A LONGITUDINAL STUDY OF THE PREDICTORS OF CONTEXTUAL PERFORMANCE

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A LONGITUDINAL STUDY OF THE PREDICTORS OF CONTEXTUAL PERFORMANCE

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A Thesis

Submitted to

the Graduate Faculty of

Auburn University

in Partial Fulfillment of the

Requirements for the

Degree of

Master of Science

Auburn, Alabama
August 4, 2007

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THESIS ABSTRACT

A LONGITUDINAL STUDY OF THE PREDICTORS OF CONTEXTUAL PERFORMANCE

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Master of Science, August 4, 2007
(B.A., Emory University, 2004)

79 Typed Pages

Directed by Daniel J. Svyantek

The current study extends previous research on contextual performance by comparing data at two points in time to assess the temporal stability of contextual performance and the stability of the predictors of contextual performance. Subjects were undergraduate students that worked in teams over the course of one semester. Personality, motivation orientation and perceived similarity to one's team were explored as variables that may differentially predict individual contextual performance at time one and time two. Contextual performance was found to be a stable, unidimensional construct and individual contextual performance behaviors were shown to decrease significantly between time 1 and time 2. Conscientiousness and agreeableness were found to be stable predictors of contextual performance and extraversion, intrinsic motivation orientation and perceived similarity were found to be unstable predictors of contextual performance. Implications and limitations are discussed.

Publication Manual of the American Psychological Association, Fifth Edition

Statistical Package for the Social Sciences 15.0

AMOS 6.0

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INTRODUCTION

In the competitive business world, employees are often expected to perform at not only satisfactory levels, but to exceed the required roles of their respective jobs and perform tasks that may not be included in their job descriptions; this behavior is referred to as *contextual performance* (Borman & Motowidlo, 1993).

Contextual performance is a facet of the broader domain of job performance. Job performance is described by Motowidlo, Borman and Schmit (1997, p.72) as the "degree to which an individual helps the organization reach its goals". Job performance is further described by Motowidlo et al as behavioral, episodic, evaluative, and multidimensional. Campbell (1990; Campbell, McHenry, & Wise, 1990) also recognizes that job performance can be broken down into separate components of performance. Previous selection research has treated job performance as a unidimensional construct where the predictors of job performance were emphasized rather than the performance construct itself (Campbell, 1990). Campbell postulated that there are two primary types of behavior that encompass job performance, those behaviors that are unique to a specific job and those behaviors that are the same for all jobs within an organization. Borman and Motowidlo (1993) expand upon the work of Campbell and suggest that the domain of job performance can be subdivided into at least two separate theoretical domains: task performance and contextual performance.

Task performance consists of the in-role, required components of the job which are found in one's job description. The behaviors encompassed in task performance are what one typically thinks of as job performance. Task performance behaviors, however, are not the only behaviors that help organizations reach their goals. Contextual performance behaviors are also associated with organizational effectiveness and success (Ehrhart, Bliese, & Thomas, 2006; Podsakoff, Ahearne, & MacKenzie, 1997; Walz & Niehoff, 2000). Contextual performance involves the discretionary and interpersonal behaviors that enhance the context in which the task behaviors are performed (Motowidlo & Van Scotter, 1994). Discretionary behaviors are those behaviors that an individual volunteers to do, but is not explicitly required to do. Interpersonal behaviors are those behaviors between people that facilitate task performance, such as helping a coworker who seems to be struggling with his/her work or helping to familiarize a new employee with other coworkers. These behaviors help to provide a context or environment that facilitates effective task performance. Contextual performance (CP) will be the dependent variable in the present study.

Although research on contextual performance and related constructs has been accruing for more than two decades, the existing body of research on CP is lacking in certain areas. The present study addresses two research questions. First, the stability of contextual performance over time will be assessed, both as a construct and at the level of individual behavior. Second, differences in the prediction of individual contextual performance will be explored at two points in time using variables that

have been found to be predictors of contextual performance. Personality, motivation orientation, and perceived similarity will be the independent variables used to predict contextual performance at time 1 and time 2. First, contextual performance will be defined and distinguished from other related constructs of helping behavior. Each predictor of CP will then be discussed individually and as it relates to CP.

Contextual Performance

Contextual Performance and Related Constructs

Contextual performance is closely related to several other constructs of extra-role behavior, most notably, organizational citizenship behavior (OCB). A number of articles have addressed the similarities and differences between contextual performance and OCB (LePine, Erez, & Johnson, 2002; Motowidlo, 2000; Podsakoff, MacKenzie, Paine, & Bachrach, 2000; Organ 1997, Van Dyne, Cummings, & Parks, 1995). Dennis Organ first defined OCB in 1983 as "individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization" (Organ, 1988, p.4). Contextual performance as defined by Borman and Motowidlo (1993) consists of "behaviors [that] do not support the technical core itself so much as they support the broader organizational, social, and psychological environment in which the technical core must function." In other words, contextual performance enhances the environment in which the work is performed. The definition of contextual performance differs from Organ's definition of OCB because it does not specify that the behaviors be extra-role and unrewarded. Thus, the behaviors included as

contextual performance enhance the *context* of the work environment and may be functions that are included in an individual's job description, but the individual may choose to perform those functions at a level that is above and beyond what is expected or required.

Organ (1997) recognized the definitional constraints of his earlier definition of OCB and redefined the construct "as contributions to the maintenance and enhancement of the social and psychological context that supports task performance" (Organ, 1997, p.91). This redefinition of OCB is very similar, if not the same, as the definition of contextual performance. Motowidlo (2000) describes the differences between contextual performance and OCB as being primarily based on the motivation of Organ and Borman and Motowidlo for developing their respective constructs. The term OCB emerged in response to the question of how job satisfaction impacts individual behavior at work which may ultimately affect organizational effectiveness. Contextual performance developed due to concerns that the domain of job performance was being somewhat "neglected" by selection researchers and only task performance was being researched (Motowidlo, 2000, p.117). Both Motowidlo and Organ agree that the two terms "overlap considerably." The present study will seek to measure contextual performance as the research on OCB is somewhat divided due to Organ's redefinition of the construct of OCB (Motowidlo, 2000; Coleman & Borman, 2000). The OCB literature will also be reviewed and included as it pertains to the variables that are investigated in the present study.

Organizational Effectiveness and Contextual Performance

Perhaps the most salient reason for organizations to study contextual performance is the proposed link between contextual performance and organizational effectiveness. Borman and Motowidlo (1993) emphasized the importance of contextual performance for organizations in their original proposal by suggesting that organizational success and efficiency *depend upon* contextual performance. By using the phrase "depend[s] upon", Borman and Motowidlo suggest that a direct relationship may exist between contextual performance and organizational success. Although CP, OCB, and other related constructs have been frequently theorized to impact organizational performance and success, only a small number of studies provide data to support the theoretical connection (Ehrhart, Bliese, & Thomas, 2006; Ehrhart & Naumann, 2004; Bolino, Turnley, & Bloodgood, 2002; Koys, 2001; Walz & Niehoff, 2000).

Although there is a limited amount of empirical support for the link between contextual performance and organizational performance, Podsakoff and MacKenzie (1997) list several ways in which organizational effectiveness may be related to CP. Contextual performance is theorized to enhance coworker productivity as well as managerial productivity. Additionally, work environments with high levels of contextual performance should have more resources available for other purposes since there is a more collaborative environment. Work teams are also thought to benefit from contextual performance because high levels of contextual performance should enhance the degree of coordination among team members. Contextual performance

may also enhance the attractiveness of the organization to high quality applicants and encourage employee retention. Finally, Podsakoff and MacKenzie (1997) propose that contextual performance should help to stabilize organizational performance and allow the organization to adapt more readily to environmental changes.

Establishing an empirical link between CP and organizational performance is critical for organizations to understand the importance of these behaviors and the large-scale impact that they have on the organization. In particular, some organizations have begun to include CP in performance appraisals and other organizations have even considered the possibility of including CP as a selection criterion (MacKenzie, Podsakoff, & Fetter, 1991). Before CP can be effectively utilized by organizations, more research is needed to determine how CP affects organizational performance. The present study will seek to provide some information on how CP may fluctuate over time (which could also influence organizational effectiveness).

