citizenship performance suggests that job characteristics may relate better to citizenship performance than they do to the other sub-types of performance (Borman et al., 2001; Schmitt et al., 2003).

Citizenship Performance as a JCM Outcome

Next, empirical research will be reviewed that supports the theoretical connection between job characteristics and citizenship performance. The presence of support for links within the model, even when examined only in isolation, gives more of a rationale for exploring the effect of job characteristics on citizenship performance. Long before job characteristics and citizenship were ever formally conceptualized and researched, Katz (1964) discussed the importance of fostering an organizational environment in which members of the organization were free from constraints that might keep them from performing citizenship behaviors spontaneously. Despite this early assertion, only recently have researchers examined the relationship between job characteristics and citizenship performance.

Based on the standards for mediation determined by Baron and Kenny (1986), in order to establish that the relationships between the core job characteristics and citizenship performance are mediated by the critical psychological states, empirical support should be provided demonstrating links between (a) the core job characteristics and critical psychological states, (b) the core job characteristics and citizenship performance, and (c) the critical psychological states and citizenship performance. The following three sections focus on evidence supportive of each of the links in this mediated model.

Core Job Characteristics and Critical Psychological States

The first of these links (i.e., relationships between the job characteristics and critical psychological states) was established in several of Hackman and Oldham's (1975,

1976, 1980) initial publications on the JCM. In the process of validating the JCM, other authors have established the links between the job characteristics and the critical psychological states as well, thus providing substantial evidence for the first link in the mediation sequence (Beheson, Eddy, & Lorenzet, 2000). Table 1 provides an empirical summary of the relationships between job characteristics and the critical psychological states reported in the literature. Moreover, some JCM researchers have cited findings suggesting that the core job characteristics and critical psychological states are related in ways that are not specified by the JCM as evidence for a reconfiguration of the model (Johns, Xie, & Fang, 1992). While these authors have suggested additional relationships between job characteristics and critical psychological states, they have not discredited the existing, designated links in the model. A sum of this evidence, especially the mean correlations calculated from the available evidence and displayed in Table 1, provides solid support for the first relationship required to establish mediation as indicated in the JCM.

Core Job Characteristics and Citizenship Performance

Most of the evidence supporting the relationship between job characteristics and citizenship performance comes from the substitutes for leadership literature, which happened upon this connection serendipitously (Podsakoff, et al., 2000). Substitutes for leadership are aspects of an individual's job setting that influence performance and consequently decrease the relationship between the leader's behaviors and the subordinate employee's outcomes (Podsakoff, Niehoff, MacKenzie, & Williams, 1993). Taken together, the findings from this literature show support for the links between the

core job characteristics and citizenship performance, as summarized in Table 2. The following narrative will discuss each of the five task characteristics columns reported in Table 2.

An employee's perception of the repetitive nature of the job, called task routinization in the substitutes for leadership literature (the opposite of task variety in the JCM), was found to be related negatively to several aspects of an employee's citizenship performance. In their meta-analysis of the relationships between substitutes for leadership and various performance indicators, Podsakoff et al. (1996) found significant, corrected correlations ranging from $r = -.10$ to $-.30$ for the relationship between task routinization and the five facets of OCB. This indicates that the more routine people's jobs are, the less they engage in behaviors consistent with citizenship performance. Three other studies are relevant here, but were not included in the meta-analysis by Podsakoff and colleagues because they were published afterwards. First, Todd and Kent (2006) also reported a significant negative correlation between task routinization and sportsmanship ($r = -.17$, $p < .01$) and also between task routinization and conscientiousness ($r = -.13$, $p < .05$). Second, Namm (2004) found positive, significant relationships between skill variety and overall OCB ($r = .20$, $p < .01$), and significant correlations ranging from $r = .20$ to $r = .30$ between skill variety and all of the dimensions of OCB, except sportsmanship. Interpreted in the terms of the JCM, skill variety, which is marked by a lack of task routinization, appears to be positively related to citizenship performance. A third study examined the relationship between the core job characteristics and OCB in a sample of Taiwanese employees and found significant relationships between task variety and two dimensions of OCB, altruism and civic virtue ($r = .24$, $p < .01$ and $r = .20$, $p < .05$,

