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ABSTRACT

THE INVESTIGATION OF PERSONALITY STATES AND SITUATIONAL CHARACTERISTICS IN CUSTOMER SERVICE JOBS

By

Lei Huang

Researchers have demonstrated that personality measures can predict important organizational criteria such as job performance and training effectiveness. However, the process by which personality factors are expressed at work is unknown. Using experience sampling methodology, the present study examined the moment-to-moment influence of situational characteristics on personality states during social interactions in 56 customer service employees over 10 days at work. The results indicate that state conscientiousness is associated with the immediacy of the task whereas state extraversion, agreeableness, conscientiousness and openness are associated with the friendliness of the other party in the interaction. The results suggest that self-monitoring and social skill do not relate to the associations between personality states and situational characteristics, but rather predict the mean level of state conscientiousness and extraversion at work over and above respective trait measures. The results also indicate that, contrary to the hypothesis, the relationship between state extraversion and friendliness is weaker in customized service jobs than in noncustomized ones. The findings are discussed in terms of study limitations and directions for future research.

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INTRODUCTION

Personality measures have become widely used in organizations in recent years (Rothstein & Goffin, 2006). Meta-analytic studies have shown that personality traits can predict important organizational outcomes such as job performance, training effectiveness, organizational citizenship behavior, and leadership behaviors (Barrick & Mount, 1991; Bono & Judge, 2004; Organ & Ryan, 1995). However, there has been much debate on the applicability and usefulness of personality measures in personnel decision-making, particularly centering on the size of criterion-related validity of personality measures. Notably, Morgeson et al. (2007a) lamented the low validity of self-report personality tests in predicting job performance (See Ones, Dilchert, Viswesvaran, & Judge, 2007; Tett & Christiansen, 2007 for rebuttal and Morgeson et al., 2007b for a follow-up reply).

Curiously, most of the disagreement on the use of personality measures has focused on empirical evidence, whereas the process by which personality factors are expected to influence behavior at work is frequently ignored. A closer look at the current use of personality measures to predict job-relevant behaviors yields at least two premises: (a) individuals tend to display relatively consistent patterns of behaviors; and (b) individuals differ on these patterns of behavior. Thus, most of the research and practice that uses personality to predict organizational outcomes relies on the stable between-person trait levels (hence the term *trait approach*), treating personality as static and invariant across situations.

The static view of personality has been challenged since as early as in the 1960's. Mischel (1968) argued that the variance of an individual's behavior across situations

reflects systematic situational influences on behaviors rather than random measurement error. In recent years, intraindividual variability of personality has received increased attention among personality researchers (e.g., Campbell, Assanand, & Paula, 2003; Donahue, Robins, Roberts, & John, 1993). *Intraindividual variability* of personality is the individual differences in the extent to which a person responds to situational influences, manifested in personality states. *Personality states* share the same content domain as their corresponding personality traits, but they measure how a person is at *a specific moment* rather than how that person is *in general* (Cattell, Cattell, & Rhymer, 1947; Fridhandler, 1986; Nesselroade, 1988). Fleeson and colleagues conceptualized trait as density distributions of trait-relevant states and provided empirical support for the integration of both perspectives of the person-situation debate (Fleeson, 2001; Fleeson & Leicht, 2006; Fleeson, Malanos, & Achille, 2002). More importantly, intraindividual variability in personality states was found to be analogous to stable individual differences in these studies. The findings by Baird, Le and Lucas (2006) suggest that variability resembles a broad, global trait that is stable over time.

The implication of personality variability at work can be illustrated with two hypothetical employees, A and B, who have the same level of trait conscientiousness but differ in their variability of conscientiousness. A and B may exhibit different patterns of conscientious states at work. The more variable employee A may be very conscientious when the situation requires. For example, A may exert outstanding level of effort when a deadline is approaching and be meticulous at tasks that are specified by the quality guidelines. But A can be quite non-conscientious at times when the tasks are less important, such as failing to keep his/her work space organized on a day to day basis, and

neglecting details when drafting work-related low-priority email. In contrast, the less variable employee B will display a consistent level of conscientiousness state in all tasks regardless of situations. As a result, A outperforms B despite their same levels of trait conscientiousness.

In spite of the potential relevance of variability to the use of traits as predictors of work-related outcomes, the research on variability has not been extended to industrial and organizational (I/O) psychology. The most recent efforts in understanding personality at work have focused on the difference of personality across different roles or identities, such as work and family, with the conclusion that personality varies with roles (e.g, Donahue & Harary, 1998; Wood & Roberts, 2006). Moreover, when used to predict outcome variables in a specific role, personality within that role performed better than general personality (Heller, 2007). In these studies, the situations are defined by identities, and each situation is conceptualized as broad as the identity domain. In other words, for work identity, work environment is viewed as one single situation that exerts uniform influence on an individual. Although this approach represents a significant improvement over general personality traits as predictors, the use of role personality still fails to answer the fundamental process questions of when and why personality predicts work outcomes.

This paper examines personality variability across situations within the work setting, specifically within customer service jobs, in order to elucidate the process by which personality traits relate to job performance. Personality variability will be examined as fluctuating personality states influenced by job and situational characteristics and as resulting from stable individual differences. I will begin by briefly reviewing the relationship between personality and work performance, followed by an

overview of research on intraindividual variability. Then, I will present more relevant research findings in detail and generate hypotheses on the interplay between variability and situational contingencies. The research study will be described, set forth within customer service jobs, where personality variables are likely to have an impact. Results will be presented, followed by discussion of research and practical implications.

Personality and Work Performance

The trait approach to personality studies consistent intercorrelated patterns of behavior (Winter, John, Stewart, Klohnen, & Duncan, 1998). Factor analytic studies have generally yielded the commonly accepted five factor taxonomy of personality (Digman, 1990). *Extraversion* is characterized by being assertive, active, and sociable. *Agreeableness* denotes altruism, nurturance, and absence of hostility. *Conscientiousness* is characterized by being organized, achievement-oriented, and exacting. *Emotional stability*, or its opposite *neuroticism*, is characterized by the lack of anger, vulnerability, and anxiousness. *Openness to Experience* is commonly associated with being imaginative, cultured, and curious.

The relationship between personality traits and work performance has been widely studied. Meta-analytical studies have shown some general effects of some higher-level traits, usually Big-Five factors. Barrick, Mout, and Judge (2001) conducted a second-order meta-analysis on the relationship between Big-Five traits and individual job performance. Conscientiousness was found to predict overall work performance across jobs, as well as performance across specific criteria types and occupational groups. Emotional Stability also had non-zero correlation with overall work performance across jobs. Although their validities did not generalize, extraversion, agreeableness, and

openness were able to predict some criteria in some occupations. However, the effect sizes of these generalized relationships tend to be small, according to the rule-of-thumb suggested by Cohen (1988, 1992). Conscientiousness has an estimated true score correlation of around .30, a medium effect size, whereas the other meaningful true score correlations are estimated to be in the range of .10 and .20.

Researchers have suggested some general boundary conditions for extraversion and agreeableness to be predictive of work outcomes. Interpersonal interactions have been suggested to be one condition under which extraversion would be predictive of job performance (Barrick & Mount, 1991; Mount, Barrick, & Stewart, 1998). Agreeableness has a more restricted boundary of effectiveness: where there is interpersonal interaction that requires helping, nurturing and cooperation (Barrick, Stewart, Neubert and Mount, 1998; Mount et al., 1998). Overall, I/O psychologists have gained some understanding of the effect of personality traits on work outcomes from the trait approach, but much more has yet to be discovered on personality variability at work.

Intraindividual Variability

Before discussing the conceptualizations and findings in personality variability, a detour to the "person versus situation" debate on the determinant of behavior across situations can illuminate the current focus on changes of personality states across situations. The early trait approach to individual behavior focuses on the person as the determinant of behavior (Magnusson & Endler, 1977), and maintains that there exists cross-situational consistency in individuals' trait-relevant behavior such that the rank-ordering of individuals across situations will be the same (Mischel & Shoda, 1995). The situational approach started with Mischel's (1968) critique that there was little evidence

in support of the cross-situational consistency assumption and that behaviors were more likely a result of the environment. A heated debate ensued for years. The debate was reconciled after the finding that the average cross-situational consistency coefficient is nonzero, albeit not much (Bem, 1983; Funder, 1983), thus resulting in the consensus that behavior is influenced both by trait and by situation. The debate also generated a new model of personality research, the interactionist approach, whose main tenet is that behavior is "a function of a continuous process of multidirectional interaction or feedback between the individual and the situation he or she encounters" (Magnusson & Endler, 1977).

As Funder (2008) suggests, the failure to consider both dispositional and situational influences on behavior can be attributed to the research paradigms in two sides of the person-situation debate. According to Funder, the dispositional approach either studies the consistency of behaviors in individuals, or examines the magnitude of correlation between trait and behavior, whereas the situational approach studies individuals' average behavioral responses in a small number of situations. Both approaches employ the between-subject design with a desire for a large sample size so as to detect either a situational or dispositional effect on behavior. The result of these research paradigms, Funder pointed out, is the failure of the dispositional paradigm to detect situational influence because it averages across situations, and the failure of the situational paradigm to detect the dispositional effect because it averages across individuals. He further suggested that to appropriately capture both situational and dispositional influences on behavior, the research paradigm needs to shift to focus on within-subject designs, assessing many behaviors under the influences of multiple

situations for each individual. Although this ideal research design can be traced back in the writings of Epstein to as early as 1979, where he considered it as an elementary principle (see Funder, 2008), this research paradigm has rarely been adopted until recently with the application of experience sampling methodology (with a notable exception in the work by Mischel and colleagues, which will be presented later together with experience sampling findings).

Until recently, most theories on intraindividual variability conceptualize it as a stable trait, although they differ on the hypothesized effects of variability. Early theorists focused on its negative effect on individuals. Jourard (1963) suggested when an individual yields to changeable external circumstances rather than relies on core self beliefs, it may be indicative of the lack of a healthy personality. Maslow (1968) proposed that an individual suffers from the depletion of energy when there is a repression of the self and a failure to transcend the environment.

Others have proposed ways in which variability may be adaptive. Bem (1974) suggested that individuals with both masculine and feminine styles may be better equipped to deal with various situations than individuals who are primarily masculine or feminine. Snyder (1974) proposed the construct of self-monitoring to capture the individual differences in observing and controlling the public presentation of the self. People who are high on self-monitoring are believed to be more likely to regulate their behaviors in response to different situations. Paulhus and Martin (1988) viewed variability as a capacity an individual possesses in dealing with different social situations. The larger the behavioral repertoire, the more flexible and functional an individual will be.

Variability has been conceptualized and operationalized in several ways in research studies. Block (1961) used the differences in interpersonal behavior in eight social relationships to create an index to represent variability. He found that variability was negatively related to adjustment. Donahue et al. (1993) proposed the term Self-Concept Differentiation to denote the similarity in one's various social identities. They calculated SCD on self-reported personality across five different roles and found that SCD was negatively related to adjustment and subjective well-being. However, Baird et al. (2006) showed that the negative relationship between variability and adjustment was due to confounds in the calculation of indices. Their new variability index, which did not contain the confounds, did not show a negative relationship with adjustment.

Direct self-report measures are another way of capturing variability, exemplified by self-monitoring. High self-monitoring individuals are, as Snyder (1974) puts it, "... out of concerns for social appropriateness, is particularly sensitive to the expression and self-presentation of others in social situations and uses these cues as guidelines for monitoring his own self-presentation" (p. 528). Although research on self-monitoring abounds in the literature, researchers have yet to agree that self-monitoring is related to cross-situational consistency of behaviors, and criticism on the measures of self-monitoring led to doubts on the construct itself (e.g., Briggs and Cheek, 1988). It should be noted that the effect of self-monitoring has been examined in the workplace. In a meta-analysis by Day, Shleicher, Unckless and Hiller (2002), self-monitoring was shown to be related to job performance. Based on 28 studies, the authors found that the corrected population correlation between self-monitoring and job performance-advancement is .10. However, how self-monitoring is related to job performance begs a clear explanation. We

cannot say for sure whether self-monitoring operates as an antecedent to variability, which leads to adaptive performance on the job, or whether self-monitoring represents effective impression management, which results in an elevated performance rating from the unsuspecting supervisor.

In recent years, experience sampling methodology has enabled the direct study of personality variability. Fleeson (2001) examined personality states in different moments in a day, which are defined as the degree to which a specific trait content is expressed at the given moment. For example, a person characterized as being active, assertive, and sociable in general is described as being extraverted in *trait* terms. The associated personality *state* is the extent to which he/she acts in an active, assertive, and sociable way in any specific situation at any given time. Fleeson showed that the means and standard deviations of the distributions of these states are meaningful and represent individual differences. The means of personality states resembles personality traits with regards to their stability over time, whereas the standard deviations represent individual differences in personality variability across situations.