The link between contextual performance and organizational performance has been most recently explored by Ehrhart, Bliese, and Thomas (2006) who found a positive correlation between contextual performance and unit level effectiveness. The Ehrhart et al study provides initial empirical support that contextual performance at the unit-level is related to organizational effectiveness. Koys (2001) found additional empirical support for the link between OCB and organizational effectiveness by relating OCB and profitability in a restaurant chain. Kim (2005) found additional evidence of a positive relationship between OCB at the individual level and

organizational performance in a Korean governmental agency. Although these studies provide preliminary empirical support for the connection between organizational effectiveness and contextual performance, future research is still needed to replicate these findings, especially at the level of individual behavior.

In addition to the positive relationship between CP and organizational effectiveness, some researchers have also suggested that there may be potential negative effects the organization incurs due to higher levels of employee contextual performance (Brief & Motowidlo, 1986). For example, spending significant amounts of time helping coworkers and performing other non-task behaviors may actually decrease an employee's task performance. Thus, organizational effectiveness could suffer from an excess of CP if it is performed at the expense of task performance. Although the majority of the theoretical and empirical research suggests a positive relationship between CP and organizational performance, it should still be noted that some negative effects of CP may be possible for the organization.

Measuring Contextual Performance

Motowidlo and Van Scotter (1994) provide empirical evidence to support the construct of contextual performance. They developed a 16-item scale that was administered to Air Force mechanics. Results of the Motowidlo and Van Scotter (1994) study showed that contextual performance was distinct from task performance and that task and contextual performance have different predictors. Specifically, task performance is best predicted by measures of cognitive ability and KSAs (knowledge,

skills and abilities) and contextual performance is best predicted by personality and motivation, which will subsequently be discussed in detail.

Dimensionality. Van Scotter and Motowidlo (1996) performed a follow-up study where contextual performance was divided into two higher order dimensions, *job dedication* and *interpersonal facilitation.* Job dedication includes motivation-oriented behaviors such as staying late at work to complete a project, whereas interpersonal facilitation includes helping, cooperative behaviors such as helping a coworker complete his/her work. Van Scotter and Motowidlo (1996) found that only interpersonal facilitation was distinct from task performance; however, job dedication was not unique from task performance. One of the possible limitations of their study was the use of a military sample, which may not be reflective of how employees in the business world perceive dedication to their job. Research using military samples may not generalize to other populations because the nature of work in the military and the individuals who enlist in the military may differ significantly from other populations. An employee in the business world may not view job dedication as part of the job, whereas a soldier may be trained to perceive dedication as an inherent part of his/her job. Because of difficulties in generalizing results based on military samples to organizations in the business community, we retained both proposed dimensions of contextual performance for the present study.

There is still debate about the number of dimensions that comprise contextual performance. In fact, Podsakoff et al (2000) point out that almost 30 different forms of citizenship behavior have been identified. Originally, Borman and Motowidlo

proposed that there are five basic theoretical dimensions of contextual performance that consist of activities that are unique from task activities. The dimensions proposed included volunteering, persistence to complete tasks, helping and cooperating, following the rules of the organization, and endorsing, supporting, and defending organizational objectives. In contrast to the five theoretical dimensions, Van Scotter and Motowidlo (1996) then demonstrated empirically that CP can be divided into the two discrete higher order dimensions of job dedication and interpersonal facilitation which encompass the original dimensions.

The initial CP scale from Motowidlo and Van Scotter (1994) will be used in the present study. The CP scale from the Motowidlo and Van Scotter 1994 study was developed to encompass the five theoretical dimensions of contextual performance discussed in Borman and Motowidlo (1993). Although the 1994 scale was developed to test the proposed theoretical dimensions of contextual performance, the scale was still interpreted as a unidimensional scale in that study. In a follow-up study by Van Scotter and Motowidlo (1996), they developed two separate groups of items to measure their proposed dimensions of contextual performance. The five theoretical dimensions were purported to be encompassed by the two higher order dimensions of job dedication and interpersonal facilitation. The present study will use the original (1994) scale for contextual performance, but the dimensionality of the scale will be explored.

Contextual Performance and Task Performance

As mentioned previously, Borman and Motowidlo (1993) proposed that the job performance criterion be expanded to include contextual performance, as well. Task performance is defined as those activities that contribute to the technical core of an organization, vary between different jobs within an organization, contain variability in proficiency, and are role-prescribed (Borman & Motowidlo, 1993). In contrast, contextual performance contributes to the organizational, social, and psychological core of the organization, is similar across jobs, varies based on volition and predisposition, and is not necessarily role-prescribed (Borman & Motowidlo, 1993). After Borman and Motowidlo (1993) proposed this partitioning of the job performance domain, empirical evidence was needed to support the distinction between the two types of performance. Several studies have found that contextual performance contributes uniquely, above and beyond task performance, to job performance (Motowidlo & Van Scotter, 1994; Van Scotter & Motowidlo, 1996; Borman & Motowidlo, 1997; Van Scotter, Motowidlo, & Cross, 2000).

Some specific types of jobs have been shown to confound the distinction between task and contextual performance. Conway (1999) investigated the distinction between task and contextual performance for managerial jobs. He found that there was some partial support for his hypothesis that interpersonal facilitation would not be distinct from task performance for managerial jobs because the leadership skills necessary for management involve interpersonal facilitation. In the case of managerial work, the nature of the task requirements may overlap with the

behaviors of contextual performance. Thus, if the behavior is required and not discretionary, by definition the behavior would be considered task performance rather than contextual performance.

Contextual Performance in Groups

Although CP is most frequently measured at the level of the individual, there is an increasing amount of research that focuses on CP at the level of the group or team (Morgeson, Reider, & Campion, 2005). Contextual performance in groups has been linked to enhanced task performance (Karambayya, 1992; Walz & Niehoff, 2000). Additionally, Podsakoff, Ahearne, and MacKenzie (1997) found that paper millwork crews who helped each other and did not complain about work-related problems produced a higher-quality product. The evidence provided by these two separate studies suggests that the relationship between task and contextual performance in teams may be unique from CP in other types of jobs. Just as managerial task performance may include aspects of contextual performance, team task performance may also depend upon contextual performance. Contextual performance in teams might also be affected by the nature of the tasks assigned to the team. The degree of interdependence of the work being performed by the group may influence the amount of interaction and communication of team members. A study by Van der Vegt, Van de Vliert, & Oosterhof (2003) found that informational dissimilarity significantly interacted with team interdependence and was negatively correlated with CP. Thus, group CP may be adversely affected by information that is not shared with the entire group particularly when the group must work

interdependently to complete their tasks. Morgeson, Reider, and Campion (2005) further suggest that CP may be necessary for members of a team, because contextual performance may possibly be essential to accomplishing the required tasks of the team. Thus, CP may not be distinct from task performance for some teams, depending upon the type of work that is assigned.

Stability of Contextual Performance

The first research question of the present study addresses the stability of contextual performance over time. The stability of contextual performance has been considered previously, but not at the level of the individual employee. Podsakoff & Mackenzie (1997, p.204) hypothesize that contextual performance may "enhance the stability of organizational performance." Although Podsakoff and Mackenzie (1997) suggest that contextual performance is critical to the stability of organizational performance, there is a lack of empirical support about the stability of contextual performance at the individual level. Before contextual performance can be said to enhance the stability of organizational performance as a whole, CP stability at the individual level must first be established. Individual variations in behavior may lead to variability at the level of the work unit, department and perhaps even the organization as a whole when those behavioral variations are aggregated across all employees.

Situational Variability. Borman and Motowidlo (1993) specifically address the question of the stability of contextual performance across situations when they state "provided contextual performance is reasonably stable across specific organizational

situations" (p.90). In addition to situational variability, contextual performance also may vary over time, perhaps in a phase or cycle. Although these two concepts are related, situational and temporal variability are distinct issues. Behavior can change both within situations and over time and situational variability may lead to temporal variability. The longitudinal design of the present study allows for the investigation of temporal variability in contextual performance.