respectively) and autonomy and the same two dimensions ($r = .30, p < .01$ and $r = .20, p < .05$, respectively). The same study found that feedback was significantly related to altruism ($r = .21, p < .05$) (Farh, Podsakoff, & Organ, 1990). These findings suggest that task characteristics variety, autonomy, and feedback are related to the personal support dimension of citizenship performance (i.e., altruism), whereas the task characteristics variety and autonomy are related to the organizational support dimension of citizenship performance (i.e., civic virtue).

Only two studies have examined the relationship between task significance and OCB. Todd and Kent (2006) reported significant correlations ranging from $r = .12$ to $r = .27$ for the altruism, sportsmanship, and conscientiousness facets of OCB. Namm (2004) found a positive, significant correlation between task significance and overall OCB ($r = .17, p < .05$), and significant correlations ranging from $r = .16$ to $r = .20$ for altruism, civic virtue, and conscientiousness. Taken together, these findings provide support for the relationship between task significance and citizenship performance.

Relatively little research has examined the relationship between task identity and OCB. Fahr et al. (1990) did not find a significant relationship between task identity and either of the two facets of OCB they measured, and Namm (2004) only found that task identity significantly correlated with civic virtue ($r = .18, p < .05$) and conscientiousness ($r = .17, p < .05$).

The relationship between autonomy and OCB has been similarly ignored. Fahr et al. (1990) reported significant correlations of autonomy with altruism ($r = .30, p < .01$) and civic virtue ($r = .20, p < .05$), respectively. Todd and Kent (2006) also reported positive correlations between autonomy and altruism ($r = .22, p < .01$), and between

altruism and sportsmanship ($r = .11, p < .05$). Namm (2004) only found one significant relationship between autonomy and any OCB facet (i.e., civic virtue), and it was close to that reported by Fahr et al. (1990) ($r = .18, p < .05$).

A meta-analysis of substitutes for leadership literature, including 24 studies, found that task feedback, which is synonymous with Hackman and Oldham's (1980) feedback job characteristic, was significantly and positively correlated with five dimensions of OCB with corrected r values ranging from .16 to .21 (Podsakoff et al., 1996).

In sum, the findings from the substitutes for leadership literature suggest that, although the relationships are not strong, task characteristics are related to citizenship performance. That is, these findings are supportive of the direct links between the core job characteristics and citizenship performance. However, they fail to consider aspects of the JCM that are vital to its functionality, the critical psychological states

Critical Psychological States and Citizenship Performance

The relationships between job characteristics and work outcomes in the JCM are fully mediated by the critical psychological states. Hackman and Oldham (1976) illustrated the importance of this relationship to their model, asserting "the psychological states.... are the causal core of the model" (p. 255). Although an empirical foundation for the direct relationships between the core job characteristics and citizenship performance has been provided, a relationship between the critical psychological states and citizenship performance must be also established in order to provide evidence for the mediation

prescribed by the model. As can be seen in Table 2, much less empirical research has investigated these links in the model.

Although the link between experienced meaningfulness and citizenship performance was not directly tested by Fahr et al. (1990), they found relationships between the task variables related to this psychological state and OCB, and this provides indirect support for an experienced meaningfulness-citizenship link. Moreover, they suggested that employees who have a better understanding of both the needs and troubles of their co-workers within the organization will be more able to recognize when citizenship performance is needed. Additionally, these researchers suggested that understanding may be developed through experienced meaningfulness, as it may aid a person in developing the ability to understand the contextual importance of the job and better understand the interdependence of members of the organization. Namm (2004) provided additional support for this assertion with significant correlations ranging from .25 to .27 between experienced meaningfulness and four dimensions of OCB. Todd and Kent (2006) also reported a significant, positive correlation between experienced meaningfulness and altruism ($r = .36, p < .01$) and sportsmanship ($r = .19, p < .01$).