Building on Fleeson's (2001) findings, Heller, Komar and Lee (2007) examined the relationships between personality states, goals, and well-being in 101 undergraduate students using diary recording on the Internet three times a day over a 10 day period. In addition to finding substantial amount of intra-individual variability in personality states, the authors also showed that state neuroticism was negatively associated with approach goals and three indicators of subjective well-being, while state extraversion had positive relationships with these variables. In addition, state neuroticism and extraversion were found to partially mediate the relationship between goals and life satisfaction.

Further, Fleeson (2007) incorporates the person, the situational, and the interactionist approaches to personality in a single study by examining *situational contingencies*, which are defined as the association between the fluctuation of a personality state and a given situational characteristic for the same individual. For example, Fleeson found that the average situational contingency of the state extraversion on the situation characteristic of friendliness was significant, suggesting that for the typical individual, the change in state extraversion was associated with the friendliness of an interactional partner. Indeed, the contingency of personality states on psychologically active characteristics of different situations help explain the sizeable intraindividual variability. In addition to discovering situational contingencies on average, the study also showed that situational contingencies differed across individuals. For example, for individuals high on extraversion, their situational contingency of extraversion on the anonymity of situations was positive, such that their extraversion state increased when the situation became more anonymous, as opposed to individuals low on extraversion, whose contingencies of extraversion on anonymity were negative, such that they tended to become less extraverted when the situation became more anonymous. Finally, situational contingencies for individuals differ reliably, representing meaningful individual differences, which may further explain the differences that individuals exhibit in their personality variability.

Fleeson's (2007) studies represent to a large extent an improvement over the work by Mischel and Shoda (1995), where the authors examined the consistency of child aggressive behavioral profiles in various situations across time. Mischel and Shoda (1995) reasoned that personality conceptualized as behavioral dispositions would render the

individual's variation in behavior across situations as measurement noise, whereas the situation-behavior profile approach can capture stability in the individual's typical levels of behavior in various situations. They further proposed that the situation-behavior relations can be formulated in a number of "if...then..." clauses where an individual's personality is described in term of his/her behavioral responses to particular situations, which is considered idiosyncratic and not to be compared across individuals. Fleeson's (2007) situational contingencies, however, can be viewed as a means for meaningful comparison of individuals with similar "if...then..." clauses. For example, the finding of the situational contingency of state extraversion on anonymity can be rephrased as follows: for some individuals with positive contingency, their situation-behavior relation can be stated as "if the situational anonymity is high, these individuals will display heightened level of state extraversion", whereas for other individuals who had negative contingency, their clauses can be stated as "if the situational anonymity is high, these individuals will display lower level of state extraversion". In other words, Fleeson (2007) has created a method to capture similarity in variation of personality states under the same situational influences.

With the advances in personality research, especially the conceptualization of trait as density distribution of states, I/O psychologists can now begin to explore the influence of situational characteristics on moment-to-moment changes in manifested personality states at work. The following section will highlight the importance of the research on personality variability at work.

Personality Variability in the Workplace

The study of personality in different roles poses the question whether the observed moment-to-moment changes in personality states can be largely explained by different social roles, which have received heightened attention in personality research as an effort to capture situational influences on behavior. Roberts (2007) summarized several advantages of contextualizing personality psychology in social roles or identities. Social roles, Roberts argued, enable the study of patterns of behavior at approximately the same breadth of traits with consideration of situational influences, serve as a system or categorization that accounts for situational mechanisms, reflect the expectations and contingencies that may be conflicting with personality, and provide a possible source that explains personality trait development. Following these arguments, one may wonder whether personality states are indeed homogeneous when examined in a single social role with a certain level of specificity. For example, even though a line manager may display varying degree of extraversion at work when examined at the broader social role of *work role* (working as a line manager), is it possible that when work role is further divided into *leadership role* (when interacting with subordinates), *coworker role* (when interacting with other line managers), *subordinate role* (when interacting with higher management), the variance in personality states will be fully explained by these three roles? I contend that although social roles may capture a significant proportion of variance in personality states, there is meaningful variability left unexplained within a single social role at work. Despite the advantage of using roles as an organizing mechanism of situational influences, the situations under a social role are seldom homogeneous, rendering relevant personality states heterogeneous. In the example of the line manager given above, one can easily

imagine he/she be very agreeable to his/her supervisors, quite agreeable to subordinates whom he/she considers as in-group members, and not so agreeable to subordinates whom he/she considers as out-group members. Although one might argue that a subrole represents a cluster of similar situational characteristics when it is defined very specifically, using situational characteristics directly enables the study of similar elements of situations across different subroles, and thus provides a more parsimonious examination of personality in situation. Moreover, if the situational characteristics are in fact homogeneous within a subrole, they can always be aggregated to the higher level.

In contrast to the cumulated knowledge on the main effect of personality traits on work-related outcomes and the increasing understanding of social identities at work, little is known about the process of personality states at work. The investigation of intraindividual variability may contribute to the field in four ways. First, although I/O psychologists have frequently applied personality trait measures to predict work behavior, there is little knowledge about the process by which a trait results in behavior at work. The examination of moment-to-moment changes in personality may help us understand whether variability in a personality dimension may increase, decrease, or have no effect on the trait-state relationship, and whether the effect of intraindividual variability on the trait-state relationship may be moderated by certain job characteristics.

Second, we may create a better classification of jobs through the presence of certain situational contingencies across individuals, which may then be used to predict the elevation of state personality dimensions at work. At present, job type is one common approach to job classification, and it has been used in many of the meta-analyses on the relationship between personality factors and job performance (e.g., Barrick & Mount,

1991; Barrick et al., 2001; Salgado, 1997). Jobs of the same type are considered to possess similar characteristics and thus present similar influences on trait-outcome relationships, but they may also exhibit different levels of a job characteristic, such as the degree of autonomy and the presence of supervision. For example, some sales jobs may involve highly customized interaction such that the sales representative has to adjust to the customer's preferred style of communication, while other sales jobs may be highly standardized such that the sales representative has certain scripts to follow when interacting with the customer. Thus, the level of customization of interactions varies in jobs of the same category.

From a within-individual perspective, there may be variations of a job characteristic from interaction to interaction within the same job, hereby named *situational characteristics*. For example, within the same job, interactions with the customers can be quite autonomous when the supervisor and coworkers are not present, but the same environment may be perceived as less autonomous when the supervisor or coworkers are around. When the situational contingencies for relevant personality states are delineated, I/O psychologists can classify jobs in terms of the frequency of the situational characteristics to facilitate the study of the effect of personality variables. By examining variations of job characteristics within jobs and their potency as situational contingencies, research in this area may allow a better categorization of jobs by their common situational contingencies. As such, this study answers Johns' (2006) call for better understanding and investigation of organizational contexts that exert great influences on human behavior.

Third, the study of personality variability at work can be used to examine the validity of the self-monitoring construct at work. As stated above, although self-monitoring was proposed as a trait to capture intraindividual variability in different situations, how it functions at work is yet to be studied. This study will illuminate whether self-monitoring is in fact related to personality variability. Further, with regard to the meta-analytic evidence that the relationship between self-monitoring and work performance was much stronger for subjective performance ratings (r = .15) than objective indices (r = .03) (Day et al, 2002), research on this topic can address the question of whether self-monitors improve performance ratings through adaptive adjustment of their personality state levels or through impression management.

Finally, the examination of personality states may help reveal the interaction between personality dimensions on work outcomes from the within-individual approach. For example, Witt, Burke, Mount and Barrick (2002) found that the effect of conscientiousness on work performance was moderated by agreeableness in five out of seven samples, such that the relationship was stronger for individuals high in agreeableness than for those low in agreeableness. The authors suggested that for jobs involving large amount of cooperative interactions, interpersonal sensitivity is essential for conscientiousness to lead to effective performance. Approached from a within-individual perspective, this research topic can be studied by examining the interactive effect of state conscientiousness and state agreeableness on performance from instance to instance.

I hasten to note that it is arguably the relationship between individual situational contingencies and moment-to-moment job performance that captures greater interest

from I/O psychologists in this research area. However, such investigation would require independent assessment of moment-to-moment performance, which is beyond the design characteristics of the current study. Also, one would expect that individuals displaying situational contingencies that are congruent with job performance expectations will yield better overall performance outcomes, but this is also beyond the scope of the present study. It should be acknowledged that this study is a first step in understanding personality variability in relation to job and situational characteristics, and can serve as a foundation for future investigation of the relationship between variability and performance.

In view of the four purposes stated above, the following section will first delineate three levels of situations relevant to this study. Then, the rationale will be presented for the hypothesized predictors of variability from both the person and the situation perspective, followed by more specific hypotheses on personality state levels.

Variability in Relation to Person and Situation

The first approach to situations in this study is to limit job type to customer service jobs that involve interactions in person. There are three reasons for restricting job type. First, customer service jobs are one of the areas where personality variables are likely to exert influence on job performance. Customer service jobs usually entail frequent employee-customer interactions, and as argued by Allport and Allport (1921), social interactions are the true criterion of personality. Indeed, meta-analytic findings indicated that all big-five traits had non-zero correlations with customer service job performance (Hurtz & Donovan, 2000). Studying the variation of personality states on

customer service jobs may help enhance the prediction customer service performance using personality traits.

Second, customer service jobs are homogeneous to a certain degree in that they all require the satisfaction of customer needs, and the acceptability of behavior is usually governed by social norms. By constraining the occupational type, extraneous factors influencing the relationship between situation and personality states are minimized. Third, within the same type of customer service jobs, there is still enough variability in job characteristics, which may be associated with intrapersonal variability. For example, a cashier in a fast food restaurant may have a rather detailed procedure to follow in his interaction with the customer, whereas a sales assistant in a shopping mall may have more discretion when helping her customer. It is also expected that situational contingencies will vary for customer service jobs. For example, interactions with coworkers and supervisors may not be the same as those with customers.

The situational characteristics will be discussed below first by reviewing Fleeson's (2007) work on situations in daily life, then by examining them within the boundary of customer service jobs. Fleeson (2007) discovered three situational characteristics in each of two studies by conducting principal component analysis on 11 items addressing different situational elements. The situational contingencies were anonymity, friendliness, and task orientation in the first study, and anonymity, task orientation, and others' status in the second study. Because a theoretical approach was not used in the design of the items and the grouping of the items into components, it is unclear how close the items under one component represent the label of the component. For example, the item "how structured was the situation around you" was grouped into

the anonymity component in both studies, but such grouping can hardly be justified when the content of this item is examined. Building on the findings from Fleeson (2007), the current study will identify situational contingencies on an a priori basis within the customer service environment.

It should be noted that a number of researchers have attempted to identify similarities among situations and constructed different taxonomies of situations (see Yang, Read, & Miller, 2006 for a summary). For example, Magnusson (1971) classified academic situations of college students using factor analysis on similarity judgment, resulting in five types of situations: Positive, Negative, Passive, Social, and Active. Eckes (1995) found nine categories of situations using cluster analysis on ratings of features of everyday situations in college students' life, such as Informal, Relaxed, Emotionally Uninvolving, and Nonintimate. Yang et al. (2006) derived two levels of situational taxonomies from ratings of Chinese idioms in both American and Chinese samples. Their higher level taxonomy consists of two categories, success versus failure of goal achievement, while the lower level taxonomy includes 17 categories, among which 5 were shared in all of their samples, such as Achieving one's goals, Failing, and Being overwhelmed. However, these efforts of categorizing situations cannot be employed in the current study either because they are at a level of specificity unfit for this study, or because they have different domain coverage of situations (i.e., college life versus customer service interactions).