Existing research includes several studies that have attempted to assess the situational factors that may account for variability in contextual performance. Weiss and Cropanzano (1996) discuss how situations at work can influence behavior that is episodic, such as those behaviors that encompass contextual performance (Motowidlo, Borman, & Schmit, 1997). Weiss and Cropanzano further propose that contextual performance consists of "affect-driven" behaviors which are prone to fluctuations over time (Ilies, Scott, & Judge, 2006; George & Brief, 1992; George, 1991; Lee & Allen, 2002). Beyond affect driven fluctuations, the "strength" of the work situation may also affect contextual performance (Beaty, Cleveland, & Murphy, 2001; Mischel, 1977). Organ, Podsakoff, and MacKenzie (2006) note that "weak" and "strong" situations determine what variables will be predictive of behavior. Strong situations are described as those situations that elicit similar responses across individuals and have strong performance incentives. Weak situations are the opposite; there is greater variability in individual behavior in a weak situation (Organ, Podsakoff, & MacKenzie, 2006; Beaty, Cleveland, & Murphy, 2001). Thus, affect and the strength of the situation can lead to variations in contextual performance. As

contextual performance is composed of behaviors that are discretionary, driven by affect, and change depending upon the strength of the situation, it seems logical that discretionary behaviors should be expected to fluctuate over time.

Predictors of Contextual Performance

The second research question of the present study pertains to the stability of the relationships between the predictors of contextual performance and contextual performance. Much of the existing research on predictors of CP has involved measurements taken at a single point in time. The present study will include measures of CP at two points in time. We will have the opportunity to assess the relationship between CP and several individual difference variables that have been found to predict CP at multiple points in time. Motowidlo and Van Scotter (1994) determined that task and contextual performance have different predictors. Specifically; task performance is best predicted by measures of general mental ability and KSAs. One of the first factors thought to predict why some individuals have higher levels of contextual performance than others was job satisfaction, also referred to as job attitudes (Organ, Podsakoff, & MacKenzie, 2006; Organ & Ryan, 1995). Although job satisfaction did not prove useful in predicting task performance, Organ and Ryan (1995) found a positive correlation between job satisfaction and the helping dimension of OCB.

The relationship between job satisfaction and job performance has been of interest to researchers for quite some time. Once the constructs of contextual performance and OCB were developed, the relationship between job performance and

job satisfaction became clearer. If someone is unsatisfied with their job, they may continue to do what is strictly expected and enforceable in their job, but the discretionary behaviors associated with contextual performance are more likely to be affected. For example, an unsatisfied employee may not feel motivated to take on extra tasks or help coworkers because he/she might not want to do more for the organization than is required. In addition to job attitudes, several other variables have been found to be significantly related to contextual performance. The predictor variables that will be explored in the present study are personality, motivation orientation, and perceived similarity to one's team. Each variable will be discussed individually in the following section and then linked to contextual performance.

Personality

Personality or dispositional factors have been found to be related to an individual's contextual performance. Earlier research has found a link between job performance and personality (Barrick & Mount, 1991; Tett, Jackson, & Rothstein, 1991). This relationship between job performance and personality was most likely due to the relationship between the contextual performance dimension of job performance; task performance and personality are typically not strongly correlated (Motowidlo & Van Scotter, 1994; Van Scotter & Motowidlo, 1996; Conway, 1996). Once contextual performance was separated from task performance, it was found that personality was significantly correlated with contextual performance. Much of the personality research on contextual performance and OCB has used Costa and McCrae's (1987) five-factor model of personality which includes openness to

experience, conscientiousness, extraversion, agreeableness, and neuroticism. The five-factor model is also referred to as the FFM or the "Big Five".

Although the FFM is one of the most frequently used measures of personality, not all researchers agree about the utility of research using the FFM. Mischel and Shoda (1998) discuss the debate among personality researchers about alternative approaches to the conceptualization of personality. Personality theorists are somewhat divided between those who view personality as a series of ongoing processes or those that view personality as a set of stable traits. The Big Five is designed to measure stable traits within individuals. Mischel and Shoda (1995, 1998) emphasize the importance of the situation which may cause some variability in the ongoing-process conceptualization of personality. Research that aggregates personality while controlling for different situations may actually be discarding relevant information about the individual and how he/she responds to diverse situations. Organ and Ryan acknowledge the situational variability of personality and recognize that personality is not likely to predict "situation-bound" behaviors very well, but should predict "aggregations of thematically related behaviors across situations and reasonable time intervals" (Organ and Ryan, 1995, p.776). As CP is composed of thematically bound behaviors and likely occurs in weak situations, using a stable trait based measure of personality, such as the FFM, should be appropriate for contextual performance.

Several meta-analyses have been performed on contextual performance and personality (Organ & Ryan, 1995; Hurtz & Donovan, 2000; LePine, Erez, & Johnson,

2002). One of the most frequently cited, Organ and Ryan (1995), combined data from 55 studies involving personality and OCB, prosocial behavior and contextual performance. The results of their study showed that the overall strongest dispositional predictor of contextual performance is conscientiousness with a correlation of .30 (Organ & Ryan, 1995). Conscientiousness is defined by the adjectives which encompass the conscientious factor: hardworking, ambitious, energetic, and persevering (McCrae & Costa, 1987). Borman, Penner, Allen, and Motowidlo (2001) found a more modest correlation between OCB and conscientiousness, .19, although this estimate was not corrected for reliability (noted in Organ, Podsakoff & MacKenzie, 2006). In addition to the studies mentioned here, many other studies have found a significant relationship between conscientiousness and contextual performance (Avis, Kudisch, & Fortunato, 2002; Neuman & Kickul, 1998; Miller, Griffin, &Hart, 1999; Hogan, Rybicki, Motowidlo, & Borman, 1998).

In addition to the studies linking contextual performance and conscientiousness, several studies have looked at the relationship between conscientiousness with both task and contextual performance (Bott, Svyantek, Goodman, & Bernal, 2003; Hattrup, O'Connell, & Wingate, 1998; LePine & Van Dyne, 2001b; Motowidlo & Van Scotter, 1994; Van Scotter & Motowidlo, 1996). In summary, these studies show that conscientiousness is related to both contextual and task performance, but is more strongly correlated with contextual performance. These results support the model proposed by Motowidlo, Borman, and Schmit (1997).

Evidence supporting the link between agreeableness and contextual performance has been less consistent as compared to conscientiousness (Borman, Penner, Allen, & Motowidlo, 2001). Agreeableness is part of the FFM and is also defined by the adjectives which encompass the agreeableness factor: trustful and accepting (McCrae & Costa, 1987). Organ & Ryan found a small, significant correlation (r = .11-.13). Mohammed, Mathieu, and Bartlett (2002) found that agreeableness was predictive of contextual performance, as did LePine and Van Dyne (2001a). The relationship between agreeableness and contextual performance may seem intuitive when considering what types of individuals are most likely to engage in contextual performance. Individuals who avoid conflict, as agreeable individuals do, may engage in contextual performance behaviors such as cooperating with coworkers. Despite the empirical evidence and intuitive expectations, there is some evidence that shows that agreeable individuals are actually less likely to engage in contextual performance. LePine and Van Dyne (2001a) found that voice behavior, which consists of "change-oriented" verbal communications, was negatively related to contextual performance. Facteau, Allen, Facteau, Bordas, and Tears (2000) also found a negative relationship between agreeableness and contextual performance. Thus, the relationship between contextual performance and agreeableness is less clear, but seems to be mostly positive.

There are several personality factors that are specifically predictive of the facets of contextual performance, interpersonal facilitation and job dedication. Campbell (1990) found that there was a strong correlation between dependability and

job dedication. Witt, Kacmar, Carlson, and Zivnuska (2000) found that agreeableness accounted for unique variance in interpersonal facilitation. Hurtz and Donovan (2000) provided an extensive meta-analysis review of the Big Five literature and included the validity of the big five with task performance, interpersonal facilitation and job dedication. Hurtz and Donovan found that conscientiousness and emotional stability were significant predictors of task performance, interpersonal facilitation and job dedication. Also, both conscientiousness and emotional stability were found to predict the three performance dimensions equally well. Consistent with the findings of Witt et al, Hurtz and Donovan found that agreeableness was a valid predictor of interpersonal facilitation. Hurtz and Donovan further suggest that conscientiousness, emotional stability and agreeableness are likely to have a "stable impact" on contextual performance.

Personality, specifically conscientiousness and agreeableness, has been previously correlated with contextual performance and the facets of contextual performance when measured at a single point in time. The longitudinal design of the present study allows for further investigation into any changes that might occur in the predictive ability of personality on contextual performance between time 1 and time 2.

HI: Personality will be a predictor of contextual performance at both time 1 and time 2.

