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Entitled Predicting Job Adaptability: A Facet-Level Examination of the Relationship Between Conscientiousness and Adaptive Performance with Autonomy as a Moderator

For the degree of Master of Science

Is approved by the final examining committee:

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PREDICTING JOB ADAPTABILITY: A FACET-LEVEL EXAMINATION OF THE RELATIONSHIP BETWEEN CONSCIENTIOUSNESS AND ADAPTIVE PERFORMANCE WITH AUTONOMY AS A MODERATOR

A Thesis

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ABSTRACT

Crowley, Megan L. M.S., Purdue University, December 2011. Predicting Job Adaptability: A Facet-Level Examination of the Relationship Between Conscientiousness and Adaptive Performance With Autonomy as a Moderator. Major Professor: John T. Hazer.

Change has become a prevalent feature of today's organizations, resulting in an increased demand for workers who are able to adapt to the dynamic nature of the environment. Recently, many have suggested that traditional models of job performance should be expanded to include an adaptive performance dimension. Research in this relatively new domain has focused on defining adaptive performance and understanding how it may be predicted. This study contributes to these efforts by testing the personality trait of conscientiousness as a predictor of adaptive performance, with both constructs being studied at their domain and facet levels. The incremental validity of conscientiousness over cognitive ability is also examined, and autonomy is investigated as a moderator of the conscientiousness-adaptive performance relationships. A sample of 212 undergraduate students who work at least 20 hours per week participated in the study by completing an online survey and a cognitive ability assessment. Conscientiousness was supported as a good predictor of adaptive performance overall. However, the predictor-outcome results did vary over the domain and facet levels, emphasizing the importance of studying both levels. At the two-facet level of conscientiousness, the

achievement motivation facet was shown to have stronger relationships with the adaptive performance dimensions compared to the dependability facet. At the six-facet level of conscientiousness, the three achievement motivation facets and one dependability facet (i.e., dutifulness) were significantly related to all eight performance dimensions, but the other two dependability facets (i.e., orderliness and cautiousness) were not significantly related to all of the adaptive performance dimensions. Conscientiousness did provide significant incremental validity over cognitive ability at the domain level and for almost all of the facet-level relationships, but cognitive ability was not related to adaptive performance or any other study variables. Autonomy was supported as a moderator with 16 significant interactions uncovered at the facet level. However, these significant interactions only involved three (i.e., interpersonal, learning, and cultural) of the eight adaptive performance dimensions. Overall, these results supported the conscientiousness-adaptive performance relationship and contributed new findings to the adaptive performance domain that have implications for employee selection and performance management.

CHAPTER 1. INTRODUCTION

1.1. Conceptual Framework and Previous Research

Change has become a prevalent feature of today's organizations, resulting in an increased demand for workers who are able to adapt to the dynamic nature of the environment (Ilgen & Pulakos, 1999; Pulakos, Ara, Donovan, & Plamondon, 2000). Significant advances in technology, increasing globalization, corporate restructuring, and mergers have altered traditional work tasks and required employees to become more versatile and develop new skill sets in order to remain competitive in today's market (Kinicki & Latack, 1990; Lawler, 1994; Thach & Woodman, 1994). As a result, more emphasis has been placed on the judgments, analyses, and inferences made by workers (Han & Williams, 2008; Smith, Ford, & Kozolowski, 1997), which has led to the proposal that theoretical models of job performance be expanded to include an adaptive performance dimension (Allworth & Hesketh, 1999; Campbell, 1999).

Viewing adaptive performance as a distinct job performance construct is a relatively new idea, so more research is needed to understand this construct and its value. The current study will focus on the prediction of adaptive performance, with the primary research question being, "Does conscientiousness add incremental validity over cognitive ability when predicting adaptive performance, and does autonomy act as a moderator of these relationships?" In order to build the rationale for this study, the domains of job

performance, adaptive performance, and their predictors will all be discussed, the selection of conscientiousness and cognitive ability as predictors will be explained, moderators will be identified, and the uniqueness of the current study will be established.

1.1.1. Job Performance Domain

Motowidlo (2003) defined job performance as behavioral episodes that are carried out over a period of time and have expected value to an organization. Similarly, Campbell, McCloy, Oppler, and Sager (1993) considered performance to be synonymous with behavior, noting that it is something that people do that can be observed. In the context of a job, performance includes the behaviors that can be measured in terms of each individual's level of contribution to the goals of the organization. Traditionally, job performance has been viewed as one general factor that is best measured by an "objective" gauge of individual achievement, but modern conceptualizations of job performance stress a multidimensional approach (Campbell, 1999; Campbell et al., 1993; Motowidlo & Borman, 1993; Motowidlo & Van Scotter, 1994).

Campbell et al. (1993) offered a substantive alternative to the one-factor model of job performance by developing an eight-dimension taxonomy that was intended to comprehensively describe the latent variables of the highest order for all jobs in the occupational domain. However, Campbell et al. acknowledged that all eight factors may not be relevant to all jobs. The eight factors include: (a) job specific task proficiency, (b) non-job-specific task proficiency, (c) written and oral communication task proficiency, (d) demonstrating effort, (e) maintaining personal discipline, (f) facilitating peer and team performance, (g) supervision/leadership, and (h) management/administration.

Another conceptualization of job performance is based upon Motowidlo and Borman's (1993) parsimonious model of job performance, which distinguishes between task performance and contextual performance. Task performance is considered to be directly related to the technical core of the organization, either by carrying out specific technical processes, or by servicing and maintaining the technical core (Motowidlo, Borman, & Schmit, 1997). Conversely, contextual performance involves the maintenance of the broader environment (social, organizational, and psychological) needed for the core to function, rather than contributing directly to the technical processes.

Although task and contextual performance and Campbell et al.'s (1993) taxonomy appear to be representative of the behaviors that contribute to work effectiveness, recent discussions indicate that these job performance models do not adequately capture the adaptive behavioral requirements that are becoming increasingly prevalent in organizations (Allworth & Hesketh, 1999; Campbell, 1999; Schmitt, Cortina, Ingerick, & Wiechmann, 2003). Adaptive performance broadly refers to behaviors that demonstrate proficiency in self-managing the changes in work tasks or demands (Allworth & Hesketh, 1999; London & Mone, 1999). Campbell (1999) indicated that a perfomance component concerning how individuals adapt to changing job requirements and conditions would be a beneficial addition to his original eight-component taxonomy of job performance. Allworth and Hesketh (1999) promoted the addition of adaptive performance to the Motowidlo and Borman (1993) model and found preliminary support for the distinction of adaptive performance from task and contextual. In a more recent job performance model, Schmitt et al. (2003) included adaptive performance as a third aspect of performance distinct from task and contextual, but noted that additional research is

needed to support the distinction. Therefore, one aim of the current study is to indirectly evaluate whether or not some of the classic predictors of general job performance also effectively predict adaptive performance, or if prediction differences exist that further support the distinctiveness of the adaptive performance construct (i.e., divergent validity).

1.1.2. Adaptive Performance

As stated above, many acknowledge that jobs today require increasing levels of versatility and adaptability, and several authors have suggested that this may be a significant component of performance. However, the concept of "adaptive performance" has been a challenge to understand, measure, and predict effectively. It has been discussed and measured in a variety of contexts with different definitions.

Pulakos et al. (2000) attempted to remove some of the ambiguity surrounding this concept by developing an eight-dimension taxonomy of adaptive performance. The stated purpose of this taxonomy was to fulfill the request for expanding conceptualizations of performance to include adaptive performance, and to provide a framework for describing adaptive performance. The Pulakos et al. (2000) model of adaptive performance includes the following eight dimensions (with their shortened titles used throughout the rest of the current paper): (a) handling emergencies or crisis situations (i.e., emergency), (b) handling work stress (i.e., stress), (c) solving problems creatively (i.e., solving), (d) dealing with uncertain and unpredictable work situations (i.e., unpredictable), (e) learning work tasks, technologies, and procedures (i.e., learning), (f) demonstrating interpersonal adaptability (i.e., interpersonal), (g) demonstrating cultural adaptability (i.e., cultural), and (h) demonstrating physically oriented adaptability (i.e., physical).

Similar to Campbell et al.'s (1993) defense of the eight-dimension model of job performance, Pulakos et al. (2000) recognized that different jobs may require certain types or varying levels of the dimensions of adaptive behavior. Pulakos et al. sought to examine these possible differences in adaptive requirements and to test the proposed eight-dimension model by developing a self-report instrument called the Job Adaptability Inventory (JAI) that could measure the levels of the eight dimensions present in a job. The JAI was administered to a large number of participants (N=3,422) in a wide assortment of jobs that varied in terms of adaptive job requirements. The study results supported the eight-dimension model, the idea that the type and degree of adaptive performance may vary by job, and that adaptive performance is multidimensional.

In a follow-up study, Pulakos, Schmitt, Dorsey, Arad, Hedge, and Borman (2002) further investigated the eight-dimension taxonomy of adaptive performance created by Pulakos et al. (2000). This follow-up investigation developed predictor and criterion measures to assess whether the eight-dimension model was supported in a different context and to see if the taxonomy could be used to develop measures to predict adaptive performance. The results revealed that the eight-dimension model provided the best fit to the data for the three predictor measures that were developed, (i.e., self-report measures of past experience, interest, and task-specific self-efficacy). However, the examination of the criterion measure, supervisor ratings of adaptive performance, suggested that the eight dimensions loaded onto one general factor of adaptive performance.

Following the Pulakos et al. (2000, 2002) studies, Griffin and Hesketh (2003) developed and tested a more parsimonious model of adaptive performance. They used the Minnesota Theory of Work Adjustment (TWA) to identify three broad types of adaptive

behaviors: (a) proactive behavior, (b) reactive behavior, and (c) tolerant behavior. Then, they tested this framework in two organizations, but the results revealed only moderate support for the TWA framework as the tolerant factor was not supported.

Due to the extensive work that went into developing Pulakos et al.'s (2000) eight-dimension taxonomy, the preliminary empirical support for the model, and its recognition in the literature, the current study will use their taxonomy as its conceptualization of adaptive performance. The specific aim of the current study is to focus on each of the eight dimensions and how they can be differentially predicted and understood. Please note that throughout this paper, the terms "adaptive performance" and "adaptability" are used interchangeably. In this paper, "adaptability" is being used only in the context of job performance as a behavior or behavioral requirement, not as a personality characteristic.

1.1.3. Predictors of Adaptive Performance

As the Pulakos et al. (2000) eight-dimension taxonomy of adaptive performance has continued to grow in use and acceptance, one particularly fertile area for research that has emerged from the literature is the interest in identifying the best predictors of adaptive performance (Griffin & Hesketh, 2003; Le Pine, Colquitt, & Erez, 2000; Schmitt et al., 2003). If certain variables or traits can be identified as significant predictors of adaptive performance, this could aid organizations in selecting and maintaining a workforce that is well-suited and prepared for the degree of adaptation required within their particular jobs.

Recently, several authors have called for research that systematically evaluates the effectiveness of various individual differences constructs and predictors of adaptive

performance for different jobs with varying types and levels of adaptive requirements (Ployhart & Bliese, 2006; Pulakos et al., 2000; Pulakos et al., 2002; Pulakos, Dorsey, & White, 2006). While some research has already been conducted concerning the predictors of adaptive performance (e.g., Griffin & Hesketh, 2003; Le Pine et al., 2000; Pulakos et al., 2002, Schmitt et al., 2003), the results have been inconsistent and inconclusive. Predictor variables that have been studied in the adaptive performance domain include cognitive ability and personality traits such as conscientiousness, openness to experience, and emotional stability (Allworth & Hesketh, 1999; Griffin & Hesketh, 2003, 2005; Le Pine et al., 2000; Pulakos et al., 2002); past experience adapting and the self-efficacy to adapt (Allworth & Hesketh, 1999; Griffin & Hesketh, 2003; Pulakos et al., 2002); coping with change (Allworth & Hesketh, 1999); and job complexity, autonomy, and management support (Griffin & Hesketh, 2003). Some of these variables were significant predictors across studies, but many were either non-significant or the results differed across studies, indicating a need for more research.

Pulakos et al. (2006) conducted a thorough review of psychological and other literatures that examined research in which adaptability was assessed or predicted. Their goal was to identify the constructs hypothesized to underlie an individual's performance adaptability. The result was a list of 11 individual differences constructs (see Table 1) that included several of the constructs reviewed above. Subject matter experts judged which of the 11 predictors would likely be the most relevant for each of the eight Pulakos et al. (2000) adaptive performance dimensions, but these predicted relationships have not been empirically tested. Table 1 served as the impetus for the current study, and a major purpose of this study is to test some of those predictor-adaptability linkages.

In the current study, the predictors selected for analysis were cognitive ability and conscientiousness, and this choice was made for two reasons. First, both cognitive ability (Hunter & Hunter, 1984; Ree, Earles, & Teachout, 1994) and conscientiousness (Barrick & Mount, 2001; Salgado, 2003) have consistently been shown to be fairly strong predictors of general job performance. Determining whether or not those findings can be replicated for adaptive performance should provide valuable information about the construct. The second reason for the selection of these specific variables is that some differences exist regarding the support of these variables as predictors of adaptive performance (see Pulakos et al., 2002 and Griffin & Hesketh, 2003).

Griffin and Hesketh (2005) and Le Pine et al. (2000) have suggested and partially supported the notion that examining specific facet levels of personality constructs, like conscientiousness, may better clarify the links to performance adaptability. Most of the current studies of adaptive performance have focused only on the broader domain level of both adaptive performance and its predictors. Domain-level traits are more general and abstract than facet-level traits, which are narrow and more precise. The potential ambiguity associated with the domain level may be contributing to the differences in findings for adaptive performance predictors across studies. The debate about whether broad or narrow personality traits are better for measuring personality, called the "bandwidth-fidelity dilemma" (Ones & Viswesvaran, 1996; Sackett & Lievens, 2008), has been raging for years, but one principle that everyone agrees upon is that predictors should match the criteria in terms of specificity (Schneider, Hough, & Dunnette, 1996). Therefore, this study will match the levels of the focal predictor (conscientiousness) and criterion (adaptive performance), studying both constructs at the domain and facet levels.

The purpose of the current study is to contribute to the adaptive performance literature by trying to clear up some of the inconsistency in past research findings involving conscientiousness as a predictor of adaptive performance. Specifically, this study will examine the capability of the facets of conscientiousness to predict each of the eight dimensions of adaptive performance over and above the predictor of general cognitive ability. No published studies of adaptive performance have examined both adaptive performance and personality at the narrower facet level.

1.1.4. Conscientiousness

The Five-Factor Model of personality is currently the most broadly accepted model of personality structure, and is composed of the following factors: conscientiousness, openness to experience, agreeableness, extraversion, and emotional stability (McCrae & Costa, 2009; Salgado, 2003). The factor that has been examined most often as a potential predictor of adaptive performance is conscientiousness (Allworth & Hesketh, 1999; Griffin & Hesketh, 2003; 2005; Le Pine et al., 2000; Pulakos et al. 2002). Conscientiousness can be examined at the broader, domain level or it can be analyzed more specifically at a facet level. This study will focus on the two-facet and six-facet levels, as these are facet levels that have been commonly used in research studies (e.g., Christopher, Zabel, & Jones, 2008; Luciano, Wainwright, Wright, & Martin, 2006) and meta-analyses (e.g., Hough, 1992; Mount and Barrick 1995) on conscientiousness.

Even though conscientiousness is often solely measured at the domain level, the trait is typically conceptualized as having two different components (or facets): a *dependability* component that is seen in cautiousness and order, and a proactive

component often called *achievement motivation* (Costa, McCrae, & Dye, 1991). In order to more clearly distinguish between important individual differences, Costa et al. developed and proposed a further subdivision of conscientiousness into six independent facets. The six facets are: *order* (keeping one's environment well-organized), *dutifulness* (adherence to conduct standards), *deliberation* (being cautious and planning), *competence* (referring to one's capability or sensibility), *achievement-striving* (need for excellence), and *self-discipline* (persistence with a task). The first three facets are the *dependability* facets, and the latter three are the *achievement motivation* facets. These are the six facets of conscientiousness measured on the most widely-used personality inventories, such as the commercially-developed Revised NEO Personality Inventory (NEO-PI-R; Costa et al., 1991), and the International Personality Item Pool (IPIP; Goldberg, 2000). As the IPIP is the inventory that will be used in the current study, references to the six dimensions in the rest of this paper will use the following IPIP facet names, three of which differ in name from the corresponding Costa et al. facets included within parentheses: orderliness (i.e., order), dutifulness, cautiousness (i.e., deliberation), self-efficacy (i.e., competence), achievement-striving, and self-discipline.

Based upon the six facets and the general conceptualization of conscientiousness, one can see why this personality trait has been positively related to job performance in a variety of contexts (Barrick & Mount, 1991; Hurtz & Donovan, 2000). In both the Barrick and Mount (1991) and Hurtz and Donovan (2000) meta-analyses, the true score correlation for this relationship was estimated to be around .22. The consistent finding that conscientiousness is positively linked to general job performance is likely part of the reason that conscientiousness has often been studied as a potential predictor of adaptive

performance. However, much of the research on the conscientiousness-adaptive performance relationship has focused only on the domain level, and the magnitude and direction of this domain-level relationship has varied across studies.

Allworth and Hesketh (1999) used Goldberg's Adjective Checklist to capture the five factors of personality, and found support for the correlation between conscientiousness and task performance, although it was weak ($r = .15$, $p < .005$). No significant relationship emerged between conscientiousness and overall, contextual, or adaptive performance. Le Pine et al. (2000) examined adaptability to changing task contexts in a laboratory setting and found an unexpected interaction, such that high overall conscientiousness improved decision-making performance less after an unforeseen change than did low overall conscientiousness. These researchers conducted post-hoc analyses using a six-facet measure of conscientiousness and found that the result at the domain level was due to the three dependability facets, not the achievement facets.

Pulakos et al. (2002) studied only the achievement motivation component of conscientiousness, using their own personal styles inventory to measure the construct. They found a significant positive relationship between the achievement motivation facet and adaptive performance at the domain level ($r = .31$, $p < .05$). Griffin and Hesketh (2003) studied two organizations and reported that conscientiousness at the domain level as measured by the IPIP (Goldberg, 2000) was not significantly related to adaptive performance at the domain level for either organization. More recently, Griffin and Hesketh (2005) studied employees at three separate organizations, measuring conscientiousness using either the NEO PI-R or the IPIP. They compared this personality dimension at the six-facet level to adaptive performance at the domain level (i.e., the

specificity of the predictors and criterion were not matched). Although the relationships between the conscientiousness facets and overall adaptive performance were nonsignificant, the hypothesized pattern of relationships was found, as the achievement facets were positively correlated with adaptive performance, and the dependability facets were negatively correlated.

All of this variation in study design and in the conceptualizations of both adaptive performance and conscientiousness has led to inconclusive results concerning the magnitude, direction, and significance of the relationship between these constructs. In summary, Allworth and Hesketh (1999) and Griffin and Hesketh (2003) studied the domain level of these variables and found no significant relationships, whereas Le Pine et al. (2000) discovered a negative domain-level relationship. Then, Le Pine et al. (2000) did follow-up tests at the six-facet level of conscientiousness. In addition, another Griffin and Hesketh (2005) study included both the domain level of adaptive performance and the six-facet level of conscientiousness. Both of these latter two studies yielded findings in the same direction, but Griffin and Hesketh's (2005) were not significant. Pulakos et al. (2002) studied the domain level of adaptive performance and the achievement motivation facet (at the two-facet level) and found a significant positive relationship.

As conscientiousness is one of the most established predictors of general job performance, understanding its relationship with adaptive performance could help determine whether or not adaptive performance is a construct distinct from task or contextual performance that is differentially predicted. The current study will attempt to make sense of the inconsistency in past findings and advance the understanding of the conscientiousness-adaptive performance relationship by examining both constructs at

their domain and facet levels. The specific research questions that will be tested are: "Does a significant positive relationship exist between conscientiousness and adaptive performance at the domain level?" and, "Are the facets of conscientiousness (at the two-facet and six-facet levels) differentially related to the facets of adaptive performance?"

1.1.5. Cognitive Ability

Aside from conscientiousness, the other predictor variable that will be included in the current study is cognitive ability. General cognitive ability or *g* refers to an individual's ability to learn or capacity for information processing, and it has been identified as one of the strongest predictors of overall job performance (Hunter & Hunter, 1984; Ree, Earles, & Teachout, 1994; Schmidt & Hunter, 1998) with generalizable validity across cultures (Salgado, Anderson, Moscoso, Bertua, de Fruyt, & Rolland, 2003). Moreover, research has indicated that general cognitive ability has an even stronger relationship with performance when tasks are novel or complex (Hunter & Hunter, 1984). Therefore, some have suggested that the ability to adapt one's behavior to deal with new and complex tasks may simply be a function of having higher intelligence (Pulakos et al., 2002). Several studies have attempted to capture the relationship between cognitive ability and adaptive performance (e.g., Allworth & Hesketh, 1999; Griffin & Hesketh, 2003; Le Pine et al., 2000; Pulakos et al. 2002), but as mentioned previously, the results have varied, mostly in terms of the magnitude of the relationship.

Allworth and Hesketh (1999) examined the relation of cognitive ability to adaptive performance using three different cognitive ability tests. All three tests were significantly, positively correlated with adaptive performance, with numerical reasoning

having the weakest correlation ($r = .17$, $p < .05$), clerical speed and accuracy having a moderate correlation ($r = .25$, $p < .005$), and abstract reasoning having the strongest correlation ($r = .33$, $p < .005$). In a laboratory setting, Le Pine et al. (2000) used the Wonderlic Personnel Test as a measure of cognitive ability, and found that *g* was positively related to adaptive decision-making performance ($r = .43$, $p < .05$). In their examination of adaptive performance predictors, Pulakos et al. (2002) used the Armed Forces Qualifying Test as the measure of cognitive ability for 739 military personnel and found a positive relationship at the domain level ($r = .14$, $p < .05$) but no significant relationship with achievement motivation ($r = .00$), the only facet-level dimension included in the study. Griffin and Hesketh (2003) examined the predictive power of cognitive flexibility, which is distinct from, but related to *g*. They administered the Water Jars Tests to a total of 626 employees at two organizations, and found no significant relationship between cognitive flexibility and adaptive performance.

Aside from the Griffin and Hesketh (2003) study that focused on cognitive flexibility rather than cognitive ability, all of the aforementioned research supports a significant, positive relationship between cognitive ability and adaptive performance. Although the observed correlations vary in strength, the consistent finding of a positive relationship demonstrates that cognitive ability serves as a good predictor of both job performance and adaptive performance at the domain level.

One of the aims of the current study is to examine how cognitive ability is related to each of the eight dimensions of adaptive performance, which may help explain the variation in the magnitude of the prior results. However, the main reason for the inclusion of cognitive ability in the current study is to test the following research question, “Do the

facets of conscientiousness add incrementally to the prediction of the adaptive performance facets above and beyond cognitive ability?" Given that cognitive ability is not the primary focus of this study, this construct will only be measured at the domain level. This will provide a very stringent test of the ability of conscientiousness to predict adaptive performance, rather than only controlling for some facets of cognitive ability.

1.1.6. Potential Moderators

While examining conscientiousness and adaptive performance at both the domain and facet levels and including an analysis of incremental validity may help clarify the nature and strength of the relationship between these core constructs, the variation in past results suggests that one or more moderators may be present. One potential moderator of the conscientiousness-adaptive performance relationship is the level of a job's adaptive requirements. As mentioned previously, several authors have called for research that evaluates the effectiveness of adaptive performance predictors for different jobs with varying levels of adaptive requirements (Ployhart & Bliese, 2006; Pulakos et al., 2000; Pulakos et al., 2002; Pulakos, Dorsey, & White, 2006). Instead of directly testing this variable as a moderator, the variability in requirements for adaptive performance will be purposely limited in the current study by only using data from participants whose jobs have at least moderate adaptive requirements. This eligibility criterion should help reduce sample heterogeneity on this variable, which should increase the ability to find significant relationships between conscientiousness and adaptive performance if they do exist. Further discussion of this variable follows in the Methods section.

A second potential moderator of the relationship between conscientiousness and adaptive performance is employee autonomy. Most psychologists agree that the relationship between behavior and personality is moderated by the degree to which a person's environment or "situation" permits or inhibits the expression of individual differences (Gatewood, Feild, & Barrick, 2008). In a recent meta-analysis, Meyer, Dalal, and Bonaccio (2009) supported the importance of situational characteristics when examining the relationship between conscientiousness and general job performance. Their results indicated that the criterion-related validity of conscientiousness is higher in occupations that have weaker situations where the work is not uniformly interpreted.

Considering the important role situational characteristics play in the personality-job performance relationship, the current study will test the power of the situation using employee autonomy as a proxy measure of situational weakness. Autonomy in the workplace can be defined as the amount of freedom and discretion an employee has to select and structure his or her own projects, tasks, or schedule. The decision to use autonomy as a measure of situational weakness is supported by results from Barrick and Mount's (1993) study where autonomy moderated the conscientiousness-general job performance relationship on a sample of 146 managers, with the interaction uniquely explaining 3% of the variance in performance ratings. When autonomy was high, a stronger positive relationship existed. One aim of this study is to test whether this interaction can be replicated with adaptive performance and to test the question, "Does employee autonomy moderate the domain or facet-level relationships between conscientiousness and adaptive performance?"

1.2. Current Study

The most effective predictors of adaptive performance and the strength of their predictive power is still unclear. Variability in the conceptualization and measurement of both adaptive performance and individual difference constructs has led to an array of results and conclusions. The purpose of the current study is to advance the understanding of adaptive performance by examining whether or not the established predictors of general job performance also predict adaptive performance, and to clarify prior results by examining both the domain and facet levels of the constructs. This study is unique in that no published study has investigated *both* conscientiousness and adaptive performance at the facet levels, and no study has examined the incremental validity of conscientiousness above cognitive ability when predicting adaptive performance. Also, potential moderators have not received attention in the adaptive performance domain, so testing autonomy as a moderator and limiting the variability of adaptive job requirements are novel.

In the current study, four hypotheses will be tested, and each has three similar parts. Part *a* of each hypothesis concerns the relationship between conscientiousness and adaptive performance (at the global or facet level). Part *b* of each hypothesis concerns the incremental validity of conscientiousness over cognitive ability when predicting adaptive performance. And, part *c* of each hypothesis involves the study of autonomy as a potential moderator of the conscientiousness-adaptive performance relationship.

The first hypothesis is focused on the global level of both conscientiousness and adaptive performance and addresses the strength and nature of the relationship between these constructs. As reviewed in prior sections, past studies have found this domain level relationship to be positive, negative, significant, and nonsignificant (Allworth & Hesketh,

1999; Griffin & Hesketh, 2003; Le Pine et al., 2000). However, given the consistent finding that conscientiousness is positively related to general job performance (see Barrick & Mount, 1991; Hurtz & Donovan, 2000) and the fact that more conscientiousness-adaptive performance relationships examined have been in a positive direction even if nonsignificant, the expectation is that:

H1: Global

a) *Global conscientiousness will be significantly positively related with global adaptive performance.*
b) *Global conscientiousness will add significant incremental validity over cognitive ability when predicting global adaptive performance.*
c) *Autonomy will moderate the conscientiousness-adaptive performance relationship, such that when employee autonomy is high, a stronger positive relationship will exist.*

One of the unique elements of the current study is the attention given to the facet levels of both conscientiousness and adaptive performance. The second and third hypotheses are focused on the relationship between conscientiousness at the two-facet level (dependability and achievement motivation) and adaptive performance at its eight-facet level. In prior studies, conscientiousness has been examined at the two-facet level, but it has only been compared to the domain level of adaptive performance (Griffin & Hesketh, 2005; Le Pine et al., 2000; Pulakos et al., 2002). Hypothesis 2 concerns only the dependability facet, and Hypothesis 3 concerns the achievement motivation facet.

The expectations for Hypothesis 2 and 3 are based on the results from prior studies where Le Pine et al. (2000) and Griffin and Hesketh (2005) found both a negative

relationship between the dependability facet and adaptive performance and a positive relationship between the achievement motivation facet and adaptive performance (but the relationships in the Griffin and Hesketh study were nonsignificant). In these studies, conscientiousness was actually measured at the six-facet level, but both sets of authors only focused on the results at the two-facet level. In addition, Pulakos et al. (2002) studied achievement motivation (but not dependability) and found a significant, positive relationship with adaptive performance. Given these findings, the expectation is that:

H2: Dependability Facet

a) *The dependability facet of conscientiousness will be significantly negatively related with each of the eight adaptive performance facets.*
b) *The dependability facet of conscientiousness will add significant incremental validity over cognitive ability when predicting each of the eight adaptive performance facets.*
c) *Autonomy will moderate each of the eight dependability-adaptive performance relationships such that when employee autonomy is high, weaker negative relationships will exist.*

H3: Achievement Motivation Facet

a) *The achievement motivation facet of conscientiousness will be significantly positively related with each of the eight adaptive performance facets.*
b) *The achievement motivation facet will add significant incremental validity over cognitive ability when predicting each of the eight adaptive performance facets.*

c) *Autonomy will moderate each of the eight achievement motivation-adaptive performance relationships such that when employee autonomy is high, stronger positive relationships will exist.*

Hypothesis 4 is more exploratory in nature as it is focused on examining the previously unstudied relationships between the six conscientiousness facets (orderliness, dutifulness, cautiousness, self-efficacy, achievement-striving, and self-discipline) and the eight adaptive performance facets. As mentioned previously, conscientiousness has been examined at the six-facet level, but it has only been compared to the domain level of adaptive performance (Griffin & Hesketh, 2005; Le Pine et al., 2000). This hypothesis is essentially an extension of Hypotheses 2 and 3, but instead of summing the individual facet scores to establish the two-facet level, each of the six facets will be individually correlated with each of the eight adaptive performance facets.

As no published studies have examined these 48 relationships, a unique hypothesis-development task was undertaken by the researcher and another I/O psychologist. A 6 x 8 matrix was created by crossing the six conscientiousness facets and the eight adaptive performance dimensions. Based on their knowledge of the literature and the study variables, the two raters each made 48 independent decisions, creating expectations for the significance and direction of each relationship in the matrix.

A comparison of the two raters' decisions revealed very similar conclusions. Two of the dependability facets and two of the achievement motivation facets appeared to follow their respective factor flows (see Hypotheses 2 and 3). Specifically, the raters agreed that negative relationships could be expected between orderliness and the eight adaptive performance dimensions and between cautiousness and the eight dimensions.

The raters also agreed that positive relationships could be expected between self-efficacy and the eight dimensions and between achievement-striving and the eight dimensions. The expectations were not as consistent for the other conscientiousness facets, dutifulness and self-discipline. Both raters agreed that these facets were positively related to some performance facets, negatively related to others, or nonsignificant. Generally, dutifulness and self-discipline do not appear be as relevant to adaptive performance as the other four conscientiousness facets. Therefore, the expectations for this hypothesis are as follows:

H4: Individual Facets

a) *The conscientiousness facets orderliness and cautiousness will be significantly negatively related to each of the eight adaptive performance facets; self-efficacy and achievement-striving will be significantly positively related to each of the eight adaptive performance facets; and, dutifulness and self-discipline will not be significantly related to any of the eight adaptive performance facets.*
b) *Four of the six conscientiousness facets—orderliness, cautiousness, self-efficacy and achievement-striving—will add significant incremental validity over cognitive ability when predicting each of the eight adaptive performance facets.*
c) *Autonomy will moderate the orderliness, cautiousness, self-efficacy and achievement-striving facet-level conscientiousness-adaptive performance relationships such that when employee autonomy is high, stronger relationships will exist.*

See Figure 1 for a visual representation of the expectations regarding the moderating effects of autonomy for Hypotheses 1c and 3c, and Figure 2 for the expectations regarding the moderating effects of autonomy for Hypothesis 2c.

CHAPTER 2. METHOD

2.1. Participants

Participants were recruited from the student population at a large Midwestern university. Specifically, the original sample consisted of 266 employees who were enrolled in undergraduate psychology courses, and they received course credit for participating. Participants had to be at least 18 years of age and employed at least 20 hours or more per week in a job that requires adaptive performance. After eliminating participants who did not meet the eligibility criteria or complete the entire study, the final sample consisted of 212 employees. The mean participant age was 23 years, 67.9% were female, and 79.7% were white. Participants had a mean job tenure of 2.28 years (SD = 2.23) and worked an average of 28.18 hours (SD = 8.07) per week. Over 17 unique job industries were represented, and over 151 unique job titles were reported.

The direct work supervisors of the participants were contacted and asked to participate in the study. Of the 212 employee participants, 58 of their supervisors participated in the study. The mean supervisor participant age was 39 years, 51.7% were female, and 74.1% were white. Supervisor participants had a mean job tenure of 9.02 years (SD = 8.98) and the average length of time they had supervised the participating employee was 1.83 years (SD = 1.72).

2.2. Design and Procedure

The present study used a correlational, cross-sectional design, and all data were collected using online surveys. The entire procedure was pilot-tested using seven participants, and appropriate modifications were made to ensure that the actual study would be conducted smoothly. The majority of the employee participants signed up for the study through SONA, which is an online system used by the university's psychology department to schedule and grant credit for research participation. About 14% of participants were given the study information in their psychology class and signed up for the study by emailing the researcher directly. On SONA and in the psychology classes, students were provided with a brief description of the study, the basic purpose of the research, and the expected time the study would take to complete (see Appendix B).

When the researcher was electronically notified of a new sign-up, the participant was simultaneously sent two emails (see Appendix B). The first provided a brief description of the study and contained the link to the online survey created specifically for this study. The second email contained the link to the Wonderlic cognitive ability assessment. Participants were instructed to complete the online survey first and the Wonderlic assessment second. These could be completed at any time as long as the participant finished before the deadline established when he or she signed up. Participants who signed up through SONA could select their deadline from a list of dates provided. Those who received the study information in their psychology class and signed up by directly contacting the researcher were given a 2-week time frame to complete the study.

When participants followed the web link to the online survey, they were first presented with a page describing the study and the questions they would be asked.

Participants were reminded of the estimated time investment to complete the study (approximately 30-40 total minutes) and its voluntary nature, and they were asked to indicate whether or not they agreed to participate (see Appendix D). On the second page of the survey, participants were asked to provide their personal name and email, their work company's name, and their direct work supervisor's name, email, and phone number (see Appendix D). The personal information was used to grant the research credits and the company and supervisor data were used to invite supervisors to participate in the study. On the subsequent pages of the survey, participants were asked questions about their job's adaptive requirements, autonomy at work, conscientiousness, adaptive work performance, and general demographic information.

The web link to the Wonderlic assessment led participants to a page with a general introduction written by Wonderlic. Once the participants officially started the assessment, they had 8 minutes to complete as many items as possible. Participants could monitor their time using a countdown clock provided on the site and they were automatically shut out of the assessment once the 8 minutes expired. After a participant completed the study, he or she was randomly assigned a four-digit number to be used as the identifying link between the employee and supervisor data.

The supervisor contact information provided by the employee participants was used to invite supervisors to participate in the study. Supervisors were contacted via email and given a description of the study, the four-digit identifier used to match the supervisor back to the employee, and a web link to the supervisor survey (see Appendix C). If an employee did not provide his or her supervisor's email, any other information provided (i.e., supervisor name, company name, or phone number) was used to search the

internet for the email address or to call the company or supervisor directly to request the email address.

The supervisors who elected to follow the web link offered in the email were first presented with a page describing the study and the questions they would be asked. Like the employee survey, supervisor participants were reminded of the projected time needed (approximately 15-20 minutes) and the voluntary nature of the study, and they were asked to indicate whether or not they agreed to participate (see Appendix E). On the second page of the survey, participants were asked to enter the four-digit identifier provided in their invitation email (see Appendix E). Supervisor participants were not asked for any other identifying information. On the subsequent pages of the survey, supervisors were asked questions about the employees' adaptive job requirements, autonomy at work, adaptive performance, and personal demographic information.