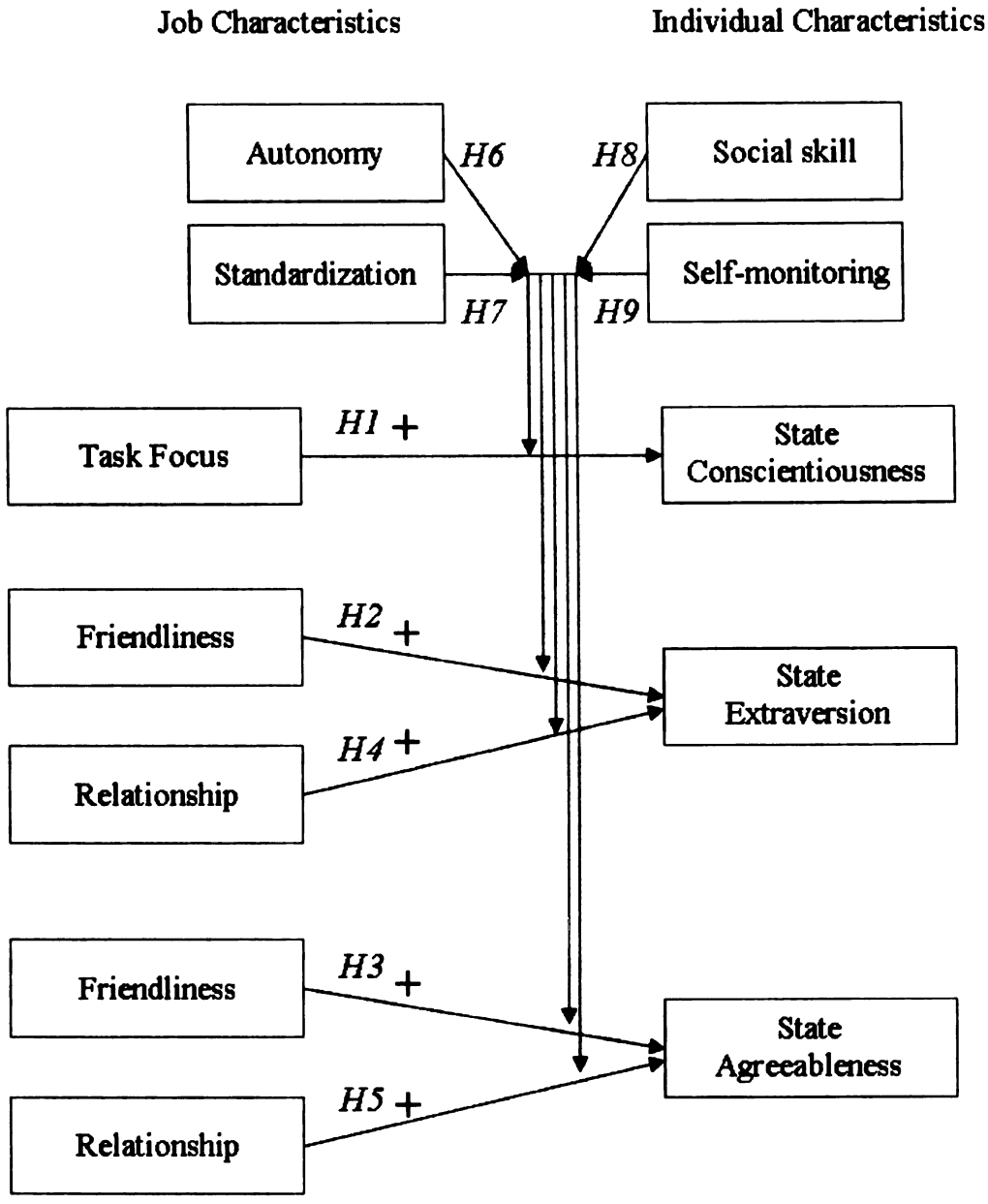
Through principal component analysis of items on social interactions, Fleeson (2007) identified several situational characteristics variables and found the association between these variables and variations of personality states. On the one hand, his findings

provide valuable input for the theoretical development of the present study. On the other hand, the shift of social context from daily life in general in Fleeson (2007) to customer service interactions in the present study necessitates a closer examination of situational characteristics particular to customer service settings. Therefore, rather than replicating Fleeson (2007), the current study seeks to extend from Fleeson's (2007) situational characteristics.

In the following section, I will first identify three situational characteristics (task focus, friendliness, and service relationship) and propose them as predictors of state personality, thus forming the average situational contingencies for the relevant states. Then, two job characteristics (autonomy and standardization of service interaction) and two individual characteristics (social skill and self-monitoring) will be proposed as moderators of situational contingencies. A summary of the hypotheses is presented in *Figure 1*.

Task Focus. Fleeson (2007) found that task orientation was positively related to state conscientiousness in both studies. Although Fleeson's task orientation contained different sets of items in the two studies, it generally included fulfilling an obligation, being evaluated, having a close deadline, and having the task imposed on oneself, all of which bear relevance to the work setting in this study. An absence of interests or a lack of competence in the task at hand was also included in Fleeson's task orientation, but these two characteristics pertain to the person rather than the situation. Thus, in this study, the assignment of tasks or goals, the presence of an immediate deadline, and the existence of evaluation/observation will be categorized together and labeled as *Task Focus*.

Figure 1 Summary of hypotheses



There are two reasons to expect a positive relationship between task focus and state conscientiousness across individuals. First, the task focus provides the opportunity for an individual to be conscientiousness. This notion is expressed as trait-activation by Tett and Burnett (2003) where situational factors cue the activation of trait-relevant behavior. Conscientiousness has also been described as Dependability (Hogan, 1983), Will to Achieve (Digman, 1989), and Work (Peabody & Goldberg, 1989). When the elements of task focus are present, they pose as a potent work environment that cues an individual to be hardworking, responsible, and organized.

Second, the individual may be rewarded from being conscientious in task-oriented situations, and be punished for not being so. In the work setting, desirable outcomes such as high performance ratings or a bonus may follow as a result of completing tasks assigned by the supervisor, finishing projects on time, and performing well when being evaluated. In contrast, failing to do any one of these may incur undesirable outcomes. Thus, the outcome of the individual's behavior creates the propensity to act conscientiously.

To illustrate, suppose a typical service employee goes through two situations at work. In the first situation, the supervisor assigns her to fetch a piece of merchandise from the inventory, and the customer is waiting in the meantime. The supervisor may still be present when she comes back. This high task-focus situation provides the employee the opportunity to be hardworking and responsible, and by doing so, may lead to positive performance evaluation. In the second situation, the same employee answers an inquiry from a customer and then goes to check the inventory while the customer continues shopping around. No supervisor or coworker is present, and as soon as she walks away

from the customer, the task imminence is greatly reduced. Although the situation requires her to perform, it does not impose on her to elevate her state conscientiousness. Thus, in this low task-focus situation, the same employee displays a lower level of conscientiousness than in the high task-focus situation.

Hypothesis 1: Within individuals, task focus will be positively related to state conscientiousness.

Friendliness. Fleeson's second situational characteristic, friendliness, contained three items: how friendly the others were, how much interaction the participant had with the others, and the others' status. Friendliness was found to be positively related to state extraversion and agreeableness. Again, although in the current study this situational concept of friendliness will be studied, not all aspects of friendliness from Fleeson's article are used here. First, the extent of previous interaction may be at odds with the level of friendliness of the customer, such as in the case of a returning arrogant customer. Second, the others' status is almost constant for customer service employees, because most of their interactions are with their customers. Rather, *Friendliness* of a situation is defined as how friendly, sociable and how willing to talk the others are.

Typically, social interactions involve conversation. When a conversation partner acts friendly and is ready to engage in the talk, the focal person is likely to pick up the cues and to respond in a talkative, sociable, and active way, which amounts to the expression of state extraversion. In contrast, if the other party seems nonchalant or reserved, the situational cues toward extraverted behavior are absent for the focal individual. In service interactions, a customer's explicit disinterest in carrying on a conversation is usually understood and respected by the customer service employee.

Hypothesis 2: Within individuals, friendliness will be positively related to state extraversion.

The effect of the friendliness of interaction on state agreeableness rests on the norm of reciprocity in social interactions. When the customer is friendly to the employee, he/she is likely to be warm and polite (being agreeable) to the customer in return.

Hypothesis 3: Within individuals, friendliness will be positively related to state agreeableness.

Service relationship. Fleeson's last situational characteristic, anonymity, consisted of the following items: the number of others present, how well the participant knew the others, how well the participant liked the others, and how structured the situation was. Judging from the content of these items, it is hard to conclude that they contribute to the anonymity of the situation. In fact, these items do not seem to share a particular characteristic. Thus, anonymity is not adopted in this study. Instead, *service relationship* is proposed as a new situational characteristic, defined as the psychological meaning of the relationship between the service employee and the customer. It pertains to the level of acquaintance between the individual and the customer and the expectancy of future interactions. Note that this relationship does not include rewards or recognition from the supervisor. Service relationship represents two types of service interactions, relationship versus encounter, defined by Gutek and colleagues (Gutek, 1995; Gutek, Bhappu, Liao-Troth, & Cherry, 1999). Service relationship exists when a service representative expects to serve a customer over repeated interactions, whereas service encounter refers to those one-time only service interactions. An example for service relationship is the one between a doctor and a patient. It is quite likely that the patient will come back again

sometime in the future. An example for service encounter would be fast-food restaurant, where most services are treated as a one-time encounter and there is no expectation of an ongoing relationship between service provider and customer.

Gutek et al. (1999) suggested that customer service workers may cultivate the relationship with the customers out of their own interests when they expect future interactions, whereas they do not need to for encounters. To cultivate the relationship, customer service employees may try to provide better service to the customer by showing more warmth and being more helpful (being more agreeable), and they can also try to be sociable and talkative to engage the customer in a casual conversation (being more extraverted). In essence, extraversion and agreeableness can contribute to the provision of good service, which can in turn lead to a better service relationship. Therefore, it is expected that service employees will elevate their state extraversion and state agreeableness when the service relationship is perceived as closer.

Hypothesis 4: Within individuals, service relationship will be positively related to state extraversion.

Hypothesis 5: Within individuals, service relationship will be positively related to state agreeableness.

Hypotheses 1~5 predicted the association between situational characteristics and three personality states (i.e., conscientiousness, agreeableness, and extraversion). As described before, these stable associations are termed situational contingencies. No a priori situational contingencies are hypothesized for neuroticism and openness. Instead, exploratory analyses will be conducted to examine possible situational contingencies for neuroticism and openness.

The associations between personality states and situational characteristics may not be of the same magnitude across different service jobs. Two characteristics of service jobs that may influence these associations are proposed below.

Autonomy. Autonomy is the level of freedom an individual has to behave in idiosyncratic ways against the environmental constraint toward conformity (Barrick & Mount, 1993). For example, a restaurant waiter can interact with the diners with a certain degree of freedom. Striking up some short, casual conversation is permissible, even desired at times. In contrast, a cashier at a drive-through window of a fastfood restaurant is characterized by a much lower level of autonomy.

Because the level of autonomy is associated with the strength of situational influence, with low autonomy suggesting strong situations, autonomy has been studied as a moderator of the relationship between personality traits and job outcomes. When autonomy is high, the situation is weak, so the relationship between personality traits and behavior is stronger, whereas when autonomy is low, the strong situation exerts overpowering influence on behavior, leading to a reduced relationship between traits and states. Barrick and Mount (1993) found that conscientiousness and extraversion had higher predictive validity when autonomy was high than low in a sample of 146 managers. Data from 79 managers (Gellatly and Irving, 2001) indicated that autonomy moderated the relationship between extraversion and agreeableness and contextual performance, such that these two traits had stronger relationships with contextual performance when autonomy was high.

Although no direct evidence exists as for the relationship between autonomy and variability, the research evidence summarized above seems to suggest that the lack of

autonomy may impose constraints on personality states. When autonomy is low, the service provider has little control on the type of personality states to display. Instead, he/she is more likely to act in accordance to a set of commonly endorsed situational contingencies. However, when autonomy is high and personality states are less susceptible to situational influences, the service provider may tend to display his/her modal levels of personality states, which may be close to his/her trait personality levels. Put another way, the hypothesized situational contingencies (H1 ~ H5) are likely to be stronger when autonomy of the job is low rather than high.

Hypothesis 6: Autonomy will moderate the relationship between situational characteristics and personality states between-individual. Specifically, the situational contingencies predicted in Hypotheses 1~5 will be stronger in jobs with low autonomy and weaker in jobs with high autonomy.

Standardization of service interaction (Standardization). A service interaction may be either *standard* or *customized* (Bitner, Booms, & Mohr, 1994; Rogelberg, Barnes-Farrell, & Creamer, 1999). Standard service interactions are repeated frequently such that there is either a script or implicit expectation for the employee to behave accordingly. For instance, a cashier at a large retailer has the same procedure to follow for each customer. In contrast, customized service interaction requires the employee to discover the needs of the customer and to create the service experience for the customer. The employee has more latitude on the service behaviors displayed. An example would be a hairdresser who tailors service for each customer.

It should be noted that although autonomy and standardization share some commonality, they should not be considered the same. Standardization only describes the service interactions, and it is descriptive and objective. In contrast, autonomy taps on all types of interactions of the job, including interactions with coworkers and supervisors. In addition to objective characteristics of the job, it also captures the psychological experience of autonomy.

Standardization may be related to situational contingencies in the following way. Standard interactions are bounded by the service script or existing expectations. Therefore, the expression of individual personality states is constrained. Customized interactions, on the other hand, require service employees to obtain information from the customer through inquiry, presentation, and comparison. Thus, the opportunity for personality states to vary according to situational influences is higher for customized than for standardized interactions. Thus,

Hypothesis 7: Standardization of service interaction will moderate the relationship between situational characteristics and personality states between-individual. Specifically, the situational contingencies predicted in Hypotheses 1~5 will be stronger in jobs with customized service interaction and weaker in jobs with standardized service interaction.

In addition to job characteristics, individual characteristics are also likely to influence the way one responds to situational influences. Two individual traits of self-monitoring and social skill are proposed below to account for the between-individual differences in situational contingencies.