Motivation

Frequently discussed in research concerning contextual performance and organizational citizenship, motivation is perhaps one of the most important individual differences variables to consider when explaining individual variations in contextual performance (Rioux & Penner, 2001; Coyle-Shapiro, Kessler, & Purcell, 2004; Van Knippenberg, 2000) . Organ, Podsakoff, and MacKenzie (2006) describe the "extent to which an employee exhibits organizational citizenship [as] a function of the employee's ability, motivation and opportunity" (p.93). Although motivation is frequently discussed in relation to contextual performance, there is little research that provides empirical support for the relationship between motivation and contextual performance. The lack of research to support the link between contextual performance and motivation may be due to the difficulty in operationalizing motivation. In contrast to the research on personality, research on motivation has not yielded a widely used, reliable and valid measure for motivation. And although the motives for task performance have been more widely researched, the motives for contextual performance are less clear. While an employee performs the required tasks of his/her job to earn a salary and benefits, there is no direct reward for CP. Thus, it seems that the motives for contextual performance may be more intrinsic in nature.

Many theories of motivation have been proposed in a variety of areas in psychology. Ryan and Deci (2000; Deci & Ryan, 1985) proposed the *self-determination* theory of motivation where individuals can be both intrinsically and extrinsically motivated to accomplish their goals. Amabile, Hill, Hennessey, and

Tighe (1994) developed the Work Preference Inventory (WPI) to assess the degree of intrinsic or extrinsic work motivation of each individual. Amabile et al (1994) define intrinsic motivation as "the motivation to engage in work primarily for its own sake, because the work itself is interesting, engaging, or in some way satisfying." Their definition of extrinsic motivation is "the motivation to work primarily in response to something apart from the work itself, such as reward, recognition, or the dictates of other people." The Amabile et al (1994) definition of motivation is very similar to that of Deci and Ryan. Some researchers have suggested that contextual performance may be performed because employees expect to be rewarded. Performance appraisals have been found to be significantly influenced due to contextual performance (MacKenzie, Podsakoff, & Fetter, 1991). Although some extrinsically motivated individuals may engage in contextual performance because they hope to be rewarded, there are still other intrinsically motivated individuals who engage in contextual performance with no expectations of reward. In fact, some research suggests that rewarding contextual performance in employees may actually result in a decrease in contextual performance, which is consistent with Deci's original theory of motivation (Deci, 1972; Deckop, Mangel, & Cirka, 1999).

Although personality factors such as conscientiousness and agreeableness are known to account for some of the variability in individual contextual performance, the correlations between personality and contextual performance are modest at best (Organ & Ryan, 1995; Hurtz and Donovan, 2000). The modest relationships that have been found between contextual performance and personality suggest that there

are other factors that influence individuals to engage in contextual performance. Due to the theoretical discussion of motivation and contextual performance, we propose that motivation orientation is likely to account for additional variability in contextual performance.

H2: Motivation orientation will be a predictor of contextual performance at both time 1 and time 2, above and beyond personality.

Perceived Similarity

Contextual performance consists of some behaviors that are directed towards others. As contextual performance involves individual employees working with their coworkers, we proposed that perceived similarity to one's coworkers may be a factor that affects the level of contextual performance. Perceived similarity may be particularly important in team-based work environments. Perhaps one of the most visible changes in the workplace has been the increased occurrence of teams or group-based work (Cascio, 1995; Hackman, 1990). Many teams are not as productive as they could be because of the differences among team members (LePine & Van Dyne, 2001b).

Perceived similarity is a variable that has been previously researched in the leader-member exchange (LMX) literature. In the leader-member exchange context, perceived similarity is measured between a subordinate and a supervisor and vice versa. For the present study, we measured the perceived similarity between an individual and his/her group members. In the context of a group project, perceived similarity may be a variable that affects an individual's level of contextual

performance, particularly if an individual does not perceive a high degree of similarity with his/her group members (LePine & Van Dyne, 2001). Mehra, Kilduff, and Brass (1998) describe the marginalization of minorities in groups of business students. They found that similar team members interacted with one another more often. In addition to the increased amount of interaction time, they also found that the greater the perceived similarity among team members, the greater the likelihood that team members would become friends. Research on contextual performance suggests that friends are more likely to reciprocate positive behaviors, including contextual performance (Bowler & Brass, 2006).

H3: Perceived similarity to one's team will be a predictor of contextual performance at both time 1 and time 2, above and beyond personality and motivation orientation.

METHODS

Participants

Two undergraduate business classes at a large southeastern university were selected as recruiting pools specifically because the students participated in a semester-long group project. The classes were required for all undergraduate business majors. The combined subject pool from both classes was 210 students. Participation was voluntary and participants were asked to complete questionnaires at both data collection times to receive extra credit. A total of 162 students participated in either time 1 or time 2. After screening the data, a total of 133 students completed both time 1 and time 2 measures (85 males, 46 females and 2 unreported, mean age = 21 years). Twenty-nine students provided only the t1 or t2 packets and their data were not included in subsequent analyses.

Description of Group Project

Groups of 4 to 5 students were assigned by the course instructor at the beginning of the semester. The group project comprised 25-percent of the students' overall course grade. Each group member was evaluated by his/her group members. The peer evaluations were averaged and represented 25-percent of the group project score. The groups had been assigned when time 1 packets were distributed. The group project involved the opening of a hypothetical restaurant, including determining location, hiring and training employees, and securing financial backing

for the venture. Groups were required to submit a report, give an oral/visual presentation and participate in feedback sessions throughout the semester. The projects were designed to involve active group participation throughout the semester.

Design and Procedure

The design of this study was longitudinal to assess the degree of stability of contextual performance both as a construct and at the level of individual behavior. In order to measure the stability of contextual performance related behaviors over time, data was collected twice and participants' self-reported behavior will be compared from both time 1 and time 2. Time 1 occurred during the second week of the course and time 2 occurred 4 weeks before the end of the 15-week course. Time 1 and time 2 were approximately 2.5 months apart. Participants were given one week to complete and return the packets. The packets at time 1 contained demographic, personality, motivation orientation, perceived similarity, and contextual performance measures (in that order). The time 2 packets contained contextual performance and perceived similarity measures (in that order). The personality and motivation orientation measures were only included at time 1 and assumed to stay constant throughout time 2 (Costa & McCrae, 1992). Data collection time 2 contained measures of individual contextual performance, as well as perceived similarity which may change after the groups have worked together throughout the semester.

At time 1, participants were addressed by the principal researcher during class time to explain the nature of the study. Informed consent was obtained prior to distribution of the packet of measures which contained demographic information,

contextual performance, motivation orientation, perceived similarity, and personality measures. Participants were asked to create a code name or number that would be used to link their data across data collection time 1 and data collection time 2. Participants were informed that their professor would not be involved in the study and their responses would not affect their grade in the course.

Measures

Participants responded to a series of questions to gather demographic information, such as age, gender, race etc. Contextual performance was included, as well as a series of measures on several individual difference variables.

Performance Measures. Contextual performance data were gathered at the individual level by means of self-report. The Motowidlo and Van Scotter (1994) CP scale was used. Their scale was found to have a Cronbach's Alpha of .95 (Motowidlo & Van Scotter, 1994). One item was removed because it did not pertain to a non-military sample. The remaining scale consisted of 15 items that were measured on a 7-point likert scale with 7 being the highest level of contextual performance. The items are listed in Appendix A.

Task performance data were gathered in several forms including final course grades, project grades from the group project and the number of points allocated to each participant based on feedback from their group members as to the individual's performance in the group. Course grades were on a scale from 0-100, as were project grades. Group points ranged from 0-5 and were parceled out of the project grades to avoid redundancy. Also, course grades included project grades. Project grades could

not be parceled out of course grades because the principal investigator did not have access to all of the participants' grades or point totals. Course grades were provided in percentages ranging from 0-100.

Personality. Personality was measured using the 60-item short form of the Costa and McCrae (1992) Revised NEO Personality Inventory (NEO-PI-R), the NEO Five Factor Inventory (NEO-FFI). The NEO-FFI assesses the Big Five domains of personality: Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Emotional Stability (Neuroticism). Each domain consists of 12 items that are answered using a five-point scale ranging from (1) Strongly Disagree to (5) Strongly Agree. Reliabilities for each of these domains range from .86 to .95, and short-term test-retest reliability is satisfactory for all five domains (Botwin, 1995). According to Juni's (1995) review of the NEO-FFI, the test is also well validated.