Pearce and Gregersen (1991) found support for their hypothesis that task interdependence would relate to OCB, and that the relationship would be mediated by felt responsibility. Employees who work in an environment where they perceive that their jobs are dependent on others are more likely to engage in OCB, but only when they feel responsible for the outcomes of their work. Felt responsibility was positively related to altruism ($r = .20, p < .001$). This finding suggests that employees who feel greater

responsibility are more likely to assist their co-workers, providing support for one of the mediated links in the JCM.

Renn and Vandenberg (1995) suggested that positive feedback given to employees when they are working effectively may lead them to expend greater effort and persistence during task performance. Namm (2004) expanded on this idea, asserting that greater efforts may be demonstrated via citizenship performance behaviors that will benefit the organization. She found positive correlations between knowledge of results and both courtesy ($r = .15, p < .05$) and conscientiousness ($r = .20, p < .01$) supporting her assertion. Therefore, employees who feel competent (due to their knowledge of the results of their work) may be more likely to involve themselves in organizational affairs, providing rationale for a JCM link between knowledge of results and performance of citizenship behaviors.

Although less empirical evidence is available to support the proposed relationships between the critical psychological states and citizenship performance, Fahr et al. (1990) and Renn and Vandenberg (1995) provide solid theoretical reasoning for why experiencing the critical psychological states should affect a person's citizenship performance. This bolsters the empirical case provided by Namm (2004), who demonstrated a correlational relationship between two critical psychological states (i.e., experienced meaningfulness and knowledge of results) and overall OCB ($r = .25, p < .01$ and $r = .15, p < .05$, respectively).

Moderators within the JCM

In order for the relationships between the core job characteristics and critical psychological states, and also between the critical psychological states and citizenship performance to be understood, Hackman and Oldham (1980) proposed that three individual difference moderators were influential: First, *growth need strength* refers to a person's need for personal learning and development as it may relate to his/her personal feelings of accomplishment. Hackman and Oldham (1980) argue that "the psychological needs of people are critical in determining how vigorously an individual will respond to a job high in motivating potential" (p. 85). Second, *context satisfactions* describe the extent to which a person is pleased with other aspects of the job, including pay and relationships with co-workers and supervisors. *Knowledge and skills* refers specifically to the task-relevant knowledge and skills required for the job. These three constructs were specified as potential moderators of the relationships between the core job characteristics and their specified critical psychological states, and between the critical psychological states and individual outcomes (e.g., job performance). Hackman and Oldham proposed that stronger relationships exist within the model for individuals who have higher growth need strength, context satisfactions or knowledge and skills required for the job.

Several studies have examined the value of moderators using *task* (not *citizenship*) performance as the outcome for the model. Fried and Ferris (1987) found that the relationship between the MPS and job performance was stronger among people with high growth need strength than it was among people with low growth need strength. Tieg, Tetrick, and Fried (1992) examined the usefulness of five individual difference variables, including growth need strength, as moderators in the JCM using job satisfaction, growth satisfaction, and internal motivation as outcomes, but did not find

that any of the variables were viable as moderators. However, Fried and Ferris (1987) argued that job performance is the only outcome with “consistent statistical legitimacy for examining moderation” (p. 307), which may explain why Tiegs et al. (1992) did not find support for moderation given that they did not target performance. Champoux (1991) found additional support for the use of growth need strength as a moderator by establishing that the relationships between the core job characteristics and critical psychological states, and between the psychological states and outcomes were moderated.

Johns et al. (1992) analyzed both growth need strength and context satisfactions as moderators, in addition to examining job tenure and education level as proxy measures for skill and abilities. While these researchers found that context satisfactions did effectively moderate the relationship between the core job characteristics and critical psychological states, the effect was lessened in the second relationship between the critical psychological states and outcomes, except for behaviorally-based outcomes (e.g. turnover cognitions, self rated performance). Growth need strength was found to moderate only the relationships between experienced meaningfulness and both general satisfaction and growth satisfaction.