Social skill. The conceptualization of social skill can be traced back to the work of Thorndike (1920) and others on social intelligence. Social skill reflects the knowledge of what behavior to display at appropriate times and the capability and flexibility in exhibiting such behavior (Meichenbaum, Butler, & Gruson, 1981). Social skill denotes the "ability to perceive interpersonal or social cues, integrate these cues with current motivations, generate responses, and enact responses that will satisfy motives and goals" (Norton & Hope, 2001, p60). Two perspectives of social skill exist in the early literature, viewing it as an enduring personality trait or as a learned pattern of behavior influenced by environmental factors (McCall, 1982). Recently, social skill has been characterized as partially dispositional and partially learned (Burgoon & Dunbar, 2000; Ferris, Witt, & Hochwarter, 2001).

The effects of social skill have been examined in several empirical studies. Following Hogan and Shelton's (1998) contention that "social skill is the moderator variable that translates people's intention into observer evaluations" (p. 135), Witt and Ferris (2003) drew an analogy from Maier's (1955) view of job performance as the result of the interplay between motivation and ability and hypothesized that social skill would resemble ability in moderating the relationship between conscientiousness and job performance. Data in their four samples showed that social skill indeed moderated the relationship between conscientiousness and job performance in technical-professional employees, software engineers, financial service employees, and sales persons. Specifically, individuals high on social skill evidenced a stronger relationship between conscientiousness and job performance. Witt and Ferris (2003) illustrated the interaction with an example in which a worker with high conscientiousness and low social skill may

be "seen as unreasonably demanding, inflexible, and micromanaging" (p. 812). It could be possible that the consistent patterns of behavior the focal individual displays (i.e., typical trait conceptualization of invariant personality states) will be perceived by others as originated from better intentions when the individual has high social skill. However, considering the fluctuation of personality states found in the literature, it is more likely that individuals with better social skill may in fact regulate their levels of personality states to fit the situations they encounter. To put in trait activation theory's terms, individuals high on social skill are more adept at perceiving situational cues and activate their traits appropriately, thus achieving better job performance.

Recall that Fleeson (2007) found that individuals differed on their situational contingencies, i.e., the association between personality states and situational characteristics are not the same across people. Because individuals with higher social skill may be more attuned to situational characteristics and display personality states that may facilitate the social interactions, their personality states may be highly associated with situational characteristics. Thus, the relationship between personality states and situational characteristics predicted in Hypotheses 1 through 5 may be larger for socially-skilled people.

Hypothesis 8: Social skill will moderate the relationship between situational characteristics and personality states between-individual. Specifically, the situational contingencies predicted in Hypotheses 1~5 will be stronger for individuals high on social skill and weaker for individuals low on social skill.

Self-monitoring. As reviewed above, self-monitoring has been proposed as a trait that taps on personality variability across situations (Gangestad & Snyder, 1985; Snyder, 1974). As suggested by Gangestad and Snyder (2000), high self-monitors tend to adjust and project their images to impress others in social interactions. They are more attuned to regulating their behaviors to promote situationally appropriate interaction outcomes. Low self-monitors tend to maintain stable and consistent images. Their social behavior highly corresponds to their attitudes, beliefs, and values. Thus, self-monitoring can be expected to influence personality variability. Specifically, to the extent that the social interactions are bounded within customer service environment, it is reasonable to expect that high self-monitors may understand situational appropriateness somewhat homogeneously, and thus respond in a similar way. Therefore, situational contingencies will be expected to be stronger for individuals high on self-monitoring.

Hypothesis 9: Self-monitoring will moderate the relationship between situational characteristics and personality states between-individual. Specifically, the situational contingencies predicted in Hypotheses 1~5 will be stronger for individuals high on self-monitoring and weaker for individuals low on self-monitoring.

One might argue that self-monitoring and social skill are two constructs indistinguishable from each other. Although it is true that self-monitoring and social skill may exhibit some overlapping in their construct spaces, the notion that social skill can be enhanced through experience such as vicarious observation (Topping, Bremner, & Holmes, 2000) is unique to social skill. More importantly, the difference between social skill and self-monitoring can be delineated in their different theoretical underpinnings.

Whereas self-monitoring only captures individuals' tendency to modify behaviors in different situations due to concerns of situational appropriateness, social skill is the *effective* modification of behaviors to fit for different situational features. Thus, according to the theoretical differences, when in the same situation, socially-skilled individuals will tend to display similar personality states such that effective social interaction will ensue, whereas high self-monitoring individuals may modify their behaviors in a variety of ways because each of them may define situational-appropriateness in a slightly different way.

So far, no empirical study has been conducted to examine the differences between these two constructs. Judging from the wordings of commonly used measures, however, social skill and self-monitoring may not be very distinct from each other. I have presented hypotheses for both constructs, and will use a pilot study to examine whether the measures for these two constructs are unique.

Summary of hypotheses. Three situational characteristics have been hypothesized to influence state conscientiousness, state agreeableness, and state extraversion at service jobs, and these associations are expected to be moderated by characteristics of the job as well as of the individual. No hypotheses have been proposed for state neuroticism and state openness. Exploratory analysis will be conducted on these two states and significant findings will be noted.

METHOD

Pilot study 1

A pilot study was conducted to assess the psychometric properties of measures created for this study or adapted from other sources. Because there is no self-report measure of customer service standardization in the literature, eight items were created to capture the extent to which the employee needs to customize service provision to different customers. Scales were also created to measure situational characteristics of task focus (1 item modified from Fleeson (2007) and 8 new items), friendliness (1 item modified from Fleeson (2007) and 2 new items), and service relationship (3 new items). The IRB approval number is IRB# X07-1058. The informed consent form and debriefing statement are included in Appendices A and B respectively, and pilot survey 1 is included in Appendix C.

214 students enrolled in introductory psychology courses participated in this pilot study, which was posted online for students working at least part time at a service job. The participants received extra course credits for filling out the brief survey. The respondents were asked to report the job they had and the tenure in the jobs. They then filled out the measure of standardization. After that, the participants were asked to recall and briefly describe three social interactions at work: one with a customer, one with the supervisor, and one with a colleague. After description of each interaction, the participants filled out the pilot situational characteristics items. Five individuals were removed from the analysis because they either failed to describe the interaction contexts as required or reported disqualifying jobs. The analysis of Pilot Study 1 was based on a final sample of 209 students.

Standardization. The internal consistency estimate for the proposed 8-item Standardization measure was .46, below the acceptable cutoff. Thus, an exploratory factor analysis using principal axis factoring was conducted. A two-factor solution yielded the most interpretable results, accounting for 62% of the variance. An oblique rotation resulted in four items loading on the first factor and three items loaded on the second factor, with no cross loadings. Scales were created based on the rotated factor loadings. Judging from item content, the first factor was labeled "Standardization - similarity of service provision" and the second "Customization - discovery of customer needs". Cronbach's alphas for the respective scales were .68 and .74, and the correlation between the two scales was -.22.

Task Focus. The nine-item Task Focus measure was found to be internally consistent for all three types of interactions, with Cronbach's alphas of .69, .81, .79, respectively.

Friendliness. Friendliness was also found to be highly reliable for all three types of interactions, with alphas of .92, .94, and .95.

Service Relationship. Reliability for the Service Relationship items ranged from .58 to .60 for the three interactions. One item was removed and three new items were added to the scale. To properly capture the continuum ranging from service encounter to service relationship, the new scale focused on the extent to which there were past interactions and would be future interactions between the service employee and the customer.

Pilot study 2

Results of Pilot Study 1 led to a change of the Service Relationship scale. Thus, a second small pilot study was conducted to assess the psychometric properties of the new Service Relationship scale. Pilot Study 2 was set up in the exact same way as Pilot Study 1, with only one modification made to the customer interaction: the new 5-item Relationship scale replaced the previous 3-item one. 40 students participated in this study for extra credits in introductory psychology courses. The result indicated that the new Service Relationship scale was internally consistent, alpha = .78. The new Service Relationship scale is presented in Appendix D.

Main study

Participants

To enable multiple sampling of personality states at service work, three specific criteria were set up to determine eligibility: (a) Working at a service job that entails frequent face-to-face interactions with customers; (b) knowing the schedule for the next 10 days at work; and (c) working over 3 hours for at least two days a week at the customer service job. Only when a participant could answer positively to all three criteria was he/she eligible to participate. The IRB approval number is IRB# X07-1217.

73 undergraduate students at Michigan State University participated in this study in the spring, summer and fall semesters of 2008. Participants were recruited from undergraduate psychology courses and by flyers posted on campus. In return for their participation, they could choose from a combination of extra course credits and $10 gift cards. A participant could receive a maximum of three gift cards, totaling $30, when

he/she opted for no extra credits. The flexibility of reward options was designed to accommodate the needs of different students and to increase participation.

Of the 73 participants, three lost their survey data due to either technical problems or failure to charge the Palm handheld, and seven others decided to drop out of the study for various reasons. The remaining 63 individuals completed the experience sampling study. Responses were further screened for the number of surveys reported for interactions with customer, supervisor and coworker. Only those who reported more than 30% (9 out of a total of 30 surveys) interactions with customer, supervisor and coworker were retained for the final analysis, resulting in a final sample size of 56.

Most of the participants were female, representing 80% of the sample. 82% were Caucasians and 13% were African-Americans. The average age was 22 (SD = 6.00) among those who reported it, and the majority of them were seniors (36%), followed by juniors and sophomores (27% and 20% respectively). Their jobs varied, ranging from waiter/waitress to cashier, from customer service representative to receptionist.

Recruiting strategies and consent procedures

The initial recruiting strategy was designed to screen participants for eligibility and then invite them by email to participate in the experience sampling study. The pretest of this study (to be described in the *Measure* section) was posted online as a means for students in undergraduate psychology courses to earn extra credits. The sign-up information invited only students who held a customer service job currently. Students read the informed consent form online for the pretest and signed it electronically, and proceeded to the pretest questionnaire. The eligibility questions were embedded at the end of the pretest, followed by an item requesting their email address if they wished to

participate in another research study. Those who met the eligibility criteria were emailed an invitation to participate in the experience sampling study and a request to set up a training session if they agreed to participate. They received the informed consent information on the experience sampling study prior to the training session.

Because the initial recruiting strategy was found to be quite ineffective, active and explicit recruiting strategies were used instead. Instead of screening individuals, the inclusion criteria of this study were described in recruiting materials for potential participants to determine their eligibility. Participants were recruited from students enrolled in introductory psychology courses. Also, flyers about this study were posted around on campus. In addition, a snow-balling recruiting strategy was also used – upon completion of a study, a participant was asked to pass around emails or flyers about this study to their friends. The potential participant could email the researcher to express interest in participating in the study. The researcher would further confirm the participant's eligibility to participate when setting up the training session with the participant via email. Participants recruited from these three strategies received the informed consent information about both the pretest and the experience sampling study prior to the training session. The flyer template for recruiting participants and the email template for scheduling the training session are included in Appendices E and F, and the informed consent form is included in Appendix G.

Apparatus

Palm® Zire31™ handheld computers, loaded with a Purdue Momentary Assessment Tool program (PMAT; Weiss, Beal, Lucy, & MacDermid, 2004), were used for the experience sampling surveys. The surveys contained items assessing personality

states and situational characteristics, which will be described later in the Measure section. The handheld is 4 inches long and 2.5 inches wide and can be carried around at work conveniently. The surveys were displayed on the touch screen, and items were filled out by tapping on the response options, using either the stylus equipped or simply a finger tip.

At pre-programmed survey times, the handheld would beep to remind the participant to fill out the survey. For this study, when a survey became ready, the handheld would beep intermittently for two minutes, and then the screen would stay on for another 28 minutes, thus giving the participant a total of 30 minutes to fill out the survey. A survey would be closed if 30 minutes elapsed after the first beep, thus ensuring the momentary nature of the assessment. To reduce distraction from work, the survey was designed to be very brief: each survey took approximately 2 minutes to finish.

The handheld stores survey responses on its internal flash memory, which is maintained by its battery. When the battery is drained, the survey data stored will be lost. Although the importance of charging was emphasized to each participant, two participants still encountered data loss due to failure to charge frequently. Finally, in addition to recording survey responses, the response time between two items was recorded automatically.

Study Procedure

The procedure was the same for all participants regardless of the recruiting strategy. An interested participant would email the researcher to set up a 30-minute one-on-one training session, in which the data collection technique was explained to each participant. The use of one-on-one training session was determined by the nature of the study: each participant would have a different work schedule, and the survey times

needed to be customized for each of them. The additional benefit of the one-on-one training session is that it allowed the researcher to establish rapport with each participant and to emphasize the importance of the study, so as to ensure participants' motivation (see Christensen, Barrett, Bliss-Moreau, Lebo, & Kaschub, 2003).

After the consent procedure, the participant was informed of the nature of the experience sampling surveys. Care was taken to ensure that the participant was eligible for the study and participation in the study would not impact his/her work. Then, the participant was shown an experience sampling questionnaire and was instructed on the types of items on the questionnaire, as well as the use of the handheld.

After the instruction on the survey, the researcher consulted with the participant to determine the time for each data collection. Because individuals varied in their work schedules, the time for data collection was customized to fit each participant's work schedule. For each day the participant would be at work for more than three hours, three surveys were programmed, with at least an hour between two adjacent surveys. The participants were instructed to respond to the surveys as soon as possible, but not to complete them if it is a major inconvenience for them (such as in a meeting, or in busy store hours). They were also told to skip a survey if they were not at work when the survey was activated. The participants were made aware that they had up to 30 minutes to complete a survey.