Motivation. The Amabile, Hill, Hennessey, and Tighe (1994) Work Preference Inventory (WPI) was used to assess the degree of extrinsic or intrinsic motivation of the participant. The motivation scale contained 30 items each measured on a likert scale ranging from 1 to 7 with 7 being 'strongly agree.'. The published Cronbach's Alpha reliability estimates for intrinsic motivation and extrinsic motivation were .82 and .76 respectively (Amabile et al, 1994).

Perceived Similarity. An individual's perceived similarity to his/her group was assessed by a 6-item likert scale used by Liden, et al. (1993). The scale was originally intended to measure perceived similarity towards a supervisor or leader. The referent was modified to "group" instead of "group leader." The perceived similarity

scale was measured on a 7 point likert scale with 7 being 'strongly agree.' This scale was scored by averaging responses to all questions. The perceived similarity scale has been found to demonstrate a Cronbach's Alpha reliability of .91 (Liden, et al., 1993).

RESULTS

All tables displaying summarized results can be found in Appendix B. Table 1 contains the means, standard deviations, and intercorrelations for the items on the CP scale at both time 1 and time 2. All of the items were significantly correlated with one another at both times. Table 2 contains the means, standard deviations, and intercorrelations of the composite CP scores at time 1 and time 2 and the individual difference variables.

The Motowidlo and Van Scotter (1994) contextual performance scale was used as a measure of participants' perceived level of CP (see Appendix A). As no prior empirical research has investigated the number of dimensions of Motowidlo and Van Scotter's CP scale, a substantive validity approach was used to sort the items into the proposed dimensions: job dedication and interpersonal facilitation. The approach demonstrated by Anderson and Gerbing (1991) can be used prior to fitting a Confirmatory Factor Analysis. This method uses raters from the population of interest to assign items to a theoretical construct. In the absence of previous evidence of the dimensionality of a scale, the Anderson and Gerbing approach can be used as an alternative to an exploratory factor analysis. The substantive validity approach, according to Anderson and Gerbing, provides evidence on the dimensionality of a scale to allow for the use of confirmatory factor analysis.

Substantive Validity. Substantive validity is defined as "the extent to which that measure is judged to be reflective of, or theoretically linked to, some construct of interest" (Anderson & Gerbing, 1991, p.9). Substantive validity is similar to content validity, but differs from content validity because it refers to a property of each item, while content validity describes a set of items (Anderson & Gerbing, 1991). Substantive validity is also sometimes referred to as item validity. As suggested by Anderson and Gerbing (1991), a sample of 20 students (n=20) was given a description of job dedication and interpersonal facilitation. The students were instructed to read a description of each factor. Job dedication was defined as behaviors that include being self-motivated and disciplined, while also adhering to organizational policies. Interpersonal facilitation was defined as behaviors that involve helping or cooperating with others (Van Scotter & Motowidlo, 1996). The students were then asked to categorize the 15 items on the contextual performance scale as either job dedication or interpersonal facilitation. They were also told that every item must be assigned to only one of the factors. Thus, all items were assigned to a factor and each item was only assigned once.

Substantive-validity coefficients (C_{sv}) were calculated for each item to reflect the extent to which the items belonged with a factor. Thus, for each item there is a C_{sv} for each factor. The formula for C_{SV} is shown below:

$$C_{SV} = \frac{n_c - n_o}{N}$$

Where n_c, n_o, and N are respectively the number of raters that assigned the item to the factor, the highest number of assignments to any other factor and the total number of raters. The C_{sv} values, given in Table 3, show that items 4, 9, and 14 were categorized as ambiguous, low, and moderate respectively. Items 4 and 9 were below .50 and were considered ambiguous. Anderson and Gerbing (1991) recommend that a C_{sv} below .50 is questionable. Thus, item 14 was removed, as well. These items were not included in the model and later analyses. The results of the substantive validity analysis suggest that items 1, 3, 5, 6, 8, 12, and 13 belong to the job dedication factor. Additionally, items 2, 7, 10, 11, and 15 belong to the interpersonal facilitation factor. Now that the substantive validity approach has confirmed the theory that suggests that contextual performance is two-dimensional, we can go on to conduct a confirmatory factor analysis.

Confirmatory Factor Analysis

A confirmatory factor analysis (CFA) model of the CP scale with Job Dedication and Interpersonal Facilitation as separate factors at both time 1 and time 2 (see Figure 1) was constructed using AMOS 5.0 (Arbuckle, 2003) . It was appropriate to use a CFA because the substantive validity exercise supported the assignment of items to their respective factors, resulting in item assignments that agree with existing theory (Anderson & Gerbing, 1991). Table 4 contains the standardized regression weights for the items on the CP scale at the two-dimensional level at both time 1 and time 2. All standardized loadings were significant at the .001 level. The fit of the two-dimensional CFA model of contextual performance did not meet the standards suggested by Hu and

Bentler (1999). The fit indices for the two-dimensional model of CP can be found in Table 4.

Testing for Dimensionality of Contextual Performance. To assess the dimensionality of the model, the correlation between the CP dimensions (job dedication and interpersonal facilitation) with the unit variances was constrained to equal one at time 1 and time 2. If the two factors were unique factors, then the model fit would deteriorate when the correlations between job dedication and interpersonal facilitation were set equal to one as compared to the two-dimensional model (Bollen, 1989).

The nested chi-square difference test showed that the model fit did not deteriorate when the dimension correlations were constrained to equal one ($\chi^2(2, n=133) = 3.186$, $p = .203$). Thus, there was not sufficient evidence to suggest that the 1994 CP scale contains two separate facets. As the fit for the two-dimensional model was poor, an additional unidimensional model of CP was tested, as well. The fit statistics for the unidimensional model improved as compared to the fit statistics for the two-dimensional model. Standardized regression weights and fit indices for the unidimensional model of CP can be found in Table 5.

Construct Reliability. Construct reliability, also termed composite reliability, for CP was found to be .91 and .92 respectively at time 1 and time 2. These reliabilities were calculated using the approach detailed in Hair, Anderson, Tatham, and Black (1998, p.612). Construct reliability measures the internal consistency of the items on a measure for a common construct that they were intended to indicate. The results suggest that CP has similar internal consistency over time.

Contextual Performance and Task Performance. A correlation was obtained between contextual performance at time 1 and time 2 and the measures of task performance, course grade and project grade. The correlations between contextual performance and task performance were not statistically significant.

Metric Invariance of Contextual Performance. In order to compare the CP measures across time, it is first necessary to establish the invariance of the CP scale itself over time. Byrne (2004) and Vandenberg and Lance (2000) discuss the importance of establishing the invariance of a measure over time, also termed *metric invariance.* To test for the metric invariance of the CP scale, the factor loadings and error variances were constrained to be equal between time 1 and time 2. The factor loadings and error variances were constrained to be equal because if the items consistently measure contextual performance over time, then there should not be a significant difference between the factor loadings and error variances at time 1 and time 2. If the items did not consistently measure contextual performance over time, then the model fit would deteriorate when the factor loadings at time 1 and time 2 were constrained to be equal. A nested chi-square difference test suggested that the factor loadings and error variances did not differ significantly over time and thus the scale does seem to consistently measure contextual performance over time ($\chi^2(23, n=133) = 30.198$, $p = .144$), see Table 6.

In order to test the consistency of perceived contextual performance between time 1 and time 2, the factor variances of CP1and CP2 were constrained to be equal. The results found in Table 6 show that there was not a statistically significant difference between the variance of contextual performance at time 1 and the variance of contextual

performance at time 2 ($\chi^2(23, n=133) = 31.910, p = .129$). Thus, we can conclude that the items on the Motowidlo & Van Scotter (1994) contextual performance scale consistently measure contextual performance. These results do not imply that an individual has the same contextual performance at time 1 and time 2, but rather establishes the invariance of the CP instrument over time.