2.3. Measures

All of these measures except cognitive ability are presented in Appendices D (the employee survey) and/or E (the supervisor survey). The measures appear below in the order in which they were administered to the respondents.

2.3.1. Adaptive Requirements

One variable that was identified as a potential confound of the conscientiousness-adaptive performance relationships was a job's adaptive requirements. Therefore, this variable was measured and used as an eligibility requirement to purposely limit its heterogeneity in the sample and to increase the ability to find significant relationships if

they existed. Although an adaptive requirements measure exists (i.e., Job Adaptability Inventory developed by Pulakos et al., 2000), it is proprietary (E.D. Pulakos, personal communication, February 18, 2010). Therefore, an 8-item measure was developed to assess to what degree a particular job requires each of the eight dimensions of adaptive performance. One item was used for each dimension and participants were instructed to indicate to what extent the employee's job required each of the eight adaptive behaviors using a 5-point Likert-type response format (1 = no extent, 2 = slight extent, 3 = moderate extent, 4 = great extent, 5 = very great extent).

To limit the potential influence of this confounding variable, participants were only included in the study if their jobs require at least a moderate level of adaptive performance. This eligibility for inclusion was determined by examining the distribution of the 8-item sum and the number of dimensions each employee participant rated at a 3 ("moderate extent" required) or above. Originally, the employee and supervisor ratings of adaptive performance were both going to be used to determine the inclusion criterion, but the agreement between the two groups was very low. (This will be discussed further in the Results section.) Therefore, only the employee ratings were used to determine eligibility, with a job being classified as having at least a moderate level of adaptive requirements when the employee rated at least three of the eight adaptability dimensions at a 3 or above. Only three of the items had to be rated at a 3 or above because many employees reported very high requirements for certain types of adaptability (e.g., learning new work tasks, technologies, and procedures) but low or no requirements for other types (e.g., demonstrating physically oriented adaptability or demonstrating cultural adaptability). This was consistent with Pulakos et al.'s (2000) finding that different jobs

require different types and levels of adaptive behavior. Due to the multidimensional nature of this measure, calculating the coefficient alpha reliability would not produce an appropriate assessment of reliability. Test-retest reliability would be a more appropriate estimate, but the study design did not allow for this type of assessment.

2.3.2. Autonomy

The moderator variable included in the current study was employee autonomy. Employee autonomy was assessed using a modified version of Barrick and Mount's (2003) 6-item autonomy measure. Barrick and Mount (2003) reported a coefficient alpha of only .70 for their measure, so three additional items were added from Breaugh's (1985) measure of work autonomy for a total of nine items. Breaugh's measure assesses three facets of autonomy (method, scheduling, and criteria), so one item was chosen from each facet. Two very similar forms of the 9-item autonomy measure were developed; one for the employee participants (see Appendix D), and the other for their supervisors (see Appendix E). For each item, the participant was instructed to indicate how accurately the statement described the job performed by the employee using a 5-point Likert-type response format (1 = very inaccurate, 2 = moderately inaccurate, 3 = neither inaccurate nor accurate, 4 = moderately accurate, 5 = very accurate).

Although this measure was comprised of items from two different measures, the 9 items were used to create a unidimensional, overall measure of autonomy. Therefore, the coefficient alpha reliability of the 9-item measure was calculated, and the results revealed very low estimates of .58 for the employee sample and .52 for the supervisor sample. Calculating coefficient alpha for only the three items from Breaugh's (1985) autonomy

measure produced somewhat stronger reliability coefficients for both the employee (.76) and supervisor (.56) samples, but these were still deemed unacceptable. Therefore, an exploratory factor analysis (EFA) was conducted on the nine items (using the employee sample data) to see which items would group as factors. An orthogonal rotation with principal axis factoring was the method used and three factors were extracted based on eigenvalues over one. Four items loaded very strongly on the first factor, with the strongest loadings being for the three Breaugh items. Only one item from the Barrick and Mount (1993) measure grouped with these three items ("If someone else did the job, he or she could do the tasks in a very different manner than I do"). This first factor from the EFA could be labeled the "control" factor because all four items were related to an employee's ability to control the work situation. Calculating the coefficient alpha for these four items indicated a considerable improvement in the reliability estimates: .79 for the employee sample and .63 for the supervisor sample. Based on this analysis, these were the four items that were summed and used to represent autonomy when the results were calculated.

2.3.3. Conscientiousness

The focal independent variable in the study was conscientiousness. This personality variable was measured at the domain and facet levels, and only employee participants completed the conscientiousness measures. An original 3-item measure was written to assess the domain level—global conscientiousness (see Appendix D). Participants were provided with a definition of conscientiousness and asked to rate how strongly they agreed with each statement using a 5-point Likert-type response format (1 =

strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree). The responses from the items were summed to produce a global conscientiousness score. The coefficient alpha reliability estimate for this scale was .94.

The facet level of conscientiousness was assessed using a measure obtained from the International Personality Item Pool website (Goldberg, 2000) (http://ipip.ori.org/), which contains many public domain scales that are strongly correlated with published measures of personality. For this study, IPIP's representation of Costa and McCrae's (1991) NEO-PI-R facet-level measure of conscientiousness (see Appendix D) was used to capture conscientiousness at the two-facet level (dependability and achievement motivation) and six-facet level (orderliness, dutifulness, cautiousness, self-efficacy, achievement-striving, and self-discipline). The 60-item IPIP scale has 10 items for each of the six facets. Participants are instructed to rate how accurately each item describes their behavior using a 5-point Likert-type response format (1 = very inaccurate, 2 = moderately inaccurate, 3 = neither inaccurate nor accurate, 4 = moderately accurate, 5 = very accurate). The responses for the three dependability facets (orderliness, dutifulness, and cautiousness) and the three achievement motivation facets (self-efficacy, achievement-striving, and self-discipline) were each summed to produce the scores for the two-facet level. An overall conscientiousness score was also calculated from the IPIP by summing the responses for all 60 items. This served as a secondary measure and comparison for the global conscientiousness measure. The correlation between the primary and secondary measures was .48 ($p < .01$).

At the two-facet level of conscientiousness, the coefficient alpha reliability reported on the IPIP website is .76 for the dependability facet and .80 for the achievement

motivation facet. At the six-facet level, the coefficient alpha for each facet is as follows: .82 for orderliness, .71 for dutifulness, .76 for cautiousness, .78 for self-efficacy, .78 for achievement-striving, and .85 for self-discipline. Based on the current study's 212 participant sample, the corresponding coefficient alpha reliability estimates were strong and similar to the IPIP values: .91 for the dependability facet, .94 for the achievement motivation facet, and .84 for orderliness, .82 for dutifulness, .84 for cautiousness, .82 for self-efficacy, .83 for achievement-striving, and .90 for self-discipline.

2.3.4. Adaptive Performance

The dependent variable in this study was adaptive performance. An adaptive performance rating measure was tailored specifically for this study, with highly similar versions being completed by both the employee (see Appendix D) and supervisor participants (see Appendix E). This measure was based on the behaviorally-anchored rating scale (BARS) developed by Pulakos et al. (2002) to measure the adaptive performance of military personnel. The scale was modified so that all military references were deleted. Although reliabilities for this measure were not reported by Pulakos et al. (2002), the stringent method used to create the BARS had built-in inter-rater reliability. Each of the eight dimensions of adaptive performance was represented by one BARS with nine behavioral anchors. In addition, overall adaptive performance was measured with a ninth BARS with six behavioral anchors. In the survey, participants were first given a general instructions page with points to remember when making the performance ratings. Then each dimension was presented on a separate page with a brief description of the dimension and a 7-point rating scale with the behavioral anchors and a "not

applicable" option. The primary operationalization of global adaptive performance in the current study was the rating from the ninth BARS measuring overall adaptive performance. A secondary operationalization of global adaptive performance used for comparison purposes was the average of the ratings from the eight BARS representing each of the eight adaptive performance dimensions. The correlation between the primary and secondary measures was .61 ($p < .01$). The eight adaptive performance dimensions were operationalized using the eight individual BARS; therefore, each dimension was measured using one item. As with the adaptive requirements measure, the adaptive performance measure's multidimensional nature makes the calculation of a coefficient alpha inappropriate.

2.3.5. Demographics

Demographic variables were also collected from both employee (see Appendix D) and supervisor participants (see Appendix E). Information regarding age, gender, and ethnicity were collected from both groups of participants, and year in college, major, and credit hours currently taken were also collected from the employees. This information was gathered to characterize the nature of the current sample. Both employees and supervisors were also asked to provide their job title, job industry, length of time in current job and the number of hours worked per week. In addition, supervisors were asked to indicate the length of time they had supervised the employee. The number of hours employees worked per week was used to identify those who were eligible to participate in the study. To help make the current data more generalizable to workers in general, only those participants who reported working 20 hours per week (half time) or

more were included in the study. The other job information was collected not only to characterize the employee and supervisor samples, but also to gauge the range of jobs and job industries represented, again for the purpose of assessing generalizability.

2.3.6. Cognitive Ability

The other independent variable in this study, cognitive ability, was measured separately from the other study variables using an online version of the Wonderlic Personnel Test (WPT) called the Wonderlic Quicktest (WPT-Q). This assessment was primarily used to test the incremental validity of conscientiousness over cognitive ability and it was only completed by the employee participants. The Wonderlic Quicktest is a 30-item, 8-minute timed test that assesses an individual's problem-solving ability. Wonderlic's purpose in developing the WPT-Q was to create a shortened form of the traditional 50-item WPT that could be administered in an unproctored internet environment. Wonderlic reports that the correlation between the WPT-Q and the 50-item WPT is .96. The WPT-Q presents multiple choice and open response questions that increase in difficulty and must be completed without the aid of a problem solving device (e.g., a calculator). Test questions include word comparisons, number series, analysis of geometric figures, story problems requiring logic solutions, and disarranged sentences. The average coefficient alpha reported by Wonderlic for the WPT-Q is .81 and the mean score is 22.20. Scores on the WPT-Q are calculated by Wonderlic using a regression equation that predicts a test-taker's score on the full 50-item WPT, so scores can range from 0 to 50. Item-level results for participants in the current study were not provided; only their total scores were returned by Wonderlic. Specific psychometrics cited here

were from Wonderlic research reported via personal communication. More information can be found on the website, http://www.wonderlic.com/.

CHAPTER 3. RESULTS

3.1. Screening and Data Cleaning

Prior to hypothesis testing, data were thoroughly screened. The original employee sample consisted of 266 participants, but through the screening process 54 participants were excluded from the study. First, four duplicate survey entries were removed. Then, two more participants were removed because they completed less than half of the survey items. Twenty-seven additional participants were removed as they did not complete the Wonderlic assessment at all or it was completed incorrectly according to Wonderlic. Next, the eligibility requirements were enforced and 13 more participants were dropped because they reported working less than 20 hours per week. The other eligibility criterion, moderate requirements for adaptive performance (as outlined in the Measures section) was applied, and eight participants were removed who had low adaptive job requirements. This process resulted in a final sample of 212 employee participants. Of these 212 employees, only 58 had supervisors who completed the supervisor survey.

Additional data screening was conducted using frequencies, descriptives, and histograms to test normality and to check for outliers and missing values. Next, missing values were substituted with the relevant within-person, within-scale mean. Regarding the statistical analyses, all hypotheses were tested for statistical significance using two-tailed tests at the $p < .05$ alpha level.

3.2. Preliminary Analyses

Means, standard deviations, coefficient alpha reliabilities and intercorrelations of the key study variables are presented in Table 2. Samples sizes ranged from 180-212 because every adaptive performance dimension was not applicable to every participant's job. Although many of the important relationships in Table 2 will be described by testing the hypotheses, a few observations are worth noting. The six conscientiousness facets were all strongly related to global conscientiousness at the $p < .01$ level, and the adaptive performance facets were all strongly related to global adaptive performance at the $p < .01$ level, except the cultural facet ($r = .18$, $p < .05$), providing support for the global measures. Also, the achievement motivation-global adaptive performance relationship ($r = .41$, $p < .01$) was stronger than the dependability-global adaptive performance relationship ($r = .29$, $p < .01$). Interestingly, the Wonderlic cognitive ability assessment scores were not significantly related to any of the study variables. This is contradictory to past findings regarding the cognitive ability-adaptive performance relationship at the domain level (see Allworth & Hesketh, 1999; Le Pine et al., 2000; Pulakos et al. 2002). In addition, autonomy was only significantly related to the conscientiousness facet of achievement-striving, and the relationship was weak ($r = .15$, $p < .05$).

In these preliminary analyses and in all hypotheses analyses, only the employee participants' data were used. The supervisor sample ($n = 58$) was too small to have the power needed for the complex hierarchical regressions required to test the hypotheses. However, having both the employee and supervisor participants complete the adaptive requirements, autonomy, and adaptive performance measures allowed for direct comparisons between their responses. Table 3 presents the means, standard deviations,

and the correlations between the employees' and the supervisors' responses. Interestingly, the means and standard deviations are very similar between the groups, with the employees being slightly higher on 10 out of the 12 variables. An independent samples t-test revealed that the only significant difference in means was on the interpersonal adaptive performance dimension ($t_{(113)} = 2.206$, $p = .029$). However, the complete lack of significant correlations at the $p < .05$ level between the employee and supervisor data reveals a low level of agreement between the two groups.

3.3. Hypotheses Tests

3.3.1. Hypothesis 1

Hypothesis 1a was tested within Table 2 where the dependent variable was global adaptive performance and the independent variable was global conscientiousness. Using the primary measures of these variables, Hypothesis 1a was supported as global conscientiousness was significantly, positively related to global adaptive performance ($r = .23$, $p < .01$) (see Table 2). Using the secondary measures of these variables (the sum of the conscientiousness facet scores and the average of the eight adaptive performance ratings) produced similar results supporting Hypothesis 1a ($r = .46$, $p < .01$). As these secondary measures were used primarily for comparison purposes, they are not reported in the tables.

Hypothesis 1b was tested using a hierarchical multiple regression where global adaptive performance was entered as the dependent variable and cognitive ability was entered as an independent variable in Step 1, followed by global conscientiousness in

Step 2. Although cognitive ability was not significantly correlated with any of the criteria, removing any portion of variance for which it accounted was important for appropriately testing the incremental validity hypotheses (i.e., part *b* of each hypothesis). Hypothesis 1b was supported as global conscientiousness added significant incremental validity over cognitive ability (ΔR^2 = .05, p = .001) (see Table 4). Using the secondary global measures of adaptive performance and conscientiousness, the support for Hypothesis 1b was even stronger (ΔR^2 = .21, p < .001).

Hypothesis 1c was also tested using a hierarchical multiple regression with global adaptive performance as the dependent variable and the first-order effects of autonomy and global conscientiousness entered in Step 1, followed by the interaction term for the two independent variables in Step 2. When testing for moderation (part *c* of each hypothesis), all predictor variables were centered to help reduce potential multicollinearity issues. As evidenced in Table 5, Hypothesis 1c was not supported. Autonomy did not moderate the conscientiousness-adaptive performance relationship as the interaction term did not provide significant incremental validity over the first-order effects (ΔR^2 = .01, p = .215). The regression with the secondary measures of the variables did not support Hypothesis 1c either (ΔR^2 = .01, p = .068).

3.3.2. Hypothesis 2

Hypothesis 2a was tested using each of the eight adaptive performance dimensions as dependent variables and the dependability facet of conscientiousness as the independent variable. Hypothesis 2a predicted significant, negative relationships between dependability and each of the eight adaptive performance dimensions, but this was not

supported because dependability was significantly, positively related to all eight dimensions (see Table 2). Most of the relationships with the eight dimensions were moderately strong: emergency (r = .28, p < .01); interpersonal (r = .22, p < .01); unpredictable (r = .19, p < .01); physical (r = .27, p < .01); learning (r = .17, p < .05); stress (r = .28, p < .01); cultural (r = .21, p < .01); and solving (r = .18, p < .01).

Hypothesis 2b was tested using eight hierarchical multiple regressions where one of the eight adaptive performance dimensions was entered as the dependent variable and cognitive ability was entered as an independent variable in Step 1, followed by the dependability facet in Step 2. Hypothesis 2b was supported as dependability added significant incremental validity over cognitive ability when predicting each of the eight adaptive performance dimensions (see Table 6), but the dependability-adaptive performance relationships were positive, contrary to expectations. The results of each dimension were as follows: emergency (ΔR^2 = .08, p < .001); interpersonal (ΔR^2 = .05, p = .002); unpredictable (ΔR^2 = .04, p = .007); physical (ΔR^2 = .07, p < .001); learning (ΔR^2 = .03, p = .013); stress (ΔR^2 = .08, p < .001); cultural (ΔR^2 = .04, p = .003); and solving (ΔR^2 = .03, p = .007).

Hypothesis 2c was also tested using eight hierarchical multiple regressions with one of the eight adaptive performance dimensions serving as the dependent variable in each analysis. The first-order effects of autonomy and dependability were entered in Step 1, followed by the interaction term for the two independent variables in Step 2. Hypothesis 2c predicted that autonomy would moderate each of the eight dependability-adaptive performance facet relationships, but this hypothesis was only partially supported as significant interactions were only found for the learning (ΔR^2 = .03, p = .016) and

cultural (ΔR^2 = .03, p = .012) adaptive performance dimensions (see Table 7). However, the shapes of the significant interactions were not as predicted because the main effect of the dependability facet was significantly positive rather than negative and the interactions were both stronger and different than expected (see Figures 3 and 4). Plots of the significant interactions were created using Excel worksheets provided online (Dawson, n.d.) that use procedures from Aiken and West (1991) and Dawson and Richter (2006) to plot two-way interactions. As shown in both figures, these were crossed interactions. The slope of the regression line was steeper for those with low autonomy and nearly level for high autonomy. On average, performance ratings on both the learning and cultural dimensions were lowest for those low in dependability with low autonomy and highest for those high in dependability with low autonomy. While the figures reveal a bigger performance difference between those low and high in autonomy at low levels of dependability, the difference is very minor at high levels of dependability. These figures support autonomy as a moderator of the dependability-learning and dependability-cultural relationships.

3.3.3. Hypothesis 3

Parts a, b, and c of Hypothesis 3 were tested using the exact same analyses used to test Hypothesis 2, except the achievement motivation facet replaced the dependability facet. The eight correlations used to test Hypothesis 3a revealed support for this hypothesis as all of the relationships between achievement motivation and the adaptive performance facets were significantly positive (see Table 2). The relationships were also all moderate to strong in magnitude: emergency (r = .41, p < .01); interpersonal (r = .31,

$p < .01$); unpredictable ($r = .30$, $p < .01$); physical ($r = .38$, $p < .01$); learning ($r = .25$, $p < .01$); stress ($r = .36$, $p < .01$); cultural ($r = .24$, $p < .01$); and solving ($r = .35$, $p < .01$).

The eight hierarchical multiple regressions used to test Hypothesis 3b revealed support for this hypothesis as achievement motivation added significant incremental validity over cognitive ability when predicting each of the eight adaptive performance dimensions (see Table 8). The results by dimension were: emergency ($\Delta R^2 = .17$, $p < .001$); interpersonal ($\Delta R^2 = .10$, $p < .001$); unpredictable ($\Delta R^2 = .09$, $p < .001$); physical ($\Delta R^2 = .15$, $p < .001$); learning ($\Delta R^2 = .06$, $p < .001$); stress ($\Delta R^2 = .13$, $p < .001$); cultural ($\Delta R^2 = .06$, $p = .001$); and solving ($\Delta R^2 = .12$, $p < .001$).

Similar to Hypothesis 2c, the eight hierarchical regressions used to test moderation revealed only partial support for Hypothesis 3c. Hypothesis 3c predicted that autonomy would moderate each of the eight achievement motivation-adaptive performance facet relationships, but the interaction terms were only significant for the interpersonal ($\Delta R^2 = .02$, $p = .047$), learning ($\Delta R^2 = .03$, $p = .014$), and cultural ($\Delta R^2 = .03$, $p = .008$) dimensions (see Table 9). Note that these interactions were significant for both the learning and cultural adaptive performance dimensions as in Hypothesis 2c, and also for interpersonal adaptive performance. In these analyses, the main effect for achievement motivation was significantly positive as predicted. The three significant interactions were plotted in Figures 5, 6, and 7. All three figures display crossed interactions similar to those discovered with the dependability facet where the slope of the line for low autonomy is much steeper and positive, while the line for high autonomy is nearly level. For those low in achievement motivation, participants with low autonomy were rated lower on the interpersonal, learning, and cultural adaptive performance

dimensions than those were with high autonomy. This difference in ratings is visibly the greatest for the cultural dimension and the smallest for the interpersonal dimension. For those high in achievement motivation, the average adaptive performance scores were nearly the same regardless of level of autonomy.

3.3.4. Hypothesis 4

Hypothesis 4a was essentially an extension of Hypotheses 2 and 3, but instead of testing conscientiousness at the two-facet level, this hypothesis focused on the six-facet level (three facets are considered the *dependability* facets and three are the *achievement motivation* facets). Hypothesis 4a was tested using 48 correlations where the dependent variable was one of the eight adaptive performance dimensions and the independent variable was one of the six facets of conscientiousness. This hypothesis predicted that the facets orderliness and cautiousness would follow the same trend as dependability and be negatively related to the performance dimensions, while self-efficacy and achievement-striving would follow the achievement motivation trend and be positively related to the dimensions. Dutifulness and self-discipline were not expected to be related to the eight dimensions. The results revealed partial support for this hypothesis as self-efficacy and achievement-striving were significantly related to all eight adaptive performance dimensions at the $p < .01$ level (see Table 2). However, orderliness and cautiousness were not negatively related to any of the dimensions, and were instead significantly positively related to five dimensions each. Also contrary to expectations, dutifulness and self-discipline were both significantly, positively related to all eight dimensions at least at the $p < .05$ level.

Hypothesis 4b was tested using the same procedure as Hypotheses 2b and 3b, except one of the six conscientiousness facets was entered in Step 2 of the regression where dependability or achievement motivation was entered previously. Therefore, this hypothesis required 48 hierarchical regressions, and the expectation was that only the four facets expected to be significant in Hypothesis 4a would provide incremental validity over cognitive ability when predicting the eight performance dimensions. The results revealed partial support for this hypothesis as self-efficacy and achievement-striving did provide incremental validity on all eight dimensions at the $p < .005$ level; however, orderliness and cautiousness only provided significant incremental validity on 5 of the 8 dimensions (see Tables 10-15). The two facets not expected to provide incremental validity, dutifulness and self-discipline, did provide significant incremental validity on all eight dimensions at the $p < .05$ and $p < .005$ levels respectively.

Hypothesis 4c was also tested using the same procedure as Hypotheses 2c and 3c, except one of the six conscientiousness facets was entered where one of the two facets had been entered previously, so 48 hierarchical regressions were required. The expectation was that autonomy would moderate the conscientiousness-adaptive performance relationships for the same four facets that were expected to be significant in Hypotheses 4a and 4b. This hypothesis was only partially supported as the interaction term was significant for 5 out of the 32 analyses that were expected to reveal significance (see Tables 16-21). No interactions were significant with cautiousness, only one was significant with orderliness, and two were significant for self-efficacy and achievement-striving. Contrary to expectations, 6 of the 16 moderation analyses involving dutifulness and self-discipline revealed that autonomy was a significant moderator. Dutifulness and

self-discipline had three significant interactions each. As with hypotheses 2c and 3c, autonomy was only a significant moderator of relationships involving the interpersonal, learning, and cultural adaptive performance dimensions. The 11 significant interactions were plotted, and Figures 8 through 18 display the details of each. All 11 figures display crossed interactions very similar to those discovered in Hypotheses 2c and 3c where the slope of the line for low autonomy is much steeper and positive, whereas the line for high autonomy is nearly level or slightly negative. For those low on the conscientiousness facet (i.e., orderliness, dutifulness, self-efficacy, achievement-striving, or self-discipline), participants with low autonomy were rated lower on the adaptive performance dimension (i.e., interpersonal, cultural, learning) than were those with high autonomy. For those high on the conscientiousness facet, the average adaptive performance scores were often nearly the same regardless of autonomy level. When they were not the same, those with low autonomy were actually rated higher than those with high autonomy. The dutifulness-autonomy interaction is the one interaction where the difference in performance on the learning dimension between those with low and high autonomy is relatively large at both low and high levels of dutifulness (forming an “X” shape). All of these figures support the idea that autonomy moderates some, but not all, of the facet-level conscientiousness-adaptive performance relationships. However, the significant interactions did not follow the expected pattern, which will be discussed further in the Discussion section.

For a summary of the results for all hypotheses, see Table 22.

CHAPTER 4. DISCUSSION

The broad purpose of this study was to understand more about adaptive performance, to clarify some past inconsistencies in this domain, and to examine potential predictors of adaptive performance. The specific goal of this study was to test the following research question, "Does conscientiousness add incremental validity over cognitive ability when predicting adaptive performance, and does autonomy act as a moderator of these relationships?" In this study, the question was broken into three parts (a, b, and c of each hypothesis) and tested at three levels of the independent variable—the global, 2-facet, and 6-facet levels (Hypotheses 1, 2-3, and 4 respectively).

The first part of the research question concerned the core relationship between the focal predictor, conscientiousness, and adaptive performance. The results revealed that a significant, positive relationship exists between these variables at the global level, and when the two-facet level of conscientiousness is matched to the eight-facet level of adaptive performance. While positive relationships were expected at the global level and for the achievement motivation facet at the two-facet level, negative relationships were expected for the dependability facet based on past findings (Griffin & Hesketh, 2005; Le Pine et al., 2000), but these negative relationships were not found.

Why negative relationships were not found for the dependability facet may be partially explained by the results from Hypothesis 4a where the relationships at the six-

facet level of conscientiousness and the eight-facet level of performance were tested. The three achievement motivation facets (i.e., self-efficacy, achievement-striving, self-discipline) were all significantly, positively related to the eight adaptive performance facets, with correlations ranging in magnitude from .211 to .423, (all at the $p < .01$ level). In contrast, only one of the dependability facets (dutifulness) was significantly, positively related to all eight performance facets, and two of these relationships were weak in magnitude (.154 and .168, $p < .05$ for both). The other two dependability facets (orderliness and cautiousness) were only significantly, positively related to five performance facets each, and the significant relationships were weak in magnitude and most were significant only at the $p < .05$ level. While none of these relationships were negative, clearly the dependability facets were more weakly positively related (or not related at all) to adaptive performance than the achievement motivation facets. Also, the more granular, facet-level analysis revealed that one of the dependability facets, dutifulness, may have been driving up the unexpected, significantly positive relationship between dependability at the two-facet level and adaptive performance.

The idea that the dutifulness facet may have been driving up the positive relationship between dependability and adaptive performance suggests that perhaps certain conscientiousness facets override other facets, or have a more dominant influence on the relationship between conscientiousness and adaptive performance. For example, perhaps an employee who is very orderly or cautious may not want to adapt, but his or her sense of duty or obligation to perform well subjugates these other characteristics and drives the person to adapt his or her performance. Also, perhaps the predictions in the current study were too strong regarding the rigidity and lack of adaptability expected

from employees with high levels of dependability. The expectation that dependability would be negatively related to adaptive performance was based on only a limited number of prior studies (Griffin & Hesketh, 2005; Le Pine et al., 2000). The general idea behind Hypothesis 2a was that employees with high levels of dependability would have low adaptive performance ratings, but this study suggests that employees with high levels of dependability are still able to effectively adapt their work performance.

The second part of the primary research question concerned the incremental validity of conscientiousness above and beyond cognitive ability when predicting adaptive performance. As cognitive ability is an established predictor of job performance, and a somewhat consistent predictor of adaptive performance (Allworth & Hesketh, 1999; Le Pine et al., 2000; Pulakos et al. 2002), the finding that cognitive ability was not significantly related to any study variables was contrary to expectations. Following are a few potential explanations for this unexpected result. First, there may be a theoretical explanation, as this finding was partially consistent with the expectations by Pulakos et al. (2006) outlined in Table 1. Based on a review of relevant literatures, these experts hypothesized that cognitive ability would only be significantly related to three of the adaptive performance dimensions (i.e., emergency, learning and solving), and only the cognitive ability-solving relationship would be strong. A second possible explanation is that the complete lack of significant relationships with cognitive ability may have been due to measurement error. The Wonderlic Quicktest (WPT-Q) used in this study is shorter than the traditional Wonderlic and uses responses to predict scores on the full-length version. Also, the WPT-Q was timed but not proctored, so participants scores might not represent their true ability (e.g., could have used a calculator or had another

person assist them). To assess the construct validity of the WPT-Q, Wonderlic collected information on the participants' grade point average (GPA), self-reported on a categorized scale. In this sample, the correlation between WPT-Q scores and self-reported GPA was .24 ($p < .01$). While this relationship is significantly positive and provides some support for the construct validity of the WPT-Q, the magnitude is only moderate and much weaker than expected. A third possible explanation for not finding the anticipated relationships between cognitive ability and the other study variables is that a conscientiousness-cognitive ability interaction may exist that masks the expected relationships. For example, highly conscientious workers may put forth more effort to compensate for a lack of ability and thus impair a potential ability-performance relationship. As cognitive ability is a well-established predictor of general job performance, adding a general job performance measure to this study's survey would have provided the opportunity to assess whether the lack of relationships between cognitive ability and the study variables can be explained by measurement error or some other phenomenon. Based on prior studies and the expectations for this study, the most likely reason for the unexpected finding is measurement error.

Due to the very small cognitive ability-adaptive performance relationships, the threshold for incremental validity was low, and the results for part *b* of each hypothesis revealed results that were the same as those obtained when testing part *a* of each hypothesis. Conscientiousness at the global and two-facet levels did provide incremental validity over cognitive ability, and at the six-facet level, four facets provided incremental validity on all eight performance dimensions, but orderliness and cautiousness were only significant in Step 2 of the regression for five of the eight performance dimensions. For

these latter two facets, two of the three nonsignificant relationships involved the same adaptive performance dimensions (i.e., unpredictable and solving). Overall, the achievement motivation facets were more strongly related to the adaptive performance dimensions than the dependability facets, which were weakly, or not at all related to the eight dimensions.

The third portion of the research question involved the examination of autonomy as a moderator of the conscientiousness-adaptive performance relationships. The results revealed an interesting, but unexpected pattern of relationships. First, autonomy was not a significant moderator of the global conscientiousness-global adaptive performance relationship. However, autonomy did moderate select relationships at the facet levels. Out of the 65 interactions tested, 16 (25%) were significant (i.e., five at the two-facet level of conscientiousness and 11 at the six-facet level). These significant interactions only involved three of the adaptive performance dimensions: interpersonal (three interactions), learning (six interactions), and cultural (seven interactions). For these three dimensions, 16 out of the 24 interactions tested (67%) were significant. Interestingly, these were the three dimensions that had the highest mean ratings. Although these three dimensions were not required more frequently than others in this sample, significant advances in technology, increasing globalization, and the emphasis placed on teamwork and interpersonal interaction in today's organizations will likely amplify the relevance and importance of these three performance dimensions. Two of these dimensions, interpersonal and cultural, are similar because they both involve human interaction. The results suggest that in jobs with low autonomy, someone low in conscientiousness may

have a harder time adjusting to adaptive job requirements related to human interaction. Although this finding was not expected, possible explanations are explored below.

Autonomy was a significant moderator in six relationships involving dependability or a dependability facet, and in 10 relationships involving achievement motivation or its facets, with cautiousness being the only facet for which no interactions were significant. One interesting finding was that all of these interactions look nearly the same when plotted—crossed interactions with a steeper regression line for low autonomy (see Figures 3-17). In all cases, when scores were low on the conscientiousness facet, the discrepancy in adaptive performance scores was greater between those with high and low work autonomy, with low autonomy workers performing worse on the adaptive performance dimensions. At higher levels of the conscientiousness facet, performance ratings were nearly the same with those low in autonomy having only slightly higher ratings. This pattern of results did not reflect the expectations for autonomy as a moderator. First, the interaction effects were all stronger than expected. Second, the expectation was that the high conscientiousness, high autonomy group would be largely responsible for the interaction, but instead, the low conscientiousness, low autonomy group had the strongest influence on the interaction. The discrepancy between employees in high and low autonomy jobs was expected to be greater when conscientiousness was high, but the larger discrepancy occurred for those low in conscientiousness. Third, autonomy was only a significant moderator of relationships involving the interpersonal, learning, and cultural performance dimensions, as mentioned previously.

There are a few possible explanations for the unexpected strength and pattern of these interactions. First, the results could have been due to error, such as measurement

error or Type I errors as a large number of analyses were conducted. Both of these possibilities are discussed in this study's Limitations section, but Type I error does not seem likely regarding the autonomy findings given the high percentage of significant findings (25%) and their discernable pattern. Second, the original expectations may have been misguided by the literature about autonomy and overall job performance. As no prior studies of adaptive performance had tested autonomy as a potential moderator, the expectations for the current study were based on research in the general job performance domain (Barrick & Mount, 1993). The consistency of the strength and pattern across all 16 significant interactions supports the idea that this finding was not just the result of chance or error, but an indication of the complexities of the conscientiousness-adaptive performance relationship.

Assuming the results are accurate and not based on error, this study supports autonomy as a key influence on the relationship between conscientiousness and adaptive performance, and also partially explains why autonomy did not have significant main effects on any of the adaptive performance dimensions. Workers who are highly conscientious seem to be able to perform well even when not given autonomy. That is, they work to achieve success whether given job freedom or not. Those who are not as conscientious perform better when allowed autonomy but do not when restricted within their job roles. Although this finding was unexpected, the results may simply be due to the strong, positive relationship between conscientiousness and adaptive performance. The reason for the larger discrepancy in performance across autonomy levels for those low in conscientiousness may be that the expectations or demands defined for low autonomy jobs are more compatible with the work style and personality of a highly

conscientious employee. Therefore, employees in low autonomy jobs with low conscientiousness may struggle to adapt their personality or work style to meet the demands of the situation, which then results in lower adaptive performance.

The observation that the employees' and supervisors' data were not in agreement was an interesting side-product of the current study. Traditionally, self-other agreement on ratings of job performance has been shown to be low with self-ratings often being inflated. One recent meta-analysis found that the correlation between self and supervisor performance ratings was only .22 (p =.34, k =*115*, n = 37,752), and the self-ratings were more lenient as evidenced by higher mean ratings (Heidemeier & Moser, 2009). The current study provides support for the idea that the same trend holds true for adaptive performance ratings. There were no significant correlations between the employees' and supervisors' data on the adaptive performance dimensions, two of these nonsignificant correlations were negative, and only one was over .20 in magnitude.

4.1. Contributions

4.1.1. Theoretical Implications

The results of this study offer several contributions to the adaptive performance literature. Perhaps the most notable contribution is the implication that studying conscientiousness and adaptive performance at the global and facet levels produces different results. The results of the study varied greatly by level with some of the global-level analyses producing different results from the two-facet level of conscientiousness, and some of the two-facet level analyses differing from the six-facet level results. For

example, if only the global level had been examined, the results would have indicated that autonomy does not moderate the conscientiousness-adaptive performance relationship. However, at the facet levels, 16 significant interactions were uncovered. This has implications not just for future research; the results also reveal that some of the variation in past findings may have been due to the fact that no published study had matched the facet levels of the focal predictor and adaptive performance and that many studies were just at the global level. This study also contributes to the "bandwidth-fidelity dilemma" discussion by supporting the argument that studying and measuring narrow personality traits provides more meaningful information than examining broad traits (Schneider et al., 1996). Additionally, the results emphasize the importance of matching the specificity of predictor and criterion construct levels.

This study does provide support for some past findings, including the positive global-level conscientiousness-adaptive performance relationship, and that the achievement motivation facet and its sub-facets are more strongly, positively related to adaptive performance than the dependability facet and its sub-facets. The finding that cognitive ability was not related to any study variables does not support past findings and may have been due to measurement error. However, if accurate, the current results do support the distinctiveness of adaptive performance from general job performance as cognitive ability is a strong, established job performance predictor (i.e., evidence of divergent validity).