The participants were informed that, when responding to the Palm surveys, they would "refer to the interaction at or immediately before the survey alarm started". This instruction differed from Fleeson's (2007) approach, where the participants were asked to report their personality states in the past half hour. The change of instruction was made to

accommodate the characteristics of customer service jobs. It is conceivable that the situational characteristics may be different for each service episode, which may last for as short as several minutes. For example, a service employee may have to deal with an unfriendly customer and two friendly customers within a half hour span of time. Thus, the change of instruction increases the accuracy of measurement.

The data collection lasted for ten working days for each individual, resulting in a maximum of 30 data points for each individual. After an individual completed ten days of data collection, he/she returned the handheld device to the researcher. They were thanked and debriefed (see Appendix H for the debriefing statement) and the extra credits and gift cards were distributed.

Measures

This section includes two types of measures. Pre-test measures are described first, followed by the surveys loaded on the Palm computers.

Personality traits. The Big Five personality traits were measured using Goldberg's (1999) 50-item IPIP Big Five measures. Participants were asked to indicate the degree of accuracy with which a statement described himself/herself, using a 7-point Likert scale, ranging from 1 (*very inaccurate*) to 7 (*very accurate*). An example item is "Am the life of party". The IPIP Big Five measures have been found to show acceptable internal consistencies (αs = .87, extraversion; .82, agreeableness; .79, conscientiousness; .86, Emotional Stability; .84, openness, respectively) and high correlations with the Goldberg's (1992) Big Five markers (*r*s = .73, extraversion; .54, agreeableness; .71, conscientiousness; .72, Emotional Stability; .67, openness, respectively) (International Personality Item Pool, 2007).

Self-monitoring. Self-monitoring was measured using the 13-item Revised Self-Monitoring Scale (RSMS) from Lennox and Wolfe (1984). There are three reasons for using RSMS rather than the more popular Snyder's (1974) 25-item scale or Gangestad and Snyder's (1985) revised 18-item scale. First, the other two scales have been shown to exhibit internal structures different from the self-monitoring theory (Briggs & Cheek, 1988; Briggs, Cheek, & Buss, 1980). Second, the RSMS has been shown to have higher reliability than the other two self-monitoring scales (Day et al, 2002). Third, the finding by Day and colleagues (2002) that there was a .19 mean uncorrected correlation between RSMS and job performance seem to suggest that individuals high on self-monitoring as measured by RSMS could achieve better performance through variation of personality states at work.

The RSMS scale was measured with a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Two sample items are "In social situations, I have the ability to alter my behavior if I feel that something else is called for" and "In conversations, I am sensitive to even the slightest change in the facial expression of the person I'm conversing with". The meta-analytic average internal consistency for RSMS was $\alpha = .81$ (Day et al, 2002).

Social skill. Social skill was measured with a 7-item scale from Ferris et al. (2001). A sample item is "In social situations, it is always clear to me exactly what to say and do." Items were measured on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Internal consistency for self-reported social skill measure ranged from .77 to .90 in seven samples from three publications (Ferris et al., 2001; Hochwarter, Witt, Treadway, & Ferris, 2006; Witt & Ferris, 2003).

Autonomy. Autonomy was measured with the 6-item scale used in Barrick and Mount (1993), which includes 2 items selected from the Job Diagnostic Survey (Hackman & Oldham, 1976) and 4 items developed by the authors. The participants were asked to identify the degree of accuracy the statements describe their jobs on a 7-point Likert scale ranging from "*very inaccurate*" to "*very accurate*". A sample item is "There is a lot of autonomy in doing the job". The internal consistency coefficient reported by Barrick and Mount (1993) was .70.

Standardization and Customization. Customer service standardization and customization were measured with the items retained after the analysis of pilot study data. Items were measured on the same 7-point Likert scale as Autonomy.

All measures described above were included in the pre-test survey, which also contained several demographic questions. The pre-test survey is included in Appendix I, with scale name displayed in brackets, which were not presented to participants.

The following measures were included in the experience sampling surveys (ESS). ESS asked respondents to rate their behavior and the situational characteristics for the last social interaction. Because the ESS was administered on Palm computers three times a day, there was a need to reduce the number of items and the length of the wording. Therefore, the total number of items on an ESS was less than 33, which would take approximately 2 minutes to complete.

Personality states. Personality states were assessed using adjective-based Big Five markers (Goldberg, 1992). Rather than being asked to describe themselves in general, as is in the case of trait measurement, participants were asked to report the degree to which these adjectives accurately describe *themselves* in *the last interaction*

with another person. Based on the argument Fleeson (2001) put forth, the basis for inclusion of adjectives include loading on the correct factor in Goldberg (1992), representing the construct breadth, and ease in the use to describe behavior. Three items were selected to represent each of the Big Five domains, mostly from Fleeson (2007) (extraversion: quiet (reversed), bold, energetic; agreeableness: polite, warm, unsympathetic (reversed); conscientiousness: disorganized (reversed), hardworking, responsible; Emotional Stability: self-confident, sensitive (reversed), insecure (reversed); and openness: intelligent, inquisitive, creative). Items were randomly distributed to form the measure. The participant was asked to indicate the degree to which the adjectives describe himself/herself in his/her last social interaction, using a 5-point scale ranging from 1 (*very inaccurate*) to 5 (*very accurate*).

After the set of personality state items, the participant was asked to identify who he/she was primarily interacting with during the last social interaction. The available options included (a) a customer (b) a supervisor, (c) a coworker (including peer and subordinate), (d) multiple people, and (e) no one. During the training session, the participant was instructed to identify one focal individual as the primary target of interaction, and to refer to that individual when answering the situational characteristics questions. The participant was also told that the "multiple people" option was only appropriate for situations where the he/she could not identify a primary target of interaction, such as making an announcement to multiple people. Finally, the "no one" option was intended for situations where there was no recent social interaction to report. An example situation was when the participant did not interact with anyone between the end of last survey and the onset of the current survey.

Situational characteristics. All situational characteristics items were measured using the scales selected based on the results of the two pilot studies. They were administered on a five-point Likert scale, ranging from 1= *very inaccurate* to 5 = *very accurate*. The complete ESS survey is included in Appendix J.

RESULTS

Preliminary analysis

Level-1 ESS results were prepared for the analyses. First, because the focus of the present study is personality states at service work when interacting with customers, supervisors and coworkers, only those ESS sampled for these situations were relevant. Therefore, ESS describing interaction with multiple people where there was no focal target of interaction ("Multiple people") and ESS describing no interpersonal interactions ("No one") were screened and removed from further analyses. Out of the total 1159 ESS collected, 1025 (88%) were retained.

Second, to ensure the quality of responses on experience sampling surveys, survey response time collected on the Palm handheld was used to screen surveys that were unlikely to be filled out in a careful manner. Because of the unique nature of this type of measure, no prior report of response time is available. A rational decision rule was adopted: if two or more items on an ESS were responded to in less than 1.00 second, which would be considered an extremely quick response time, this ESS was identified and removed from analysis. Out of 1063 ESS retained after the first screening, 27 ESS responses from 7 individuals were detected and removed from further analyses.

The final ESS sample included 998 surveys from 56 individuals. On average, each individual submitted 18 usable ESS, with a median of 18. The minimum number of surveys from a single individual was 9, and the maximum was 30. 642 (64%) of those ESS described interactions with customers, 124 (12%) described interactions with supervisors, and the remaining 232 (23%) pertained to interactions with colleagues or subordinates.

The internal consistency of personality states and situational characteristics scales, computed on individuals' mean ratings, ranged from .63 to .82 for personality states and from .76 to .93 for situational characteristics.

Table 1 Descriptive statistics for level-1 variables.

	M	*sd*
State Openness	3.64	0.68
State Conscientiousness	4.12	0.78
State Extraversion	3.43	0.86
State Agreeableness	4.00	0.86
State Neuroticism	2.43	0.63
Task Focus	3.15	0.96
Friendliness	4.10	1.03
Service Relationship [a]	2.91	1.26

Note. Except where specified, $n = 998$. [a] n = 642.

Level-1 data were also aggregated to level-2 by calculating the mean of item ratings for each individual (N = 56). Using the aggregated item mean to derive an internal consistency reliability estimate represents the reliability of individual scale scores. Descriptive statistics and reliability estimates based on individual item means are also presented in Table 2. Note that although the means of level-1 personality state variables in Table 1 are the same as the mean of mean personality state variables in Table 2, their

standard deviations are different. For example, for state Conscientiousness, $M = 4.12$ and $SD = 0.78$ in Table 1, and for the mean of state Conscientiousness in Table 2, $M = 4.12$ and $SD = 0.54$. For Table 1, the standard deviations represent the variability of state personality variables at observation level, whereas for Table 2, the standard deviations represent the variability of the mean of state personality variables between individuals.

To prepare the data for tests of the hypotheses, scale scores were calculated for both within-individual (level-1) and between-individual (level-2) variables. Descriptive statistics, reliability and intercorrelations for level-2 variables and the means of level-1 variables are presented in Table 2. Unexpectedly, Cronbach's alpha for Autonomy was only .26, and the estimate could not be improved to an acceptable level after dropping items. Thus, autonomy was not used in any further analysis, and Hypothesis 6 was not tested.

The correlation coefficients between personality traits (level-2 variables) and the corresponding mean of within-individual personality states (level-1 variables aggregated to level-2) are underlined in Table 2. Four out of five correlation coefficients were significant (for Openness, $r = .36$; for Extraversion, $r = .46$; for Agreeableness, $r = .53$; and for Neuroticism, $r = .53$), and Conscientiousness was the exception, $r = .20$, n.s..

Table 2 Descriptive statistics and intercorrelations

	M	sd	1	2	3	4	5	6	7	8	9	10	11	12
1. Sex[a]	0.20	0.40	1											
2. Age	22.06	5.99	-.10	1										
3. Openness	5.16	0.84	-.05	.30	.84									
4. Conscientiousness	5.23	0.82	-.06	.14	.23	.83								
5. Extraversion	5.03	0.94	-.06	**.33**	**.52**	.09	.88							
6. Agreeableness	5.78	0.71	**-.31**	.28	**.47**	**.48**	**.40**	.85						
7. Neuroticism	3.35	1.05	-.04	-.29	**-.56**	**-.37**	**-.39**	**-.54**	.88					
8. Standardization	3.01	1.07	.03	**.54**	-.03	-.04	**.26**	-.05	-.11	.69				
9. Customization	5.35	1.14	.07	.31	-.02	.14	**.28**	.18	-.11	**.45**	.74			
10. Self-monitoring	5.19	0.74	-.15	**.36**	**.39**	.17	**.49**	**.47**	-.20	.06	.24	.85		
11. Social Skill	4.95	0.78	-.05	**.34**	**.47**	.15	**.62**	**.51**	**-.30**	.08	**.31**	**.74**	.82	
12. Autonomy	2.65	0.79	-.11	-.01	-.12	-.05	-.15	-.15	.15	.04	**-.31**	-.16	-.23	.26
13. Mean state openness	3.63	0.46	-.10	.06	**.36**	.23	**.50**	**.48**	**-.34**	-.05	.24	**.42**	**.57**	-.21
14. Mean state conscientiousness	4.12	0.54	-.19	.04	.06	.20	.14	**.34**	-.16	-.04	.19	**.32**	.23	-.14
15. Mean state extraversion	3.44	0.49	.00	-.04	.24	-.06	**.46**	.22	-.24	.07	.12	**.36**	**.43**	-.18
16. Mean state agreeableness	3.97	0.60	**-.41**	.15	.18	.17	.17	**.53**	-.13	-.09	.23	**.35**	**.32**	**-.30**
17. Mean state neuroticism	2.44	0.40	-.20	-.10	**-.32**	-.24	**-.42**	-.08	**.53**	-.07	-.10	-.13	-.17	.13
18. Mean task focus	3.11	0.46	**-.29**	.00	.17	.19	.12	.22	.07	-.15	.00	.09	.17	-.08
19. Mean friendliness	4.10	0.44	-.08	.24	.25	**.30**	**.42**	**.44**	-.19	.06	.25	**.38**	**.33**	-.12
20. Mean service relationship	2.90	0.88	-.06	**.37**	.15	-.13	.12	.17	-.22	.22	.09	.01	-.06	-.09

Table 2 (cont'd)

	13	14	15	16	17	18	19	20
13. Mean state openness	.66							
14. Mean state conscientiousness	**.44**	.82						
15. Mean state extraversion	**.63**	.22	.63					
16. Mean state agreeableness	**.59**	**.63**	**.30**	.86				
17. Mean state neuroticism	-.18	-.23	-.23	-.02	.76			
18. Mean task focus	**.34**	**.32**	.01	**.44**	.11	.76		
19. Mean friendliness	**.45**	**.52**	.25	**.48**	**-.33**	.04	.93	
20. Mean service relationship	.14	.22	.05	.24	-.09	.06	-.03	.91

Note. [a]. Female = 0, Male = 1.