Stability of Contextual Performance. The first research question pertained to the stability of contextual performance over time. Before we could specifically measure the stability of contextual performance, we had to confirm the psychometric properties of the scale. Upon discovering that the Motowidlo & Van Scotter (1994) contextual performance scale consistently measured contextual performance as a unidimensional construct, an additional nested chi-square difference test was performed to evaluate the relationship between an individual's self-reported CP between t1 and t2. A model was created with a direct path between CP1 and CP2 where the path was constrained to equal 1 (see Figure 2). By setting the regression coefficient between CP1 and CP2 equal to one, we are testing to see if individuals had the same level of contextual performance at time 1 and time 2. Thus, CP at time 1 was constrained to be equal to CP at time 2, differing only in terms of random measurement error. The constrained model was compared to a similar model with no constraints on the regression coefficient between CP at time 1 and time 2. If individuals' contextual performance differed significantly between time 1 and time 2, then there would be a significant deterioration in model fit when comparing the constrained model to the unconstrained model. The results of the nested chi-square difference test (see Table 6) showed that model fit did significantly

deteriorate when the path between CP1 and CP2 was constrained to 1. It was concluded that the relationship between contextual performance at time 1 and contextual performance at time 2 is significantly different from one, which means that an individual's level of contextual performance seems to change over time. To more specifically assess the magnitude of the relationship between CP1 and CP2, the model constraint with the path between CP1 and CP2 was removed and the unstandardized path coefficient between CP1 and CP2 was found to be .63 when freely estimated. The path coefficient between contextual performance at time 1 and time 2 shows that there is a positive relationship between CP over time. However, a subject's CP at time 2 is related to his/her CP at time 1 by a factor of .63. For example, a subject with a CP score of 4.0 at time 1 is estimated to have a CP score of .63(4.0) = 2.52 at time 2. In response to the first research question, the results of the present study suggest that contextual performance is *not* stable over time. Specifically, individual contextual performance was found to decrease significantly from time 1 to time 2.

Hierarchical Regression Models

In order to address the second research question, specific hypotheses were made about the stability of personality, motivation orientation and perceived similarity in predicting contextual performance at time 1 and time 2. As individual contextual performance was found to differ significantly between time 1 and time 2, hierarchical regression analyses were performed to test the hypotheses about the stability of the predictors of CP to investigate how they may vary over time. First, composite CP scores were obtained at time 1 and time 2 by averaging the items. These two variables were

named CP1 and CP2 respectively and will be the dependent variables in two separate hierarchical regression models. The model to predict CP1 was constructed according to previous theory, which has found that personality variables are significant predictors of CP. The five personality variables of openness to experience, conscientiousness, extraversion, agreeableness and emotional stability were entered into the model first. Then the two different motivation variables, extrinsic motivation orientation and intrinsic motivation orientation, were entered into the model as a separate block to determine if they account for a significant incremental amount of the variance in contextual performance above and beyond personality. Finally, perceived similarity was entered into the model as the final step to test for a significant amount of variance accounted for in contextual performance at time 1 above and beyond personality and motivation orientation. The results of the hierarchical regression analyses of the model of CP1 showed that the personality factors accounted for 30% of the variance in CP1 (ΔR^2=.301, p<.001). Specifically, extraversion, agreeableness and conscientiousness were individually significant predictors of CP1 (t= 2.638, p= .01; t= 2.285, p= .024; t= 2.689, p= .008). Motivation orientation accounted for a significant increment of 8% of the variance in CP1 above and beyond personality (ΔR^2=.082, p=.001). Specifically, intrinsic motivation significantly predicted CP1 (t= 3.13, p= .002). Perceived similarity did not account for a significant amount of the variance in CP1 beyond personality and motivation orientation (ΔR^2=.010, p=.177). These results are summarized in Tables 7 and 9.

This procedure was repeated with CP2 as the dependent variable. The same predictors were regressed onto CP2, with the exception that the perceived similarity step included perceived similarity measured at both time 1 and time 2. Personality factors accounted for 22.5% of the variance in CP2 (ΔR^2=.225, p<.001). Motivation orientation did not account for a significant increment of the variance in CP2 above and beyond personality (ΔR^2=.039, p=.062). Perceived similarity did account for a significant amount of the variance in CP2 beyond personality (ΔR^2=.094, p=.001). Specifically, perceived similarity measured only at time 2 significantly predicted CP2 above and beyond personality. These results are summarized in Tables 8 and 9.

HI was partially supported as conscientiousness and agreeableness were found to be stable, significant predictors of CP at both time 1 and time 2. Extraversion, however, was found to be a significant predictor of CP only at time 1. H2 was partially supported because intrinsic motivation orientation was found to be predictive of CP above and beyond personality only at time 1. H3 was partially supported, as well, because perceived similarity was found to be a significant predictor of CP above and beyond personality and motivation orientation only at time 2.

DISCUSSION

The present study posed two research questions. The first pertained to the stability of contextual performance and the second pertained to the stability of the predictors of contextual performance. The results of each research question will be discussed individually and then directions for future research and limitations will be discussed.

Research Question One

There was sufficient evidence to conclude that contextual performance, on average, differed significantly over time. Specifically, the confirmatory factor analysis showed that participants' perceptions of individual contextual performance decreased from time 1 to time 2. This finding is particularly interesting when considering the group dynamics throughout the course of a semester. At time 1, the students were only superficially familiar with one another and were at the beginning of a new semester. The workload from other classes was at its lightest and perceptions of one's own helping behavior may have been reported at higher levels. Data at time 2 were collected at the end of the semester after group members had spent a significant amount of time working with their group and receiving grades based on their group performance. The end of the semester is a time that is particularly stressful for students with papers and final projects in many of their courses. Thus, it seems logical that individuals' perceived contextual performance at

time 2 would be lower than at time 1. The change in perceived behavior may also have been due to initial inflated opinions about one's own behavior. As contextual performance is considered to be socially desirable, initial reports of contextual performance may have been falsely inflated.

Implications

The implications of these results are relevant for both previous and future research involving contextual performance. First, previous research that may have involved the use of this scale was performed without evidence of the temporal stability of the scale or the dimensionality of the scale. Now that we have some initial evidence of the dimensionality and stability of the measure, future researchers of contextual performance will know that the Motowidlo and Van Scotter 1994 contextual performance scale is a reliable, unidimensional measure. Although there is much debate as to the dimensionality of contextual performance, there may be some research designs or scenarios where a multifaceted measure of contextual performance is not appropriate. In these instances, this scale may be a valid option, as the present study suggests.

The present study also provides evidence for a scale that is in fact a contextual performance scale. Many researchers have used an organizational citizenship behavior scale, but referred to the measure as a contextual performance scale. Motowidlo (2000) argues that this is inappropriate for organizational citizenship behavior scales that were developed before 1997 when Organ redefined organizational citizenship behavior as contextual performance. Although many

researchers have used the terms and scales for organizational citizenship and contextual performance interchangeably, there are important differences between the pre-1997 definition of organizational citizenship behavior and contextual performance. Specifically, citizenship behavior pre-1997 was defined as extra-role behavior that was non-rewarded. As contextual performance and citizenship behavior post-1997 can be in-role and rewarded, it seems appropriate to use a scale that agrees with our most current definition of contextual performance.

Research Question Two

The second research question pertained to the stability of the predictors of contextual performance over time. The present study provides another unique contribution to the body of research on contextual performance by specifically looking at changes in the model of contextual performance between two points in time. Personality was expected to be a stable predictor of contextual performance. The results of the present study showed that only agreeableness and conscientiousness were stable, consistent predictors of contextual performance at both time 1 and time 2. Contextual performance at time 1 was significantly predicted by extraversion, agreeableness, and conscientiousness. Intrinsic motivation orientation accounted for unique variance above and beyond the contribution of personality at time 1. Contextual performance at time 2 was significantly predicted by agreeableness and conscientiousness and perceived similarity (measured at time 2) accounted for unique variance above and beyond personality.

To our knowledge, no previous research has provided evidence of how the predictive model of contextual performance may change over time. Extraversion was found to be a significant predictor of perceived contextual performance at time 1, but not at time 2. This result may have been due to the superficial perceptions of contextual performance behavior as simply being outwardly oriented behavior. As the subjects worked with their groups over the course of a semester and had a longer amount of time to consider their own contextual performance, the reported contextual performance no longer related to extraversion. An alternative explanation may be that extraverts simply overestimated their contextual performance at time 1. Although extraversion was not predictive of contextual performance at time 2, the measure of perceived similarity that was obtained at the end of the semester was strongly related to contextual performance at time 2. Thus, it seems that initial perceptions of similarity to one's group do not predict contextual performance, but similarity plays a more important role after the groups got to know one another. This result may be attributable to the superficial or even false first impressions at the beginning of the semester. Perceptions of similarity at the end of the semester were likely more accurate as they were based on more interactions with one's group.