This study also offers some new insights for the adaptive performance literature. One such insight is that employees and supervisors differ in their perspectives on adaptive performance, and even more basically, they differ in their views of a job's

adaptive requirements. The lack of agreement between the employee-supervisor job ratings and performance ratings is evidence of these different perspectives. The study of the moderating effects of autonomy as a proxy for situation weakness is another novel contribution to the literature, and the 16 significant interactions indicate that this is a fertile area for further exploration, especially because the interaction terms only explained 5-10% of the variance in performance ratings. These interactions were only found for three adaptive performance dimensions, revealing that the relationship between adaptive performance and conscientiousness is complex and depends on more than the strength of the situation. Autonomy and additional moderators may help explain why the strength and direction of the focal relationships varied in past studies.

Although not the primary focus, one additional aim of the study was to examine the role of adaptive performance within the broader domain of job performance. In most ways, the results revealed that adaptive performance behaves similarly to general job performance. Conscientiousness was a strong predictor of performance, autonomy moderated some of the conscientiousness-performance relationships, (although the interaction effects varied slightly from what would be expected with general job performance), and employees rated their performance more highly than their supervisors rated their performance. The main difference between adaptive performance and past research on general job performance was that cognitive ability was not a significant predictor of adaptive performance or its dimensions.

4.1.2. Practical Implications

This study also has several practical implications. First, it suggests that conscientiousness is a good predictor of adaptive performance. Therefore, organizations that have jobs with adaptive requirements should consider using a conscientiousness measure as part of a selection battery. However, this study also revealed that the strength of the conscientiousness-adaptive performance relationship varies based on the level measured. Certain conscientiousness facets are better predictors than others. At the two-facet level, achievement motivation was clearly a better predictor than dependability, with the average correlation between achievement motivation and the adaptive performance dimensions being .33 as opposed to .22 for the dependability-performance relationships. Similarly, at the six-facet level, the average correlation with the performance dimensions was higher for all three achievement motivation facets (i.e., .33 for self-efficacy, .28 for achievement-striving, and .28 for self-discipline) compared to the dependability facets (i.e., .17 for orderliness, .26 for dutifulness, and .16 for cautiousness). This suggests that people who exhibit high levels of dependability may not be as successful at adapting their performance when required. This may mostly be due to the two dependability facets (i.e., orderliness and cautiousness) that had the weakest overall relationships with performance. Therefore, organizations should consider using facet-level measures of conscientiousness and adaptive performance as these may provide more accurate and specific performance predictions that companies can target to fit their selection needs.

As the results for cognitive ability were contrary to expectations and past findings, conclusions about conscientiousness's incremental validity should be made

cautiously. Nevertheless, the demonstration of the incremental validity of conscientiousness over cognitive ability does provide some further support for the use of conscientiousness in selection, but it does not necessarily mean that cognitive ability is not a good predictor of adaptive performance. The finding that autonomy does moderate many of the conscientiousness-adaptive performance relationships that involve the interpersonal, learning, and cultural dimensions indicates that companies using conscientiousness in selection should consider whether the job in question allows autonomy when these types of adaptive performance are required. As mentioned previously, with today's dynamic technological advances, changing workforce demographics, and the increasing globalization of organizations, these three types of adaptive performance will likely become very important and prevalent job requirements. Assessing the degree of autonomy for jobs with these performance requirements will provide more information about the conscientiousness-adaptive performance relationship and increase the ability to accurately predict performance scores.

The results also have implications for performance appraisals. Given the differences in supervisor and employee ratings of job requirements and job performance, other measures of adaptive performance should be developed that involve less subjectivity (e.g., productivity or personnel record measures). The use of a 360 degree feedback system may also provide a more accurate assessment of adaptive performance.

4.2. Limitations and Future Research

Although this study provided interesting results, certain study limitations should be considered. One potential weakness of the study is the limited generalizability that

comes from using a sample of college students volunteering to participate to achieve class extra credit. However, only students working 20 hours or more per week were eligible to participate and the age range of participants was 18-48, which improves the ability to generalize results to the general working population. Also, using this employee sample provided a unique advantage in that over 17 job industries were represented and over 151 unique job titles were reported. The sample was also purposely limited to employees with jobs that require at least a moderate degree of adaptability, which was done to help control for the potential confounding influence of a job's adaptive requirements.

Another limitation is the measurement and operationalization of adaptive performance. The original intention was to use the adaptive performance ratings completed by the supervisor participants as the core measure of this construct, but the supervisor sample was too small to have sufficient power for the complex hypotheses analyses. In the end, the supervisor data were not used for any hypothesis testing so all of the data used to test the hypotheses were self-reported by the employee participants. This collection method provides only a singular assessment perspective of the study variables and increases common method variance. As mentioned previously, agreement between self-ratings and the ratings of others is generally low with self-ratings often being inflated. This type of inflation may have occurred here as employees gave themselves slightly higher mean ratings on 10 out of the 12 key study variables, with the difference being statistically significant on only the interpersonal adaptive performance dimension.

The measurement of adaptive performance is not the only limitation related to measurement in the current study. Two original measures were used (the global

conscientiousness and adaptive requirements measures), and two other measures were modified versions of existing measures (the autonomy and adaptive performance measures). The use of these new and modified measures is a limitation because the construct validity of these measures has not been established. Also, several key study variables were measured using only one item, including the eight adaptive performance dimensions and the adaptive requirements. The reliability of these 1-item measures was not assessed in the current study. With these measurement limitations, and the previously mentioned concerns regarding the WPT-Q and the adaptive performance measure, the possibility that measurement error influenced the study's results is a limitation that should be considered when interpreting the findings.

A final limitation is that Type I errors may have occurred as many statistical tests were conducted to investigate the hypotheses. Therefore, more research is needed with larger sample sizes and using supervisor ratings of performance to provide further support for this study's findings. Future research should continue the study of global versus facet levels of adaptive performance and potential predictors. More research on the cognitive ability-adaptive performance relationship should also be conducted as this study's results were hampered by the very low relationships exhibited by the cognitive ability measure. Perhaps a conscientiousness-cognitive ability interaction should be tested, and future studies should include measures of both general and adaptive job performance to assess the similarities and differences in these performance types. The significance of autonomy as a moderator shows that this and other moderators should be studied further to help uncover any complexities that may exist in predictor-adaptive performance relationships. Finally, more research should be done on the similarities and

discrepancies between self and supervisor ratings as they pertain to adaptive performance and adaptive job requirements.

4.3. Conclusion

The present study focused on conscientiousness as a predictor of adaptive performance. The predictive ability of conscientiousness was tested over and above cognitive ability, and autonomy was tested as moderator. Although not all hypotheses were supported, interesting patterns of relationships were uncovered at the facet levels of the main constructs, providing a great foundation for future research. Adaptive performance is still a relatively new construct and more research is needed to uncover exactly how best it can be predicted, measured, and understood.

LIST OF REFERENCES

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Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, London: Sage.

Allworth, E., & Hesketh, B. (1999). Construct-oriented biodata: Capturing change-related and contextually relevant future performance. *International Journal of Selection and Assessment*, *7*(2), 97-111.

Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, *44*(1), 1-26.

Barrick, M. R., & Mount, M. K. (1993). Autonomy as a moderator of the relationships between the Big Five personality dimensions and job performance. *Journal of Applied Psychology*, *78*(1), 111-118.

Breaugh, J. A. (1985). The measurement of work autonomy. *Human Relations*, *38*(6), 551-570.

Campbell, J. P. (1999). The definition and measurement of performance in the new age. In D. R. Ilgen & E. D. Pulakos (Eds.), *The changing nature of performance: Implications for staffing, motivation, and development* (pp. 399-427). San Francisco: Jossey-Bass.

Campbell, J. P., McCloy, R. A., Oppler, S. H., & Sager, C. E. (1993). A theory of performance. In N. Schmitt & W. C. Borman (Eds.), *Personnel selection in organizations* (pp. 35-70). San Francisco: Jossey-Bass.

Christopher, A. N., Zabel, K. L., & Jones, J. R. (2008). Conscientiousness and work ethic ideology: A facet-level analysis. *Journal of Individual Differences*, *29*(4), 189-198.

Costa, P. T., McCrae, R. R., & Dye, D. A. (1991). Facet scales for agreeableness and conscientiousness: A revision of the NEO personality Inventory. *Personality and Individual Differences*, *12*(9), 887-898.

Dawson, J. F. (n.d.). Interpreting interaction effects. Retrieved July 7, 2011, from http://www.jeremydawson.co.uk/slopes.htm

Dawson, J. F., & Richter, A. W. (2006). Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test. *Journal of Applied Psychology*, *91*, 917-926.

Gatewood, R. D., Feild, H. S., & Barrick, M. (2008). *Human resource selection* (6th ed). Mason, OH: Thomson/South-Western.

Goldberg, L. R. (2000). International personality item pool: A scientific collaboratory for the development of advanced measures of personality and other individual differences. Retrieved February 10, 2010, from http://ipip.ori.org/ipip/

Griffin, B., & Hesketh, B. (2003). Adaptable behaviours for successful work and career adjustment. *Australian Journal of Psychology*, *55*(2), 65-73.

Han, T. Y., & Williams, K. J. (2008). Multilevel investigation of adaptive performance. *Group and Organization Management*, *33*(6), 657-684.

Heidemeier, H., & Moser, K. (2009). Self-other agreement in job performance ratings: A meta-analytic test of a process model. *Journal of Applied Psychology*, *94*(2), 353-370.

Hough, L. M. (1992). The "Big Five" personality variables—construct confusions: Description versus prediction. *Human Performance*, *5*(1 & 2), 139-155.

Hunter, J. E., & Hunter, R. F. (1984). Validity and utility of alternative predictors of job performance. *Psychological Bulletin*, *96*(1), 72-98.

Hurtz, G. M., & Donovan, J. J. (2000). Personality and job performance: The Big Five revisited. *Journal of Applied Psychology*, *85*(6), 869-879.

Ilgen, D. R., & Pulakos, E. D. (1999). Employee performance in today's organizations. In D. R. Ilgen & E. D. Pulakos (Eds.), *The changing nature of work performance: Implications for staffing, motivation, and development* (pp. 1-18). San Francisco: Jossey-Bass.

Kinicki, A. J., & Latack, J. C. (1990). Explication of the construct of coping with involuntary job loss. *Journal of Vocational Behavior*, *36*(3), 339-360.

Lawler, E. E. (1994). From job-based to competency-based organizations. *Journal of Organizational Behavior, 15*(1), 3-15.

Le Pine, J. A., Colquitt, J. A., Erez, A. (2000). Adaptability to changing task contexts: Effects of general cognitive ability, conscientiousness, and openness to experience. *Personnel Psychology*, *53*(3), 563-593.

London, M., & Mone, E. M. (1999). Customer driven employee performance. In D. R. Ilgen & E. D. Pulakos (Eds.), *The changing nature of work performance: Implications for staffing, motivation, and development* (pp. 1-18). San Francisco: Jossey-Bass.

Luciano, M., Wainwright, M. A., Wright, M. J., & Martin, N. G. (2006). The heritability of conscientiousness facets and their relationship to IQ and academic achievement. *Personality and Individual Differences, 40*(6), 1189-1199.

McCrae, R. R., & Costa, P. T. (2009). The five-factor model and the NEO inventories. In J. N. Butcher (Ed.), *Oxford handbook of personality assessment* (pp. 299-322). New York: Oxford University Press.

Meyer, R. D., Dalal, R. S., & Bonaccio, S. (2009). A meta-analytic investigation into the moderating effects of situational strength on the conscientiousness-performance relationship. *Journal of Organizational Behavior, 30*, 1077-1102.

Motowidlo, S. J. (2003). Job performance. In I. B. Weiner (Chief Ed.), & W. C. Borman, D. R. Ilgen, & R. J. Klimoski (Vol. Eds.), *Handbook of psychology: Vol. 12. Industrial and organizational psychology* (pp. 39-53). Hoboken, NJ: John Wiley & Sons, Inc.

Motowidlo, S. J., & Borman, W. C. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmit & W. C. Borman (Eds.), *Personnel selection in organizations* (pp. 71-98). San Francisco: Jossey-Bass.

Motowidlo, S. J., Borman, W. C., & Schmit, M. J. (1997). A theory of individual differences in task and contextual performance. *Human Performance*, *10*(2), 71-83.

Motowidlo, S. J., & Van Scotter, J. R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied Psychology, 79*(4), 475-480.

Mount, M. K., & Barrick, M. R. (1995). The Big Five personality dimensions: Implications for research and practice in human resource management. *Research in Personnel and Human Resources Management, 13*, 153-200.

Ones, D. S., & Viswesvaran, C. (1996). Bandwidth-fidelity dilemma in personality measurement for personnel selection. *Journal of Organizational Behavior, 17*(6), 609-626.

Ployhart, R. E., & Bliese, P. D. (2006). Individual adaptability (I-ADAPT) theory: Conceptualizing the antecedents, consequences, and measurement of individual differences in adaptability. In C. S. Burke, L. G. Pierce, & E. Salas (Eds.), *Understanding adaptability: A prerequisite for effective performance within complex environments* (3-39). Amsterdam: Elsevier.

Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the workplace: Development of a taxonomy of adaptive performance. *Journal of Applied Psychology*, *85*(4), 612-624.

Pulakos, E. D., Dorsey, D. W., & White, S. S. (2006). Adaptability in the workplace: Selecting an adaptive workforce. In C. S. Burke, L. G. Pierce, & E. Salas (Eds.), *Understanding adaptability: A prerequisite for effective performance within complex environments* (pp. 41-71). Amsterdam: Elsevier.

Pulakos, E. D., Schmitt, N., Dorsey, D. W., Arad, S., Hedge, J. W., & Borman, W. C. (2002). Predicting adaptive performance: Further tests of a model of adaptability. *Human Performance*, *15*(4), 299-323.

Ree, M. J., Earles, J. A., & Teachout, M. S. (1994). Predicting job performance: Not much more than g. *Journal of Applied Psychology*, *79*(4), 518-524.

Sackett, P. R., & Lievens, F. (2008). Personnel selection. *Annual Review of Psychology*, *59*, 419-450.

Salgado, J. F. (2003). Predicting job performance using FFM and non-FFM personality measures. *Journal of Occupational and Organizational Psychology*, *76*(3), 323-346.

Salgado, J. F., Anderson, N., Moscoso, S., Bertua, C., de Fruyt, F., & Rolland, J. P. (2003). A meta-analytic study of general mental ability validity for different occupations in the European community. *Journal of Applied Psychology*, *88*(6), 1068-1081.

Schmidt, F. L., & Hunter, J. E. (1998). The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. *Psychological Bulletin*, *124*(2), 262-274.

Schmitt, N., Cortina, J. M., Ingerick, M. J., & Wiechmann, D. (2003). Personnel selection and employee performance. In I. B. Weiner (Chief Ed.), & W. C. Borman, D. R. Ilgen, & R. J. Klimoski (Vol. Eds.), *Handbook of psychology: Vol 12. Industrial and organizational psychology* (pp. 77-105). Hoboken, NJ: John Wiley & Sons, Inc.

Schneider, R. J., Hough, L. M., & Dunnette, M. D. (1996). Broadsided by broad traits: How to sink science in five dimensions or less. *Journal of Organizational Behavior*, *17*(6), 639-655.

Smith, E. M., Ford, J. K., & Kozlowski, S. W. J. (1997). Building adaptive expertise: Implications for training design strategies. In M. A. Quiñones, & A. Ehrenstein (Eds.), *Training for a rapidly changing workplace: Applications of psychological research* (pp. 89-118). Washington, DC: American Psychological Association.

Thach, L., & Woodman, R. W. (1994). Organizational change and information technology: Managing on the edge of cyberspace. *Organizational Dynamics*, *23*(1), 30-46.

TABLES

Table 1 Predictor-Adaptability Dimension Linkages

Predictor	Adaptability Criterion Dimension							
	A	B	C	D	E	F	G	H
Cognitive ability	◇		◆		◇			
Practical intelligence	◆		◆	◇	◇			
Originality			◆	◇				
Emotional stability	◆	◆		◇		◇	◇	
Openness			◇	◆	◆	◆	◆	
Cognitive flexibility			◇	◆	◆	◇	◇	
Achievement motivation			◇		◆			
Cooperativeness						◆	◆	
Sociability						◆	◇	
Social intelligence						◆	◆	
Physical ability								◆

Note: ◇ denotes predictor/adaptability dimension combinations with a mean rating between 2.5 and 3.5, and ◆ denotes predictor/adaptability dimension combinations with a mean rating above 3.5. The eight adaptability dimensions are (A) handling emergency or crisis situations, (B) handling work stress, (C) solving problems creatively, (D) dealing effectively with unpredictable or changing work situations, (E) learning work tasks, technologies, and procedures, (F) demonstrating interpersonal adaptability, (G) displaying cultural adaptability, and (H) demonstrating physically oriented adaptability.

Note. From "Adaptability in the Workplace: Selecting an Adaptive Workforce," by E. D. Pulakos, D. W. Dorsey, and S. S. White, 2006, In C. S. Burke, L. G. Pierce, & E. Salas (Eds.), *Understanding adaptability: A prerequisite for effective performance within complex environments*, p. 53. Amsterdam: Elsevier.

Table 2 Means, Standard Deviations, Intercorrelations, and Coefficient Alphas of Key Study Variables

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12
1. Adaptive Requirements	27.10	5.35	(--)											
2. Autonomy	13.43	3.61	.11	(.79)										
3. Cognitive Ability	24.12	3.72	-.12	.04	(--)									
4. Orderliness	37.64	6.75	.07	.05	-.13	(.84)								
5. Dutifulness	42.24	5.09	.10	.07	.07	.57**	(.82)							
6. Cautiousness	36.18	6.58	.07	-.03	.03	.54**	.62**	(.84)						
7. Self-Efficacy	40.92	4.95	.16*	.08	.03	.52**	.72**	.53**	(.82)					
8. Achievement-Striving	40.50	5.48	.24**	.15*	.04	.54**	.70**	.51**	.76**	(.83)				
9. Self-Discipline	37.45	6.97	.14*	.07	-.05	.69**	.68**	.63**	.74**	.71**	(.90)			
10. Dependability	116.07	15.58	.09	.03	-.02	.85**	.83**	.86**	.68**	.68**	.78**	(.91)		
11. Achievement Motivation	118.86	15.80	.20**	.11	.00	.65**	.77**	.62**	.90**	.90**	.92**	.79**	(.94)	
12. Global Conscientiousness	12.17	2.45	.09	.11	.12	.38**	.43**	.36**	.43**	.36**	.42**	.46**	.45**	(.94)
13. Adaptive Performance: Emergency	5.15	1.14	.23**	.09	.10	.23**	.28**	.21**	.42**	.35**	.36**	.28**	.41**	.20**
14. Adaptive Performance: Interpersonal	5.57	1.08	.08	.09	.01	.10	.31**	.16*	.38**	.25**	.23**	.22**	.31**	.28**
15. Adaptive Performance: Unpredictable	5.33	1.22	.18**	.10	.11	.11	.26**	.12	.34**	.25**	.23**	.19**	.30**	.16*
16. Adaptive Performance: Physical	5.22	1.44	.13	.07	.09	.22**	.29**	.18*	.34**	.31**	.39**	.27**	.38**	.17*
17. Adaptive Performance: Learning	5.66	1.13	.25**	.08	-.01	.16*	.17*	.11	.26**	.21**	.22**	.17*	.25**	.08
18. Adaptive Performance: Stress	5.13	1.26	.08	-.04	.12	.20**	.32**	.23**	.37**	.29**	.34**	.28**	.36**	.08
19. Adaptive Performance: Cultural	5.53	1.22	.28**	.12	-.03	.22**	.15*	.16*	.21**	.21**	.22**	.21**	.24**	.23**
20. Adaptive Performance: Solving	5.31	1.09	.14*	.12	.12	.10	.26**	.13	.35**	.34**	.27**	.18**	.35**	.16*
21. Global Adaptive Performance	5.67	0.92	.12	.10	.04	.23**	.35**	.20**	.38**	.34**	.38**	.29**	.41**	.23**

**Correlation is significant at $p < .01$ (2-tailed), *Correlation is significant at $p < .05$ (2-tailed)

Table 2 (cont'd.) Means, Standard Deviations, Intercorrelations, and Coefficient Alphas of Key Study Variables

Variable	*M*	*SD*	13	14	15	16	17	18	19	20	21
1. Adaptive Requirements	27.10	5.35									
2. Autonomy	13.43	3.61									
3. Cognitive Ability	24.12	3.72									
4. Orderliness	37.64	6.75									
5. Dutifulness	42.24	5.09									
6. Cautiousness	36.18	6.58									
7. Self-Efficacy	40.92	4.95									
8. Achievement-Striving	40.50	5.48									
9. Self-Discipline	37.45	6.97									
10. Dependability	116.07	15.58									
11. Achievement Motivation	118.86	15.80									
12. Global Conscientiousness	12.17	2.45									
13. Adaptive Performance: Emergency	5.15	1.14	(--)								
14. Adaptive Performance: Interpersonal	5.57	1.08	.22**	(--)							
15. Adaptive Performance: Unpredictable	5.33	1.22	.37**	.42**	(--)						
16. Adaptive Performance: Physical	5.22	1.44	.39**	.20**	.32**	(--)					
17. Adaptive Performance: Learning	5.66	1.13	.22**	.24**	.30**	.25**	(--)				
18. Adaptive Performance: Stress	5.13	1.26	.41**	.33**	.49**	.30**	.23**	(--)			
19. Adaptive Performance: Cultural	5.53	1.22	.25**	.22**	.06	.21**	.18*	.14	(--)		
20. Adaptive Performance: Solving	5.31	1.09	.47**	.42**	.44**	.33**	.36**	.37**	.25**	(--)	
21. Global Adaptive Performance	5.67	0.92	.39**	.41**	.54**	.27**	.37**	.46**	.18*	.47**	(--)

**Correlation is significant at $p < .01$ (2-tailed), *Correlation is significant at $p < .05$ (2-tailed)

Note. N ranged from 180-212 because every adaptive performance dimension was not applicable to every participant's job. Coefficient alphas are presented in parentheses along the main diagonal where applicable. The adaptive performance dimension titles are abbreviations. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 3 Comparing Employee and Supervisor Means, Standard Deviations, and their Correlation

Variables	Employees		Supervisors		Correlation between employee and supervisor data
	M	*SD*	*M*	*SD*	
Adaptive Requirements	28.95	5.05	28.33	5.92	.23
Autonomy	14.47	3.57	13.41	3.29	-.01
Adaptive Performance: Emergency	5.26	1.25	5.38	1.11	.18
Adaptive Performance: Interpersonal*	5.74	0.97	5.30	1.18	-.01
Adaptive Performance: Unpredictable	5.39	1.22	5.35	1.13	.16
Adaptive Performance: Physical	5.29	1.58	5.34	1.28	-.06
Adaptive Performance: Learning	5.83	1.01	5.61	1.28	.05
Adaptive Performance: Stress	5.02	1.24	4.98	1.25	.24
Adaptive Performance: Cultural	5.87	1.07	5.62	1.09	.06
Adaptive Performance: Solving	5.48	1.05	5.20	1.10	.17
Global Adaptive Performance	5.71	0.82	5.58	0.93	.24
Adaptive Performance Average	5.48	0.68	5.33	0.75	.15

*Employee and supervisor means differed significantly on only the interpersonal adaptive dimension: $t_{(113)} = 2.206$, $p = .029$).

Note. Overall, these data are from the 58 supervisors who responded to the survey and their corresponding 58 employees, but N ranged from 32 to 58 because every adaptive performance dimension was not applicable to every participant's job. The adaptive performance dimension titles are abbreviations. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 4 Hypothesis 1b (Incremental Validity of Global Conscientiousness)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
Step 1		.04	.00	.00	.35
Cognitive Ability	.04				
Step 2		.23	.05	.05***	11.44***
Conscientiousness	.23***				

*** $p < .005$, ** $p < .01$, * $p < .05$

Note. N = 211.

Table 5 Hypothesis 1c (Global Conscientiousness X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
Step 1		.24	.06	.06***	6.59***
Conscientiousness[a]	.22***				
Autonomy[a]	.08				
Step 2		.26	.07	.01	1.55
Conscientiousness X Autonomy[b]	-.08				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Note. N = 211.

Table 6 Hypothesis 2b (Incremental Validity of Dependability)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Emergency					
Step 1		.10	.01	.01	2.05
Cognitive Ability	.10				
Step 2		.30	.09	.08***	17.37***
Dependability	.28***				
AP Interpersonal					
Step 1		.01	.00	.00	.01
Cognitive Ability	.01				
Step 2		.22	.05	.05***	10.17***
Dependability	.22***				
AP Unpredictable					
Step 1		.11	.01	.01	2.31
Cognitive Ability	.11				
Step 2		.21	.05	.04**	7.48**
Dependability	.19**				
AP Physical					
Step 1		.09	.01	.01	1.43
Cognitive Ability	.09				
Step 2		.29	.08	.07***	14.87***
Dependability	.27***				
AP Learning					
Step 1		.01	.00	.00	.03
Cognitive Ability	-.01				
Step 2		.17	.03	.03*	6.24*
Dependability	.17*				
AP Stress					
Step 1		.12	.01	.01	2.88
Cognitive Ability	.12				
Step 2		.31	.10	.08***	19.03***
Dependability	.29***				

*** $p < .005$, ** $p < .01$, * $p < .05$

Table 6 (con't.) Hypothesis 2b (Incremental Validity of Dependability)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Cultural					
Step 1		.03	.00	.00	.21
Cognitive Ability	-.03				
Step 2		.21	.05	.04***	9.23***
Dependability	.21***				
AP Solving					
Step 1		.12	.02	.02	3.14
Cognitive Ability	.12				
Step 2		.22	.05	.03**	7.45**
Dependability	.19**				

*** $p < .005$, ** $p < .01$, * $p < .05$

Note. N ranged from 189 to 212 because every adaptive performance dimension was not applicable to every participant's job. The titles in bold are abbreviations for the adaptive performance (AP) dimensions. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 7 Hypothesis 2c (Dependability X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Emergency					
Step 1		.30	.08	.08***	9.06***
Dependability[a]	.28***				
Autonomy[a]	.08				
Step 2		.29	.09	.00	.37
Dependability X Autonomy[b]	.04				
AP Interpersonal					
Step 1		.23	.05	.05***	5.80***
Dependability[a]	.21***				
Autonomy[a]	.08				
Step 2		.25	.06	.01	2.54
Dependability X Autonomy[b]	-.11				
AP Unpredictable					
Step 1		.21	.04	.04*	4.56*
Dependability[a]	.18**				
Autonomy[a]	.09				
Step 2		.21	.04	.00	.08
Dependability X Autonomy[b]	.02				
AP Physical					
Step 1		.28	.08	.08***	7.72***
Dependability[a]	.27***				
Autonomy[a]	.06				
Step 2		.30	.09	.01	2.47
Dependability X Autonomy[b]	-.11				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Table 7 (con't.) Hypothesis 2c (Dependability X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Learning					
Step 1		.19	.04	.04*	3.81*
Dependability[a]	.17*				
Autonomy[a]	.08				
Step 2		.25	.06	.03*	5.93*
Dependability X Autonomy[b]	-.17*				
AP Stress					
Step 1		.29	.08	.08***	9.53***
Dependability[a]	.29***				
Autonomy[a]	-.05				
Step 2		.29	.09	.00	.67
Dependability X Autonomy[b]	-.06				
AP Cultural					
Step 1		.24	.06	.06***	6.20***
Dependability[a]	.21***				
Autonomy[a]	.12				
Step 2		.30	.09	.03*	6.45*
Dependability X Autonomy[b]	-.18*				
AP Solving					
Step 1		.21	.05	.05**	5.00**
Dependability[a]	.18**				
Autonomy[a]	.11				
Step 2		.22	.05	.00	.49
Dependability X Autonomy[b]	-.05				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Note. N ranged from 189 to 212 because every adaptive performance dimension was not applicable to every participant's job. The titles in bold are abbreviations for the adaptive performance (AP) dimensions. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 8 Hypothesis 3b (Incremental Validity of Achievement Motivation)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Emergency					
Step 1		.10	.01	.01	2.05
Cognitive Ability	.10				
Step 2		.43	.18	.17***	41.79***
Achievement Motivation	.41***				
AP Interpersonal					
Step 1		.01	.00	.00	.01
Cognitive Ability	.01				
Step 2		.31	.10	.10***	21.93***
Achievement Motivation	.31***				
AP Unpredictable					
Step 1		.11	.01	.01	2.31
Cognitive Ability	.11				
Step 2		.31	.10	.09***	19.69***
Achievement Motivation	.29***				
AP Physical					
Step 1		.09	.01	.01	1.43
Cognitive Ability	.09				
Step 2		.39	.15	.15***	32.09***
Achievement Motivation	.38***				
AP Learning					
Step 1		.01	.00	.00	.03
Cognitive Ability	-.01				
Step 2		.25	.06	.06***	14.24***
Achievement Motivation	.25***				
AP Stress					
Step 1		.12	.01	.01	2.88
Cognitive Ability	.12				
Step 2		.38	.15	.13***	32.43***
Achievement Motivation	.36***				

*** $p < .005$, ** $p < .01$, * $p < .05$

Table 8 (con't.) Hypothesis 3b (Incremental Validity of Achievement Motivation)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Cultural					
Step 1		.03	.00	.00	.21
Cognitive Ability	-.03				
Step 2		.24	.06	.06***	11.80***
Achievement Motivation	.24***				
AP Solving					
Step 1		.12	.02	.02	3.14
Cognitive Ability	.12				
Step 2		.37	.14	.12***	29.22***
Achievement Motivation	.35***				

*** $p < .005$, ** $p < .01$, * $p < .05$

Note. N ranged from 189 to 212 because every adaptive performance dimension was not applicable to every participant's job. The titles in bold are abbreviations for the adaptive performance (AP) dimensions. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 9 Hypothesis 3c (Achievement Motivation X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Emergency					
Step 1		.42	.17	.17***	20.83***
Achievement[a]	.41***				
Autonomy[a]	.04				
Step 2		.42	.18	.01	1.39
Achievement X Autonomy[b]	.08				
AP Interpersonal					
Step 1		.31	.10	.10***	11.33***
Achievement[a]	.30***				
Autonomy[a]	.05				
Step 2		.34	.12	.02*	4.00*
Achievement X Autonomy[b]	-.13*				
AP Unpredictable					
Step 1		.30	.09	.09***	10.40***
Achievement[a]	.29***				
Autonomy[a]	.06				
Step 2		.30	.09	.00	.10
Achievement X Autonomy[b]	-.02				
AP Physical					
Step 1		.39	.15	.15***	16.17***
Achievement[a]	.38***				
Autonomy[a]	.03				
Step 2		.39	.15	.00	.44
Achievement X Autonomy[b]	-.05				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Table 9 (con't.) Hypothesis 3c (Achievement Motivation X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Learning					
Step 1		.26	.07	.07***	7.50***
Achievement[a]	.25***				
Autonomy[a]	.06				
Step 2		.31	.09	.03*	6.10*
Achievement X Autonomy[b]	-.17*				
AP Stress					
Step 1		.37	.14	.14***	16.97***
Achievement[a]	.37***				
Autonomy[a]	-.08				
Step 2		.38	.14	.00	.25
Achievement X Autonomy[b]	.03				
AP Cultural					
Step 1		.26	.07	.07***	7.04***
Achievement[a]	.23***				
Autonomy[a]	.10				
Step 2		.32	.10	.03**	7.28**
Achievement X Autonomy[b]	-.19**				
AP Solving					
Step 1		.36	.13	.13***	15.34***
Achievement[a]	.34***				
Autonomy[a]	.08				
Step 2		.36	.13	.00	.28
Achievement X Autonomy[b]	.04				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Note. N ranged from 189 to 212 because every adaptive performance dimension was not applicable to every participant's job. The titles in bold are abbreviations for the adaptive performance (AP) dimensions. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 10 Hypothesis 4b (Incremental Validity of Self-Efficacy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Emergency					
Step 1		.10	.01	.01	2.05
Cognitive Ability	.10				
Step 2		.43	.19	.18***	43.31***
Self-Efficacy	.42***				
AP Interpersonal					
Step 1		.01	.00	.00	.01
Cognitive Ability	.01				
Step 2		.38	.14	.14***	35.03***
Self-Efficacy	.38***				
AP Unpredictable					
Step 1		.11	.01	.01	2.31
Cognitive Ability	.11				
Step 2		.35	.12	.11***	25.78***
Self-Efficacy	.33***				
AP Physical					
Step 1		.09	.01	.01	1.43
Cognitive Ability	.09				
Step 2		.35	.12	.11***	24.02***
Self-Efficacy	.34***				
AP Learning					
Step 1		.01	.00	.00	.03
Cognitive Ability	-.01				
Step 2		.26	.07	.07***	14.75***
Self-Efficacy	.26***				
AP Stress					
Step 1		.12	.01	.01	2.88
Cognitive Ability	.12				
Step 2		.38	.15	.13***	32.19***
Self-Efficacy	.36***				

*** $p < .005$, ** $p < .01$, * $p < .05$

Table 10 (con't.) Hypothesis 4b (Incremental Validity of Self-Efficacy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Cultural					
Step 1		.03	.00	.00	.21
Cognitive Ability	-.03				
Step 2		.22	.05	.05***	9.39***
Self-Efficacy	.21***				
AP Solving					
Step 1		.12	.02	.02	3.14
Cognitive Ability	.12				
Step 2		.37	.14	.12***	28.93***
Self-Efficacy	.35***				

*** $p < .005$, ** $p < .01$, * $p < .05$

Note. N ranged from 189 to 212 because every adaptive performance dimension was not applicable to every participant's job. The titles in bold are abbreviations for the adaptive performance (AP) dimensions. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 11 Hypothesis 4b (Incremental Validity of Achievement-Striving)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Emergency					
Step 1		.10	.01	.01	2.05
Cognitive Ability	.10				
Step 2		.37	.13	.12***	28.27***
Achievement-Striving	.35***				
AP Interpersonal					
Step 1		.01	.00	.00	.01
Cognitive Ability	.01				
Step 2		.25	.06	.06***	14.12***
Achievement-Striving	.25***				
AP Unpredictable					
Step 1		.11	.01	.01	2.31
Cognitive Ability	.11				
Step 2		.27	.07	.06***	13.63***
Achievement-Striving	.24***				
AP Physical					
Step 1		.09	.01	.01	1.43
Cognitive Ability	.09				
Step 2		.32	.10	.10***	19.60***
Achievement-Striving	.31***				
AP Learning					
Step 1		.01	.00	.00	.03
Cognitive Ability	-.01				
Step 2		.22	.05	.05***	10.08***
Achievement-Striving	.22***				
AP Stress					
Step 1		.12	.01	.01	2.88
Cognitive Ability	.12				
Step 2		.31	.09	.08***	18.65***
Achievement-Striving	.29***				

*** $p < .005$, ** $p < .01$, * $p < .05$

Table 11 (con't.) Hypothesis 4b (Incremental Validity of Achievement-Striving)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Cultural					
Step 1		.03	.00	.00	.21
Cognitive Ability	-.03				
Step 2		.22	.05	.05***	9.80***
Achievement-Striving	.22***				
AP Solving					
Step 1		.12	.02	.02	3.14
Cognitive Ability	.12				
Step 2		.36	.13	.11***	27.35***
Achievement-Striving	.34***				