Variables 3~12 were measured on a 7-point scale; variables 13~21 were measured on a 5-point scale.

All significant correlations listed in bold. Cronbach's alphas listed on the diagonal. Correlations between traits and corresponding state means are underlined.

For all correlations not involving Age ($n = 56$): $p < .05$ when $r > .26$; $p < .01$ when $r > .34$; $p < .001$ when $r > .43$.

For correlations with Age ($n = 36$): $p < .05$ when $r > .33$; $p < .01$ when $r > .42$; $p < .001$ when $r > .52$.

Self-selection bias

To examine the extent to which self-selection bias (see Scollon, Kim-Prieto, & Diener, 2003) existed in the present study, participants to the main study (n = 73) were compared to nonparticipants who filled out the online pretest survey as part of the initial recruiting strategy. Of the 624 nonparticipants who responded to the pretest, 544 reported currently holding a customer service job, and these individuals were used as the nonparticipant comparison group.

Independent samples t-tests were run on all pretest variables using an alpha error rate of .05, two-tailed. Results revealed that the participants differed from the nonparticipants on Conscientiousness and Agreeableness. Compared to the nonparticipants, the participants were slightly more conscientious and more agreeable. Cohen's d (Cohen, 1988) was calculated to assess the size of the differences between these groups, and for both Conscientiousness and Agreeableness, the d's indicated small effect sizes. Means and standard deviations for each group and t statistics between the groups are presented in Table 3.

Attrition

To examine the difference between the participants who completed the study and were included in the final analyses (n = 56) and those who either did not complete the study for various reasons or finished the study with insufficient usable data (n = 17), independent samples t-tests were run on all pretest variables. The final sample scored significantly higher on conscientiousness than those who did not turn in useful data (t = 2.66, $p < .05$), and the difference in effect size was somewhat large. Means and standard

deviations for each group and t and d statistics between the groups are presented in Table 4.

Table 3 Independent samples t-tests between participants and nonparticipants

	Participants[a]		Nonparticipants[b]		d	t	p
	M	SD	M	SD			
Openness	5.16	0.77	5.05	0.72	.15	1.17	0.24
Conscientiousness	**5.09**	**0.83**	**4.80**	**0.82**	**.36**	**2.87**	**0.00**
Extraversion	4.99	0.96	4.88	0.89	.12	0.98	0.33
Agreeableness	**5.73**	**0.73**	**5.46**	**0.68**	**.38**	**3.08**	**0.00**
Neuroticism	3.44	1.09	3.67	1.01	-.23	-1.84	0.07
Standardization	3.01	1.04	3.19	0.89	-.20	-1.57	0.12
Customization	5.37	1.07	5.18	0.98	.19	1.53	0.13
Self-monitoring	5.16	0.73	5.08	0.65	.12	0.93	0.35
Social Skill	4.94	0.75	4.84	0.73	.14	1.12	0.26
Autonomy	2.67	0.81	2.87	0.88	-.23	-1.83	0.07

[a] $n = 73$; [b] $n = 544$. Significant differences listed in bold.

Table 4 Independent samples t-tests between final sample and dropouts

	Final sample		Dropouts		d	t	p
	M	SD	M	SD			
Openness	5.16	0.84	5.13	0.49	0.04	0.14	.89
Conscientiousness	**5.23**	**0.82**	**4.64**	**0.72**	**0.71**	**2.66**	**.01**
Extraversion	5.03	0.94	4.86	1.03	0.17	0.62	.54
Agreeableness	5.78	0.71	5.56	0.79	0.31	1.10	.27
Neuroticism	3.35	1.05	3.74	1.17	-0.36	-1.29	.20
Standardization	3.01	1.07	3.01	0.99	0.00	0.00	1.00
Customization	5.35	1.14	5.43	0.79	-0.08	-0.27	.79
Self-monitoring	5.19	0.74	5.05	0.70	0.19	0.68	.50
Social Skill	4.95	0.78	4.89	0.67	0.08	0.29	.78
Autonomy	2.65	0.79	2.73	0.89	-0.09	-0.31	.76

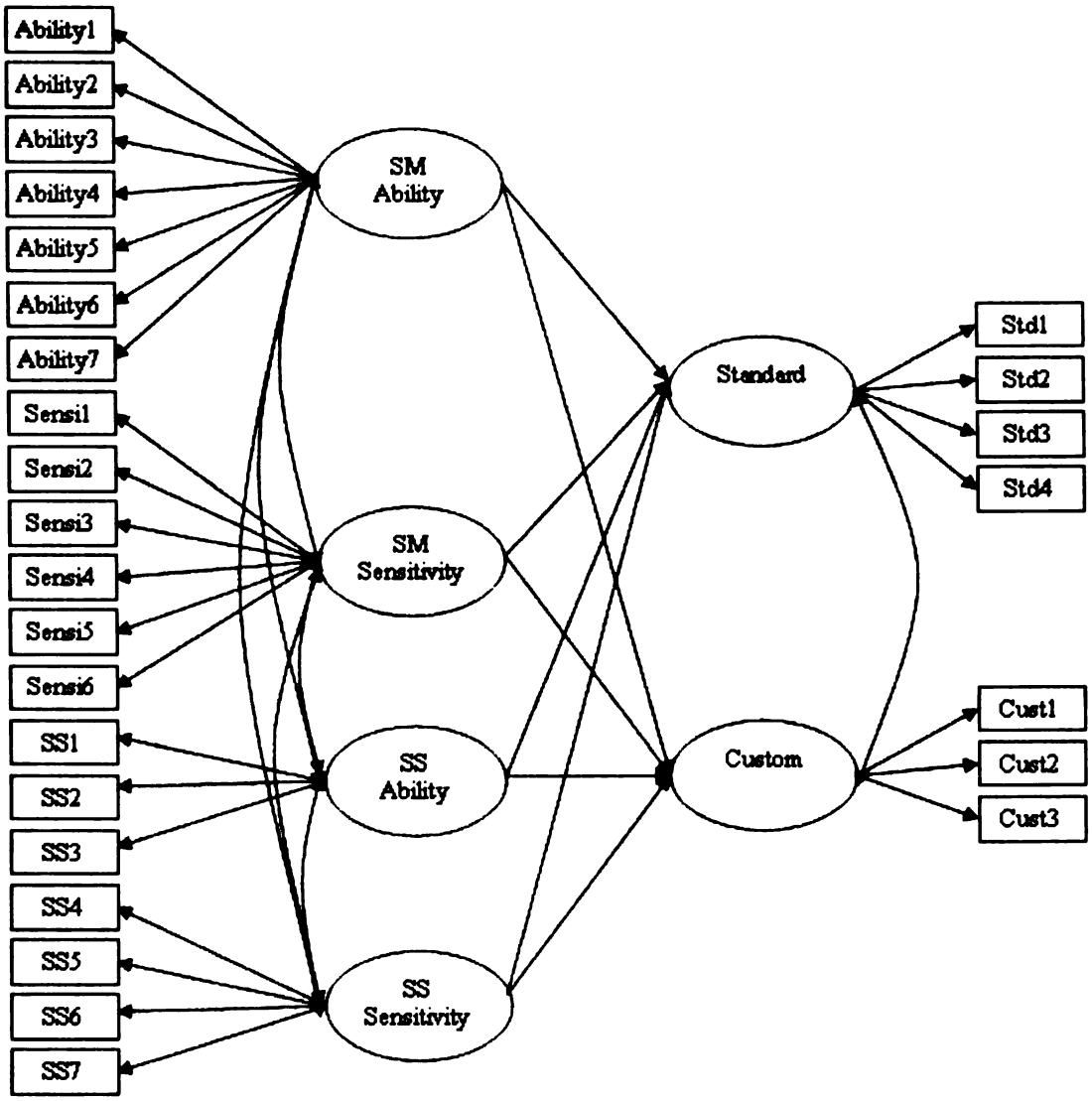
[a] $n = 56$; [b] $n = 17$. Significant differences listed in bold.

Examination of Self-monitoring and Social Skill

Structural equation modeling was used to examine whether social skill and self-monitoring measured the same construct. Two additional questions were also assessed simultaneously: (a) whether standardization and customization were two distinct measures, and (b) the extent to which self-monitoring and social skill influenced perceptions of customization and standardization. The pretest surveys from both participants and nonparticipants were used for this preliminary analysis. A listwise elimination of missing data yielded a final sample size of 557. LISREL 8.7 (Jöreskog & Sörbom, 2004) was used for the analysis.

Before conducting the analysis, I evaluated the wording of the social skill items and identified their similarity with the two aspects of RSMS. Three items were classified to be similar to the Ability subscale and labeled as Capability, whereas four other items were classified as similar to the Sensitivity subscale, labeled as Perceptiveness. Thus, four latent variables were created for the measurement model on the X side. The measurement model on the Y side consists of customization (3 items) and standardization (4 items). The baseline model evaluated is presented in *Figure 2*.

Figure 2 Baseline model for the relationship between self-monitoring and social skill



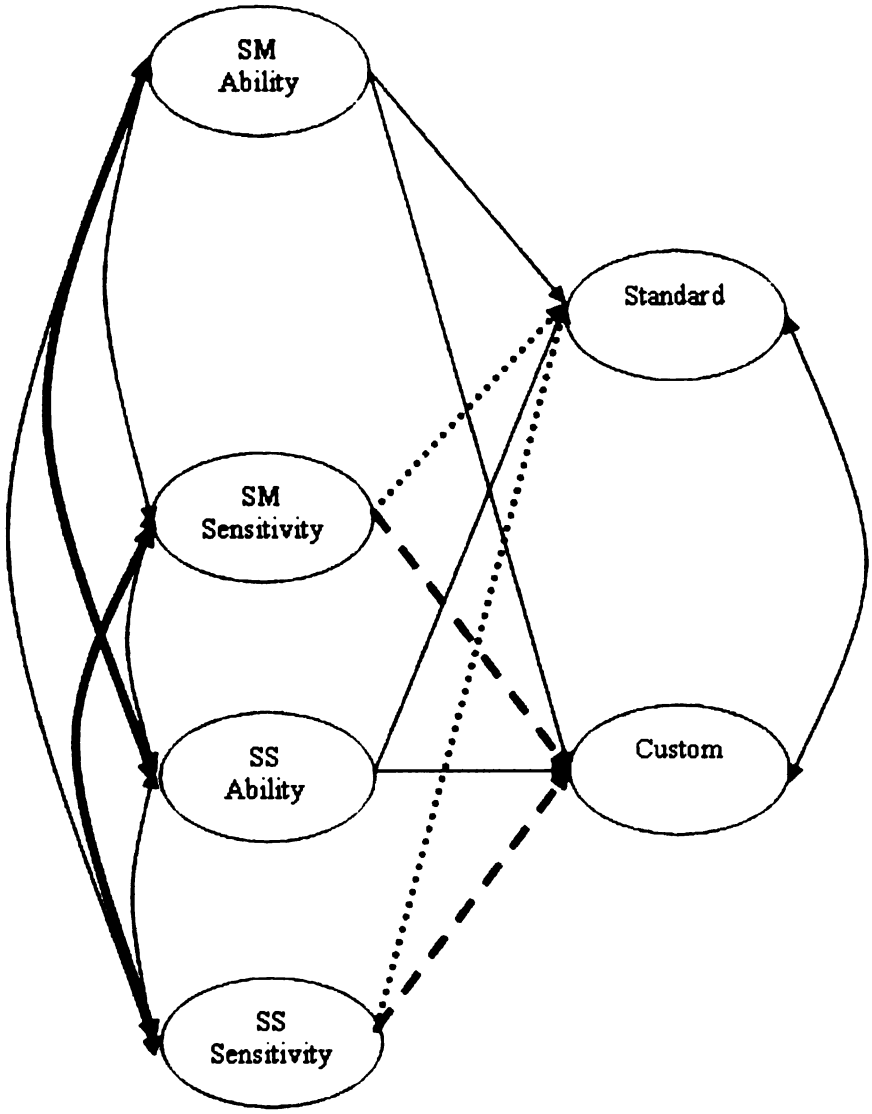
Note. Residuals are not graphed. SM: Self-monitoring; SS: Social skill; Standard: standardization; Custom: Customization.

The baseline model resulted in reasonable fit indices: $\chi^2 = 593.58$, $df = 309$, $p < .001$. Because of the large sample size, the significance of chi-square test was expected. χ^2/df ratio of less than 2 has been proposed to indicate acceptable fit (Bollen, 1989), so this model seemed to have fit the data reasonably well. Hu and Bentler (1995) suggested when Standardized Root Mean Residual (SRMR) is less than .08 and when Comparative Fit Index (CFI) is larger than .95 or Root Mean Square Error of Approximation (RMSEA) is less than .06, the model has acceptable fit. The values for this baseline model returned reasonable fit according to their cutoff scores, with SRMR = .06, CFI = .95, and RMSEA = .06. Non-Normed Fit Index (NNFI) was .94, also indicating acceptable fit according to Hu and Bentler (1995).