A meta-analysis of the validity of the JCM found support for the inclusion of moderators in the model, suggesting that the failure to examine them directly in previous research may be the cause for lower than expected relationships between job characteristics and job performance (Fried & Ferris, 1987). For example, when statistical artifacts were removed by Fried and Ferris, moderator analyses revealed that the relationship between the MPS and job performance was greater for people with higher growth need strength (corrected $r = .45$) than for those with lower growth need strength

(corrected $r = .14$), supporting the need for more research on growth need strength as a moderator in the model. Additionally, Fried and Ferris noted that sufficient research has not been done on the moderating potential of context satisfactions, and subsequently did not analyze this moderator in their meta-analysis.

Unfortunately, only one study has previously included any of these three moderators in examinations of any part of the model with citizenship performance as the outcome. Namm (2004) attempted to test several competing models of the JCM to predict OCB, including a four-stage model where job satisfaction mediated the relationship between the critical psychological states and OCB. Using structural equation modeling to test the fit of the models to the data, Namm found that the model with both the critical psychological states and job satisfaction as mediators of the relationships between the core job characteristics and OCB was the best fit for the data, but that the models had poor fit overall. A second set of models were tested that only included job characteristics that were significantly related to OCB (i.e. skill variety and task significance), and subsequently included only the critical psychological state related to those task characteristics, experienced meaningfulness. She found that a revised, three-stage model of the JCM (with experienced meaningfulness mediating only the relationships of task significance and skill variety with OCB) was the best fit for the data, but she failed to initially examine the moderating effects of growth need strength, knowledge and skill, and context satisfactions in this analysis. However, she then conducted a post-hoc analysis of her data to determine if an unexpectedly weak relationship between autonomy and OCB could be explained by any of the JCM moderators. Her conjecture was supported, suggesting that employees who have a strong desire for personal development

will perform more OCB when they have jobs that allow them to be independent, while employees low in growth need strength with less desire for personal development will be less likely to engage in OCB. While no empirical data were reported in connection with this finding, it was mentioned in her discussion section.

In sum, previous literature (i.e., Champoux, 1991; Fried & Ferris, 1987; Namm, 2004) shows support for the use of growth need strength as a moderator in the JCM, suggesting it should be a viable moderator when citizenship performance is included as an outcome in the model. Far less research has been conducted testing the moderating ability of context satisfactions and knowledge and skill; however, the research that has been completed has not suggested that either is important, as little support exists for their moderating effects at both points designated by the JCM. Despite the meta-analytic support for the moderating effects of growth need strength within the JCM using task and overall performance as outcomes, only Namm (2004) has examined JCM moderation using citizenship performance as an outcome.

The Current Study

While the relationships between individual links in the JCM and citizenship performance seem to be supported with evidence from previous research, the findings in general are limited in their ability to establish the usefulness of the model as a theoretical framework for explaining the relationship between task characteristics and citizenship performance, per se. Despite plentiful evidence that *individual* job characteristics and psychological states are related to citizenship performance (e.g., Podsakoff et al., 1996; Renn & Vandenberg, 1995), only one study (i.e., Namm, 2004) has tested the complete

JCM using citizenship performance as an alternative outcome to task or overall performance in the model. The current study seeks to determine if citizenship performance can be included in the JCM as a performance outcome. As such, I hypothesize that:

H1: The critical psychological states will mediate the positive relationships between the core job characteristics and citizenship performance.

Though the moderating value of growth need strength has been supported in previous research related to task performance, this individual difference moderator has been ignored in JCM research related to other performance outcomes. Fried and Ferris (1987) suggested that failure to include moderators in tests of the model could explain why some previous research did not find support for the relationships in the JCM. Namm (2004) also found that the unexpectedly weak relationship between autonomy and OCB might be better explained when growth need strength was taken into account. As such, following from the JCM I hypothesize that:

H2: Growth need strength will moderate the relationships between the core job characteristics and the critical psychological states.

H3: Growth need strength will moderate the relationships between the critical psychological states and citizenship performance.

Acknowledging the well-established relationship between job satisfaction and citizenship performance (e.g., Bateman & Organ, 1983; Organ, 1988) and Namm's (2004) rationale for the role of job satisfaction in the JCM, an alternative, four-stage model with job satisfaction mediating the relationships between the critical psychological states and citizenship performance will be tested. Therefore, I hypothesize that:

H4: A four-stage model including job satisfaction will be a better fit to the data than the three-stage model of the JCM, with the critical psychological states mediating the job characteristics-citizenship performance relationships.