*** $p < .005$, ** $p < .01$, * $p < .05$

Note. N ranged from 189 to 212 because every adaptive performance dimension was not applicable to every participant's job. The titles in bold are abbreviations for the adaptive performance (AP) dimensions. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 12 Hypothesis 4b (Incremental Validity of Orderliness)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Emergency					
Step 1		.10	.01	.01	2.05
Cognitive Ability	.10				
Step 2		.26	.07	.06***	12.34***
Orderliness	.24***				
AP Interpersonal					
Step 1		.01	.00	.00	.01
Cognitive Ability	.01				
Step 2		.11	.01	.01	2.39
Orderliness	.11				
AP Unpredictable					
Step 1		.11	.01	.01	2.31
Cognitive Ability	.11				
Step 2		.17	.03	.02	3.43
Orderliness	.13				
AP Physical					
Step 1		.09	.01	.01	1.43
Cognitive Ability	.09				
Step 2		.25	.06	.06***	11.23***
Orderliness	.24***				
AP Learning					
Step 1		.01	.00	.00	.03
Cognitive Ability	-.01				
Step 2		.16	.03	.03*	5.75*
Orderliness	.22*				
AP Stress					
Step 1		.12	.01	.01	2.88
Cognitive Ability	.12				
Step 2		.24	.06	.05***	10.12***
Orderliness	.22***				

*** $p < .005$, ** $p < .01$, * $p < .05$

Table 12 (con't.) Hypothesis 4b (Incremental Validity of Orderliness)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Cultural					
Step 1		.03	.00	.00	.21
Cognitive Ability	-.03				
Step 2		.22	.05	.05***	9.49***
Orderliness	.22***				
AP Solving					
Step 1		.12	.02	.02	3.14
Cognitive Ability	.12				
Step 2		.17	.03	.01	2.88
Orderliness	.12				

*** $p < .005$, ** $p < .01$, * $p < .05$

Note. N ranged from 189 to 212 because every adaptive performance dimension was not applicable to every participant's job. The titles in bold are abbreviations for the adaptive performance (AP) dimensions. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 13 Hypothesis 4b (Incremental Validity of Cautiousness)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Emergency					
Step 1		.10	.01	.01	2.05
Cognitive Ability	.10				
Step 2		.23	.05	.04***	9.29***
Cautiousness	.21***				
AP Interpersonal					
Step 1		.01	.00	.00	.01
Cognitive Ability	.01				
Step 2		.16	.03	.03*	5.45*
Cautiousness	.16*				
AP Unpredictable					
Step 1		.11	.01	.01	2.31
Cognitive Ability	.11				
Step 2		.16	.02	.01	2.73
Cautiousness	.11				
AP Physical					
Step 1		.09	.01	.01	1.43
Cognitive Ability	.09				
Step 2		.20	.04	.03*	6.09*
Cautiousness	.18*				
AP Learning					
Step 1		.01	.00	.00	.03
Cognitive Ability	-.01				
Step 2		.11	.01	.01	2.42
Cautiousness	.11				
AP Stress					
Step 1		.12	.01	.01	2.88
Cognitive Ability	.12				
Step 2		.25	.06	.05***	11.30***
Cautiousness	.23***				

*** $p < .005$, ** $p < .01$, * $p < .05$

Table 13 (con't.) Hypothesis 4b (Incremental Validity of Cautiousness)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Cultural					
Step 1		.03	.00	.00	.21
Cognitive Ability	-.03				
Step 2		.16	.03	.03*	5.24*
Cautiousness	.16*				
AP Solving					
Step 1		.12	.02	.02	3.14
Cognitive Ability	.12				
Step 2		.17	.03	.02	3.35
Cautiousness	.13				

*** $p < .005$, ** $p < .01$, * $p < .05$

Note. N ranged from 189 to 212 because every adaptive performance dimension was not applicable to every participant's job. The titles in bold are abbreviations for the adaptive performance (AP) dimensions. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 14 Hypothesis 4b (Incremental Validity of Dutifulness)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Emergency					
Step 1		.10	.01	.01	2.05
Cognitive Ability	.10				
Step 2		.29	.09	.08***	16.35***
Dutifulness	.28***				
AP Interpersonal					
Step 1		.01	.00	.00	.01
Cognitive Ability	.01				
Step 2		.31	.10	.10***	22.90***
Dutifulness	.32***				
AP Unpredictable					
Step 1		.11	.01	.01	2.31
Cognitive Ability	.11				
Step 2		.28	.08	.07***	14.57***
Dutifulness	.26***				
AP Physical					
Step 1		.09	.01	.01	1.43
Cognitive Ability	.09				
Step 2		.30	.09	.08***	16.47***
Dutifulness	.29***				
AP Learning					
Step 1		.01	.00	.00	.03
Cognitive Ability	-.01				
Step 2		.17	.03	.03*	6.09*
Dutifulness	.17*				
AP Stress					
Step 1		.12	.01	.01	2.88
Cognitive Ability	.12				
Step 2		.33	.11	.10***	22.15***
Dutifulness	.31***				

*** $p < .005$, ** $p < .01$, * $p < .05$

Table 14 (con't.) Hypothesis 4b (Incremental Validity of Dutifulness)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Cultural					
Step 1		.03	.00	.00	.21
Cognitive Ability	-.03				
Step 2		.16	.03	.03*	5.02*
Dutifulness	.16*				
AP Solving					
Step 1		.12	.02	.02	3.14
Cognitive Ability	.12				
Step 2		.28	.08	.06***	14.32***
Dutifulness	.25***				

*** $p < .005$, ** $p < .01$, * $p < .05$

Note. N ranged from 189 to 212 because every adaptive performance dimension was not applicable to every participant's job. The titles in bold are abbreviations for the adaptive performance (AP) dimensions. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 15 Hypothesis 4b (Incremental Validity of Self-Discipline)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Emergency					
Step 1		.10	.01	.01	2.05
Cognitive Ability	.10				
Step 2		.38	.14	.13***	30.79***
Self-Discipline	.37***				
AP Interpersonal					
Step 1		.01	.00	.00	.01
Cognitive Ability	.01				
Step 2		.23	.05	.05***	11.89***
Self-Discipline	.23***				
AP Unpredictable					
Step 1		.11	.01	.01	2.31
Cognitive Ability	.11				
Step 2		.26	.07	.06***	12.29***
Self-Discipline	.24***				
AP Physical					
Step 1		.09	.01	.01	1.43
Cognitive Ability	.09				
Step 2		.40	.16	.15***	34.00***
Self-Discipline	.39***				
AP Learning					
Step 1		.01	.00	.00	.03
Cognitive Ability	-.01				
Step 2		.22	.05	.05***	10.82***
Self-Discipline	.22***				
AP Stress					
Step 1		.12	.01	.01	2.88
Cognitive Ability	.12				
Step 2		.36	.13	.12***	28.56***
Self-Discipline	.35***				

*** $p < .005$, ** $p < .01$, * $p < .05$

Table 15 (con't.) Hypothesis 4b (Incremental Validity of Self-Discipline)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Cultural					
Step 1		.03	.00	.00	.21
Cognitive Ability	-.03				
Step 2		.22	.05	.05***	9.72***
Self-Discipline	.22***				
AP Solving					
Step 1		.12	.02	.02	3.14
Cognitive Ability	.12				
Step 2		.30	.09	.08***	17.65***
Self-Discipline	.28***				

*** $p < .005$, ** $p < .01$, * $p < .05$

Note. N ranged from 189 to 212 because every adaptive performance dimension was not applicable to every participant's job. The titles in bold are abbreviations for the adaptive performance (AP) dimensions. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 16 Hypothesis 4c (Self-Efficacy X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Emergency					
Step 1		.43	.18	.18***	22.04***
Self-Efficacy[a]	.42***				
Autonomy[a]	.05				
Step 2		.44	.19	.01	1.91
Self-Efficacy X Autonomy[b]	.09				
AP Interpersonal					
Step 1		.38	.15	.15***	17.96***
Self-Efficacy[a]	.37***				
Autonomy[a]	.06				
Step 2		.40	.16	.01	2.75
Self-Efficacy X Autonomy[b]	-.11				
AP Unpredictable					
Step 1		.34	.12	.12***	13.70***
Self-Efficacy[a]	.33***				
Autonomy[a]	.07				
Step 2		.35	.12	.00	.46
Self-Efficacy X Autonomy[b]	-.05				
AP Physical					
Step 1		.34	.12	.12***	12.36***
Self-Efficacy[a]	.34***				
Autonomy[a]	.04				
Step 2		.34	.12	.00	.03
Self-Efficacy X Autonomy[b]	-.01				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Table 16 (con't.) Hypothesis 4c (Self-Efficacy X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Learning					
Step 1		.27	.07	.07***	7.83***
Self-Efficacy[a]	.25***				
Autonomy[a]	.06				
Step 2		.30	.09	.02*	4.75*
Self-Efficacy X Autonomy[b]	-.15*				
AP Stress					
Step 1		.37	.14	.14***	16.95***
Self-Efficacy[a]	.37***				
Autonomy[a]	-.07				
Step 2		.38	.14	.00	.22
Self-Efficacy X Autonomy[b]	.03				
AP Cultural					
Step 1		.24	.06	.06***	5.96***
Self-Efficacy[a]	.21***				
Autonomy[a]	.11				
Step 2		.28	.08	.02*	4.43*
Self-Efficacy X Autonomy[b]	-.15*				
AP Solving					
Step 1		.36	.13	.13***	15.71***
Self-Efficacy[a]	.34***				
Autonomy[a]	.09				
Step 2		.37	.14	.01	1.15
Self-Efficacy X Autonomy[b]	.07				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Note. N ranged from 189 to 212 because every adaptive performance dimension was not applicable to every participant's job. The titles in bold are abbreviations for the adaptive performance (AP) dimensions. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 17 Hypothesis 4c (Achievement-Striving X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Emergency					
Step 1		.36	.13	.13***	14.38***
Achievement-Striving[a]	.35***				
Autonomy[a]	.03				
Step 2		.36	.13	.00	.92
Achievement-Striving X Autonomy[b]	.07				
AP Interpersonal					
Step 1		.26	.07	.07***	7.34***
Achievement-Striving[a]	.24***				
Autonomy[a]	.05				
Step 2		.27	.07	.01	1.53
Achievement-Striving X Autonomy[b]	-.08				
AP Unpredictable					
Step 1		.26	.07	.07***	7.45***
Achievement-Striving[a]	.25***				
Autonomy[a]	.06				
Step 2		.26	.07	.00	.01
Achievement-Striving X Autonomy[b]	.01				
AP Physical					
Step 1		.31	.10	.10***	10.11***
Achievement-Striving[a]	.31***				
Autonomy[a]	.02				
Step 2		.32	.10	.00	.20
Achievement-Striving X Autonomy[b]	-.03				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Table 17 (con't.) Hypothesis 4c (Achievement-Striving X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Learning					
Step 1		.22	.05	.05**	5.31**
Achievement-Striving[a]	.21***				
Autonomy[a]	.05				
Step 2		.27	.07	.03*	5.65*
Achievement-Striving X Autonomy[b]	-.16*				
AP Stress					
Step 1		.30	.09	.09***	10.52***
Achievement-Striving[a]	.30***				
Autonomy[a]	-.09				
Step 2		.31	.09	.00	.34
Achievement-Striving X Autonomy[b]	.04				
AP Cultural					
Step 1		.23	.05	.05***	5.68***
Achievement-Striving[a]	.20***				
Autonomy[a]	.09				
Step 2		.30	.09	.04**	7.87**
Achievement-Striving X Autonomy[b]	-.20**				
AP Solving					
Step 1		.35	.12	.12***	14.53***
Achievement-Striving[a]	.33***				
Autonomy[a]	.07				
Step 2		.35	.12	.00	.42
Achievement-Striving X Autonomy[b]	.04				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Note. N ranged from 189 to 212 because every adaptive performance dimension was not applicable to every participant's job. The titles in bold are abbreviations for the adaptive performance (AP) dimensions. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 18 Hypothesis 4c (Orderliness X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Emergency					
Step 1		.24	.06	.06***	5.92***
Orderliness[a]	.22***				
Autonomy[a]	.08				
Step 2		.25	.06	.01	.99
Orderliness X Autonomy[b]	.07				
AP Interpersonal					
Step 1		.13	.02	.02	1.85
Orderliness[a]	.10				
Autonomy[a]	.08				
Step 2		.15	.02	.00	.78
Orderliness X Autonomy[b]	-.06				
AP Unpredictable					
Step 1		.15	.02	.02	2.20
Orderliness[a]	.11				
Autonomy[a]	.09				
Step 2		.16	.03	.01	1.25
Orderliness X Autonomy[b]	.08				
AP Physical					
Step 1		.23	.05	.05**	5.23**
Orderliness[a]	.22**				
Autonomy[a]	.05				
Step 2		.25	.06	.01	2.18
Orderliness X Autonomy[b]	-.11				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Table 18 (con't.) Hypothesis 4c (Orderliness X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Learning					
Step 1		.18	.03	.03*	3.51*
Orderliness[a]	.16*				
Autonomy[a]	.08				
Step 2		.19	.04	.00	.71
Orderliness X Autonomy[b]	-.06				
AP Stress					
Step 1		.20	.04	.04*	4.51*
Orderliness[a]	.20***				
Autonomy[a]	-.05				
Step 2		.21	.05	.00	.76
Orderliness X Autonomy[b]	-.06				
AP Cultural					
Step 1		.24	.06	.06***	6.22***
Orderliness[a]	.21***				
Autonomy[a]	.11				
Step 2		.29	.08	.03*	5.43*
Orderliness X Autonomy[b]	-.17*				
AP Solving					
Step 1		.15	.02	.02	2.42
Orderliness[a]	.09				
Autonomy[a]	.11				
Step 2		.15	.02	.00	.00
Orderliness X Autonomy[b]	-.00				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Note. N ranged from 189 to 212 because every adaptive performance dimension was not applicable to every participant's job. The titles in bold are abbreviations for the adaptive performance (AP) dimensions. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 19 Hypothesis 4c (Cautiousness X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Emergency					
Step 1		.23	.05	.05***	5.67***
Cautiousness[a]	.22***				
Autonomy[a]	.09				
Step 2		.23	.06	.00	.18
Cautiousness X Autonomy[b]	.03				
AP Interpersonal					
Step 1		.18	.03	.03*	3.64*
Cautiousness[a]	.16*				
Autonomy[a]	.09				
Step 2		.20	.04	.01	1.76
Cautiousness X Autonomy[b]	-.09				
AP Unpredictable					
Step 1		.15	.02	.02	2.50
Cautiousness[a]	.12				
Autonomy[a]	.10				
Step 2		.18	.03	.01	1.43
Cautiousness X Autonomy[b]	-.08				
AP Physical					
Step 1		.20	.04	.04*	3.71*
Cautiousness[a]	.18*				
Autonomy[a]	.07				
Step 2		.20	.04	.00	.56
Cautiousness X Autonomy[b]	-.05				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Table 19 (con't.) Hypothesis 4c (Cautiousness X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Learning					
Step 1		.14	.02	.02	2.01
Cautiousness[a]	.11				
Autonomy[a]	.09				
Step 2		.17	.03	.01	2.31
Cautiousness X Autonomy[b]	-.10				
AP Stress					
Step 1		.23	.05	.05***	5.92***
Cautiousness[a]	.23***				
Autonomy[a]	-.04				
Step 2		.24	.06	.00	.97
Cautiousness X Autonomy[b]	-.07				
AP Cultural					
Step 1		.21	.04	.04*	4.32*
Cautiousness[a]	.17*				
Autonomy[a]	.13				
Step 2		.23	.05	.01	1.99
Cautiousness X Autonomy[b]	-.10				
AP Solving					
Step 1		.18	.03	.03*	3.38*
Cautiousness[a]	.13				
Autonomy[a]	.12				
Step 2		.19	.03	.00	.61
Cautiousness X Autonomy[b]	-.05				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Note. N ranged from 189 to 212 because every adaptive performance dimension was not applicable to every participant's job. The titles in bold are abbreviations for the adaptive performance (AP) dimensions. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 20 Hypothesis 4c (Dutifulness X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Emergency					
Step 1		.29	.08	.08***	8.89***
Dutifulness[a]	.27***				
Autonomy[a]	.06				
Step 2		.29	.08	.00	.47
Dutifulness X Autonomy[b]	-.05				
AP Interpersonal					
Step 1		.32	.10	.10***	11.99***
Dutifulness[a]	.31***				
Autonomy[a]	.07				
Step 2		.36	.13	.02*	5.61*
Dutifulness X Autonomy[b]	-.16*				
AP Unpredictable					
Step 1		.28	.08	.08***	8.44***
Dutifulness[a]	.26***				
Autonomy[a]	.08				
Step 2		.29	.08	.01	1.46
Dutifulness X Autonomy[b]	-.08				
AP Physical					
Step 1		.30	.09	.09***	8.88***
Dutifulness[a]	.29***				
Autonomy[a]	.05				
Step 2		.33	.11	.02	3.84
Dutifulness X Autonomy[b]	-.14				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Table 20 (con't.) Hypothesis 4c (Dutifulness X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Learning					
Step 1		.18	.03	.03*	3.59*
Dutifulness[a]	.16*				
Autonomy[a]	.07				
Step 2		.35	.12	.09***	21.41***
Dutifulness X Autonomy[b]	-.31***				
AP Stress					
Step 1		.32	.10	.10***	12.00***
Dutifulness[a]	.32***				
Autonomy[a]	-.06				
Step 2		.32	.10	.00	.22
Dutifulness X Autonomy[b]	-.03				
AP Cultural					
Step 1		.19	.04	.04*	3.85*
Dutifulness[a]	.15*				
Autonomy[a]	.12				
Step 2		.26	.07	.03*	6.58*
Dutifulness X Autonomy[b]	-.18*				
AP Solving					
Step 1		.28	.08	.08***	8.77***
Dutifulness[a]	.25***				
Autonomy[a]	.10				
Step 2		.30	.09	.01	2.20
Dutifulness X Autonomy[b]	-.10				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Note. N ranged from 189 to 212 because every adaptive performance dimension was not applicable to every participant's job. The titles in bold are abbreviations for the adaptive performance (AP) dimensions. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 21 Hypothesis 4c (Self-Discipline X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Emergency					
Step 1		.36	.13	.13***	15.20***
Self-Discipline[a]	.35***				
Autonomy[a]	.06				
Step 2		.37	.13	.00	.32
Self-Discipline X Autonomy[b]	.04				
AP Interpersonal					
Step 1		.24	.06	.06***	6.49***
Self-Discipline[a]	.23***				
Autonomy[a]	.07				
Step 2		.29	.09	.03*	6.31*
Self-Discipline X Autonomy[b]	-.17*				
AP Unpredictable					
Step 1		.25	.06	.06***	6.67***
Self-Discipline[a]	.23***				
Autonomy[a]	.08				
Step 2		.25	.06	.00	.24
Self-Discipline X Autonomy[b]	-.03				
AP Physical					
Step 1		.39	.15	.15***	16.83***
Self-Discipline[a]	.39***				
Autonomy[a]	.05				
Step 2		.41	.16	.01	2.46
Self-Discipline X Autonomy[b]	-.11				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Table 21 (con't.) Hypothesis 4c (Self-Discipline X Autonomy)

Steps and Variables	β	R	R^2	ΔR^2	***F change***
AP Learning					
Step 1		.23	.05	.05***	5.98***
Self-Discipline[a]	.22***				
Autonomy[a]	.07				
Step 2		.28	.08	.03*	5.66*
Self-Discipline X Autonomy[b]	-.16*				
AP Stress					
Step 1		.35	.12	.12***	14.08***
Self-Discipline[a]	.34***				
Autonomy[a]	-.07				
Step 2		.35	.12	.00	.00
Self-Discipline X Autonomy[b]	.00				
AP Cultural					
Step 1		.25	.06	.06***	6.33***
Self-Discipline[a]	.21***				
Autonomy[a]	.11				
Step 2		.30	.09	.03*	6.74*
Self-Discipline X Autonomy[b]	-.18*				
AP Solving					
Step 1		.29	.08	.08***	9.53***
Self-Discipline[a]	.27***				
Autonomy[a]	.10				
Step 2		.29	.08	.00	.08
Self-Discipline X Autonomy[b]	-.02				

*** $p < .005$, ** $p < .01$, * $p < .05$ [a]Centered variable [b]Interaction term of centered variables

Note. N ranged from 189 to 212 because every adaptive performance dimension was not applicable to every participant's job. The titles in bold are abbreviations for the adaptive performance (AP) dimensions. Emergency: "handling emergencies or crisis situations"; Interpersonal: "demonstrating interpersonal adaptability"; Unpredictable: "dealing with uncertain and unpredictable work situations"; Physical: "demonstrating physically oriented adaptability"; Learning: "learning work tasks, technologies, and procedures"; Stress: "handling work stress"; Cultural: "demonstrating cultural adaptability"; Solving: "solving problems creatively".

Table 22 Summary of Results by Hypothesis

Hypothesis	Description	Supported?
1a	Global conscientiousness significantly positively related with global adaptive performance.	Yes
1b	Global conscientiousness will add significant incremental validity over cognitive ability when predicting global adaptive performance.	Yes
1c	Autonomy will moderate the conscientiousness-adaptive performance relationship, such that when employee autonomy is high, a stronger positive relationship will exist.	No
2a	The dependability facet of conscientiousness will be significantly negatively related with each of the eight adaptive performance facets.	No
2b	The dependability facet of conscientiousness will add significant incremental validity over cognitive ability when predicting each of the eight adaptive performance facets.	Yes
2c	Autonomy will moderate each of the eight dependability-adaptive performance relationships such that when employee autonomy is high, weaker negative relationships will exist.	Partially
3a	The achievement motivation facet of conscientiousness will be significantly positively related with each of the eight adaptive performance facets.	Yes
3b	The achievement motivation facet will add significant incremental validity over cognitive ability when predicting each of the eight adaptive performance facets.	Yes
3c	Autonomy will moderate each of the eight achievement motivation-adaptive performance relationships such that when employee autonomy is high, stronger positive relationships will exist.	Partially
4a	The conscientiousness facets orderliness and cautiousness will be significantly negatively related to each of the eight adaptive performance facets; self-efficacy and achievement-striving will be significantly positively related to each of the eight adaptive performance facets; and, dutifulness and self-discipline will not be significantly related to any of the eight adaptive performance facets.	Partially
4b	Four of the six conscientiousness facets—orderliness, cautiousness, self-efficacy and achievement-striving—will add significant incremental validity over cognitive ability when predicting each of the eight adaptive performance facets.	Partially
4c	Autonomy will moderate the orderliness, cautiousness, self-efficacy, and achievement-striving facet-level conscientiousness-adaptive performance relationships such that when employee autonomy is high, stronger relationships will exist.	Partially

FIGURES

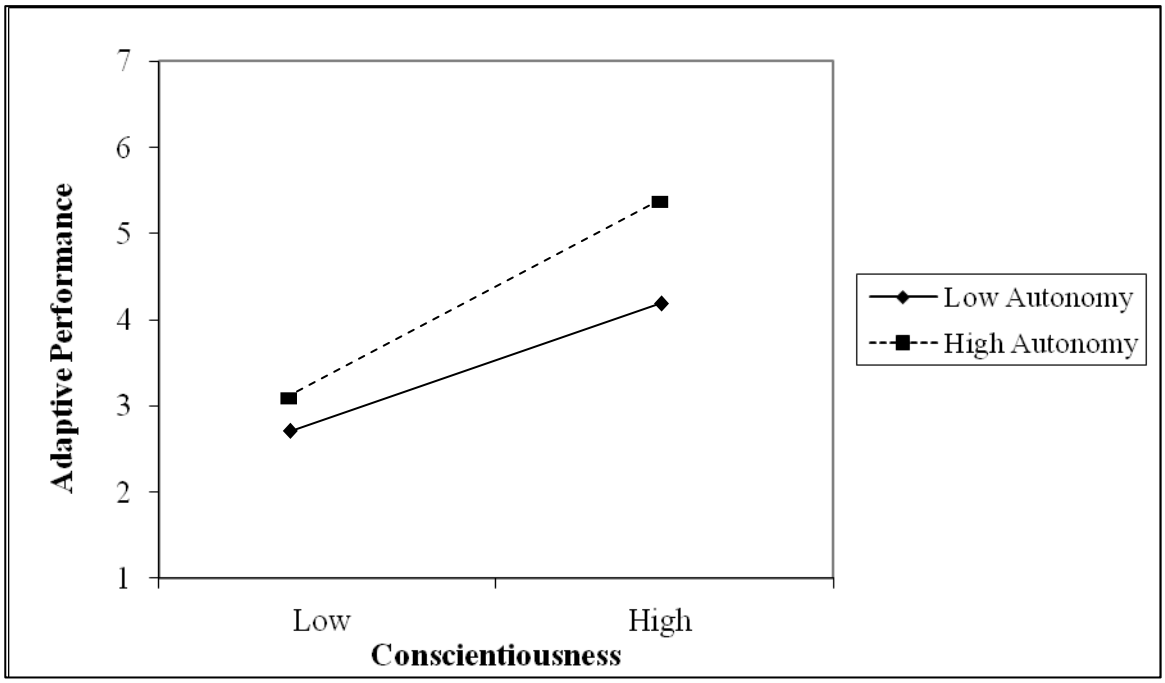


Figure 1 Expectations for the Moderating Effects of Autonomy for Hypotheses 1c and 3c

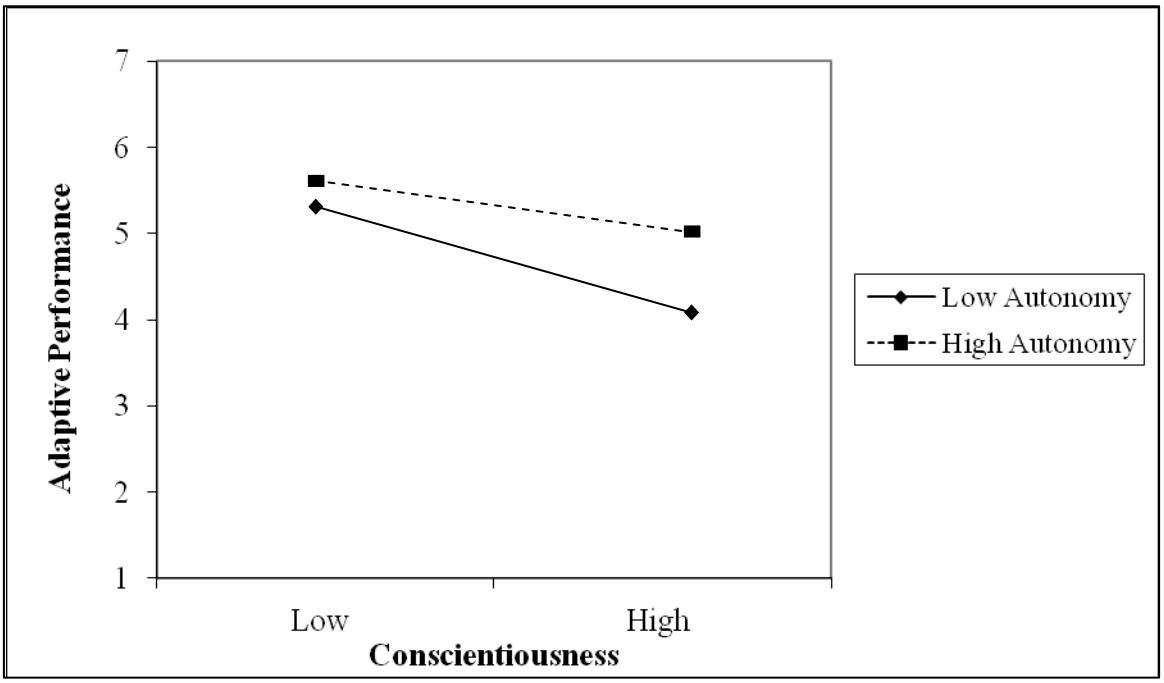


Figure 2 Expectations for the Moderating Effects of Autonomy for Hypothesis 2c

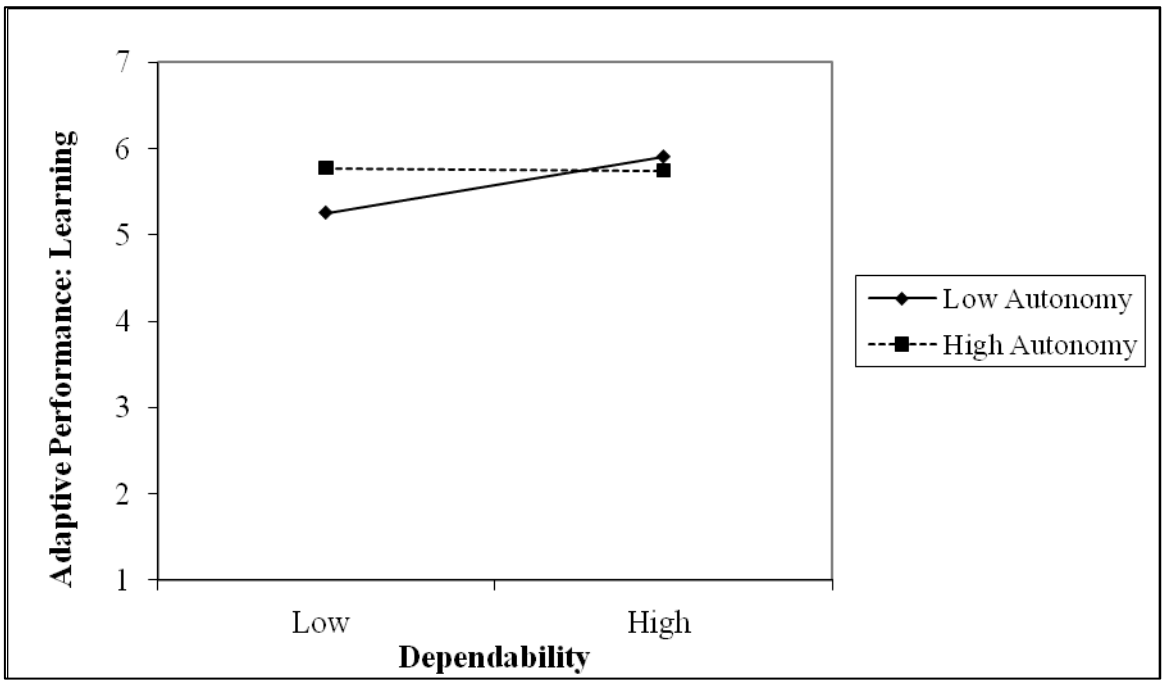


Figure 3 Dependability X Autonomy Interaction Predicting Adaptive Performance: Learning Work Tasks, Technologies, and Procedures

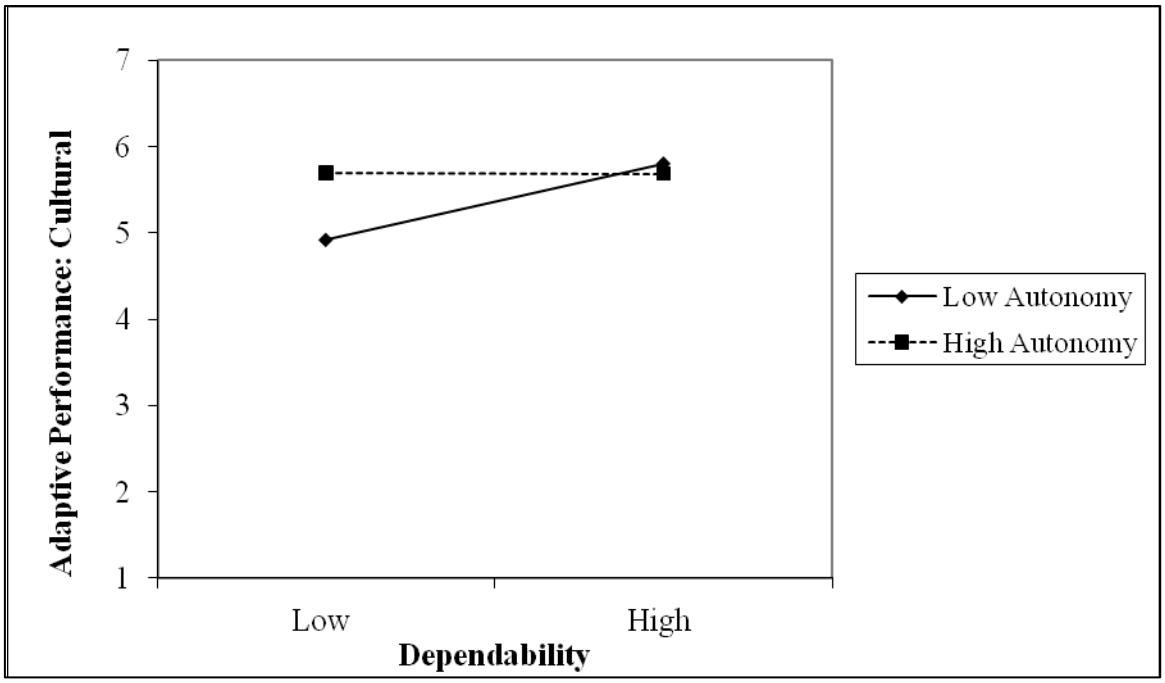


Figure 4 Dependability X Autonomy Interaction Predicting Adaptive Performance: Demonstrating Cultural Adaptability

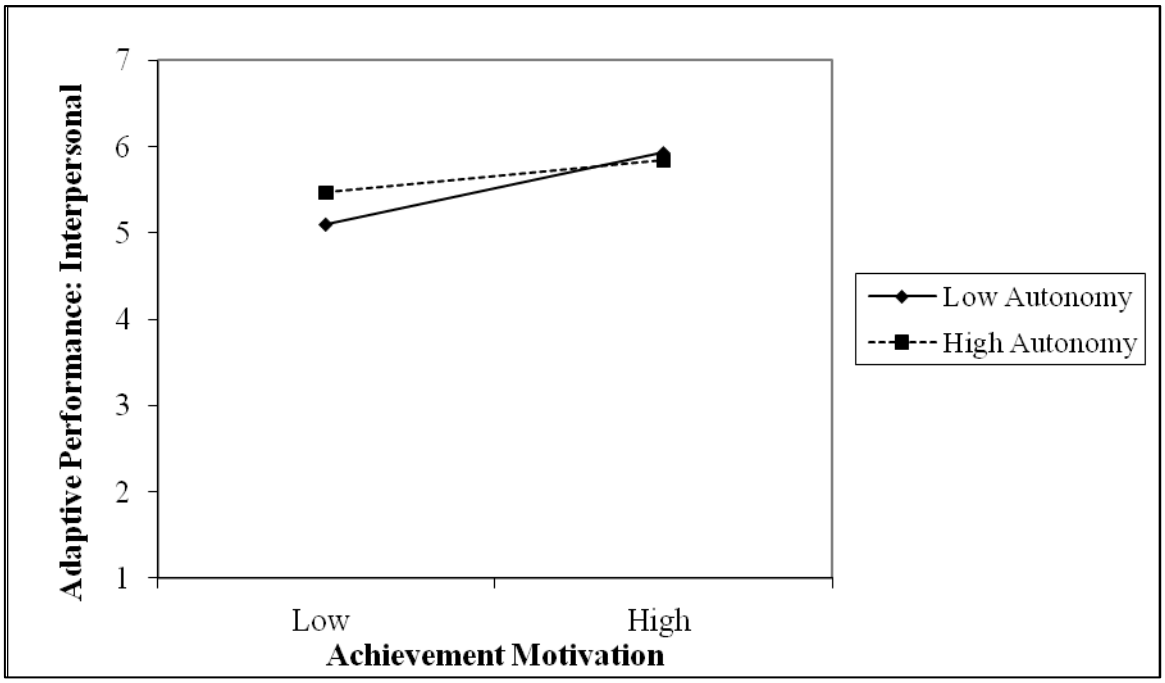


Figure 5 Achievement Motivation X Autonomy Interaction Predicting Adaptive Performance: Demonstrating Interpersonal Adaptability