Based on the baseline model, a number of constraints were imposed such that the corresponding factors from self-monitoring and social skill would perfectly correlate with each other and would correlate with customization/standardization with the same parameter. A progression of models was tested such that only a single constraint was imposed on the previous model. If the later model resulted in a significant positive chi-square test of difference, the constraint was accepted and this model was adopted as the basis to test for a newer model. If the later model failed to produce a significant positive chi-square test of difference, the constraint was rejected and a new set of constraints was tested against the original model.

After a series of model tests, the final model yielded the following indices: $\chi^2 = 610.5$, $df = 315$, $p < .001$, SRMR = .06, CFI = .95, and RMSEA = .06, NNFI = .94. The final model is presented in *Figure 3*.

Figure 3 Final model for relationship between self-monitoring and social skill



Note. Correlations with bold arrows are fixed to be 1. Correlations with the same dotted patterns were fixed to be equal to each other. Observed variables and residuals are not graphed.

SM: Self-monitoring; SS: Social skill; Standard: standardization; Custom: Customization

As shown in the accepted constraints in the final model, it can be concluded that social skill and self-monitoring did in fact measure the same two underlying latent variables. Despite this finding, I will test the main hypotheses nevertheless for sake of completeness and consistency with prior literature and note any potential difference in findings with caution.

To examine the relationships between self-monitoring and social skill as predictors and customization and standardization as criteria, t values were examined from the output. None of the t-values were significant, ranging from -0.74 to 1.72. Thus, the results indicate that individuals' self-monitoring and social skill did not influence their perceptions of the standardization and customization of their jobs.

Finally, the latent correlation between standardization and customization was -.29, suggesting that they were in fact different measures.

After the preliminary analyses, the testing of study hypotheses was undertaken. The following section will provide an overview of the progression of models used to test the hypotheses.

Overview of Main Analyses

In the current study, the data was nonindependent in that observations were nested within individuals, necessitating the use of multilevel modeling, as the ordinary least square regression would produce inaccurate estimates due to failure to account for the nonindependence between observations (Bliese & Hanges, 2004; Kenny & Judd, 1986). This section outlines the general procedure for testing the study hypotheses.

For each personality state outcome variable, a progression of models was tested, as described in Hayes (2006). The analyses started from the simplest model, and

computed the difference in test statistics between adjacent models, with the later model estimating more parameters than the earlier model. When the later model provided significant better fit, it was used as the null model in the next step, and a new model where one or more parameters were relaxed was compared to it. The progression of tests of model fit would cease when no further improvement of fit was available. Statistical significance tests on parameter estimates (the Wald tests) were also conducted for each model. However, when the test of a model yielded a different result from the Wald test, the former is interpreted because of its accuracy, in accordance with Hayes' (2006) recommendation.

The parameters in the models were estimated by maximum likelihood, and the test statistic -2×Log (likelihood ratio) (*-2LL*) is expected to have a χ^2 distribution with degrees of freedom equal to the difference in the number of parameters estimated between two models. HLM 6.06 (Raudenbush, Bryk, Cheong & Congdon, 2000) was used for all the analysis.

In this study, level-1 predictors and the cross-level interactions are of substantive interest. Thus, the following centering schemes were used to prepare data for analyses and to aid interpretation, according to the recommendation by Enders and Tofighi (2007). Level-1 predictors were within-individual centered, calculated by subtracting the mean of each individual from each observation, and level-2 predictors were grand-mean centered, calculated by subtracting the mean of the sample from each individual's score.

State Conscientiousness will be used as an example to illustrate each of the models tested below, presented in the order of progression. The outcome variable is personality state (State Conscientiousness), the level-1 predictor is the situational

characteristics of Task Focus, and the level-2 predictors are the individual characteristic of social skill and the job characteristic of Customization. Two types of effects are estimated. For the *fixed effect*, the parameter of interest is fixed across level-2 units, thus a single coefficient may be estimated for such effect. For the *random effect*, the same parameter is allowed to vary randomly across level-2 units, resulting in an estimate of a variance component instead of a coefficient.

Model 1 – The Null Model.

Level 1: State Conscientiousness = $\pi_0 + e$

Level 2: $\pi_0 = \beta_{00} + r_0$

In the level-1 equation above, π_0 is the average level of State Conscientiousness displayed by any individual, quantified by e, the elevation or decline of State Conscientiousness by the individual for each observation. The level-2 equation specifies two parameters: β_{00} is the average level of State Conscientiousness across all individuals and all observations (grand mean), and r_0 is the difference between any individual's state level and the grand mean.

Combining level-1 and level-2 equations, the overall model can be expressed as:

State Conscientiousness = $\beta_{00} + r_0 + e$

In this equation, the model estimates both the coefficient for the fixed effect β_{00} and the variance components for the random effects r_0 and e. In addition, the intraclass correlation (ICC) is calculated to indicate the extent to which nonindependence exists, that is, how much of the variance in State Conscientiousness can be explained by between-individual differences.

$$ICC = \frac{Var(r_0)}{Var(r_0) + Var(e)}$$

Model 2 – Random Intercept Model.

Level 1: State Conscientiousness = $\pi_0 + \pi_1(\text{Task Focus}) + e$

Level 2: $\pi_0 = \beta_{00} + r_0$
$\pi_1 = \beta_{10}$

In the level-1 equation above, State Conscientiousness of an individual at a moment consists of three components: his/her average level of State Conscientiousness, his/her situational contingency (association) between State Conscientiousness and Task Focus, and the residual. In the level-2 equation, an individual's average level of State Conscientiousness π_0 the same two components as in Model 1, whereas π_1 is the average slope across individuals.

Combining level-1 and level-2 equations, the overall model can be expressed as:

State Conscientiousness = $\beta_{00} + \beta_{10}(\text{Task Focus}) + r_0 + e$

In this equation, two fixed effects are estimated: the grand mean of State Conscientiousness, β_{00}, and the average situational contingency of Task Focus on State Conscientiousness, β_{10}. Two random effects are also estimated: the variance of r_0 and e. When the difference of -2LL between Model 2 and Model 1 is significant, Model 2 is found to exhibit better fit. A significant difference between Models 2 and 1 will support the notion that State Conscientiousness does vary according to Task Focus (Hypothesis 1).

In addition to the test of significance, the difference of variance estimates for e between Models 2 and 1 indicates how much of the within-individual variance in State

Conscientiousness is associated with Task Focus. A "variance accounted for" measure is created to indicate the proportion of residual variance in the previous model accounted for by the addition of new parameter in the current model.

$$\text{Variance accounted for} = \frac{\text{Var}(e) \text{ in Model 1 - Var}(e) \text{ in Model 2}}{\text{Var}(e) \text{ in Model 1}}$$

Model 3 – Random Intercept - Random Slope Model.

$$\text{Level 1:} \quad \text{State Conscientiousness} = \pi_0 + \pi_1(\text{Task Focus}) + e$$

$$\text{Level 2:} \quad \begin{aligned} \pi_0 &= \beta_{00} + r_0 \\ \pi_1 &= \beta_{10} + r_1 \end{aligned}$$

Model 3 estimates an additional random parameter r_1. It indicates the between-individual difference in the association between Task Focus and State Conscientiousness. In other words, situational contingencies are allowed to vary freely between individuals. The overall equation is expressed as:

$$\text{State Conscientiousness} = \beta_{00} + \beta_{10}(\text{Task Focus}) + r_1(\text{Task Focus}) + r_0 + e$$

A significant difference between Models 3 and 2 will support the notion that some individuals are more likely to vary their State Conscientiousness according to varying levels of Task Focus than others.

Model 4 – Intercept as Outcomes Model, Personality Trait.

$$\text{Level 1:} \quad \text{State Conscientiousness} = \pi_0 + \pi_1(\text{Task Focus}) + e$$

$$\text{Level 2:} \quad \begin{aligned} \pi_0 &= \beta_{00} + \beta_{01}(\text{Trait Concientiousness}) + r_0 \\ \pi_1 &= \beta_{10} + r_1 \end{aligned}$$

Model 4 estimates the main effect of trait Conscientiousness on state Conscientiousness. A personality trait is expected to predict the mean level of its corresponding level-1 states when the situational characteristics are at mean level. This

cross-level main effect of personality trait speaks to the validity of personality trait measured without context in predicting the mean level of personality states in service context. Moreover, adding trait Conscientiousness into the model prepares further tests of cross-level interaction effect by controlling the between-individual variance accounted for by trait level.

Model 5.1 – Intercept as Outcomes Model, Job/Personal Characteristics.

Level 1: $\text{State Conscientiousness} = \pi_0 + \pi_1(\text{Task Focus}) + e$

Level 2:
$$\pi_0 = \beta_{00} + \beta_{01}(\text{Trait Concientiousness}) + \beta_{02}(\text{Social Skill}) + r_0$$
$$\pi_1 = \beta_{10} + r_1$$

To predict the level-1 State Conscientiousness, social skill is used as an example of other level-2 variables, including job characteristics of standardization and customization and individual characteristics of social skill and self-monitoring. This main effect pertains to the degree to which variance between individuals on the mean of State Conscientiousness displayed on the job can be explained by these variables after controlling for the corresponding trait.

Model 5.2 – Slopes as Outcomes Model.

Level 1: $\text{State Conscientiousness} = \pi_0 + \pi_1(\text{Task Focus}) + e$

Level 2:
$$\pi_0 = \beta_{00} + \beta_{01}(\text{Trait Concientiousness}) + \beta_{02}(\text{Social Skill}) + r_0$$
$$\pi_1 = \beta_{10} + \beta_{11}(\text{Social Skill}) + r_1$$

Model 5.2 tests the cross-level interaction effect of job/individual characteristics on situational contingencies. In other words, it addresses whether individuals differ on the relationship between Task Focus and State Conscientiousness. It should be noted that the test of Model 5.2 does not premise on the significance of Model 4 or 5.1. Entering the

main effect of level-2 variables such as Social Skill in Model 5.1 serves as the control for the test of their interaction effects in Model 5.2.

The overall equation can be expressed as:

$$\begin{aligned}\text{State Conscientiousness} = {} & \beta_{00} + \beta_{01}(\text{Trait Concientiousness}) + \beta_{02}(\text{Social Skill}) \\ & + \beta_{10}(\text{Task Focus}) + \beta_{11}(\text{Social Skill})(\text{Task Focus}) \\ & + r_0 + r_1(\text{Task Focus}) + e\end{aligned}$$

In this model, five fixed effects $\beta_{00}, \beta_{01}, \beta_{02}, \beta_{10}, \beta_{11}$, and three random effects r_0, r_1, and e are estimated. The parameter of interest is β_{11}, which quantifies the slopes at level-1 predicting State Conscientiousness from Task Focus. When β_{11} is positive, individuals who are high on Social Skill tend to have steeper slopes than individuals who are low on Social Skill. Conversely, when β_{11} is negative, those who are high on Social Skill tend to have flatter slopes than those who are low on Social Skill.

Relationship between Task Focus and State Conscientiousness

Before testing the hypotheses on State Conscientiousness, the nonindependence of data was tested by ICC. In Model 1, a large ICC of .44 confirmed the nonindependence between observations and supported the use of multilevel modeling. The estimate of the intercept $\beta 00 = 4.12$, meaning that the grand mean of State Conscientiousness was 4.12.

Model 2 added the fixed effect of Task Focus in the prediction of State Conscientiousness and it resulted in a significantly better fit. The significant $\beta 10$ indicates that State Conscientiousness was positively related to Task Focus, and on average a .12 unit change of State Conscientiousness was associated with 1 unit change of Task Focus. 3% of residual variance in the prior model was explained by the addition of the fixed effect of Task Focus. In other words, 3% of the within-person variation in State

Conscientiousness was explained by Task Focus. Overall, the Model 2 effect supported Hypothesis 1.

Model 3 added a random component on the relationship between Task Focus and State Conscientiousness, such that the slopes predicting State Conscientiousness from Task Focus were allowed to vary freely between individuals. The model again provided significant fit to the data, supporting the notion that individuals differ on their situational contingency for State Conscientiousness. 6% of the residual variance from Model 2 was accounted for by Model 3, meaning that after partialing out between-person variance and the within-person variance of State Conscientiousness associated with Task Focus, another 6% of the remaining variance was accounted for by the variance of slopes. This significant random component further allows the investigation of cross-level moderation effect. A level-2 moderator would be expected to explain the variance in the slopes.

Model 4 examined the extent to which between-individual variance on State Conscientiousness could be accounted for by Trait Conscientiousness. The change in model fit was approaching significance ($p < .10$). The fixed effect for Trait Conscientiousness, $\beta_{01} = .14$, showing that each unit of increase on Trait Conscientiousness (measured on a 7-point scale) was associated with .14 unit increase on the mean level of State Conscientiousness (measured on a 5-point scale). The results for Models 1~4 are presented in Table 5.