Intrinsic motivation orientation was a significant predictor of contextual performance at time 1, but not at time 2. This result may have been due to the misconception that contextual performance in one's group will be an internally rewarding experience for the student. Intrinsic motivation and extraversion were both predictive of contextual performance at time 1, but not at time 2. Perhaps these

factors are only predictive of contextual performance in teams that are relatively new. After teams worked together for several months, intrinsic motivation orientation and extraversion did not significantly relate to contextual performance. The opposite is true of perceived similarity, which was only a strong predictor of contextual performance when measured after a sufficient period of time where the groups had been actively working together.

Another contribution of the present study is empirical evidence to support the theoretical link between contextual performance and motivation orientation. We found that motivation orientation significantly related to contextual performance and it was also found to account for variations in contextual performance that could not be explained by personality, although only at time 1. Also, this study provides initial support for the relationship between perceived similarity and contextual performance. Perceived similarity, a variable that was initially used in research concerning leaders and subordinates has further applications; it is also an important variable for explaining contextual performance behavior in groups.

Implications

An implication of the present study is a possible caution against relying on past research that has suggested that personality factors are stable predictors of behavior (Costa & McCrae, 1992). The present study found that extraversion, in particular, was only a significant predictor of CP at time 1. This finding provides additional support for the possibility that situational factors may cause personality variables to be unstable (Mischel & Shoda, 1995; 1998).

Directions for Future Research

The present study provides evidence of the temporal variability of contextual performance. Although it may not seem surprising that contextual performance varies over time, there is a lack of research that provides empirical evidence of variables that may explain variations in contextual performance over time. Although there is an extensive body of research on the predictors of contextual performance at a single point in time, the need exists for longitudinal studies exploring why contextual performance may vary over time. Future studies should first look at known predictors of contextual performance found at a single point in time to see if they account for variations in contextual performance over time. Some of the variables known to predict contextual performance include personality and job attitudes. Also, situational factors may be responsible for some of the variability in contextual performance (Chan & Schmitt, 2001; Beaty, Cleveland, & Murphy, 2001). The situational variables that may have affected the results of the present study include the time of the semester and familiarity with one's group members. Each of these factors may have influenced individual's perceived contextual performance between time 1 and time 2.

Limitations

The present study is limited by several factors. First, the data were collected from a student sample. Although the student sample was specifically selected because the students worked in groups and were graded on their group project, the results of this study may not generalize to a non-student population. Also, the data

were collected anonymously, so it was not possible to take advantage of the natural nested design of students within groups. Contextual performance at the level of the group may provide unique information, especially if the group contextual performance can be related to group task performance. We should also be interested in studying contextual performance at the group level because employees often work as part of a team at work. An employee's contextual performance as a part of a team may be unique from his/her CP outside the context of the team. Also, Morgeson, Reider, and Campion (2005) identify contextual performance as a potential selection criterion for teams as contextual performance is particularly important for working in a team setting. Additional empirical evidence is needed for contextual performance in groups to further expand upon selecting for teams.

Another limitation of the present study was the inclusion of only two points in time. Motowidlo, Borman, and Schmit (1997, p.73) described contextual performance as a series of "episodic behaviors". If in fact contextual performance is comprised of episodic behaviors, then more than two data collection times would be necessary to capture a larger range of the behavior. Unfortunately, we were limited to the length of one semester. Multiple data collection times would allow for a better picture of how contextual performance may fluctuate over time. Those fluctuations might also be linked to important organizational events such as deadlines and holidays which may impact the degree of contextual performance an individual exhibits.

Conclusion

The present study provides much needed evidence of the temporal variability of contextual performance. These variations will likely be explored in future research. The present study also provides initial evidence of the difficulty in consistently predicting contextual performance. Only agreeableness and conscientiousness were found to be stable predictors of contextual performance. Future researchers should be aware that perceived similarity to one's group is not likely to be predictive of contextual performance unless a sufficient amount of time has occurred for group members to work together. The instability of contextual performance and the predictors of contextual performance suggest that additional situational variables should also be considered, especially when measuring contextual performance over time.

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APPENDIX A

Contextual Performance Measure

While working with your group, how likely is it that you will:

1) Comply with instructions even when the instructor or other group members are absent?

2) Cooperate with others on your team?

3) Persist in overcoming obstacles to complete a task?

4) Volunteer for additional work or responsibilities?

5) Follow the rules of the project and avoid shortcuts?

6) Take on more challenging tasks?

7) Offer to help group members with their work?

8) Pay close attention to details?

9) Defend the course instructor's decisions?

10) Be courteous to other group members?

11) Support and encourage group members when there is a problem?

12) Take the initiative to solve a problem?

13) Exercise personal discipline and self-control?

14) Tackle difficult assignments enthusiastically?

15) Volunteer to do more than you should for the benefit of the group?

APPENDIX B

Table 1

Intercorrelations between Contextual Performance Items at Time 1 and Time 2

Item	M	SD	1	2	3	5	6	7	8	10	11	12	13	15
								Time 1						
101	5.89	1.05	-											
102	6.30	0.76	.52**	-										
103	6.02	0.85	.52**	.58**	-									
105	5.64	1.10	.39**	.51**	.54**	-								
106	5.08	1.14	.26**	.31**	.45**	.55**	-							
107	5.65	0.98	.32**	.36**	.41**	.45**	.55**	-						
108	5.76	0.99	.45**	.36**	.44**	.48**	.43**	.53**	-					
110	6.38	0.88	.43**	.65**	.68**	.46**	.29**	.40**	.45**	-				
111	6.14	0.82	.33**	.52**	.51**	.42**	.32**	.43**	.37**	.69**	-			
112	5.83	0.93	.31**	.37**	.49**	.42**	.51**	.45**	.44**	.57**	.62**	-		
113	6.00	0.92	.41**	.44**	.57**	.46**	.39**	.36**	.40**	.64**	.58**	.63**	-	
115	5.18	1.23	.29**	.31**	.39**	.40**	.61**	.56**	.46**	.35**	.53**	.52**	.40**	-
								Time 2						
201	6.08	0.84	-											
202	6.32	0.75	.71**	-										
203	6.15	0.78	.54**	.66**	-									
205	5.68	0.98	.45**	.45**	.56**	-								
206	5.06	1.12	.42**	.35**	.46**	.64**	-							
207	5.72	0.92	.37**	.37**	.52**	.56**	.55**	-						
208	5.90	0.89	.45**	.48**	.56**	.56**	.52**	.57**	-					
210	6.33	0.80	.39**	.58**	.65**	.47**	.38**	.52**	.43**	-				
211	6.08	0.74	.28**	.46**	.53**	.40**	.23**	.46**	.42**	.62**	-			
212	5.87	0.83	.35**	.50**	.54**	.42**	.37**	.40**	.49**	.51**	.54**	-		
213	6.07	0.86	.30**	.44**	.59**	.44**	.30**	.34**	.29**	.56**	.49**	.45**	-	
215	5.39	1.20	.26**	.21**	.28**	.34**	.51**	.45**	.49**	.24**	.26**	.35**	.26**	-

** Significant at the .01 level

Table 2

Intercorrelations between Contextual Performance and Individual Difference Variables

				Variable										
		M	SD	1	2	3	4	5	6	7	8	9	10	11
1.	CP1	5.82	0.69	1										
2.	CP2	5.89	0.62	.656**	1									
3.	Emotional Stability	3.42	0.54	.162	.090	1								
4.	Extravert	3.70	0.47	.451**	.302**	.363**	1							
5.	Openness	3.20	0.47	.114	.057	-.150	.041	1						
6.	Agreeable	3.64	0.52	.395**	.350**	.229*	.411**	.028	1					
7.	Conscientious	3.75	0.55	.422**	.386**	.314**	.413**	-.049	.344**	1				
8.	Intrinsic	5.24	0.63	.390**	.268**	.067	.223*	.389**	.124	.108	1			
9.	Extrinsic	4.46	0.55	.169	.205*	-.171	-.053	.087	-.068	.108	.287**	1		
10.	Similarity at Time 1	4.86	0.87	.336**	.331**	.126	.214*	.062	.205*	.369**	.286**	.290**	1	
11.	Similarity at Time 2	5.17	1.00	.152	.384**	-.017	.050	.179*	.057	.102	.153	.192*	.457**	1