Test of an alternative configuration of the MPS

Support for the current configuration of the relationships between the job characteristics and critical psychological states has been mixed. While Fried and Ferris (1987) did find meta-analytic support for the mediation of the core job characteristics-work outcome relationships, correlational data revealed that some job characteristics have stronger than expected correlations with critical psychological states other than the specific one indicated in the model. For example, Johns et al. (1992) found that experienced meaningfulness, which is only supposed to be related to skill variety, task identity, and task significance, was also significantly related to autonomy ($r = .17, p < .01$) and feedback ($r = .17, p < .01$). If the critical psychological states are affected by more task characteristics in the model than Hackman and Oldham (1976) designated, then this could explain the weak relationships between the MPS and performance reported in earlier research on the JCM.

The formula for the MPS weights the influence of each task characteristic based on its contribution to the corresponding critical psychological state. Given Johns et al.'s (1992) finding that the core job characteristics may affect more than one psychological state, a simple additive formula may be more representative of the true effects of the task characteristics on the critical psychological states, and consequently on performance. Fried and Ferris (1987) did in fact find that a simple additive index of job complexity,

calculated by adding the scores for each core job characteristic together, is a better predictor of job performance than is the MPS formula created by Hackman and Oldham (1976). Assuming the same relationships to be true for citizenship performance, I hypothesize:

H5: An unweighted, additive composite of the five core job characteristics scores will be a better predictor of overall citizenship performance than will the original, multiplicative MPS composite.

Novel Contributions and Additional Hypotheses

In testing these hypotheses, the current study seeks to make several novel contributions to the literature. First, by investigating the relationships between the core job characteristics, critical psychological states, and citizenship performance using structural equation modeling, the current study will build on Namm (2004) and be the second to test the JCM with citizenship performance as an outcome, thus adding to the theoretical and empirical explanation of the relationship between them.

Second, past research of the JCM and citizenship performance has only focused on the *overall* citizenship dimension, not including personal support, organizational support, and conscientious initiative as facet-level citizenship outcomes. Given the paucity of JCM research exploring these specific dimensions of citizenship performance, a major contribution of the current study will be to empirically explore the nature of the direct relationship between job characteristics and personal support, organizational support, and conscientious initiative. Thus, each can be conceptualized as an alternative

citizenship performance criterion in Hypotheses 1-4, and the structural equation model representing the JCM will be expanded to include facet-level citizenship outcomes.

Third, by including growth need strength as a moderator in the model, the current study will be the first to test the complete JCM using alternative types of performance (i.e., citizenship performance and its dimensions) as outcomes. Finally, by testing an alternative configuration of the MPS, the current study seeks to provide support for using alternative composite score formulas as a more accurate way to test the motivating potential of a job.

Appendix B: Definitions of JCM Variables

Job Characteristics:

Skill variety refers to the degree to which a job requires various activities involving the use of a number of different skills and talents of the person.

Task identity refers to the degree to which a job involves the completion of a task from start to finish, resulting in a complete, individual piece of work.

Task significance refers to the degree to which the job has a substantial effect on the lives of others, both inside and outside of the organization.

Autonomy is the degree to which the job allows for freedom, independence, and discretion when both scheduling work activities and determining the procedures to be used.

Job feedback is the degree to which the job activities per se result in direct and clear information about the effectiveness of an employee's performance.

Critical Psychological States:

Experienced meaningfulness refers to an individual's perception of the work being important or worthwhile based on one's own values system.

Experienced responsibility refers to feelings of personal responsibility for the outcomes of work.

Knowledge of the results of work activities is the extent to which a person is aware of the effects of his/her performance, whether good or bad.

Appendix C: Survey Materials

Job Description Survey

1. Information Page

Job Description Survey

Information

Welcome! This survey is part of a study investigating peoples' perceptions of their job, and how it relates to their performance at work.