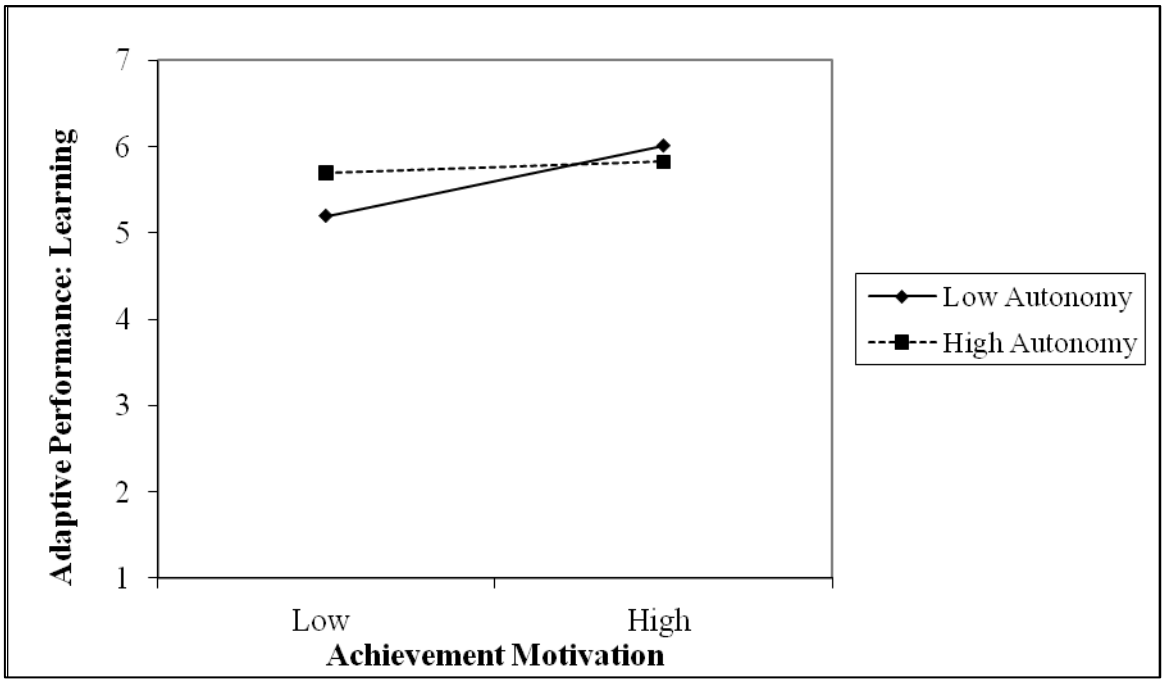


Figure 6 Achievement Motivation X Autonomy Interaction Predicting Adaptive Performance: Learning Work Tasks, Technologies, and Procedures

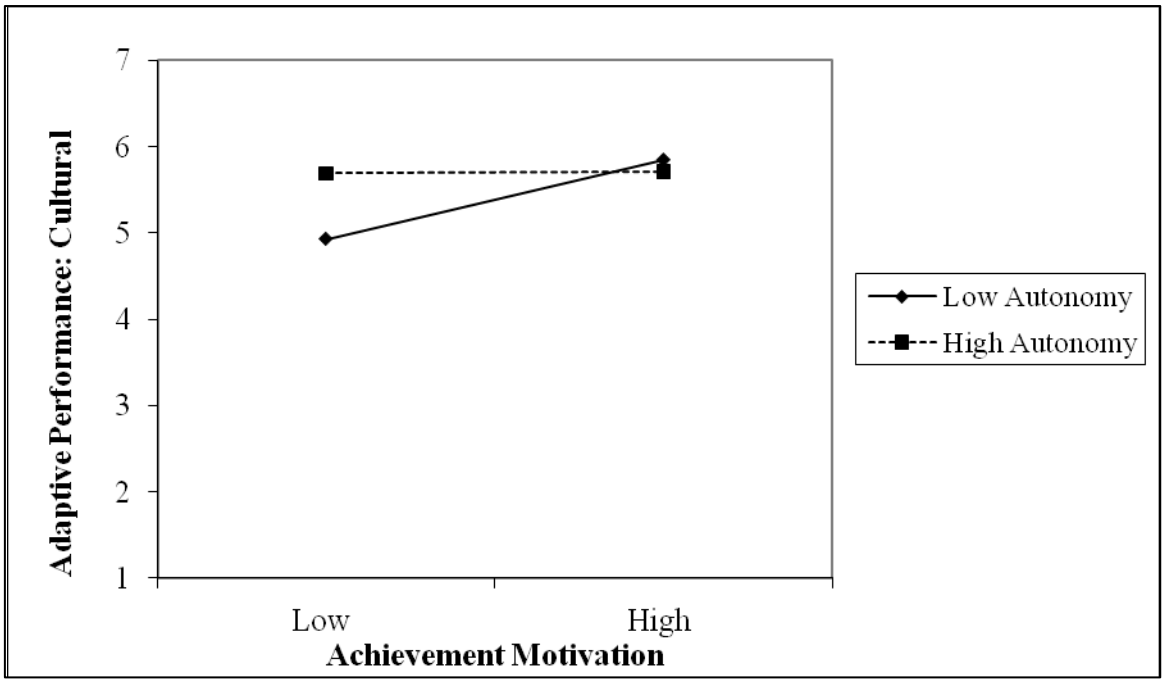


Figure 7 Achievement Motivation X Autonomy Interaction Predicting Adaptive Performance: Demonstrating Cultural Adaptability

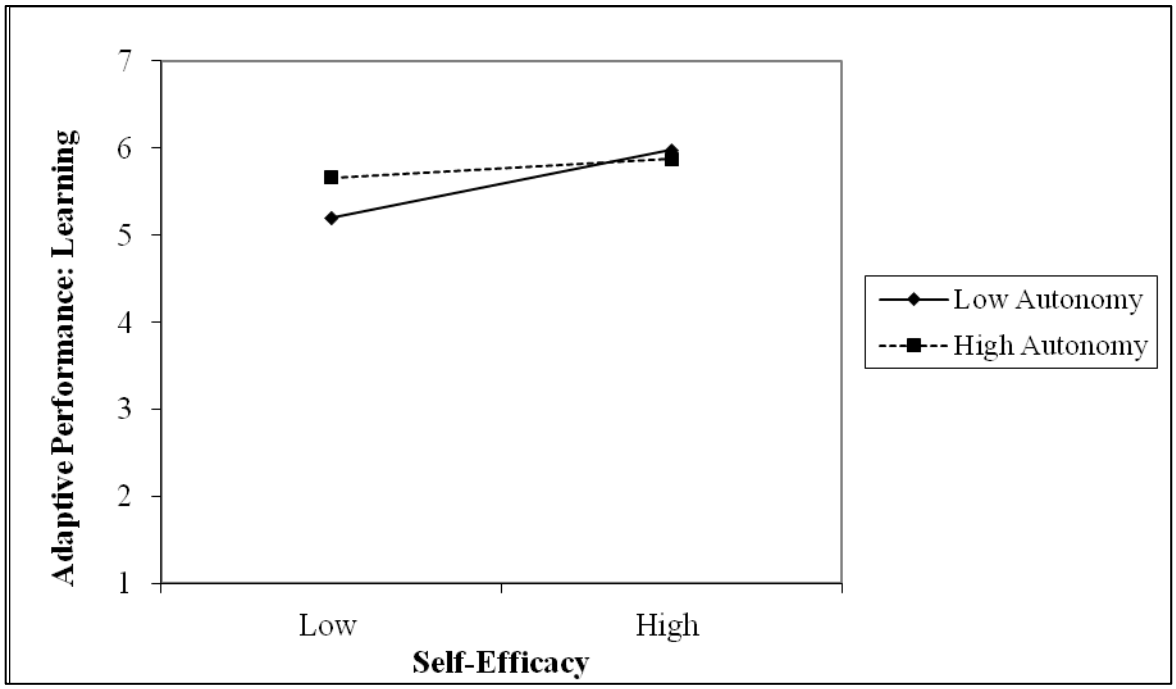


Figure 8 Self-Efficacy X Autonomy Interaction Predicting Adaptive Performance: Learning Work Tasks, Technologies, and Procedures

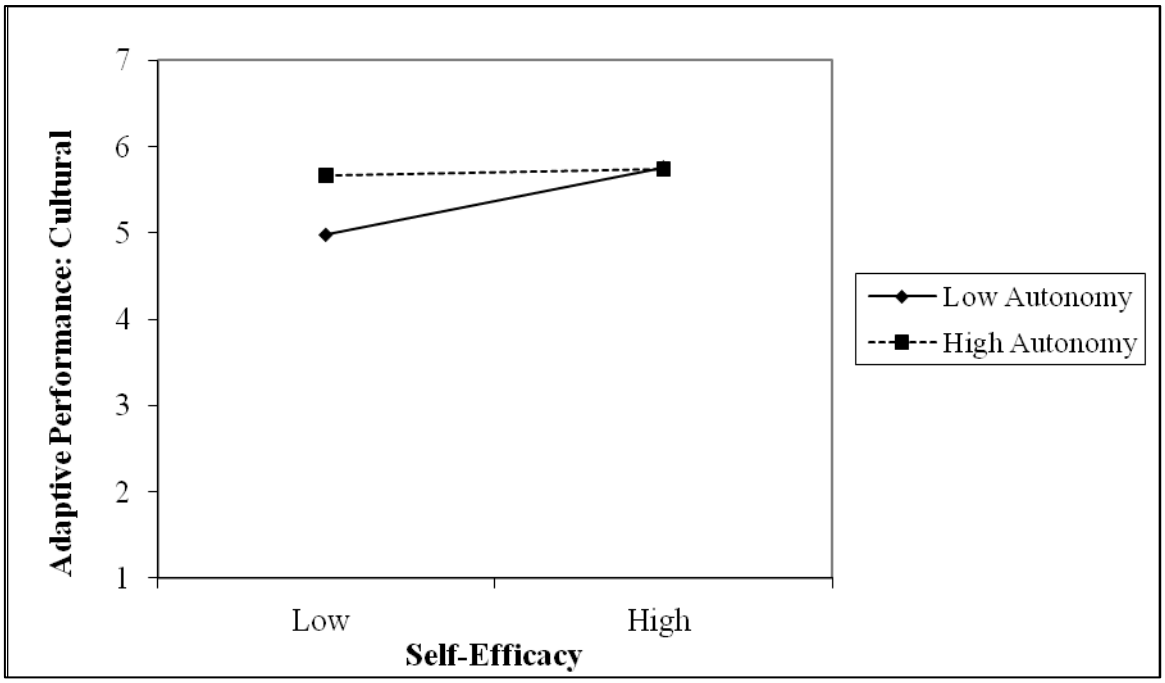


Figure 9 Self-Efficacy X Autonomy Interaction Predicting Adaptive Performance: Demonstrating Cultural Adaptability

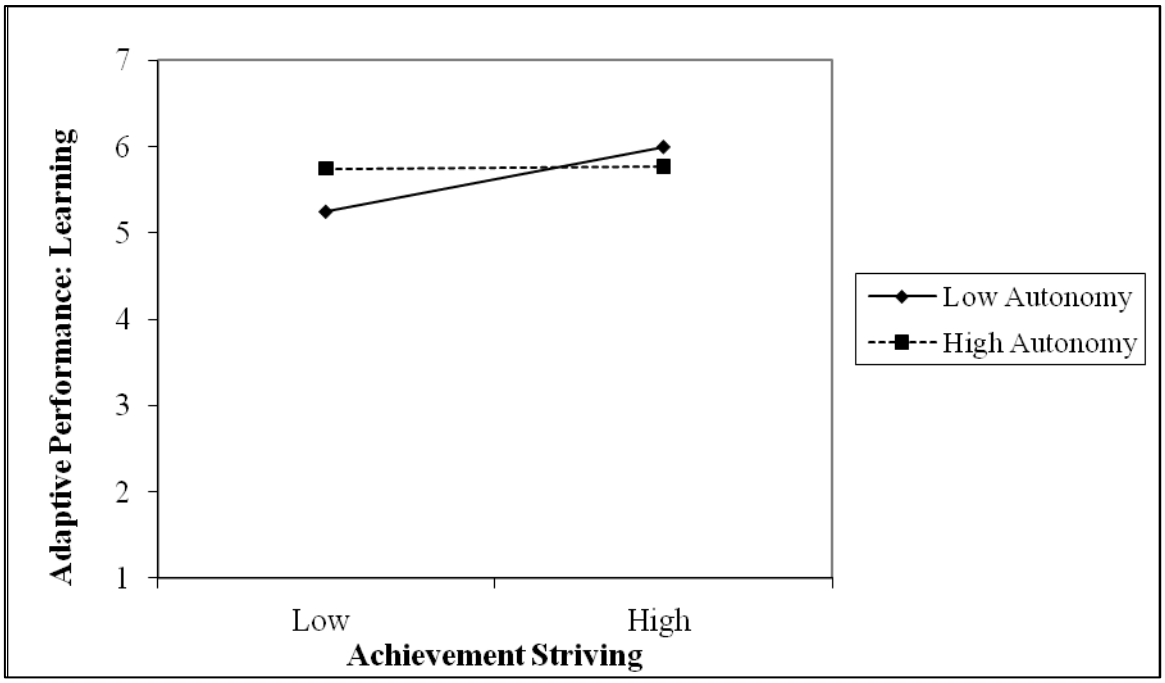


Figure 10 Achievement-Striving X Autonomy Interaction Predicting Adaptive Performance: Learning Work Tasks, Technologies, and Procedures

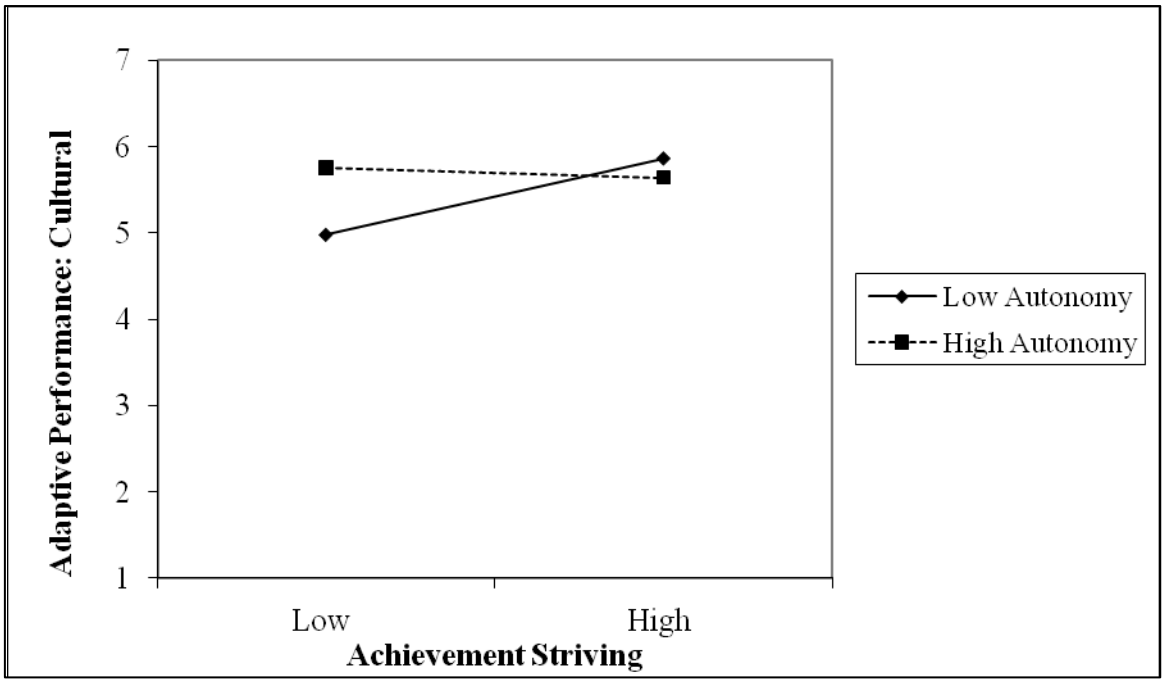


Figure 11 Achievement-Striving X Autonomy Interaction Predicting Adaptive Performance: Demonstrating Cultural Adaptability

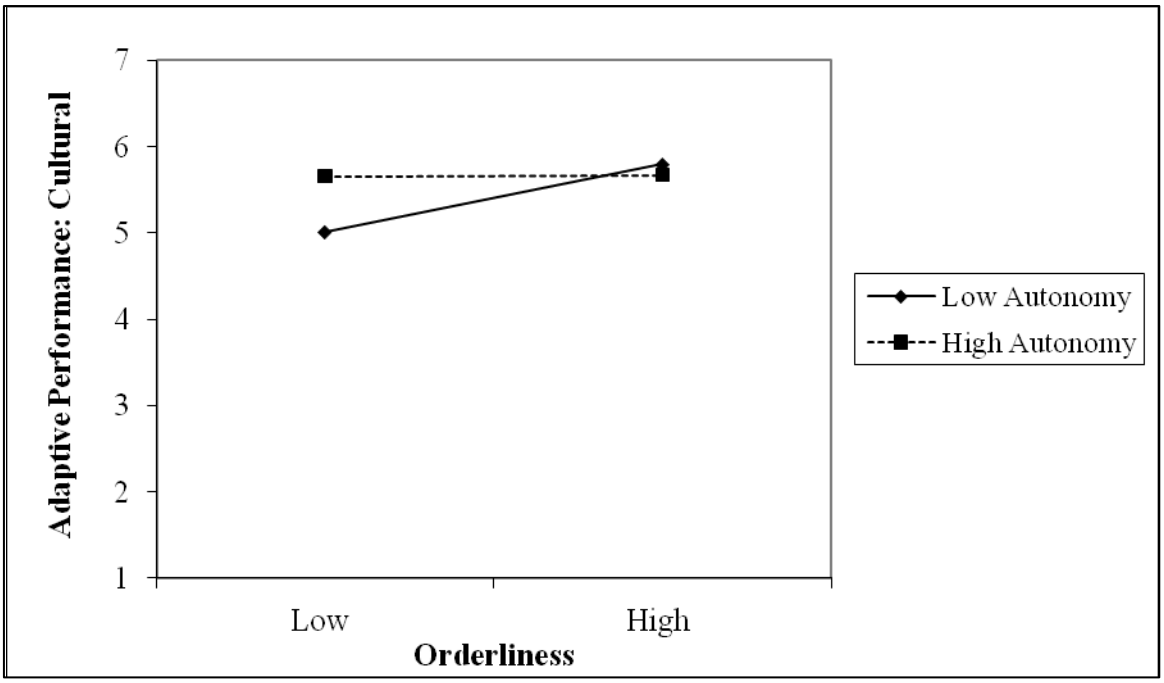


Figure 12 Orderliness X Autonomy Interaction Predicting Adaptive Performance: Demonstrating Cultural Adaptability

Figure 13 Dutifulness X Autonomy Interaction Predicting Adaptive Performance: Demonstrating Interpersonal Adaptability

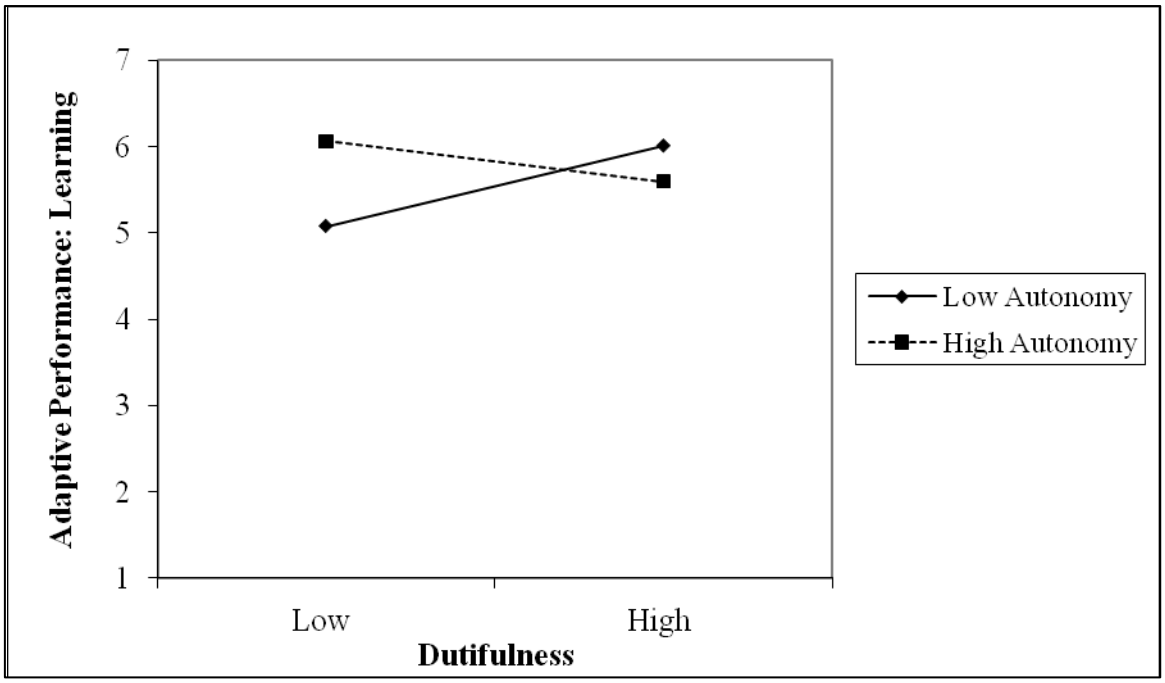


Figure 14 Dutifulness X Autonomy Interaction Predicting Adaptive Performance: Learning Work Tasks, Technologies, and Procedures

Figure 15 Dutifulness X Autonomy Interaction Predicting Adaptive Performance: Demonstrating Cultural Adaptability

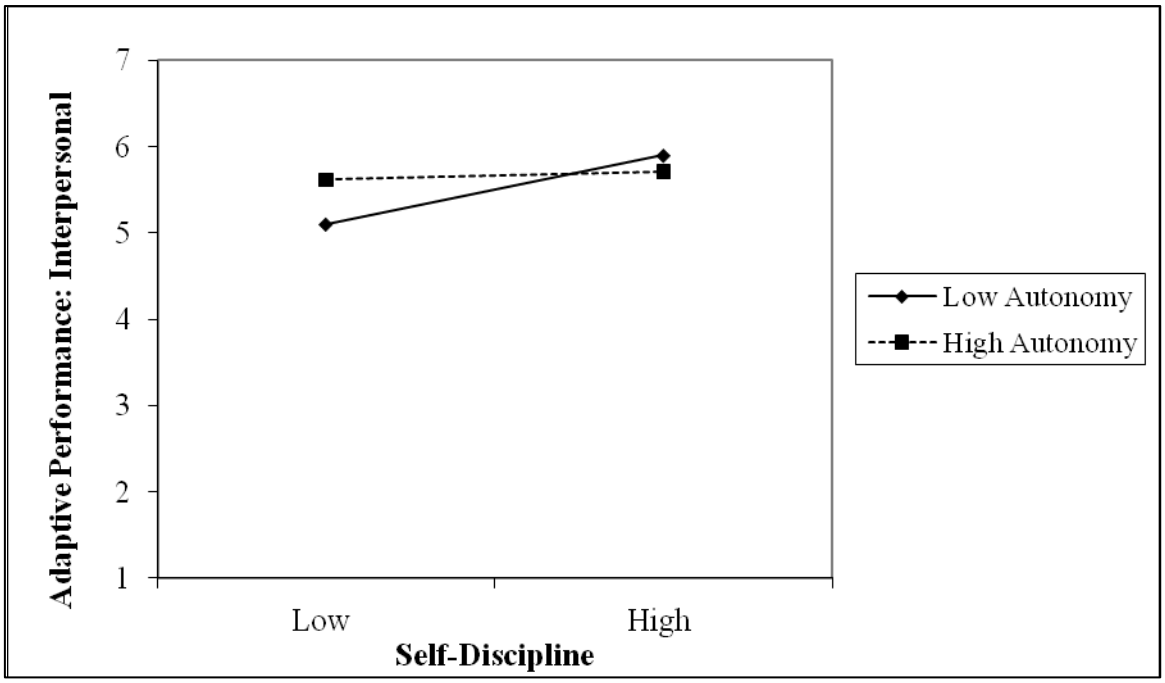


Figure 16 Self-Discipline X Autonomy Interaction Predicting Adaptive Performance: Demonstrating Interpersonal Adaptability

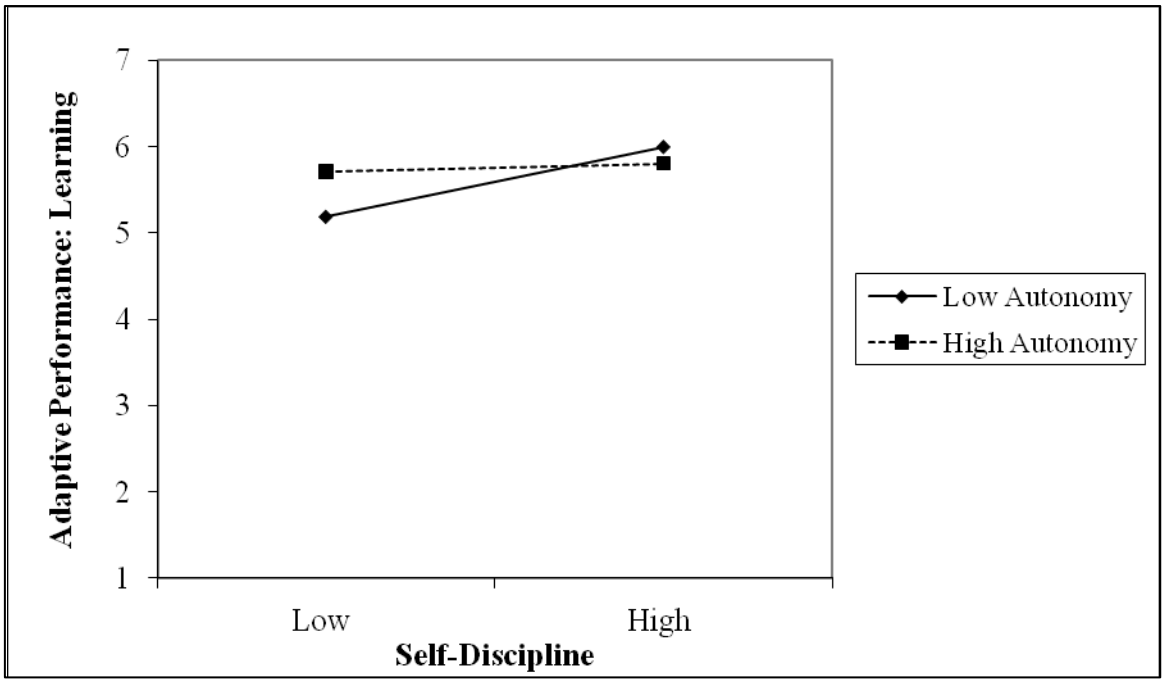


Figure 17 Self-Discipline X Autonomy Interaction Predicting Adaptive Performance: Learning Work Tasks, Technologies, and Procedures

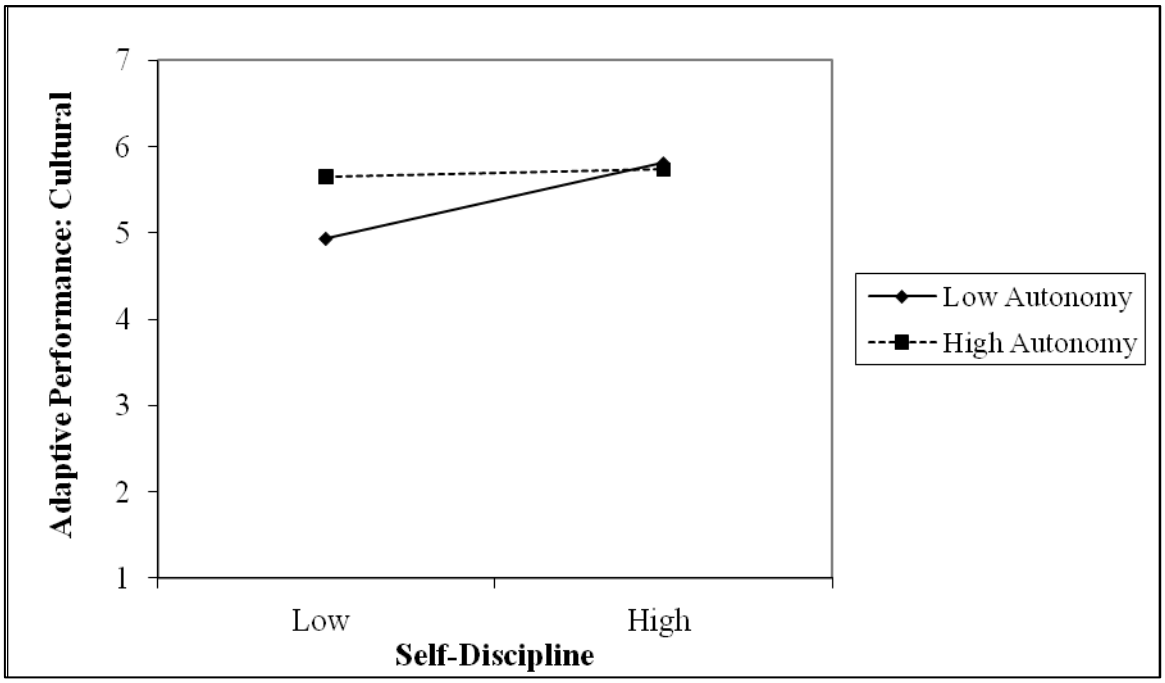


Figure 18 Self-Discipline X Autonomy Interaction Predicting Adaptive Performance: Demonstrating Cultural Adaptability

APPENDICES

Appendix A: Proposal Introduction

Introduction

Change has become a prevalent feature of today's organizations, resulting in an increased demand for workers who are able to adapt to the dynamic nature of the environment (Ilgen & Pulakos, 1999; Pulakos, Ara, Donovan, & Plamondon, 2000). Significant advances in technology, increasing globalization, corporate restructuring, and mergers have altered traditional work tasks and required employees to become more versatile and develop new skill sets in order to remain competitive in today's market (Kinicki & Latack, 1990; Lawler, 1994; Thach & Woodman, 1994). As a result, more emphasis has been placed on the judgments, analyses, and inferences made by workers (Han & Williams, 2008; Smith, Ford, & Kozolowski, 1997), which has led to the proposal that theoretical models of job performance be expanded to include an adaptive performance dimension (Allworth & Hesketh, 1999; Campbell, 1999).

Viewing adaptive performance as a distinct job performance construct is a relatively new idea, so more research is needed to understand this construct and its value. The current study will focus on the prediction of adaptive performance, with the primary research question being, "Do the facets of conscientiousness add incremental validity over cognitive ability when predicting the facets of adaptive performance, and does autonomy act as a moderator of these relationships?" In order to build the rationale for this study, the domains of job performance, adaptive performance, and their predictors will all be discussed, the selection of conscientiousness and cognitive ability as predictors will be

explained, moderators will be identified, and the uniqueness of the current study will be established.

Job Performance Domain

Motowidlo (2003) defined job performance as behavioral episodes that are carried out over a period of time and have expected value to an organization. Similarly, Campbell, McCloy, Oppler, and Sager (1993), considered performance to be synonymous with behavior, noting that it is something that people do that can be observed. In the specific context of a job, performance includes the behaviors that can be measured in terms of each individual's level of contribution to the goals of the organization. Traditionally, job performance has been viewed as one general factor that is best measured by an "objective" gauge of individual achievement, but modern conceptualizations of job performance stress a multidimensional approach (Campbell, 1999; Campbell et al., 1993; Motowidlo & Borman, 1993; Motowidlo & Van Scotter, 1994).

Campbell et al. (1993) offered a substantive alternative to the one-factor model of job performance by developing an eight-dimension taxonomy that was intended to comprehensively describe the latent variables of the highest order for all jobs in the occupational domain. However, Campbell et al. acknowledged that all eight factors may not be relevant to all jobs. The eight factors include: (a) job specific task proficiency, which refers to the individual's ability to perform the core tasks that are crucial to the job; (b) non-job-specific task proficiency, which reflects the degree to which individuals must exhibit behaviors or perform tasks that are not central to their specific job; (c) written and oral communication task proficiency; (d) demonstrating effort; (e) maintaining personal

discipline; (f) facilitating peer and team performance; (g) supervision/leadership; and (h) management/administration.

Another conceptualization of job perfomance is based upon Motowidlo and Borman's (1993) parsimonious model of job performance, which distinguishes between task performance and contextual performance. The basis for this distinction was that the reason certain behaviors either add to or detract from the accomplishment of organizational goals could not be explained by a singular conceptualization of job performance. Task performance is considered to be directly related to the technical core of the organization, either by carrying out specific technical processes, or by servicing and maintaining the technical core (Motowidlo, Borman, & Schmit, 1997). Conversely, contextual performance involves the maintenance of the broader environment (social, organizational, and psychological) needed for the core to function, rather than contributing directly to the technical processes. This distinction between task and contextual performance has been partially supported by Motowidlo and Van Scotter (1994) who demonstrated that these domains are differentially predicted. They found that task performance was best predicted by measures of knowledge, skills, and ability, and by job experience. In contrast, contextual performance was best predicted primarily by personality measures.

Although task and contextual performance and Campbell et al.'s (1993) taxonomy appear to be representative of the behaviors that contribute to work effectiveness, recent discussions indicate that these job performance models do not adequately capture the adaptive behavioral requirements that are becoming increasingly prevalent in organizations (Allworth & Hesketh, 1999; Campbell, 1999; Schmitt, Cortina, Ingerick, &

Wiechmann, 2003). Adaptive performance broadly refers to behaviors that demonstrate proficiency in self-managing the changes in work tasks or demands (Allworth & Hesketh, 1999; London & Mone, 1999).

Adaptive performance appears to be an important aspect of job performance, but it does not clearly fit into the task or contextual categories or into Campbell et al.'s (1993) taxonomy. Campbell (1999) indicated that a perfomance component concerning how individuals adapt to changing job requirements and conditions would be a beneficial addition to the original eight-component taxonomy of job performance supported by him and his colleagues. Additionally, Allworth and Hesketh (1999) promoted the addition of adaptive performance to the Motowidlo and Borman (1993) model. Allworth and Hesketh (1999) developed construct-oriented biodata to predict contextual and adaptive performance and they contrasted resulting biodata validities with those from cognitive ability and personality measures. They found preliminary support for the distinction of adaptive performance from task and contextual. In a more recent performance model, Schmitt et al. (2003) included adaptive performance as a third aspect of job performance distinct from task and contextual, but noted that additional research is needed to fully support the distinction. Therefore, one aim of the current study is to indirectly evaluate whether or not some of the classic predictors of general job performance also effectively predict adaptive performance, or if prediction differences exist that further support the distinctiveness of the adaptive performance construct (i.e., divergent validity).

Adaptive Performance

As stated above, many acknowledge that jobs today require increasing levels of versatility and adaptability, and several authors have suggested that this may be a significant component of performance. However, the concept of "adaptive performance" has been a challenge to understand, measure, and predict effectively. It has been discussed and measured in a variety of contexts with different definitions.

Pulakos et al. (2000) attempted to remove some of the ambiguity surrounding this concept by developing an eight-dimension taxonomy of adaptive performance. The stated purpose of this taxonomy was to fulfill the request for expanding conceptualizations of performance to include adaptive performance, and to provide a conceptual framework for describing adaptive performance. Pulakos et al. (2000) created this taxonomy by first examining the literature that discussed adaptive performance relevant to jobs in order to create a preliminary theory-based model, and six dimensions were identified. Pulakos et al. then attempted to collect empirical evidence for the six dimensions by examining a total of 9,462 critical incidents from 21 different jobs. Five industrial-organizational psychologists reviewed the incidents and judged that 1,311 involved some form of adaptation. These incidents were then content analyzed and categorized, and the six original dimensions from the literature received support. Moreover, two other dimensions were suggested by the incidents and added: handling emergencies or crisis situations, and handling work stress. Thus, the final model of adaptive performance included the following eight dimensions (with their shortened titles used throughout the rest of the current paper): (a) handling emergencies or crisis situations (i.e., emergency), (b) handling work stress (i.e., stress), (c) solving problems creatively (i.e., solving), (d) dealing with

uncertain and unpredictable work situations (i.e., unpredictable), (e) learning work tasks, technologies, and procedures (i.e., learning), (f) demonstrating interpersonal adaptability (i.e., interpersonal), (g) demonstrating cultural adaptability (i.e., cultural), and (h) demonstrating physically oriented adaptability (i.e., physical).