Table 3

Substantive Validity Results

Item #	Substantive Validity Coefficient for Job Dedication	Substantive Validity Coefficient for Interpersonal Facilitation	Classification
1	1.00	-1.00	Job Dedication
2	-0.80	0.80	Interpersonal Facilitation
3	0.90	-0.90	Job Dedication
4	0.05	-0.05	Ambiguous
5	1.00	-1.00	Job Dedication
6	0.95	-0.95	Job Dedication
7	-0.90	0.90	Interpersonal Facilitation
8	0.85	-0.85	Job Dedication
9	-0.20	0.20	Low
10	-0.90	0.90	Interpersonal Facilitation
11	-0.95	0.95	Interpersonal Facilitation
12	0.70	-0.70	Job Dedication
13	1.00	-1.00	Job Dedication
14	0.50	-0.50	Moderate
15	-0.80	0.80	Interpersonal Facilitation

Table 4

Standardized Regression Weights and Fit Indices for Two-Dimensional CP

Time 1			Time 2		
Item	Interpersonal Facilitation	Job Dedication	Item	Interpersonal Facilitation	Job Dedication
101	.00	.57	201	.00	.63
102	.70	.00	202	.73	.00
103	.00	.78	203	.00	.82
105	.00	.68	205	.00	.71
106	.00	.60	206	.00	.62
107	.61	.00	207	.67	.00
108	.00	.63	208	.00	.71
110	.82	.00	210	.75	.00
111	.75	.00	211	.64	.00
112	.00	.72	212	.66	.00
113	.00	.73	213	.00	.61
115	.59	.00	215	.48	.00

Fit Indices	χ^2	χ^2 / df	CFI	IFI	RMSEA	90% CI RMSEA
	635.4	2.58	.78	.79	.11	.099 - .120

Table 5

Standardized Regression Weights and Fit Indices for Unidimensional CP

Time 1		Time 2	
Item	Weight	Item	Weight
101	.56	201	.63
102	.68	202	.73
103	.77	203	.82
105	.67	205	.71
106	.59	206	.62
107	.62	207	.68
108	.62	208	.69
110	.79	210	.75
111	.73	211	.65
112	.72	212	.67
113	.73	213	.62
115	.62	215	.47

Fit Indices	χ^2	χ^2 / df	CFI	IFI	RMSEA	90% CI RMSEA
	648.67	2.58	.78	.78	.099	. 110-.120

Table 6

Fit Statistics for Model Dimensionality and Reliability

Model	DF	χ^2 / df	P
Unidimensional	2	3.186	.203
Constrained Loadings/Variances	23	30.198	.144
Constrained Factor Variances	23	31.910	.129
CP1 Equal to CP2	1	26.5143	.000

Table 7

Hierarchical Regression Results of CP at Time 1

Variables	*R*	R^2	*F*	*df*	*p*	Δ R^2	*F*	*df*	*p*
Step 1									
Personality	.55	.30	9.49	5, 110	<.001				
Openness									
Conscientiousness									
Extroversion									
Agreeableness									
Emotional Stability									
Step 2									
Motivation Orientation	.62	.38	9.60	7, 108	<.001	.08	7.21	2, 108	.001
Intrinsic									
Extrinsic									
Step 3									
Perceived Similarity	.63	.39	8.70	8, 107	<.001	.01	1.85	1, 107	.177

Table 8

Hierarchical Regression of CP at Time 2

Variables	*R*	R^2	*F*	*df*	*p*	ΔR^2	*F*	*df*	*p*
Step 1									
Personality	.47	.23	6.39	5, 110	<.001				
Openness									
Conscientiousness									
Extroversion									
Agreeableness									
Emotional Stability									
Step 2									
Motivation Orientation	.51	.26	5.53	7, 108	<.001	.04	2.86	2, 108	.062
Intrinsic									
Extrinsic									
Step 3									
Perceived Similarity	.60	.36	6.56	8, 107	<.001	.09	7.74	2, 106	.001
Time 1									
Time 2									

Table 9

Regession Weights for Hierarchical Regression Individual Predictors of CP at T1- T2

Variables	Time 1		Time 2	
	β	*t*	β	*t*
Openness	-.004	-.052	-.030	-.370
Conscientiousness	.187	2.07*	.210	2.21*
Extroversion	.210	2.27*	.090	.960
Agreeableness	.200	2.36*	.240	2.67**
Emotional Stability	-.020	-.210	-.030	-.330
Intrinsic	.260	2.87**	.110	1.21
Extrinsic	.080	1.00	.090	1.03
Perceived Similarity Time 1	.120	1.36	.040	.400
Perceived Similarity Time 2	-	-	.300	3.40***

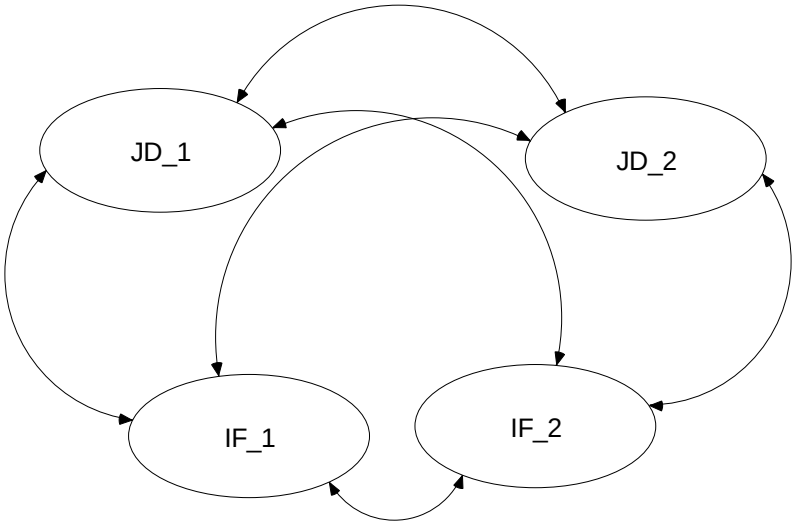

Figure 1. Two-Dimensional model of Contextual Performance. JD_1 = Job Dedication Time 1; IF_1 = Interpersonal Facilitation Time 1.

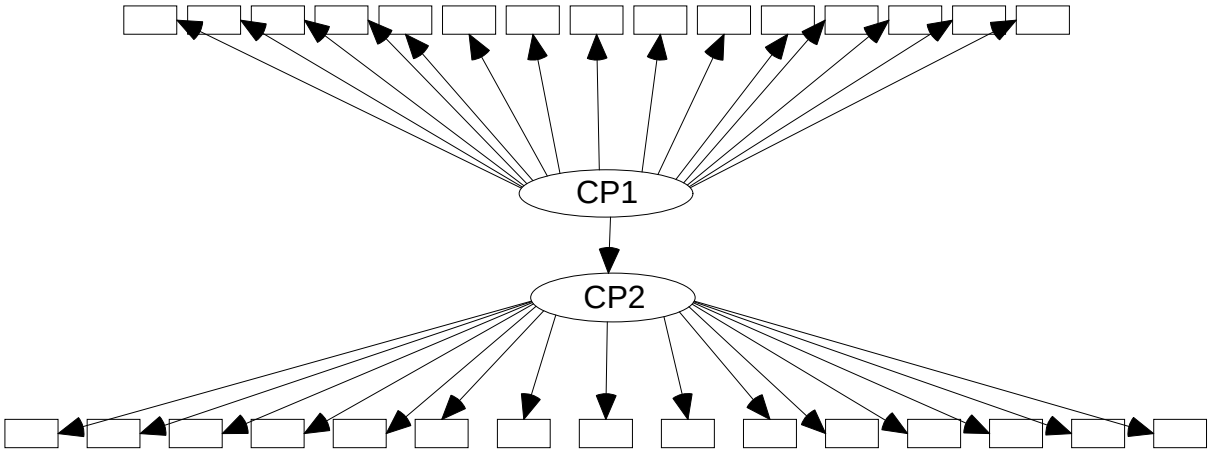

Figure 2. Unidimensional model of Contextual Performance at time 1 and time 2 where the path is constrained to equal 1.