You will be asked to complete a short demographic questionnaire, followed by a series of questions about your job. You will also be asked to answer questions about your personality and preferences.

Participant Requirements

You must be at least 18 years of age to complete this survey. Additionally, this survey requires that you are **currently employed for at least 20 hours per week.** If you do not meet these requirements, please do not continue the survey. There is no penalty for withdrawing.

Confidentiality

All of your answers will be kept completely confidential. Additionally, all of the data collected will be analyzed together, so your responses will not be identifiable.

Participation and Credit

Your participation in this survey is voluntary. You may withdraw from the study at any time with no penalty. The survey should take approximately 20 minutes to complete. If you are completing the survey as a part of your research requirement for B104 or B105, this survey is worth the equivalent of one online survey, or .5 credits of research participation. **In order to receive credit for participation, you must enter your email address on the final page.** Your name and email address will not be associated with any responses you provide.

Researcher Contact Information

Should you have any questions or concerns, please do not hesitate to contact the researchers at cmcavana@iupui.edu or jthazer@iupui.edu. The IRB Study number is 1012004459.

Thank you!

Job Description Survey

2. Part I: Demographic Information

The following demographic questions will be used to describe the sample of participants completing this survey.

Please provide accurate and honest responses.

Your individual responses will not be identifiable, and all information will be kept confidential.

1. Sex:

- Male
- Female
- Prefer not to answer

2. Age:

3. Current employment status:

- not employed
- employed less than 20 hours per week
- employed 20-40 hours per week
- employed more than 40 hours per week

4. Current job title:

5. Job Family

6. How long have you been employed in your present position?

Years

Months

Job Description Survey

3. Part II

On the following pages you will find several different kinds of questions about your job. Specific instructions are given at the start of each section. Please read them carefully.

The questions are designed to obtain your perceptions of your job and your reactions to it. There are no trick questions. Your answers will be kept completely confidential. Please answer each item as honestly as possible.

Thank you for your cooperation.

Job Description Survey

4. Part II: Section 1

This part of the questionnaire asks you to describe your job, as *objectively* as you can.

Please do *not* use this part of the questionnaire to show how much you like or dislike your job. Questions about that will come later. Instead, try to make your descriptions as accurate and objective as you possibly can.

Please select the number that most accurately describes your job.

7. How much *autonomy* is there in your job? That is, to what extent does your job permit you to decide *on your own* how to go about doing the work?

 1

Very little; the job gives me almost no personal "say" about how and when the work is done

 2

 3

 4

Moderate autonomy; many things are standardized and not under my control, but I can make some decisions about the work.

 5

 6

 7

Very much; the job gives me almost complete responsibility for deciding how and when the work is done

8. To what extent does your job involve doing a "whole" and identifiable piece of work? That is, is the job a complete piece of work that has an obvious beginning and end? Or is it only a small *part* of the overall piece of work, which is finished by other people or by automatic machines?

 1

My job is only a tiny part of the overall piece of work; the results of my activities cannot be seen in the final product or service.

 2

 3

 4

My job is a moderate-sized "chunk" of the overall piece of work; my own contribution can be seen in the final outcome.

 5

 6

 7

My job involves doing the whole piece of work from start to finish; the results of my activities are easily seen in the final product or service.

Job Description Survey

9. How much *variety* is there in your job? That is, to what extent does the job require you to do many different things at work, using a variety of your skills and talents?

 1

Very little; the job requires me to do the same routine things over and over again.

 2

 3

 4

Moderate variety.

 5

 6

 7

Very much; the job requires me to do many different things, using a number of different skills and talents.

10. In general, how *significant or important* is your job? That is, are the results of your work likely to significantly affect the lives or well-being of other people?

 1

Not very significant; the outcomes of my work are not likely to have important effects on other people.

 2

 3

 4

Moderately significant.

 5

 6

 7

Highly significant; the outcomes of my work can affect other people in very important ways.

11. To what extent does *doing the job itself* provide you with information about your work performance. That is, does the actual *work itself* provide clues about how well you are doing? (This question is not asking about "feedback" that co-workers or supervisors may provide.)