Similar to Campbell et al.'s (1993) defense of the eight-dimension model of job performance, Pulakos et al. (2000) recognized that different jobs may require certain types or varying levels of the dimensions of adaptive behavior. Pulakos et al. sought to examine these possible differences in adaptive requirements and to test the proposed eight-dimension model by developing a self-report instrument called the Job Adaptability Inventory (JAI) that could measure the levels of the eight dimensions present in a job. The JAI was administered to a large number of participants (N=3,422) in a wide assortment of jobs that varied in terms of adaptive job requirements, and the results provided support for the JAI as a measure of the eight dimensions. An exploratory factor analysis (EFA) was conducted on one half of the sample and confirmatory factor analyses (CFAs) of the eight-factor model and alternative models were tested on the remainder of the sample. The EFA and CFAs suggested that the best fit for the data was the eight-factor model. Overall, the results of the study supported the eight-dimension model as a framework for understanding adaptive performance, the idea that this construct is multidimensional, and the notion that the type and degree of adaptive performance may vary by job. In addition to this empirical support, the Pulakos et al. (2000) article has been cited over 100 times in the PsychINFO database.

In a follow-up study, Pulakos, Schmitt, Dorsey, Arad, Hedge, and Borman (2002) further investigated the eight-dimension taxonomy of adaptive performance created by

Pulakos et al. (2000). This follow-up investigation developed predictor and criterion measures to assess whether the eight-dimension model was supported in a different context and to see if the taxonomy could be used to develop measures to predict adaptive performance. The results revealed that the eight-dimension model provided the best fit to the data for the three predictor measures that were developed, (i.e., self-report measures of past experience, interest, and task-specific self-efficacy). However, the examination of the criterion measure, supervisor ratings of adaptive performance, suggested that the eight dimensions loaded onto one general factor of adaptive performance.

Following the Pulakos et al. (2000, 2002) studies, Griffin and Hesketh (2003) developed and tested a more parsimonious model of adaptive behavior in work contexts and sought to extend the study of adaptive performance beyond the American military samples that had been used in the Pulakos et al. studies. Griffin and Hesketh used the Minnesota Theory of Work Adjustment (TWA) to identify three broad types of adaptive behaviors: (a) proactive behavior, (b) reactive behavior, and (c) tolerant behavior. These three behavior types come from the TWA notion that three different "styles" of adjustment can be used when the "fit" weakens between an employee's values or needs and the requirements of the work environment.

Griffin and Hesketh (2003) tested their proposed framework using predictor and criterion measures of adaptive behavior in two organizations, and the results revealed only moderate support for the TWA framework. Proactive and reactive behaviors were identified in supervisor ratings of adaptive behavior, self-reported ratings of self-efficacy for adaptive performance, and self-reported ratings of adaptive work requirements. However, the tolerant factor was not supported. Seven of the eight Pulakos et al. (2000)

dimensions were also measured (physically-oriented adaptability was not considered relevant), but none of the factor analyses conducted produced seven factors. However, Griffin and Hesketh noted that their results need to be confirmed with larger samples and more advanced analyses like structural equation modeling.

Overall, the Pulakos et al. (2000) eight-dimension taxonomy has emerged as the primary conceptualization of this newer adaptive performance construct, as evidenced by the preliminary empirical support for the model and the 100-plus citations of the Pulakos et al. article. Their taxonomy appears to be operating as the authors intended, receiving widespread use as a framework for describing and unifying the research on adaptive performance. Due to the extensive work that went into developing the eight-dimension taxonomy and its recognition in the literature, the current study will use the Pulakos et al. taxonomy as its conceptualization of adaptive performance. The specific aim of the current study is to focus on each of the eight dimensions and how they can be differentially predicted and understood. Please note that throughout this paper, the terms “adaptive performance” and “adaptability” are used interchangeably. That is, in this paper, “adaptability” is being used only in the context of job performance as a behavior or behavioral requirement, not as a general personality characteristic.

Predictors of Adaptive Performance

As the Pulakos et al. (2000) eight-dimension taxonomy of adaptive performance has continued to grow in use and acceptance, one particularly fertile area for research that has emerged from the literature is the interest in identifying the best predictors of adaptive performance (Griffin & Hesketh, 2003; Le Pine, Colquitt, & Erez, 2000; Schmitt et al.,

2003). If certain variables or traits can be identified as significant predictors of adaptive performance, this could aid organizations in selecting and maintaining a workforce that is well-suited and prepared for the degree of adaptation required within their particular jobs.

Recently, several authors have called for research that systematically evaluates the effectiveness of various individual differences constructs and predictors of adaptive performance for different jobs with varying types and levels of adaptive requirements (Ployhart & Bliese, 2006; Pulakos et al., 2000; Pulakos et al., 2002; Pulakos, Dorsey, & White, 2006). While some research has already been conducted concerning the predictors of adaptive performance (e.g., Griffin & Hesketh, 2003; Le Pine et al., 2000; Pulakos et al., 2002, Schmitt et al., 2003), the results have been inconsistent and inconclusive. The findings of these studies will be discussed in the sections that follow.

Predictor variables that have been studied in the adaptive performance domain include cognitive ability and personality traits such as conscientiousness, openness to experience, and emotional stability (Allworth & Hesketh, 1999; Griffin & Hesketh, 2003, 2005; Le Pine et al., 2000; Pulakos et al., 2002); past experience adapting and the self-efficacy to adapt (Allworth & Hesketh, 1999; Griffin & Hesketh, 2003; Pulakos et al., 2002); coping with change (Allworth & Hesketh, 1999); and job complexity, autonomy, and management support (Griffin & Hesketh, 2003). Some of these variables were significant predictors across studies, but many were either non-significant or the results differed across studies, indicating a need for more research.

Pulakos et al. (2006) conducted a thorough review of psychological and other literatures that examined research in which adaptability was assessed or predicted. Their review goal was to identify the constructs hypothesized to underlie an individual's

performance adaptability. The result was a list of 11 individual differences constructs (see Table 1). Several of the constructs reviewed above were included in this list, such as cognitive ability and emotional stability. Subject matter experts were used to judge which of the 11 predictors would likely be the most relevant for each of the eight Pulakos et al. (2000) adaptive performance dimensions, but these predicted relationships have not been empirically tested. Table 1 served as the impetus for the current study, and a major purpose of this study was to advance adaptive performance's predictor domain by testing some of those predictor-adaptability linkages.

In the current study, the predictors selected for analysis were cognitive ability and conscientiousness, and this choice was made for two reasons. First, both cognitive ability (Hunter & Hunter, 1984; Ree, Earles, & Teachout, 1994) and conscientiousness (Barrick & Mount, 2001; Salgado, 2003) have consistently been shown to be fairly strong predictors of general job performance. Determining whether or not those findings can be replicated for adaptive performance should provide valuable information about the construct. The second reason for the selection of these specific factors is that notable differences exist regarding the support of these variables as predictors of adaptive performance (see Pulakos et al., 2002 and Griffin & Hesketh, 2003).

Griffin and Hesketh (2005) and Le Pine et al. (2000) have suggested and partially supported the notion that examining specific facet levels of personality constructs, like conscientiousness, may better clarify the links to performance adaptability. Most of the current studies of adaptive performance have focused only on the broader domain level of both adaptive performance and its predictors. Domain-level traits are more general and abstract than facet-level traits, which are narrow and more precise. The potential

ambiguity associated with the domain level may be contributing to the differences in findings for adaptive performance predictors across studies. The debate about whether broad or narrow personality traits are better for measuring personality, called the "bandwidth-fidelity dilemma" (Ones & Viswesvaran, 1996; Sackett & Lievens, 2008), has been raging for years, but one principle that both sides agree upon is that predictors should match the criteria in terms of specificity (Schneider, Hough, & Dunnette, 1996). Therefore, this study will match the focal predictor (conscientiousness) and the criterion (adaptive performance) in terms of specificity by studying both constructs at the domain and facet levels.

The purpose of the current study is to contribute to the adaptive performance literature by trying to clear up some of the ambiguity regarding the current research findings involving conscientiousness as a predictor of adaptive performance. Specifically, this study will examine the power of the facets of conscientiousness to predict each of the eight dimensions of adaptive performance over and above the predictor of general cognitive ability. No published studies of adaptive performance have examined both adaptive performance and personality at the narrower facet level, which may help clarify past findings and also advance the literature. Further explanation of the selection of these predictors will be discussed below.

Conscientiousness

The Five-Factor Model of personality currently serves as the most broadly accepted model of personality structure, and is composed of the following factors: conscientiousness, openness to experience, agreeableness, extraversion, and emotional

stability (McCrae & Costa, 2009; Salgado, 2003). The factor that has been examined most often as a potential predictor of adaptive performance is conscientiousness (Allworth & Hesketh, 1999; Griffin & Hesketh, 2003; 2005; Le Pine et al., 2000; Pulakos et al. 2002). Conscientiousness can be examined at the broader, domain level or it can be analyzed more specifically at a facet level. This study will focus on the two-facet and six-facet levels, as these are facet levels that have been commonly used in research studies (e.g., Christopher, Zabel, & Jones, 2008; Luciano, Wainwright, Wright, & Martin, 2006) and meta-analyses (e.g., Hough, 1992; Mount and Barrick 1995) on conscientiousness.

Even though conscientiousness is often just measured at the domain level, the trait is typically conceptualized as having two different components (or facets): a *dependability* component that is seen in cautiousness and order, and a proactive component often called *achievement motivation* (Costa, McCrae, & Dye, 1991). In order to more clearly distinguish between important individual differences, Costa et al. developed and proposed a further subdivision of conscientiousness into six independent facets. The six facets are: order (keeping one's environment well-organized), dutifulness (adherence to conduct standards), deliberation (being cautious and planning), competence (referring to one's capability or sensibility), achievement-striving (need for excellence), and self-discipline (persistence with a task). The first three facets are the "dependability" facets and the latter three are the "achievement motivation" facets. These are the six facets of conscientiousness measured on widely-used personality inventories, such as the commercially-developed Revised NEO Personality Inventory (NEO-PI-R; Costa et al., 1991)., and the International Personality Item Pool (IPIP; Goldberg, 2000). As the IPIP is the inventory that will be used in the current study, references to the six dimensions in the

rest of this paper will use the following IPIP facet names, three of which differ in name from the corresponding Costa et al. facets included within parentheses: orderliness (i.e., order), dutifulness, cautiousness (i.e., deliberation), self-efficacy (i.e., competence), achievement-striving, and self-discipline.

Based upon the six facets and the general conceptualization of conscientiousness, one can see why this personality dimension has been consistently and positively related to overall job performance in a variety of contexts (Barrick & Mount, 1991; Hurtz & Donovan, 2000). In both the Barrick and Mount (1991) and the Hurtz and Donovan (2000) meta-analyses, the average true score correlation for this relationship was estimated to be around .22. The consistent finding that conscientiousness is positively linked to general job performance is likely part of the reason that conscientiousness has often been studied as a potential predictor of adaptive performance. However, much of the research on the conscientiousness-adaptive performance relationship has focused only on the domain level of the relationship rather than the facet level, and the magnitude and direction of this domain-level relationship has varied across studies.

Allworth and Hesketh (1999) used Goldberg's Adjective Checklist to capture the five factors of personality, and found support for the correlation between conscientiousness and task performance, although it was weak ($r = .15$, $p < .005$). No significant relationship emerged between conscientiousness and overall, contextual, or adaptive performance. Le Pine et al. (2000) examined adaptability to changing task contexts in a laboratory setting and uncovered an unexpected interaction, such that high overall conscientiousness improved decision-making performance less after an unforeseen change than did low overall conscientiousness. These researchers conducted post-hoc

analyses using a six-facet measure of conscientiousness and found that this overall result was due to the three dependability facets, not the achievement facets. That is, increasing dependability was not positively related to adaptive performance.

Pulakos et al. (2002) studied only the achievement motivation component of conscientiousness, and they developed their own personal styles inventory to measure the construct. The results revealed a significant positive relationship between the achievement motivation facet and adaptive performance at the domain level ($r = .31$, $p < .05$). Griffin and Hesketh (2003) studied two organizations and reported that conscientiousness at the domain level as measured by the International Personality Item Pool (IPIP; Goldberg, 2000) was not significantly related to adaptive performance at the domain level for either organization. More recently, Griffin and Hesketh (2005) studied employees at three separate organizations, and these researchers measured conscientiousness using the NEO PI-R for Sample 1 and the IPIP for Samples 2 and 3 with the explicit purpose of comparing this personality dimension at the six-facet level to adaptive performance at the domain level (i.e., the specificity of the predictors and criterion were not matched). Although the relationships between the conscientiousness facets and overall adaptive performance were nonsignificant, the hypothesized pattern of relationships was found, as the achievement facets were positively correlated with adaptive performance, and the dependability facets were negatively correlated.

All of this variation in study design and in the conceptualizations of both adaptive performance and conscientiousness has led to inconclusive results concerning the magnitude, direction, and significance of the relationship between these constructs. In summary, Allworth and Hesketh (1999) and Griffin and Hesketh (2003) studied the

domain level of these variables and found no significant relationships, whereas Le Pine et al. (2000) discovered a negative domain-level relationship. Then, Le Pine et al. (2000) did follow-up tests at the six-facet level of conscientiousness. In addition, another Griffin and Hesketh (2005) study included both the domain level of adaptive performance and the six-facet level of conscientiousness. Both of these latter two studies had findings in the same direction, but Griffin and Hesketh's (2005) were not significant. Pulakos et al. (2002) studied the domain level of adaptive performance and the achievement motivation facet (at the two-facet level) and found a significant positive relationship.

As conscientiousness is one of the most established predictors of general job performance, understanding its relationship with adaptive performance could help determine whether or not adaptive performance is a construct distinct from task or contextual performance that is differentially predicted. The current study will attempt to clarify past findings and advance the understanding of the conscientiousness-adaptive performance relationship by examining both constructs at their domain and facet levels. The specific research questions that will be tested are: "Does a significant positive relationship exist between conscientiousness and adaptive performance at the domain level?" and, "Are the facets of conscientiousness (at the two-facet and six-facet levels) differentially related to the facets of adaptive performance?"

Cognitive Ability

Aside from conscientiousness, the other predictor variable that will be included in the current study is cognitive ability. General cognitive ability or *g* refers to an individual's ability to learn or capacity for information processing, and it has been

identified as one of the strongest predictors of overall job performance (Hunter & Hunter, 1984; Ree, Earles, & Teachout, 1994; Schmidt & Hunter, 1998) with generalizable validity across cultures (Salgado, Anderson, Moscoso, Bertua, de Fruyt, & Rolland, 2003). Moreover, research has indicated that general cognitive ability has an even stronger relationship with performance for tasks that are novel or complex (Hunter & Hunter, 1984). Therefore, some have suggested that the ability to adapt one's behavior to deal with new and complex tasks may simply be a function of having higher intelligence (Pulakos et al., 2002). Many studies have attempted to capture the relationship between cognitive ability and adaptive performance (e.g., Allworth & Hesketh, 1999; Griffin & Hesketh, 2003; Le Pine et al., 2000; Pulakos et al. 2002), but as mentioned previously, the results have been slightly mixed, mostly in terms of the magnitude of the relationship. The results of these studies are briefly outlined below.

Allworth and Hesketh (1999) examined the relation of cognitive ability to adaptive performance for 325 staff members at two hotels using three different cognitive ability tests: abstract reasoning, clerical speed and accuracy, and numerical reasoning. All three tests were significantly, positively correlated with adaptive performance, with numerical reasoning having the weakest correlation ($r = .17$, $p < .05$), clerical speed and accuracy having a moderate correlation ($r = .25$, $p < .005$), and abstract reasoning having the strongest correlation ($r = .33$, $p < .005$). These results provide support for the notion that adaptive performance is partially a cognitive construct. In a laboratory setting with 73 undergraduates, Le Pine et al. (2000) used the Wonderlic Personnel Test as a measure of cognitive ability, and found that *g* was positively related to adaptive decision-making performance ($r = .43$, $p < .05$). In their examination of the predictors of adaptive

performance, Pulakos et al. (2002) used the Armed Forces Qualifying Test as the measure of cognitive ability for 739 military personnel and found a positive relationship at the domain level ($r = .14$, $p < .05$) but no significant relationship with achievement motivation ($r = .00$), the only facet-level dimension included in the study. Griffin and Hesketh (2003) examined the predictive power of cognitive flexibility, which is distinct from, but related to *g.* They administered the Water Jars Tests to a total of 626 employees at two organizations, and found no significant relationship between cognitive flexibility and adaptive performance.

Aside from the Griffin and Hesketh (2003) study that focused on cognitive flexibility rather than cognitive ability, all of the aforementioned research supports a significant, positive relationship between cognitive ability and adaptive performance. Although the observed correlations vary in strength, the consistent finding of a positive relationship demonstrates that cognitive ability serves as a good predictor of both job performance and adaptive performance at the domain level.

One of the aims of the current study is to examine how cognitive ability is related to each of the eight dimensions of adaptive performance, which may help clarify the variation in the magnitude of the prior results. That is, if some of the adaptive facets are differentially related to cognitive ability, then the mixed results in the literature could be due to varying levels of the adaptive facets occurring in the different job samples. However, the main reason for the inclusion of cognitive ability in the current study is to test the following research question, “Do the facets of conscientiousness add incrementally to the prediction of the adaptive performance facets above and beyond cognitive ability?” As cognitive ability has been shown to be a reasonably consistent

significant predictor of adaptive performance, assessing whether conscientiousness adds any incremental validity is important. In the selection literature, establishing the incremental validity of a predictor over cognitive ability is a key hallmark of whether a predictor should be used. Given that cognitive ability is not the primary focus of this study, this construct will only be measured at the domain level. This will provide a very stringent test of the ability of conscientiousness to predict adaptive performance, rather than only controlling for some facets of cognitive ability. Again, the primary purpose of the current study is to find and clarify the strongest and most useful predictors of adaptive performance.

Potential Moderators

While examining conscientiousness and adaptive performance at both the domain and facet levels and including an analysis of incremental validity may help clarify the nature and strength of the relationship between these core constructs, the variation in past results suggests that one or more moderators may be present. Moderators can change the strength and/or direction of the relationship between a predictor and an outcome, and often indicate when or for whom a specific variable most strongly predicts the outcome variable.

One potential variable that could be moderating the conscientiousness-adaptive performance relationship is the level of a job's adaptive performance requirements. As mentioned previously, several authors have called for research that evaluates the effectiveness of adaptive performance predictors for different jobs with varying levels of adaptive requirements (Ployhart & Bliese, 2006; Pulakos et al., 2000; Pulakos et al., 2002;

Pulakos, Dorsey, & White, 2006). Instead of directly testing this variable as a moderator, the variability in requirements for adaptive performance will be purposely limited in the current study by only using data from participants whose jobs have at least moderate adaptive requirements. This eligibility requirement should help reduce sample heterogeneity on this variable, which should increase the ability to find significant relationships between the facets of conscientiousness and the facets of adaptive performance if they do exist. Further discussion of this variable and how participants will be selected follows in the Methods section.

A second potential moderator of the relationship between conscientiousness and adaptive performance is employee autonomy. Most psychologists agree that the relationship between behavior and personality is moderated by the degree to which a person's environment or "situation" permits or inhibits the expression of individual differences (Gatewood, Feild, & Barrick, 2008). Researchers focused on this interaction define a "strong" situation as a situation where uniform expectancies exist and the pressure to conform is strong. In these situations, the range of possible behaviors is restricted, and the situation, rather than personality characteristics, is more likely to dictate behavior (Barrick & Mount, 2003). In a "weak" situation, a person has more discretion in deciding how to act because there are fewer pressures to conform and the situation is not uniformly interpreted. With weaker situations, acceptable behavior may be produced in a variety of ways, which allows for the expression and influence of personality (Gatewood et al., 2008). In a recent meta-analysis, Meyer, Dalal, and Bonaccio (2009) supported the importance of situational characteristics when examining the relationship between conscientiousness and general job performance. Their results indicated that the criterion-

related validity of conscientiousness is higher in occupations that have characteristically weaker situations.

Considering the important role situational characteristics play in the personality-job performance relationship, the current study will test the power of the situation using employee autonomy as a proxy measure of situational strength. The degree of employee autonomy in the workplace can be conceptualized as the amount of freedom, independence, and discretion the employee has to select and structure his or her own projects, tasks, or schedule. The decision to use autonomy as a measure of situational strength was also supported by results from Barrick and Mount's (1993) study where they tested autonomy as a moderator of conscientiousness and general job performance on a sample of 146 managers. They found that the interaction of autonomy and conscientiousness uniquely explained 3% of the variance in job performance ratings. Autonomy was shown to moderate the conscientiousness-job performance relationship such that when job autonomy was high, a stronger positive relationship existed. One aim of the current study is to test whether this effect can be replicated with adaptive performance and to specifically answer the question, "Does employee autonomy moderate the overall or facet-level relationships between conscientiousness and adaptive performance?"

Appendix B: Recruiting Materials for Employee Participants

STUDY DESCRIPTION POSTED ON SONA

Study Name	Adaptive Job Performance
Abstract	YOU MUST BE EMPLOYED 20 HOURS/WEEK TO PARTICIPATE. This is an online study about your job's adaptive requirements, your personality, and your job performance.
Description	Adaptive Job Performance. You must be at least 18 years old to participate in this study and you must be employed and working at least 20 hours per week. The purpose of this study is to assess and understand adaptive job performance and how it may be predicted. Therefore, we are seeking participants who have jobs that require adaptability (jobs that may involve stress, learning new tasks or technologies, etc.). You will be asked to complete a survey that includes questions about your job's requirements, your personality, and your job performance, and you will be asked to provide your supervisor's name, e-mail, and phone number so that he or she may be invited to complete a short survey. Please have this information ready when you take the survey. You will also be asked to complete a short assessment that measures cognitive ability. The entire study is online and you can participate from any location with internet access. The study will take approximately 30-40 minutes to complete; some people may take less time, some people take more time. All participants will earn 0.5 units of credit for participating regardless of the amount of time they take to complete the study. When you sign up for this study, the researcher will receive your IUPUI e-mail address and within 24 hours you will receive two e-mails that include the links to the online survey and assessment. Once you receive these e-mails, you may choose to complete the online study anytime before the participation deadline.
Web Study	This is an online study. Participants are not given the study URL until after they sign up.
Eligibility Requirements	You must be 18 years of age or older AND work at least 20 hours per week to participate in this study.
Duration	35 minutes
Credits	0.5 Credits

STUDY DESCRIPTION PROVIDED IN PSYCHOLOGY CLASSES

You are invited to participate in a master's thesis study about adaptive job performance and how is may be predicted. This is an online study that should take no more than 30-40 minutes to complete and will be worth *credit filled in by professor* points of extra credit. You must be 18 years of age or older to participate in this study and you must be employed 20 hours per week. You will be asked to complete a survey that includes questions about your job's requirements, your personality, and your job performance, and you will be asked to provide your supervisor's name, e-mail, and phone number so that he or she may be invited to complete a short survey. Please have this information ready when you take the survey. You will also be asked to complete a short assessment that measures cognitive ability. A list of all individuals completing the survey will be provided to your professor; this is how you will receive your credit. There is no penalty for choosing not to participate, and you may discontinue your participation at any time. An alternate form of extra credit will be made available should you choose not to participate. This study has been approved by the Institutional Review Board. **If you would like to participate, please send your full name, e-mail address, and this course name and number to Megan Crowley (megcrowl@iupui.edu) before *date filled in by professor*.** She will send you two e-mails that include the links to the online survey and assessment. Once you receive the two e-mails, you will have until ***date filled in by professor*** to complete the study. If you have any questions, feel free to contact the researchers, Megan Crowley via e-mail (xxxxxxxx@iupui.edu) or by phone (XXX) XXX-XXXX, or Dr. John Hazer via e-mail (xxxxxxx@iupui.edu) or by phone (XXX) XXX-XXXX. Thank you!

FIRST EMAIL SENT TO PARTICIPANTS [RECRUITED THROUGH SONA]

Dear Student,

Thank you for signing up for this Adaptive Performance study on the IUPUI Research Participation site. The study has two parts:

> **Part 1**: Clicking the link below will take you to an online survey where you will be asked to answer questions about your job, your adaptive performance, and your personality. Complete this survey first.
> **Part 2**: You will receive (or should have already received) an email from *Wonderlic Online* inviting you to complete an online assessment for "IUPUI" that measures cognitive ability. Click the link in that email to complete Part 2 of this study.

Together, the two parts of the study should take approximately 30-40 minutes, and you will receive 0.5 research credits for participating.

When you are ready to begin Part 1, click here.

Thank you for your participation.

Megan Crowley

If you have any questions, feel free to contact the researchers, Megan Crowley via e-mail (xxxxxxxx@iupui.edu) or by phone (XXX) XXX-XXXX, or Dr. John Hazer via e-mail (xxxxxxx@iupui.edu) or by phone (XXX) XXX-XXXX.

FIRST EMAIL SENT TO PARTICIPANTS [RECRUITED THROUGH PSYCHOLOGY CLASSES]

Dear Student,

Thank you for agreeing to participate in this Adaptive Job Performance study. The study has two parts:

> **Part 1**: Clicking the link below will take you to an online survey where you will be asked to answer questions about your job, your adaptive performance, and your personality. Complete this survey first.
> **Part 2**: You will receive (or should have already received) an email from *Wonderlic Online* inviting you to complete an online assessment for "IUPUI" that measures cognitive ability. Click the link in that email to complete Part 2 of this study.

Together, the two parts of the study should take approximately 30-40 minutes, and you will receive extra credit for participating.

When you are ready to begin Part 1, click here.

Thank you for your participation.

Megan Crowley

If you have any questions, feel free to contact the researchers, Megan Crowley via e-mail (xxxxxxxx@iupui.edu) or by phone (XXX) XXX-XXXX, or Dr. John Hazer via e-mail (xxxxxxx@iupui.edu) or by phone (XXX) XXX-XXXX.

SECOND EMAIL SENT TO PARTICIPANTS

Dear _____,

IUPUI has invited you to complete their assessment process:

Instructions:

- Before beginning, please choose a quiet location where you will not be interrupted.
- Disable all pop-up blockers and toolbars within your browser.
- For some assessments it is recommended that you have available scratch paper and a pen/pencil.
- Continue through the assessment process until you receive notice that "All necessary assessments have been completed."
- The length of time necessary to complete the assessment(s) varies. If you need to stop during the process it is recommended that you do so upon receipt of an "Intermission" page. At that point, you will need to reenter by clicking on the link below.

System Requirements:

To take the assessment(s) you need to use one of the following browsers:

- Microsoft Internet Explorer 6.0 or higher (for PC users)
- Mozilla Firefox 2.0 or higher (Mac or PC users)
- **Please Note: Smart phone and/or hand-held device browsers are not compatible with Wonderlic assessments.**

When you are ready to begin, click here.

If you experience technical difficulties, please reply to this email or call Wonderlic Technical Support, Monday through Friday between the hours of 7:30 am and 7:00 pm Central Time at 800-215-5069.

Sincerely,

Wonderlic Technical Support
800-215-5069

Appendix C: Recruiting Materials for Supervisor Participants

EMAIL SENT TO SUPERVISORS OF EMPLOYEE PARTICIPANTS

Dear *name*,

You are being invited to participate in a research project focused on a new work performance domain called adaptive performance. The purpose of this study is to help identify what factors or traits can be used to predict job adaptive performance.

You are being invited to participate because IUPUI student ***name*** recently completed a survey as a part of this research project, and *he/she* identified you as *his/her* direct work supervisor. In order to fully use the student's survey data, I need to obtain your ratings of the student's adaptive performance at work and ask a few questions related to the student's autonomy and adaptive job requirements. Your participation will help enhance the interpretation of the results of the student's survey, and your input is valued because you can provide a more objective view of the student's performance.

If you agree to participate, clicking the link below will take you to an online survey which should take approximately 15-20 minutes to complete. *Neither the student you supervise, nor the organization you work for, will see or have access to your responses.* Your responses will be held in complete confidence and grouped with other supervisor responses. Therefore, you will not be identified in any information when the results are written up and shared with others through presentations and publications.

Your data will only be linked to the student's data using the following randomly assigned number:

0000
You will be asked to enter this number on the survey.

Please follow the link below to complete the survey.
Adaptive Performance Supervisor Survey Link

Thank you for your participation.

Megan Crowley

If you have any questions, feel free to contact the researchers, Megan Crowley via e-mail (xxxxxxxx@iupui.edu) or by phone (XXX) XXX-XXXX, or Dr. John Hazer via e-mail (xxxxxxx@iupui.edu) or by phone (XXX) XXX-XXXX.

Appendix D: Survey for Employee Participants

FIRST PAGE OF ONLINE SURVEY

Agreement to Participate (IRB Study #1012004462)

Please read this page before completing the survey.

You are invited to participate in this survey which is part of a research project focused on a new work performance domain called adaptive performance. The purpose of this study is to help identify what factors or traits can be used to predict adaptive performance.

This study has two parts:
(1) In the first part you will be asked to answer questions about your job's requirements and your autonomy, your personality, and your own adaptive performance. You will be asked to provide your name and email so that you can receive credit for your participation. You will also be asked to provide your direct work supervisor's name, email, and phone number so that he or she may be asked to participate in the study. Your supervisor will be notified that you participated in the study and he or she will be asked to rate your adaptive performance. Your supervisor will not see or have access to any of your survey responses.
(2) For the second part of the study (which should follow immediately after the first part), you will receive an email from Wonderlic Online with a link to a short assessment that measures cognitive ability.

All identifying information (your name, email, supervisor's name, email, etc.) will be kept in a file separate from your survey responses, and it will be destroyed after you have received credit and your supervisor has been contacted. Your responses from both parts of the study will be held in complete confidence and you will not be personally identified in any information when the results are written up and shared with others through presentations and publications.

Together the two parts of the study should take approximately 30-40 minutes to complete and you will receive 0.5 research credits for participating. If you agree to participate, you will be one of approximately 250 students to do so. Your participation in this study is voluntary, and you may refuse to participate or discontinue your participation at any time with no penalty.

Do you agree to participate in the study?

- ◯ Yes, I agree
- ◯ No, I do not agree

SECOND PAGE OF ONLINE SURVEY

Information

Please provide your name and your email address so that we can give you credit for participating in the study. Please provide your company's name, supervisor's name, email address, and telephone number so that we can ask your supervisor to participate in the study and provide ratings of your adaptive performance. Your supervisor will have no access to your survey responses. Your data will only be linked to your supervisor's data using an arbitrary, random number. Your name and personal information will be separated from your responses on the rest of the survey so that YOUR INDIVIDUAL RESPONSES WILL NOT BE IDENTIFIABLE.

1. Your LAST name:

2. Your FIRST name:

3. Your full EMAIL address:

4. The NAME OF THE COMPANY where you work:

5. Your direct work supervisor's LAST name:

6. Your direct work supervisor's FIRST name:

7. Your direct work supervisor's full EMAIL address:

8. Your direct work supervisor's TELEPHONE NUMBER with area code:

ADAPTIVE REQUIREMENTS MEASURE

Job's Adaptive Requirements

1. Indicate to what extent your job requires you to perform each of the eight adaptive behaviors below. That is, to what extent is each of the behavioral dimensions below a part of your job:

	No Extent	Slight Extent	Moderate Extent	Great Extent	Very Great Extent
HANDLING EMERGENCY OR CRISIS SITUATIONS (reacting appropriately, and with appropriate urgency in threatening, dangerous, or emergency situations)	o	o	o	o	o
DEMONSTRATING INTERPERSONAL ADAPTABILITY (being flexible, open-minded, and cooperative when dealing with others; listening to and considering others' viewpoints and opinions)	o	o	o	o	o
DEALING EFFECTIVELY WITH UNPREDICTABLE OR CHANGING WORK SITUATIONS (readily and easily changing gears in response to unexpected events and circumstances; effectively adjusting plans, goals, actions, or priorities to deal with changing situations)	o	o	o	o	o
DEMONSTRATING PHYSICALLY-ORIENTED ADAPTABILITY (adjusting to tough environmental states such as extreme heat, humidity, cold, etc.; frequently pushing self physically to complete strenuous or demanding tasks)	o	o	o	o	o
LEARNING WORK TASKS, TECHNOLOGIES AND PROCEDURES (demonstrating enthusiasm for learning new approaches for conducting work; doing whatever is necessary to keep knowledge and skills current in a rapidly changing environment)	o	o	o	o	o
HANDLING WORK STRESS (remaining composed and cool when faced with difficult circumstances, or a highly demanding workload/schedule; managing frustration well by directing effort to constructive solutions and not blaming others)	o	o	o	o	o
DISPLAYING CULTURAL ADAPTABILITY (taking action to learn about and understand the climate, orientation, needs and values of other groups, organizations, or cultures; integrating well and being comfortable with different values, customs, and cultures)	o	o	o	o	o
SOLVING PROBLEMS CREATIVELY (employing unique analyses, and generating new, innovative ideas in complex areas; developing innovative methods of obtaining or utilizing resources when insufficient resources are available to do the job)	o	o	o	o	o

AUTONOMY MEASURE

Autonomy

Definition of Autonomy: the amount of freedom, independence, and discretion an employee has to select and structure his or her own job projects, tasks, or schedule

1. Indicate for each statement how accurately it describes the job you perform.

	Very Inaccurate	Moderately Inaccurate	Neither Accurate Nor Inaccurate	Moderately Accurate	Very Accurate
There is a lot of autonomy in doing the job.	O	O	O	O	O
The job is quite simple and repetitive.	O	O	O	O	O
I can decide when to do particular work activities.*	O	O	O	O	O
If someone else did the job, he or she could do the tasks in a very different manner than I do.**	O	O	O	O	O
I have some control over what I am supposed to accomplish.*	O	O	O	O	O
The way the job is performed is influenced a great deal by what others (supervisors, peers, customers, etc.) expect of the person in the job.	O	O	O	O	O
I am allowed to decide how to go about getting my job done.*	O	O	O	O	O
The way the job is performed is influenced a great deal by company rules, policies and procedures.	O	O	O	O	O
The work itself provides a lot of clues about what the person in the job should do to get the job done.	O	O	O	O	O

Note. Items marked with asterisks were included in the final 4-item measure of autonomy. The items with one asterisk are from Breaugh's (1985) measure, and the item with two asterisks is from Barrick and Mount's (1993) measure.

IPIP FACET-LEVEL CONSCIENTIOUSNESS MEASURE

Personality

How accurately can you describe yourself?

1. 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.

Indicate for each statement how accurately it describes you (in GENERAL, not just at work).
I...