 1

Very little; the job itself is set up so I could work forever without finding out how well I am doing.

 2

 3

 4

Moderately; sometimes doing the job provides "feedback" to me; sometimes it does not.

 5

 6

 7

Very much; the job is set up so that I get almost constant "feedback" as I work about how well I am doing.

Job Description Survey

8. Part III: Work Behaviors

Please respond to the following items using the scale provided.

15. While performing your job, how likely are you to:

	1	2	3	4	5
	Not at all likely	Not likely	Somewhat Likely	Likely	Extremely likely
Comply with instructions even when supervisors are not present.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cooperate with others in the team.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Persist in overcoming obstacles to complete a task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Display proper company appearance and manner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Volunteer for additional responsibilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Follow standard operating procedures and avoid unauthorized shortcuts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Look for challenging assignments.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Offer to help others accomplish their work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pay close attention to important details.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Defend the supervisor's decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Render proper business courtesy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support and encourage a coworker with a problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take the initiative to solve a work task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exercise personal discipline and self-control.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tackle a difficult work assignment enthusiastically.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Voluntarily do more than the job requires to help others or contribute to company effectiveness.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Job Description Survey

9. Part IV: Personality Information

Please use the rating scale below to describe how accurately each statement describes you. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age. So that you can describe yourself in an honest manner, your responses will be kept in absolute confidence. Please read each statement carefully, and then fill in the bubble that corresponds to the number on the scale.

17. Which of the following describes you?

	1	2	3	4	5
	Very Inaccurate	Moderately Inaccurate	Neither Inaccurate nor Accurate	Moderately Accurate	Very Accurate
I follow a schedule.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I pay attention to details.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I make a mess of things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I insult people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a soft heart.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get chores done right away.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am exacting in my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I make people feel at ease.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like order.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I leave my belongings around.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sympathize with others' feelings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I shirk my duties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often forget to put things back in their proper place.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel little concern for others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not interested in other people's problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I take time out for others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am always prepared.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not really interested in others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am interested in people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel others' emotions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Job Description Survey

10. Email Address

In order to receive credit, please enter your IUPUI email address in the box provided. Again, this information will be kept separate from your responses and is only being used to administer credit.

*** 18. IUPUI email address**

Job Description Survey

11. Debriefing

Thank you for your participation!

Your responses to these questions will be combined with all other responses to determine if characteristics of jobs are related to the performance of helping behaviors at work. Additionally, your responses will help us to determine if certain personality characteristics and emotions may relate to helping behaviors.

To learn more about this area of research, please reference these two articles:

Borman, W. C., Penner, L. A., Allen, T. D., & Motowidlo, S. J. (2001). Personality predictors of citizenship performance. *International Journal of Selection and Assessment*, 9, 52-69.

Hackman, J. R., & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance*, 16, 250-279.

If you have any questions, please contact the researchers: Caitlin Cavanaugh (cmcavana@iupui.edu) or John Hazer (jthazer@iupui.edu).

Appendix D: Scoring Key for JDS Measures

Scoring Key for JDS Items

Task Characteristics-- Average the following items for each characteristic:

Skill Variety

Section 1: Item 3

Section 2: Item 1, Item 4 (reverse scored)

Task Identity

Section 1: Item 2

Section 2: Item 7, Item 3 (reverse scored)

Task Significance

Section 1: Item 4

Section 2: Item 5, Item 10 (reverse scored)

Autonomy

Section 1: Item 1

Section 2: Item 9, Item 6 (reverse scored)

Feedback

Section 1: Item 5

Section 2: Item 3, Item 8 (reverse scored)

Experienced Psychological States-- Average the following items for each state:

Experienced Meaningfulness:

Section 3: Item 5, Item 3 (reverse scored)

Section 4: Item 5, Item 2 (reverse scored)

Experienced Responsibility:

Section 3: Item 6, Item 9, Item 11, Item 1 (reverse scored)

Section 4: Item 3, Item 6

Knowledge of Results:

Section 3: Item 4, Item 8 (reverse scored)

Section 4: Item 4, Item 8 (reverse scored)