	Very Inaccurate	Moderately Inaccurate	Neither Accurate Nor Inaccurate	Moderately Accurate	Very Accurate
Complete tasks successfully.	O	O	O	O	O
Often forget to put things back in the proper place.	O	O	O	O	O
Go straight for the goal.	O	O	O	O	O
Break rules.	O	O	O	O	O
Get chores done right away.	O	O	O	O	O
Jump into things without thinking.	O	O	O	O	O
Misjudge situations.	O	O	O	O	O
Like order.	O	O	O	O	O
Pay attention to details.	O	O	O	O	O
Am not highly motivated to succeed.	O	O	O	O	O
Try to follow the rules.	O	O	O	O	O
Find it difficult to get down to work.	O	O	O	O	O
Avoid mistakes.	O	O	O	O	O
Excel in what I do.	O	O	O	O	O
Leave a mess in my room.	O	O	O	O	O
Work hard.	O	O	O	O	O

	Very Inaccurate	Moderately Inaccurate	Neither Accurate Nor Inaccurate	Moderately Accurate	Very Accurate
Break my promises.	O	O	O	O	O
Am always prepared.	O	O	O	O	O
Make rash decisions.	O	O	O	O	O
Don't understand things.	O	O	O	O	O
Like to tidy up.	O	O	O	O	O
Don't see things through.	O	O	O	O	O
Turn plans into actions.	O	O	O	O	O
Keep my promises.	O	O	O	O	O
Waste my time.	O	O	O	O	O
Like to act on a whim.	O	O	O	O	O
Handle tasks smoothly.	O	O	O	O	O
Leave my belongings around.	O	O	O	O	O
Plunge into tasks with all my heart.	O	O	O	O	O
Get others to do my duties.	O	O	O	O	O
Make plans and stick to them.	O	O	O	O	O
Start tasks right away.	O	O	O	O	O
Rush into things.	O	O	O	O	O
Am sure of my ground.	O	O	O	O	O
Want everything to be "just right."	O	O	O	O	O
Do just enough work to get by.	O	O	O	O	O
Pay my bills on time.	O	O	O	O	O
Need a push to get started.	O	O	O	O	O
Do crazy things.	O	O	O	O	O
Have little to contribute.	O	O	O	O	O
Love order and regularity.	O	O	O	O	O
Do more than what's expected of me.	O	O	O	O	O
Tell the truth.	O	O	O	O	O
Have difficulty starting tasks.	O	O	O	O	O

	Very Inaccurate	Moderately Inaccurate	Neither Accurate Nor Inaccurate	Moderately Accurate	Very Accurate
Choose my words with care.	O	O	O	O	O
Come up with good solutions.	O	O	O	O	O
Am not bothered by messy people.	O	O	O	O	O
Shirk my duties.	O	O	O	O	O
Set high standards for myself and others.	O	O	O	O	O
Do the opposite of what is asked.	O	O	O	O	O
Get to work at once.	O	O	O	O	O
Act without thinking.	O	O	O	O	O
Don't see the consequences of things.	O	O	O	O	O
Do things according to a plan.	O	O	O	O	O
Put little time and effort into my work.	O	O	O	O	O
Listen to my conscience.	O	O	O	O	O
Postpone decisions.	O	O	O	O	O
Stick to my chosen path.	O	O	O	O	O
Know how to get things done.	O	O	O	O	O
Am not bothered by disorder.	O	O	O	O	O
Demand quality.	O	O	O	O	O
Misrepresent the facts.	O	O	O	O	O
Carry out my plans.	O	O	O	O	O
Often make last-minute plans.	O	O	O	O	O

GLOBAL CONSCIENTIOUSNESS MEASURE

Conscientiousness

Definition of Conscientiousness: a personality trait used to describe someone who is cautious, thorough, diligent, orderly, self-disciplined, dependable, competent, and achievement oriented with a need for excellence.

1. Using the definition of conscientiousness provided above, please respond to the following items:

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
Generally, I would describe myself to others as being a conscientious person.	O	O	O	O	O
Others would likely describe me as a conscientious individual.	O	O	O	O	O
Internally, I consider myself to be a conscientious person in general.	O	O	O	O	O

Worker Adaptive Performance: Rating Instructions

How Would You Rate Your Own Performance?

The next nine pages of the survey contain the rating scales you will use to rate your job adaptability. Each page represents a different performance category. Please read the instructions below before making your ratings.

MAKING YOUR RATINGS

At the top of each page you will be provided with the title and description of an adaptive performance category. Each page also contains a scale with 7 distinct numeric ratings from which to choose (1-7) plus a “not applicable” option. Below the numeric scale, three rating standards are provided with summary statements that describe "below average," "fully successful," and "exceptional" performance.

When making your ratings, please read the category title, description, and the rating standards and compare your current typical performance with the rating standards for that category.

Once you have chosen a rating, make sure you select the number that corresponds with your performance rating or select “N/A” if a performance category is not applicable to your particular job.

IMPORTANT POINTS TO REMEMBER

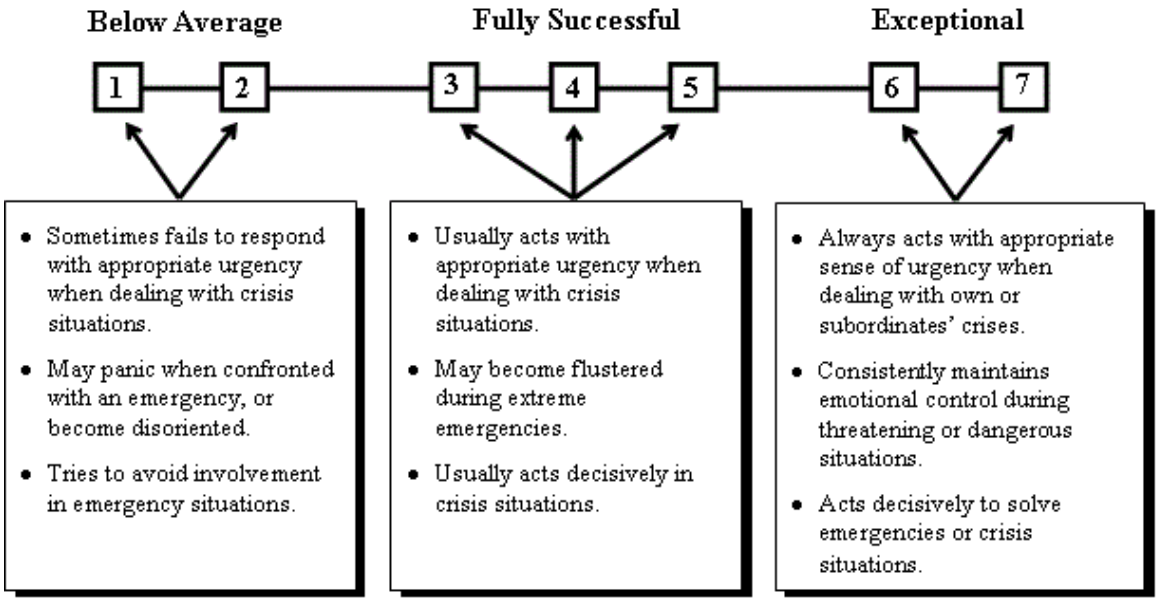
1. Try not to give yourself the same rating for all categories. Most people perform well in some categories and less effectively in others. Your ratings should show your individual strengths and weaknesses, as appropriate.
2. The most important point is to MAKE YOUR RATINGS AS ACCURATE AS POSSIBLE and describe your typical performance. This is the best way to help us evaluate adaptive performance.

HANDLING EMERGENCIES OR CRISIS SITUATIONS

Reacting appropriately, and with appropriate urgency in threatening, dangerous, or emergency situations.

1. How effective are you at handling emergencies or crisis situations at work? [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

O 1 O 2 O 3 O 4 O 5 O 6 O 7 O **Not Applicable**

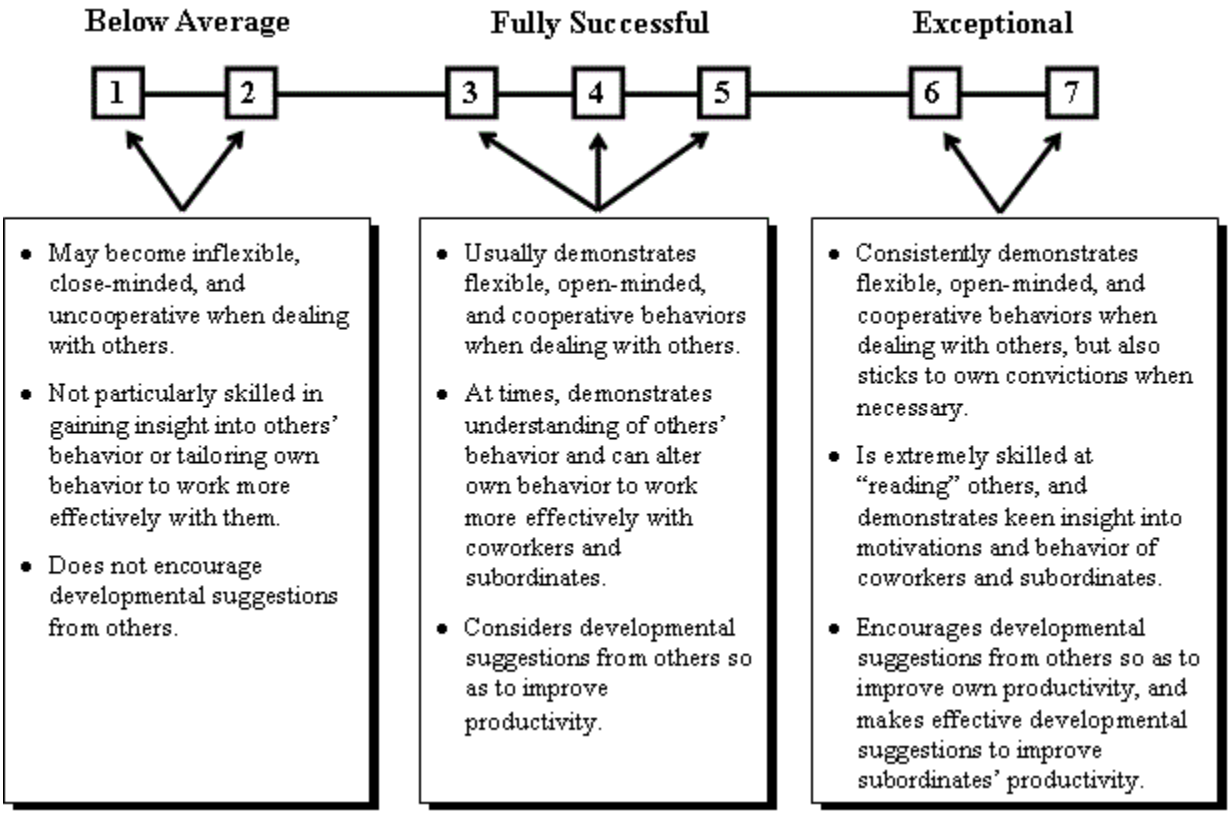


DEMONSTRATING INTERPERSONAL ADAPTABILITY

Being flexible, open-minded, and cooperative when dealing with others; listening to and considering others' viewpoints and opinions.

1. How effective are you at being interpersonally adaptable at work? [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

O 1 O 2 O 3 O 4 O 5 O 6 O 7 O **Not Applicable**

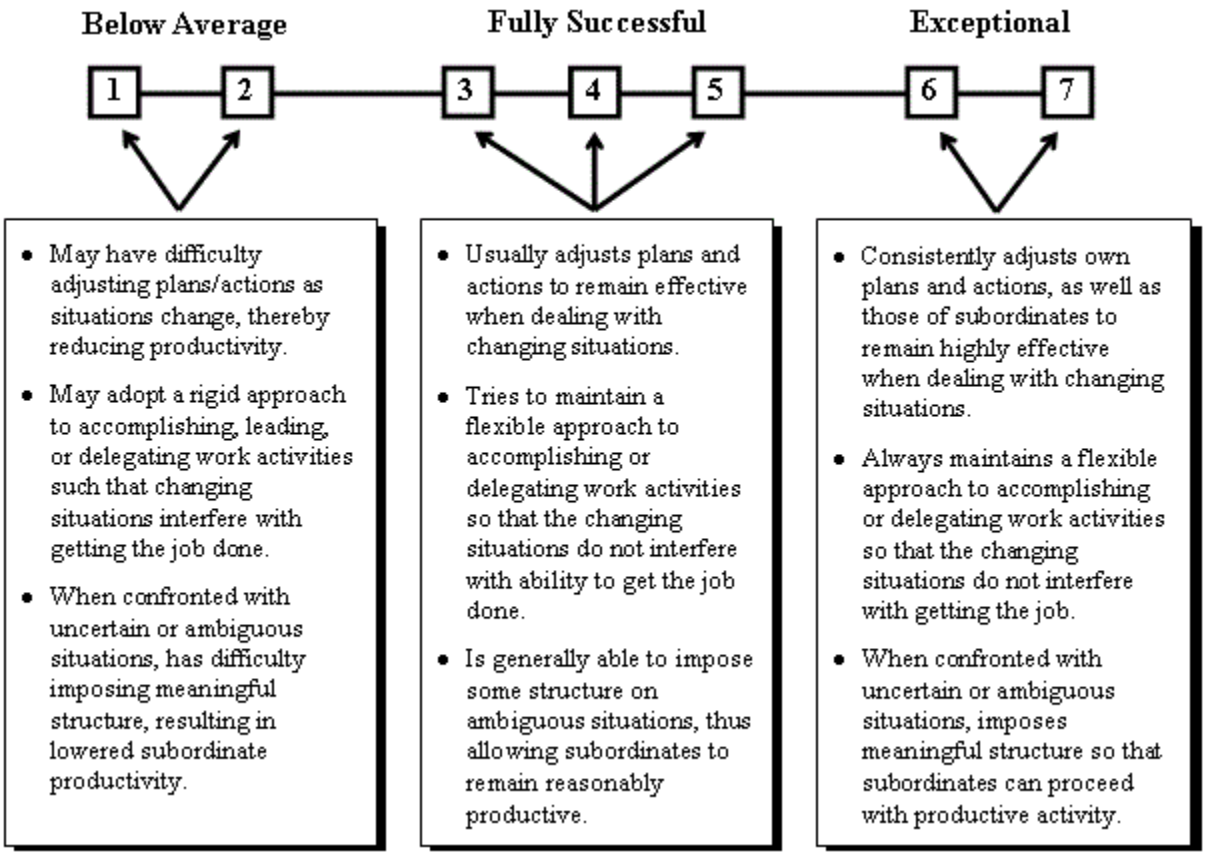


DEALING EFFECTIVELY WITH UNPREDICTABLE OR CHANGING WORK SITUATIONS

Readily and easily changing gears in response to unexpected events and circumstances; effectively adjusting plans, goals, actions, or priorities to deal with changing situations.

1. How effectively do you deal with unpredictable or changing work situations? [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

O 1 O 2 O 3 O 4 O 5 O 6 O 7 O **Not Applicable**

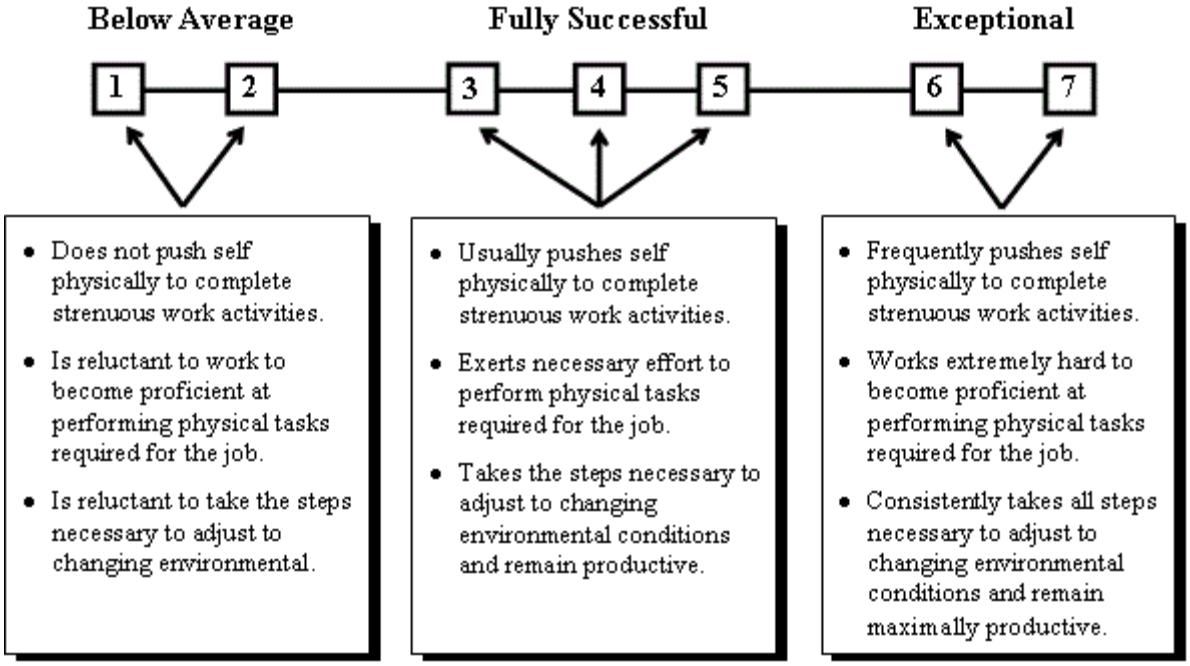


DEMONSTRATING PHYSICALLY-ORIENTED ADAPTABILITY

Adjusting to tough environmental states such as extreme heat, humidity, cold, etc.; frequently pushing self physically to complete strenuous or demanding tasks.

1. How effective are you at being physically adaptable at work? [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

O 1 O 2 O 3 O 4 O 5 O 6 O 7 O **Not Applicable**

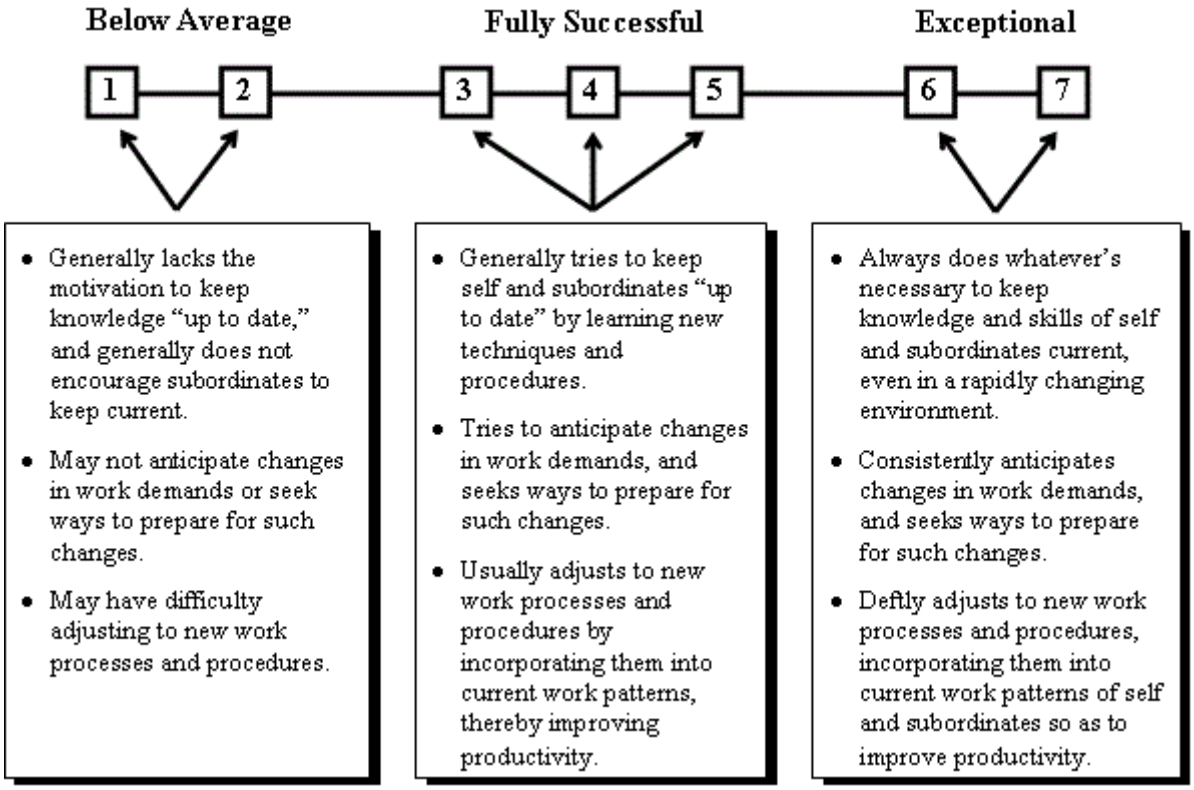


LEARNING WORK TASKS, TECHNOLOGIES AND PROCEDURES

Demonstrating enthusiasm for learning new approaches for conducting work; doing whatever is necessary to keep knowledge and skills current in a rapidly changing environment.

1. How effective are you at learning new work tasks, technologies, and procedures? [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

O 1 O 2 O 3 O 4 O 5 O 6 O 7 O **Not Applicable**

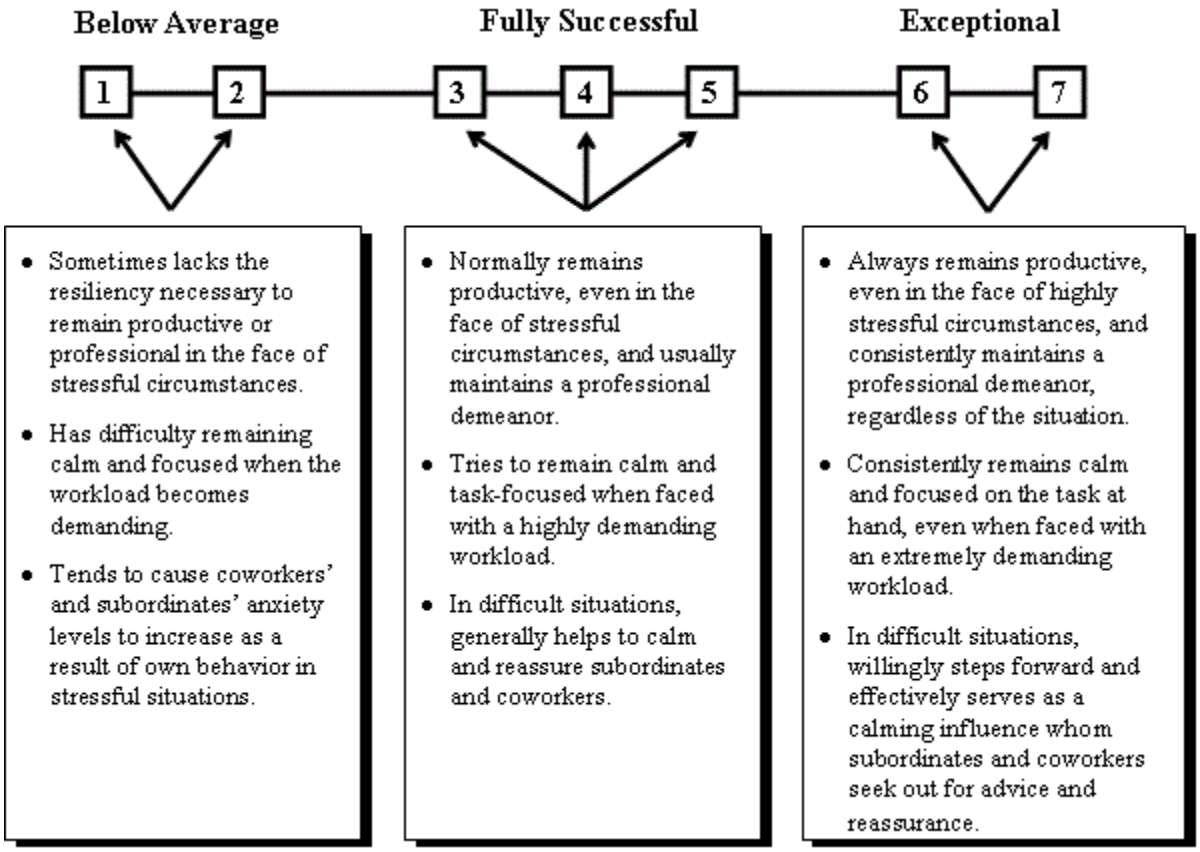


HANDLING WORK STRESS

Remaining composed and cool when faced with difficult circumstances, or a highly demanding workload/schedule; managing frustration well by directing effort to constructive solutions and not blaming others.

1. How effective are you at handling work stress? [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

O 1 O 2 O 3 O 4 O 5 O 6 O 7 O **Not Applicable**

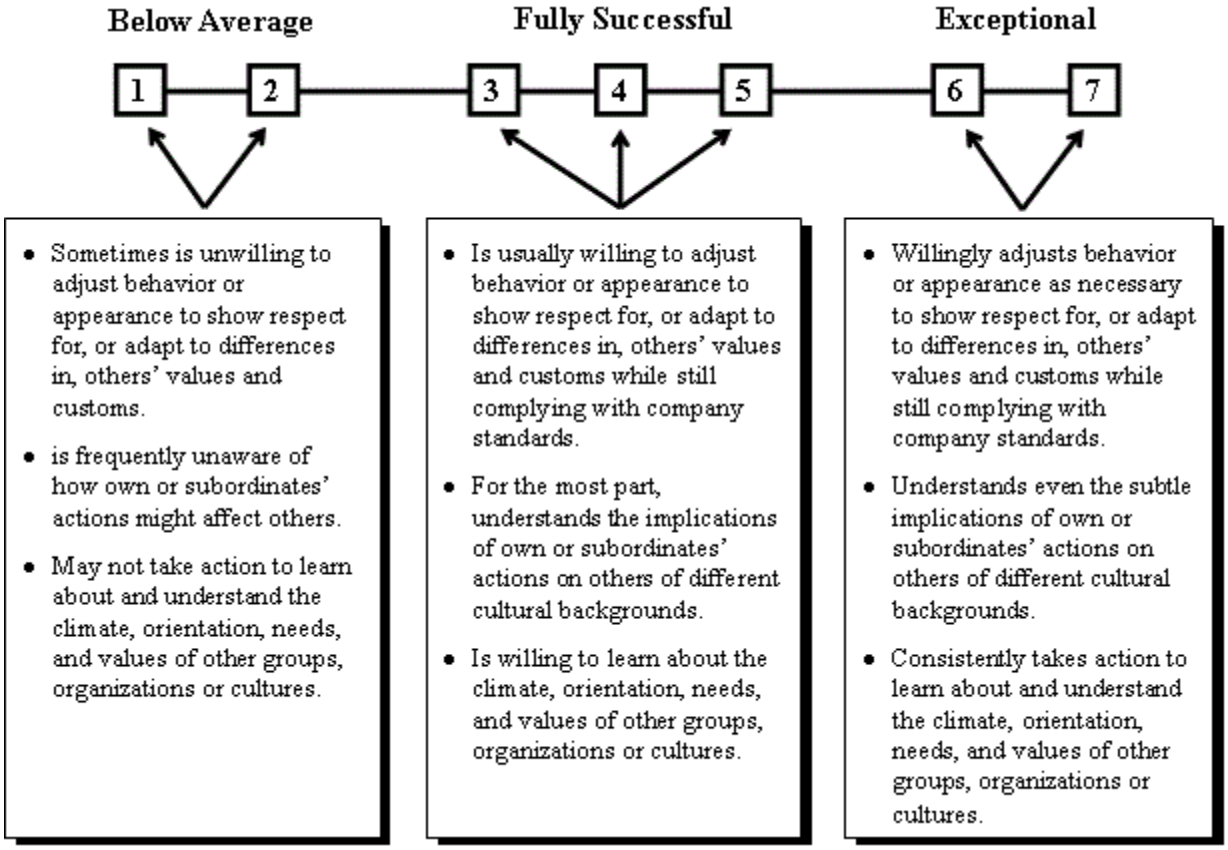


DISPLAYING CULTURAL ADAPTABILITY

Taking action to learn about and understand the climate, orientation, needs and values of other groups, organizations, or cultures; integrating well and being comfortable with different values, customs, and cultures.

1. How effective are you at being culturally adaptable at work? [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

O 1 O 2 O 3 O 4 O 5 O 6 O 7 O **Not Applicable**

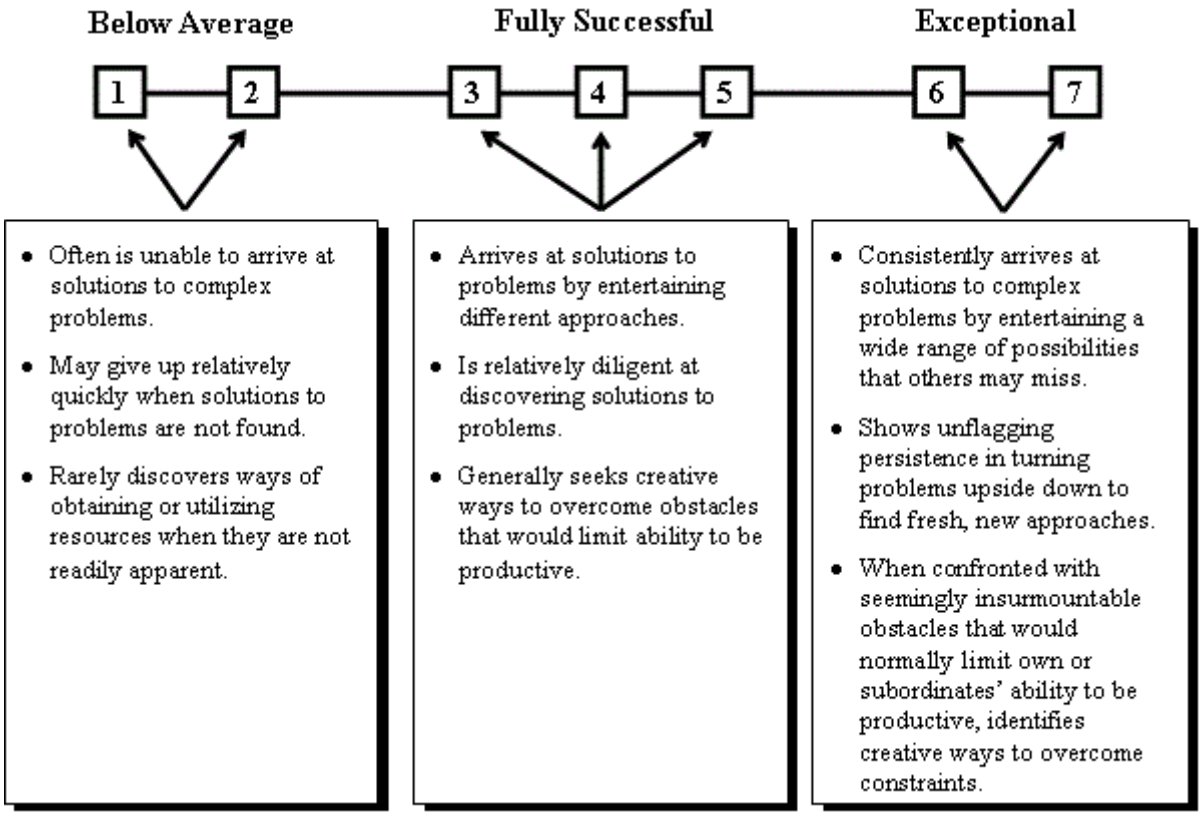


SOLVING PROBLEMS CREATIVELY

Employing unique analyses, and generating new, innovative ideas in complex areas; developing innovative methods of obtaining or utilizing resources when insufficient resources are available to do the job.

1. How effective are you at creatively solving problems at work? [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

O 1 O 2 O 3 O 4 O 5 O 6 O 7 O **Not Applicable**

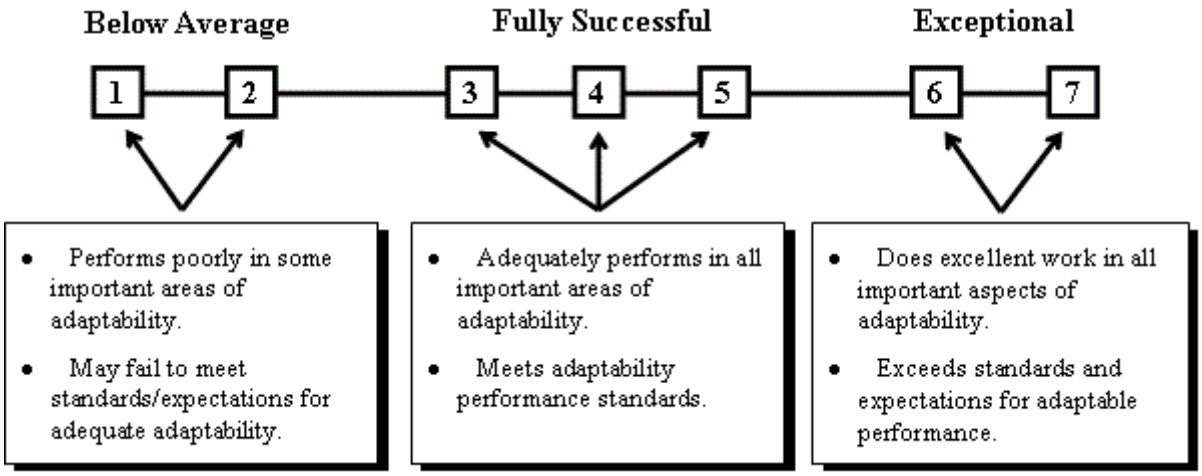


OVERALL ADAPTIVE PERFORMANCE

The eight scales you have just used represent different areas of adaptability important for worker effectiveness. The scale below asks you to rate the overall adaptive performance of your work, taking into account behavior related to all of the previous categories.

1. Please rate your overall adaptive performance at work. [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

O 1 O 2 O 3 O 4 O 5 O 6 O 7 O **Not Applicable**



DEMOGRAPHICS MEASURE

Demographic Information

Please complete the following information about YOURSELF.

1. Age:

2. Sex (select one):

O Male O Female

3. Ethnicity (select one):

O White
O Hispanic or Latino
O Black or African-American
O Asian
O Native Hawaiian or Other Pacific Islander
O American Indian or Alaska Native
O Two or more races

4. Year in college (select one):

O First O Second O Third O Fourth O Fifth O Sixth +

5. Major(s):

6. Number of credit hours you are currently taking:

7. Job title:

8. Job industry (select one):

- O Accommodation and Food Services
- O Administrative and Support Services
- O Agriculture, Forestry, Fishing, and Hunting
- O Arts, Entertainment, and Recreation
- O Construction
- O Educational Services
- O Finance and Insurance
- O Government
- O Health Care and Social Assistance
- O Information
- O Management of Companies and Enterprises
- O Manufacturing
- O Mining, Quarrying, and Oil and Gas Extraction
- O Other Services
- O Professional, Scientific, and Technical Services
- O Real Estate and Rental and Leasing
- O Retail
- O Self-Employed
- O Transportation and Warehousing
- O Utilities
- O Wholesale Trade

Other (please specify)

9. Length of time in current job:

Years

Months

10. Number of hours worked per week:

CLOSING PAGE OF SURVEY FOR EMPLOYEE PARTICIPANTS

Thank you for your participation in the first part of this study. You should have already received an email from Wonderlic Online with a link to the second part of this study, which is a measure of cognitive ability that should take only 10 minutes to complete.

PLEASE COMPLETE THE WONDERLIC ASSESSMENT IMMEDIATELY and then your participation in the study will be complete and you will receive your course extra credit.

If you have any questions, please feel free to contact the researchers, Megan Crowley by e-mail (xxxxxxxx@iupui.edu) or by phone (XXX) XXX-XXXX, or Dr. John Hazer via e-mail (xxxxxxx@iupui.edu) or by phone (XXX) XXX-XXXX.

Your participation in this study will help us understand more about adaptive work performance and how it may be predicted. If you would like more information related to this study, the following research articles are available through the University Library:

Barrick, M.R., & Mount, M.K. (1993). Autonomy as a moderator of the relationships between the Big Five personality dimensions and job performance. Journal of Applied Psychology, 78(1), 111-118.

Pulakos, E.D., Arad, S., Donovan, M.A., & Plamondon, K.E. (2000). Adaptability in the workplace: Development of a taxonomy of adaptive performance. Journal of Applied Psychology, 85(4), 612-624.

Appendix E: Survey for Supervisor Participants

FIRST PAGE OF ONLINE SUPERVISOR SURVEY

Agreement to Participate (IRB Study #1012004462)

Please read this page before completing the survey.

You are invited to participate in this survey which is part of a research project focused on a new work performance domain called adaptive performance. The purpose of this study is to help work organizations identify what factors or traits can be used to predict employee adaptive performance.

You have been invited to participate in this study because you were identified as the direct supervisor of a student employee who has completed the Adaptive Performance Student Survey. In this survey, you will be asked to answer questions about the student's autonomy at work and his or her job's adaptive requirements, and then you will rate the student's adaptive performance.

The study should take approximately 15-20 minutes to complete. Neither the student you supervise nor the organization you work for will see or have access to your responses. Your data will only be linked to the student's data using the randomly assigned number you were provided in your invitation email. Your responses will be held in complete confidence and you will not be identified in any information when the results are written up and shared with others through presentations and publications.

Your participation in this study is voluntary, and you may refuse to participate or discontinue your participation at any time.

Do you agree to participate in the study?

- ◯ Yes, I agree
- ◯ No, I do not agree

SECOND PAGE OF ONLINE SUPERVISOR SURVEY

Linking Number

Please enter the randomly assigned number that was provided in the email inviting you to participate in this study. The number will be used to link your data to the data of the student you supervise. The student will have no access to your survey responses.

1. Linking number:

ADAPTIVE REQUIREMENTS MEASURE – FOR SUPERVISORS

Job's Adaptive Requirements

1. Indicate to what extent the job of the student you supervise requires the student to perform each of the eight adaptive behaviors below using the scale provided. That is, to what extent is each of the behavioral dimensions below a part of the student's job:

	No Extent	Slight Extent	Moderate Extent	Great Extent	Very Great Extent
HANDLING EMERGENCY OR CRISIS SITUATIONS (reacting appropriately, and with appropriate urgency in threatening, dangerous, or emergency situations)	O	O	O	O	O
DEMONSTRATING INTERPERSONAL ADAPTABILITY (being flexible, open-minded, and cooperative when dealing with others; listening to and considering others' viewpoints and opinions)	O	O	O	O	O
DEALING EFFECTIVELY WITH UNPREDICTABLE OR CHANGING WORK SITUATIONS (readily and easily changing gears in response to unexpected events and circumstances; effectively adjusting plans, goals, actions, or priorities to deal with changing situations)	O	O	O	O	O
DEMONSTRATING PHYSICALLY-ORIENTED ADAPTABILITY (adjusting to tough environmental states such as extreme heat, humidity, cold, etc.; frequently pushing self physically to complete strenuous or demanding tasks)	O	O	O	O	O
LEARNING WORK TASKS, TECHNOLOGIES AND PROCEDURES (demonstrating enthusiasm for learning new approaches for conducting work; doing whatever is necessary to keep knowledge and skills current in a rapidly changing environment)	O	O	O	O	O
HANDLING WORK STRESS (remaining composed and cool when faced with difficult circumstances, or a highly demanding workload/schedule; managing frustration well by directing effort to constructive solutions and not blaming others)	O	O	O	O	O
DISPLAYING CULTURAL ADAPTABILITY (taking action to learn about and understand the climate, orientation, needs and values of other groups, organizations, or cultures; integrating well and being comfortable with different values, customs, and cultures)	O	O	O	O	O
SOLVING PROBLEMS CREATIVELY (employing unique analyses, and generating new, innovative ideas in complex areas; developing innovative methods of obtaining or utilizing resources when insufficient resources are available to do the job)	O	O	O	O	O

AUTONOMY MEASURE – FOR SUPERVISORS

Autonomy

Definition of Autonomy: the amount of freedom, independence, and discretion an employee has to select and structure his or her own job projects, tasks, or schedule

1. Indicate for each statement how accurately it describes the job performed by the student you supervise.

	Very Inaccurate	Moderately Inaccurate	Neither Accurate Nor Inaccurate	Moderately Accurate	Very Accurate
There is a lot of autonomy in doing the job.	O	O	O	O	O
The job is quite simple and repetitive.	O	O	O	O	O
The person in the job can decide when to do particular work activities.*	O	O	O	O	O
If someone else did the job, he or she could do the tasks in a very different manner than the current person in the job does them.**	O	O	O	O	O
The person in the job has some control over what is supposed to be accomplished.*	O	O	O	O	O
The way the job is performed is influenced a great deal by what others (supervisors, peers, customers, etc.) expect of the person in the job.	O	O	O	O	O
The person in the job is allowed to decide how to go about getting the job done.*	O	O	O	O	O
The way the job is performed is influenced a great deal by company rules, policies and procedures.	O	O	O	O	O
The work itself provides a lot of clues about what the person in the job should do to get the job done.	O	O	O	O	O

Note. Items marked with asterisks were included in the final 4-item measure of autonomy. The items with one asterisk are from Breaugh's (1985) measure, and the item with two asterisks is from Barrick and Mount's (1993) measure.

ADAPTIVE PERFORMANCE MEASURE – FOR SUPERVISORS

Worker Adaptive Performance: Rating Instructions

The next nine pages of the survey contain the rating scales you will use to rate the job adaptability of the student you supervise. Each page represents a different performance category. Please read the instructions below before making your ratings.

MAKING YOUR RATINGS

At the top of each page you will be provided with the title and description of an adaptive performance category. Each page also contains a scale with 7 distinct numeric ratings from which to choose (1-7) plus a “not applicable” option. Below the numeric scale, three rating standards are provided with summary statements that describe "below average," "fully successful," and "exceptional" performance.

When making your ratings, please read the category title, description, and the rating standards and compare the worker’s current typical performance with the rating standards for that category.

Once you have chosen a rating that best reflects the worker's typical performance, make sure you select the number that corresponds with your performance rating or select “N/A” if a performance category is not applicable to the student’s particular job.

IMPORTANT POINTS TO REMEMBER

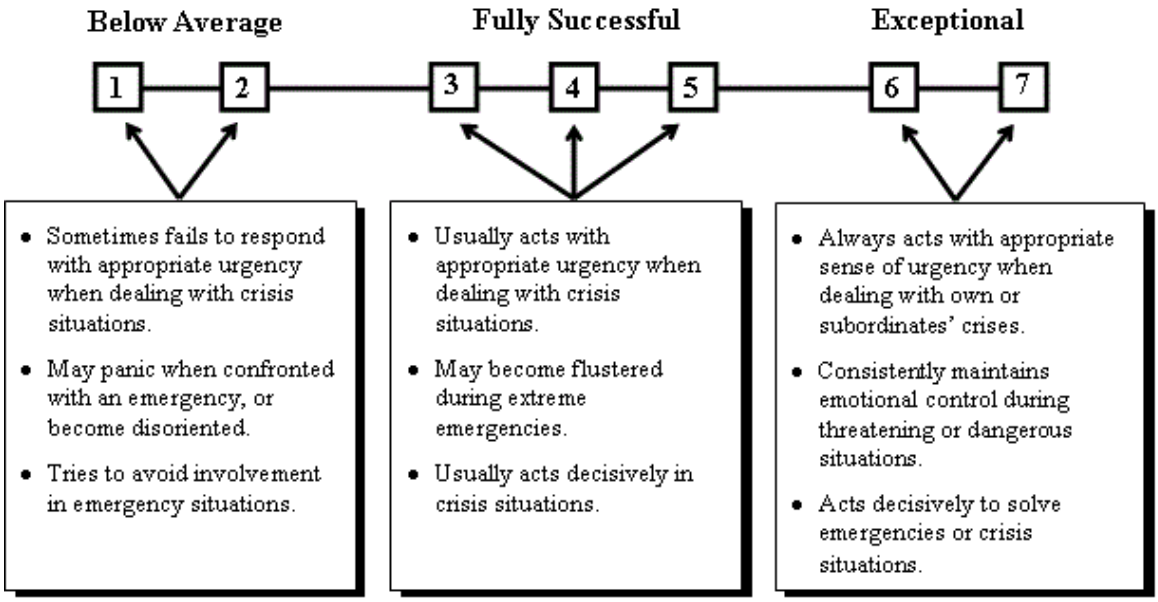
1. Try not to give a worker the same rating for all categories. Most people will perform well in some categories and less effectively in others. Your ratings should show the worker’s individual strengths and weaknesses, as appropriate.
2. Avoid being influenced by such things as appearance, background, and other personal characteristics that are not directly related to performance.
3. Please rate independently (do not confer with others).
4. The most important point is to make your ratings as accurate as possible and describe the worker’s typical performance. This is the best way to help us evaluate adaptive performance.

HANDLING EMERGENCIES OR CRISIS SITUATIONS

Reacting appropriately, and with appropriate urgency in threatening, dangerous, or emergency situations.

1. How effective is this worker at handling emergencies or crisis situations? [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

O 1 O 2 O 3 O 4 O 5 O 6 O 7 O **Not Applicable**

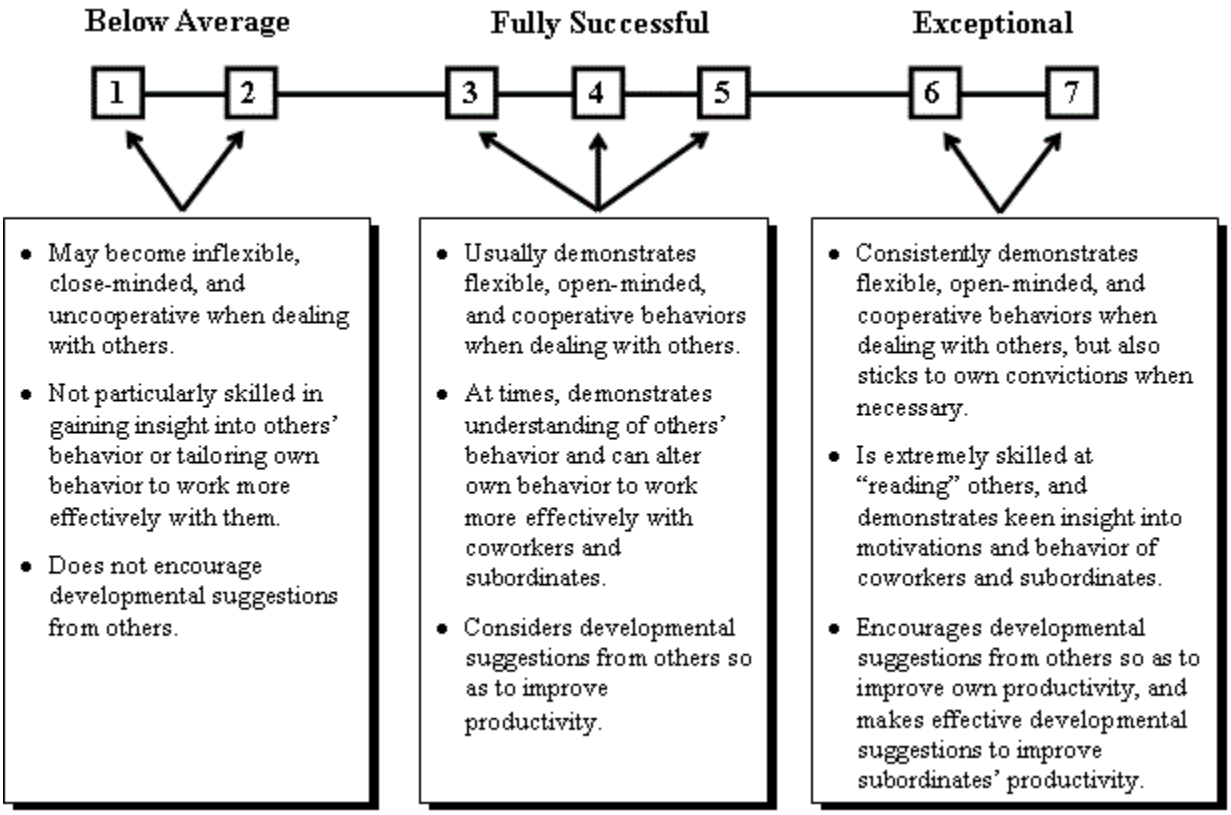


DEMONSTRATING INTERPERSONAL ADAPTABILITY

Being flexible, open-minded, and cooperative when dealing with others; listening to and considering others' viewpoints and opinions.

1. How effective is this worker at being interpersonally adaptable? [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

O 1 O 2 O 3 O 4 O 5 O 6 O 7 O **Not Applicable**

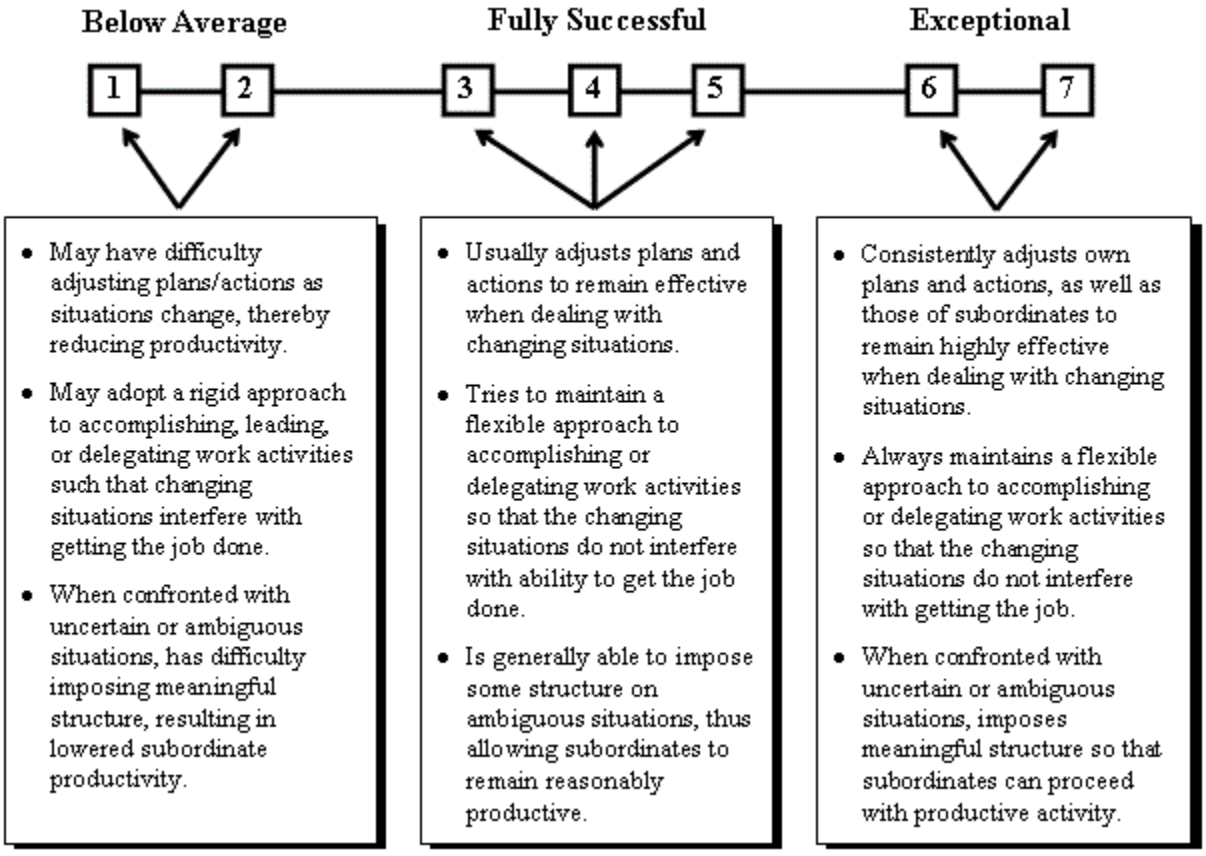


DEALING EFFECTIVELY WITH UNPREDICTABLE OR CHANGING WORK SITUATIONS

Readily and easily changing gears in response to unexpected events and circumstances; effectively adjusting plans, goals, actions, or priorities to deal with changing situations.

1. How effectively does this worker deal with unpredictable or changing work situations? [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

O 1 O 2 O 3 O 4 O 5 O 6 O 7 O **Not Applicable**

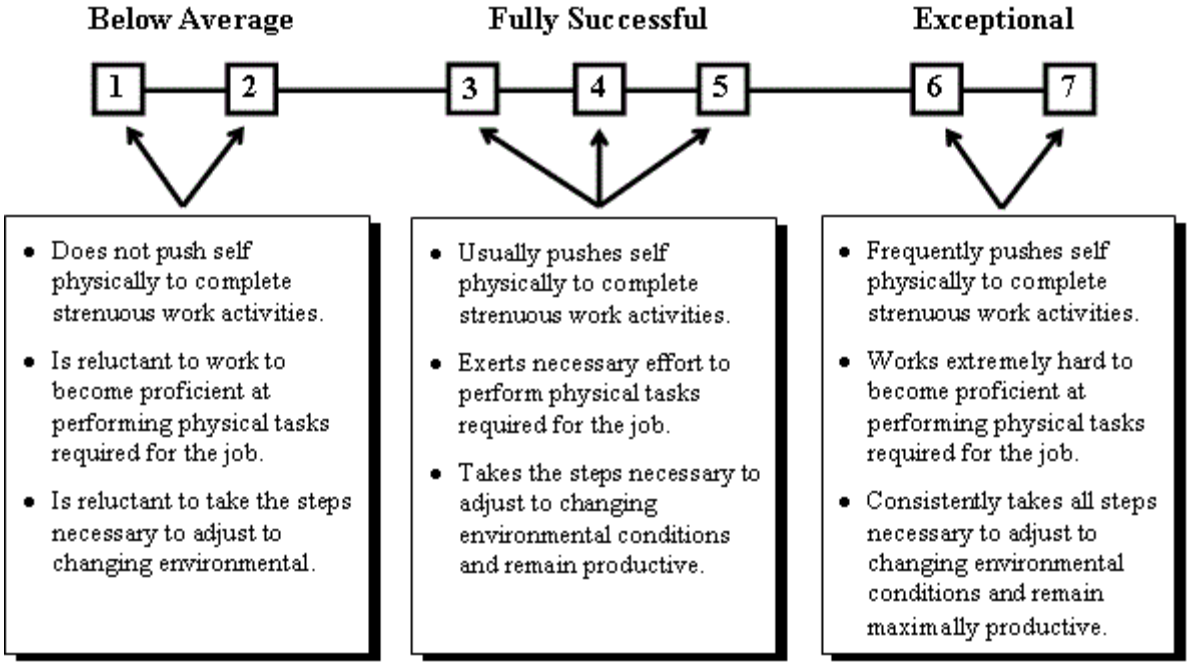


DEMONSTRATING PHYSICALLY-ORIENTED ADAPTABILITY

Adjusting to tough environmental states such as extreme heat, humidity, cold, etc.; frequently pushing self physically to complete strenuous or demanding tasks.

1. How effective is this worker at being physically adaptable? [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

O 1 O 2 O 3 O 4 O 5 O 6 O 7 O **Not Applicable**

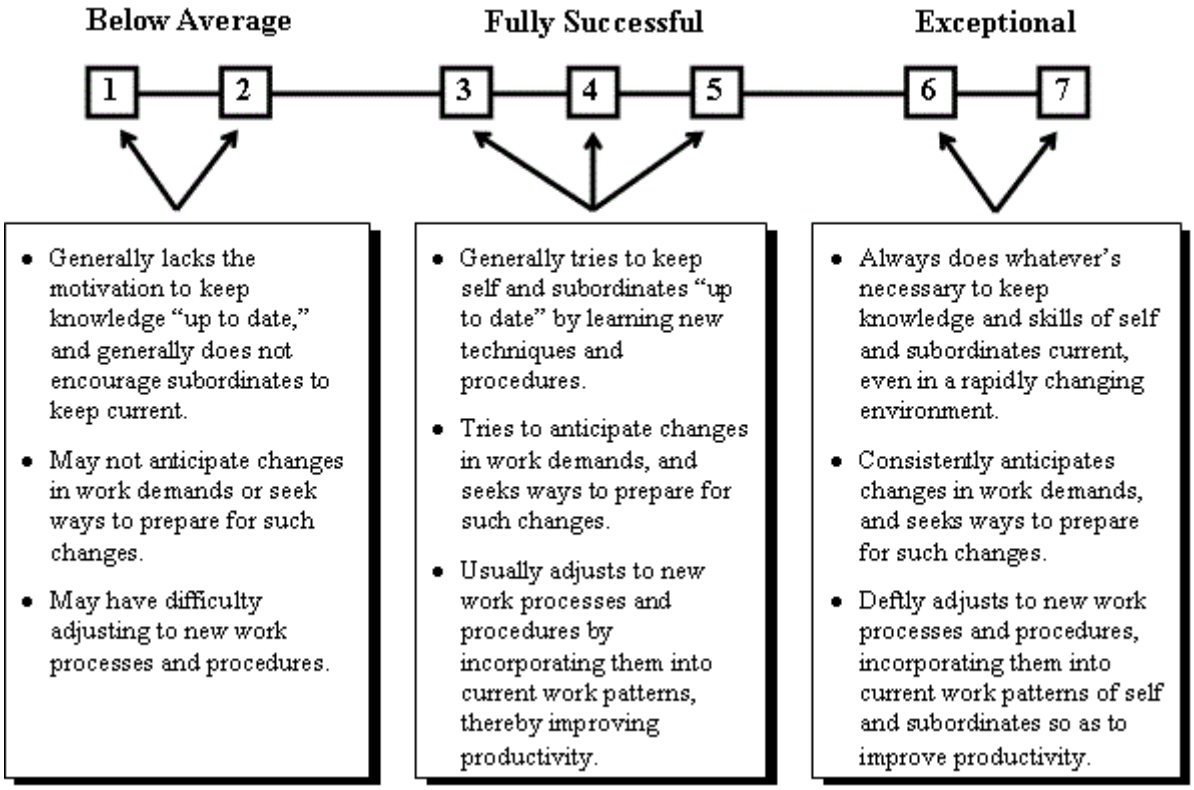


LEARNING WORK TASKS, TECHNOLOGIES AND PROCEDURES

Demonstrating enthusiasm for learning new approaches for conducting work; doing whatever is necessary to keep knowledge and skills current in a rapidly changing environment.

1. How effective is this worker at learning new work tasks, technologies, and procedures? [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

O 1 O 2 O 3 O 4 O 5 O 6 O 7 O **Not Applicable**



HANDLING WORK STRESS

Remaining composed and cool when faced with difficult circumstances, or a highly demanding workload/schedule; managing frustration well by directing effort to constructive solutions and not blaming others.

1. How effective is this worker at handling work stress? [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

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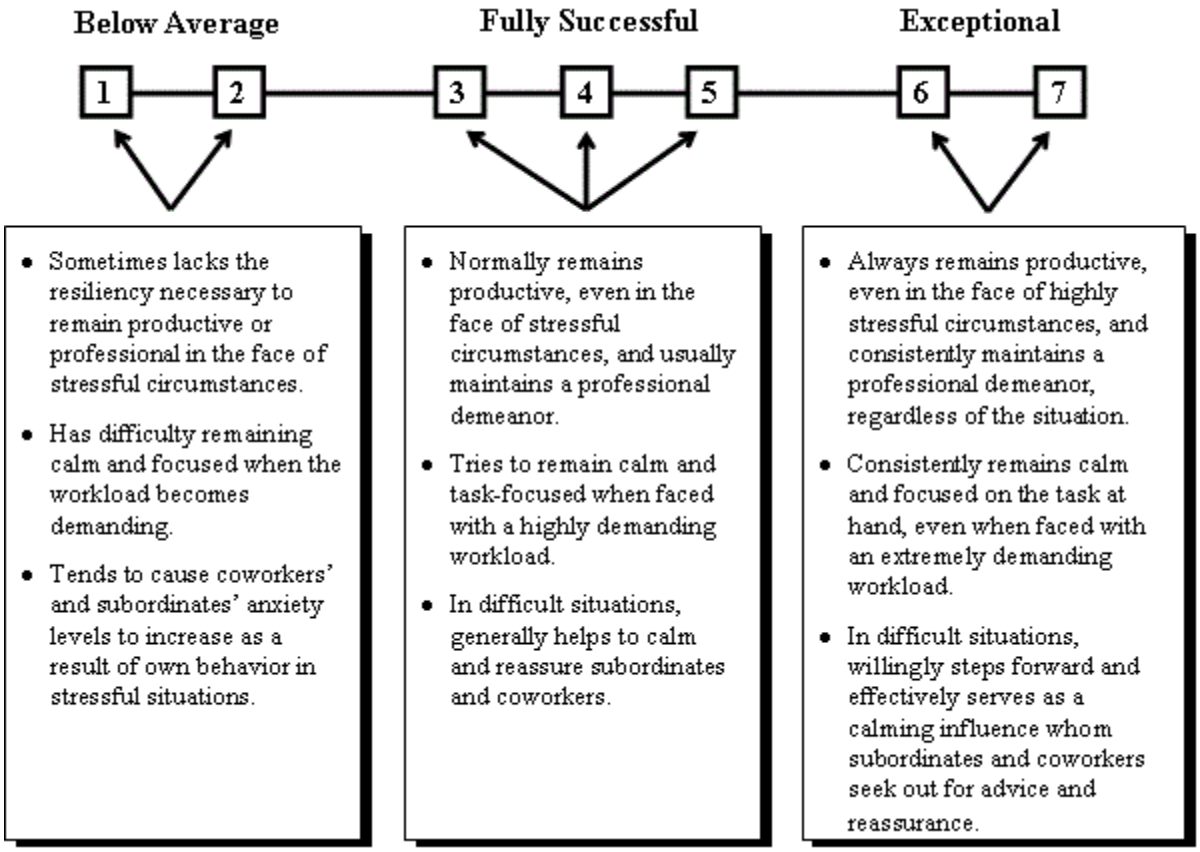

DISPLAYING CULTURAL ADAPTABILITY

Taking action to learn about and understand the climate, orientation, needs and values of other groups, organizations, or cultures; integrating well and being comfortable with different values, customs, and cultures.

1. How effective is this worker at being culturally adaptable? [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

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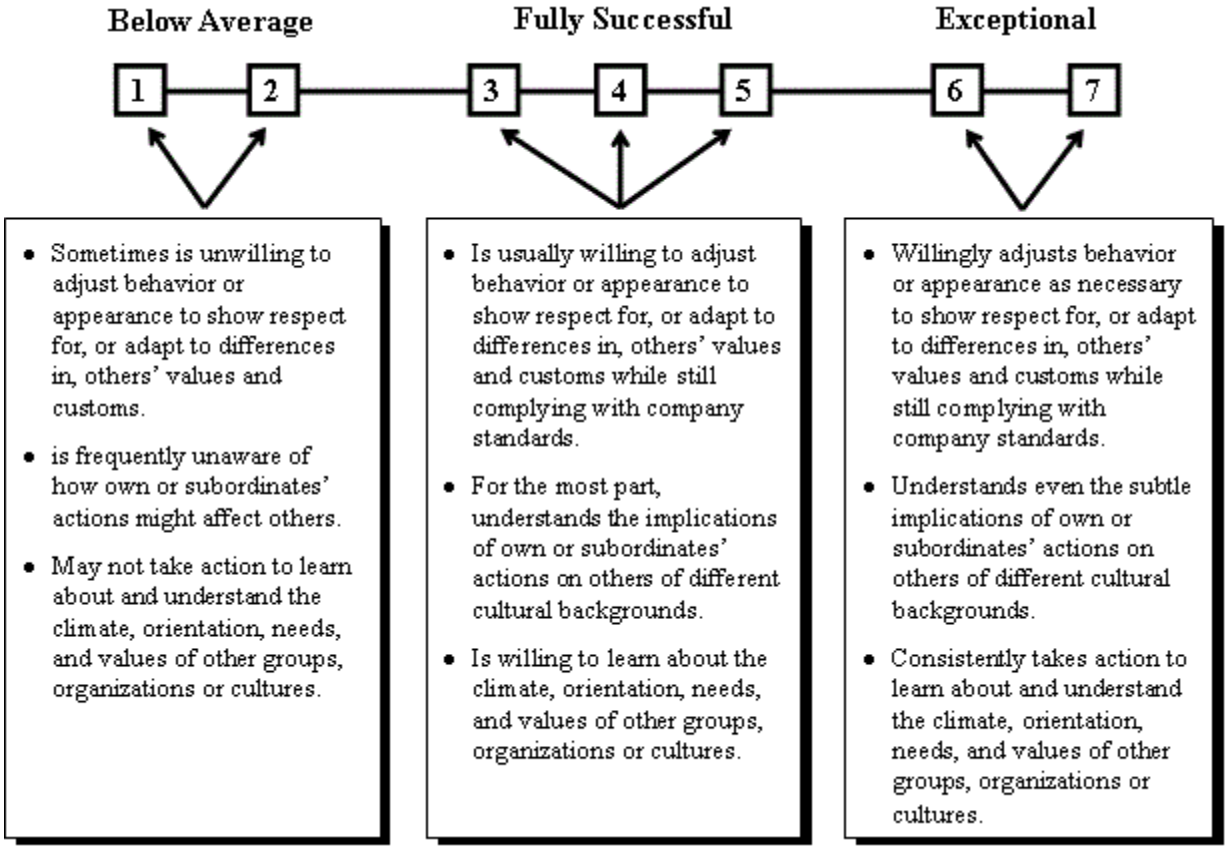

SOLVING PROBLEMS CREATIVELY

Employing unique analyses, and generating new, innovative ideas in complex areas; developing innovative methods of obtaining or utilizing resources when insufficient resources are available to do the job.

1. How effective is this worker at creatively solving problems? [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

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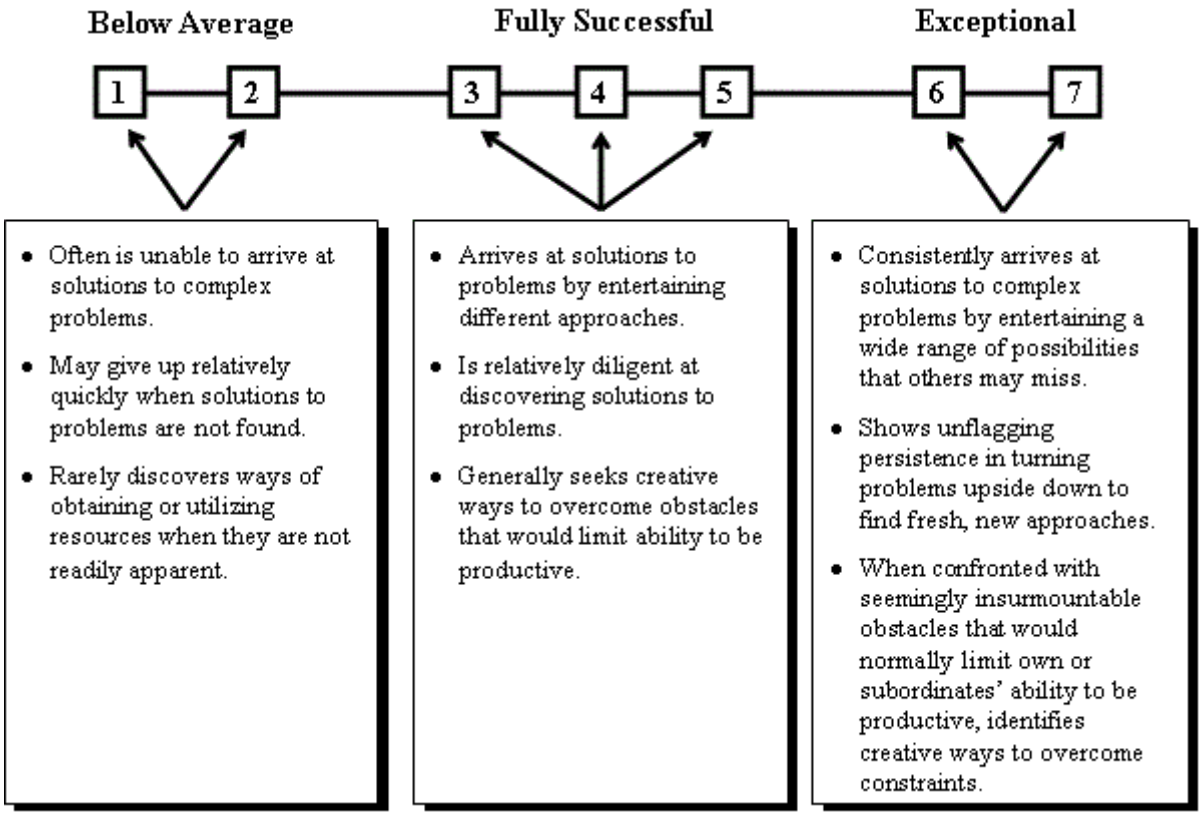
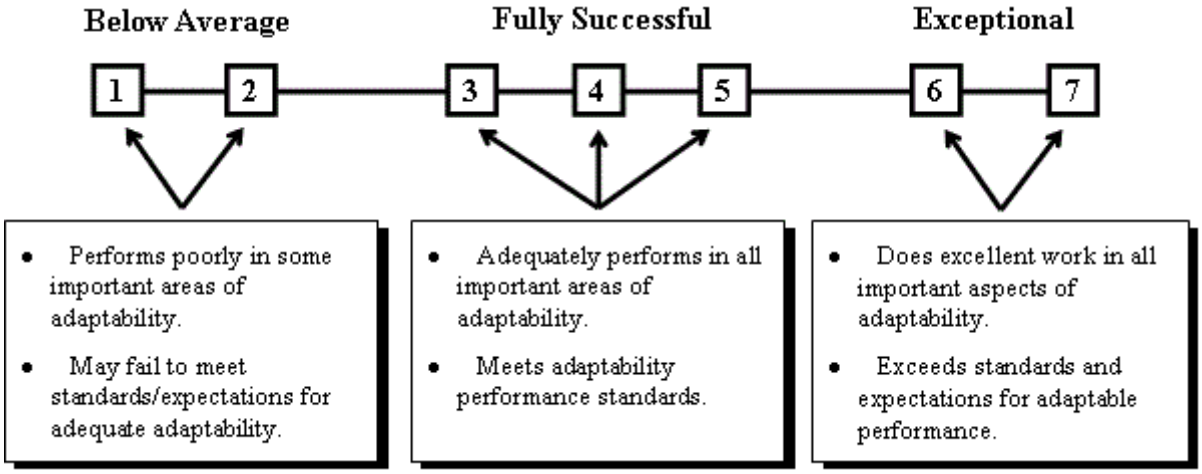


OVERALL ADAPTIVE PERFORMANCE

The eight scales you have just used represent different areas of adaptability important for worker effectiveness. The scale below asks you to rate the overall adaptive performance of your work, taking into account behavior related to all of the previous categories.

1. Please rate this worker's overall adaptive performance. [USE THE EXAMPLES PROVIDED BELOW AS A GUIDE FOR YOUR RATINGS]

O 1 O 2 O 3 O 4 O 5 O 6 O 7 O **Not Applicable**



DEMOGRAPHICS MEASURE – FOR SUPERVISORS

Demographic Information

Please complete the following information about YOURSELF.

1. Age:

[ ]

2. Sex (select one):

O Male O Female

3. Ethnicity (select one):

O White
O Hispanic or Latino
O Black or African-American
O Asian
O Native Hawaiian or Other Pacific Islander
O American Indian or Alaska Native
O Two or more races

4. Job title:

[ ]

5. Job industry (select one):

O Accommodation and Food Services
O Administrative and Support Services
O Agriculture, Forestry, Fishing, and Hunting
O Arts, Entertainment, and Recreation
O Construction
O Educational Services
O Finance and Insurance
O Government
O Health Care and Social Assistance
O Information
O Management of Companies and Enterprises
O Manufacturing
O Mining, Quarrying, and Oil and Gas Extraction
O Other Services
O Professional, Scientific, and Technical Services
O Real Estate and Rental and Leasing
O Retail
O Self-Employed
O Transportation and Warehousing
O Utilities
O Wholesale Trade

Other (please specify)

[ ]

6. Length of time in current job:

Years

Months

7. Number of hours worked per week (on average):

8. Length of time you have supervised the student who participated in this study:

Years

Months

CLOSING PAGE OF SURVEY FOR SUPERVISOR PARTICIPANTS

Thank you for your participation in this research. If you have any questions, please feel free to contact the researchers, Megan Crowley by e-mail (xxxxxxxx@iupui.edu) or by phone (XXX) XXX-XXXX, or Dr. John Hazer via e-mail (xxxxxxx@iupui.edu) or by phone (XXX) XXX-XXXX. The IRB study number is 1012004462.