Model 5.1 and Model 5.2 were tested for each of the four individual/job characteristics variables, including Social Skill, Self-Monitoring, Customization, and Standardization. For each variable, Model 5.1 was first compared to Model 4 to determine the main effect of level-2 variable on the mean level of State

Conscientiousness. Then, Model 5.2 for each variable was compared to the respective Model 5.1. The results are presented in Table 6.

Of the four Models 5.1 tested, only Social Skill and Self-monitoring had significant improvement of fit beyond Model 4. These two models pertain to the cross-level main effects of Social Skill/Self-monitoring on the mean level of State Conscientiousness. Interpreted together, individuals who were high on Social Skill or Self-Monitoring would tend to report higher levels of State Conscientiousness at work. Customization and Standardization, on the other hand, did not have significant effects on the display of State Conscientiousness at work.

None of the Models 5.2 provided significant better fit than their respective Model 5.1. Although prior Model 3 analysis showed significant variation in the slopes predicting State Conscientiousness from Task Focus, such variation was not associated with any of the job or individual characteristics tested. Thus, Hypotheses 7~9 were not supported for the relationship between Task Focus and State Conscientiousness.

Table 5 Tests of Task Focus - State Conscientiousness relationship

	Model 1	Model 2	Model 3	Model 4
Coefficients for fixed components				
Intercept (β_{00})	4.12***	4.12***	4.12***	4.12***
Trait Conscientiousness (β_{01})				0.14†
Level-2 characteristic (β_{02})				
Slope				
Task Focus (β_{10})		0.12***	0.12***	0.12***
Level-2 characteristic (β_{11})				
Variance of random components				
Var(r0)	0.26***	0.26***	0.27***	0.25***
Var(r1)			0.03***	0.03***
Var(e)	0.33	0.32	0.30	0.30
Deviance (-2LL)	1883.87	1855.76	1832.88	1829.99
Change in -2LL		28.11***	22.89***	2.89†
df	3	4	6	7

Note. †p<.10. * p <.05. ** p < .01. *** p < .001

Table 6 Tests of moderators of Task Focus – State Conscientiousness relationship

	Social Skill		Self-Monitoring	
	Model 5.1	Model 5.2	Model 5.1	Model 5.2
Coefficients for fixed components				
Intercept (β_{00})	4.12***	4.12***	4.12***	4.12***
Trait Conscientiousness (β_{01})	0.12	0.12	0.11	0.11
Level-2 characteristic (β_{02}) (SS/SM/Cust/Std)	0.17*	0.15†	0.24**	0.22*
Slope				
Task Focus (β_{10})	0.12**	0.12**	0.12**	0.11**
Level-2 characteristic (β_{11}) (SS/SM/Cust/Std)		0.04		0.04
Variance of random components				
Var(r_0)	0.24***	0.24***	0.23***	0.23***
Var(r_1)	0.03***	0.03***	0.03***	0.03***
Var(e)	0.30	0.30	0.30	0.30
Deviance (-2LL)	1825.98	1824.88	1822.94	1822.22
Change in -2LL	4.01*	1.10	7.04**	0.72
df	8	9	8	9

Table 6 (cont'd)

	Customization		Standardization	
	Model 5.1	Model 5.2	Model 5.1	Model 5.2
Coefficients for fixed components				
Intercept (β_{00})	4.12***	4.12***	4.12***	4.12***
Trait Conscientiousness (β_{01})	0.13	0.13	0.14	0.14
Level-2 characteristic (β_{02}) (SS/SM/Cust/Std)	0.07	0.08	-0.03	-0.02
Slope				
Task Focus (β_{10})	0.12**	0.12**	0.12**	0.12**
Level-2 characteristic (β_{11}) (SS/SM/Cust/Std)		-0.02		-0.02
Variance of random components				
Var(r_0)	0.25***	0.25***	0.25***	0.25***
Var(r_1)	0.03***	0.03***	0.03***	0.03***
Var(e)	0.30	0.30	0.30	0.30
Deviance (-2LL)	1828.74	1828.25	1829.80	1829.47
Change in -2LL	1.25	0.49	0.19	0.33
df	8	9	8	9

Note. †p<.10. * p <.05. ** p < .01. *** p < .001

Relationship between Friendliness and State Extraversion

Similar steps were run to examine the hypotheses on State Extraversion. ICC was .28, indicating nonindependence of observations. The estimate of the intercept β_{00} = 3.43, meaning that the grand mean of State Extraversion was 3.43.

The addition of the fixed effect of Friendliness was significant for the prediction of State Extraversion, as the test of Model 2 showed. The significant β_{10} of .20 indicates that, ignoring individual variations, one unit change in Friendliness would be associated with .20 unit change of State Extraversion. This association explained 6% of residual variance in the null model. In other words, 6% of within-individual variation in State Extraversion at service work was explained by the extent to which the other person in the interaction was friendly. Thus, Hypothesis 2 was supported.

Extending on the significant Model 2, Model 3 relaxed the fixed effect of Friendliness on State Extraversion and allows the association to vary between individuals. Again, Model 3 provided significant better fit than Model 2. The variance component for the slopes was .01, accounting for 2% additional variance. In other words, the degree to which individuals differentially respond to the situational characteristics of Friendliness accounted for 2% of the within-individual variation of State Extraversion unexplained by Friendliness. The extent to which this random component can be explained by level-2 variables is the focus of cross-level moderation effect, to be tested in Model 5.2.

The addition of the main effect of Trait Extraversion in Model 4 was significant, β_{01} = .23. Individuals who were 1 unit higher on Trait Extraversion (measured on 7-point

scale) were .23 unit higher on their average State Extraversion (measured on 5-point scale) at work. Results for Models 1~4 are presented in Table 7.

Each of Model 5.1 for Social Skill, Self-Monitoring, Customization, and Standardization was estimated to determine the effect of these job and individual characteristics on the mean level of State Extraversion. The improvement of fit was approaching significance for Social Skill only. In other words, Social Skill explained between individual variations of State Extraversion (i.e., mean level differences) beyond Trait Extraversion.

The moderating effect of level-2 job and individual characteristics on the association between Friendliness and State Extraversion was tested in Model 5.2. Only Model 5.2 for Customization had a significant better fit ($p < .05$), and the result supported the contention that the service job characteristics may impact the degree to which the other party's Friendliness influence a focal individual's State Extraversion. However, the exact nature of the influence, judging from $\beta_{11} = -.05$, was contrary to the hypothesis. For individuals working in jobs with a higher degree of Customization, their State Extraversion was in fact less susceptible to influence from the other party's Friendliness, compared to individuals who work in jobs with a lower degree of Customization. Results for moderator analysis are presented in Table 8.

Table 7 Tests of Friendliness – State Extraversion relationship

	Model 1	Model 2	Model 3	Model 4
Coefficients for fixed components				
Intercept (β_{00})	3.43***	3.43***	3.43***	3.43***
Trait Extraversion (β_{01})				0.23***
Level-2 characteristic (β_{02})				
Slope				
Friendliness (β_{10})		0.20***	0.19***	0.19***
Level-2 characteristic (β_{11})				
Variance of random components				
Var(r0)	0.20***	0.21***	0.21***	0.16***
Var(r1)			0.01*	0.01*
Var(e)	0.53	0.50	0.48	0.48
Deviance (-2LL)	2315.22	2250.67	2243.33	2230.51
Change in -2LL		64.55***	7.33*	12.83***
df	3	4	6	7

Note. †p<.10. * p <.05. ** p < .01. *** p < .001

Table 8 Tests of moderators of Friendliness – State Extraversion relationship

	Social Skill		Self-Monitoring	
	Model 5.1	Model 5.2	Model 5.1	Model 5.2
Coefficients for fixed components				
Intercept (β_{00})	3.43***	3.43***	3.43***	3.43***
Trait Extraversion (β_{01})	0.15†	0.18*	0.18*	0.18*
Level-2 characteristic (β_{02}) (SS/SM/Cust/Std)	0.17†	0.12	0.14	0.12
Slope				
Friendliness (β_{10})	0.19***	0.20***	0.19***	0.20***
Level-2 characteristic (β_{11}) (SS/SM/Cust/Std)		0.04		0.04
Variance of random components				
Var(r0)	0.15***	0.15***	0.15***	0.15***
Var(r1)	0.01*	0.01*	0.01*	0.01*
Var(e)	0.48	0.48	0.48	0.48
Deviance (-2LL)	2227.27	2226.98	2228.14	2226.98
Change in -2LL	3.24†	1.16	2.36	1.16
df	8	9	8	9

Table 8 (cont'd)

	Customization		Standardization	
	Model 5.1	Model 5.2	Model 5.1	Model 5.2
Coefficients for fixed components				
Intercept (β_{00})	3.43***	3.43***	3.43***	3.43***
Trait Extraversion (β_{01})	0.24**	0.24**	0.24***	0.24***
Level-2 characteristic (β_{02}) (SS/SM/Cust/Std)	-0.02	0.00	-0.03	-0.02
Slope				
Friendliness (β_{10})	0.19***	0.20***	0.19***	0.19***
Level-2 characteristic (β_{11}) (SS/SM/Cust/Std)		-0.05*		-0.04
Variance of random components				
Var(r0)	0.16***	0.16***	0.16***	0.16***
Var(r1)	0.01*	0.01†	0.01*	0.01*
Var(e)	0.48	0.48	0.48	0.48
Deviance (-2LL)	2230.42	2226.16	2230.17	2228.44
Change in -2LL	0.09	4.26*	0.34	1.73
df	8	9	8	9

Note. †p<.10. * p <.05. ** p < .01. *** p < .001

Relationship between Friendliness and State Agreeableness

The same steps were executed to examine hypotheses on the relationship between Friendliness and State Agreeableness. The null model resulted in an ICC of .46, showing that between-individual variation accounted for a large percentage of total variance. The progression from Model 1 to Model 4 was significant for each new model. In Model 2, the addition of the fixed effect of Friendliness explained 10% variance in within-individual variation of State Agreeableness, supported Hypothesis 3. In Model 3, allowing the association between Friendliness and State Agreeableness to vary freely across individuals accounted for 12% unexplained variance in within-individual variation of State Agreeableness. The significant Model 4 showed that individuals who were 1 unit higher on Trait Agreeableness (measured on 7-point scale) were .40 unit higher on their average State Agreeableness (measured on 5-point scale) at work. Results for Models 1~4 are presented in Table 9.

Analyses of Model 5.1 and Model 5.2 were not significant for any of the job or individual characteristics variables. Thus, hypotheses 7 through 9 were not supported for the relationship between Friendliness and State Agreeableness. Results are presented in Table 10.

Table 9 Tests of Friendliness – State Agreeableness relationship

	Model 1	Model 2	Model 3	Model 4
Coefficients for fixed components				
Intercept (β_{00})	3.97***	3.97***	3.97***	3.97***
Trait Agreeableness (β_{01})				0.44***
Level-2 characteristic (β_{02})				
Slope				
Friendliness (β_{10})		0.20***	0.20***	0.20***
Level-2 characteristic (β_{11})				
Variance of random components				
Var(r0)	0.33***	0.33***	0.34***	0.23***
Var(r1)			0.05	0.05
Var(e)	0.39	0.35	0.31	0.31
Deviance (-2LL)	2038.82	1943.96	1880.17	1861.59
Change in -2LL		94.85***	63.80***	18.58***
df	3	4	6	7

Note. †p<.10. * p <.05. ** p < .01. *** p < .001

Table 10 Testing of moderators of the Friendliness – State Agreeableness relationship

	Social Skill		Self-Monitoring	
	Model 5.1	Model 5.2	Model 5.1	Model 5.2
Coefficients for fixed components				
Intercept (β_{00})	3.97***	3.97***	3.97***	3.98***
Trait Agreeableness (β_{01})	0.39**	0.39**	0.36**	0.36**
Level-2 characteristic (β_{02}) (SS/SM/Cust/Std)	0.09	0.07	0.16	0.13
Slope				
Friendliness (β_{10})	0.20***	0.20***	0.20***	0.21***
Level-2 characteristic (β_{11}) (SS/SM/Cust/Std)		0.04		0.06
Variance of random components				
Var(r0)	0.23***	0.23***	0.23***	0.23***
Var(r1)	0.05***	0.05***	0.05***	0.05***
Var(e)	0.31	0.31	0.31	0.31
Deviance (-2LL)	1860.74	1860.04	1859.12	1857.68
Change in -2LL	0.85	0.69	2.47	1.44
df	8	9	8	9

Table 10 (Cont'd)

	Customization		Standardization	
	Model 5.1	Model 5.2	Model 5.1	Model 5.2
Coefficients for fixed components				
Intercept (β_{00})	3.97***	3.97***	3.97***	3.97***
Trait Agreeableness (β_{01})	0.41***	0.41***	0.44***	0.44***
Level-2 characteristic (β_{02}) (SS/SM/Cust/Std)	0.08	0.07	-0.02	-0.04
Slope				
Friendliness (β_{10})	0.20***	0.20***	0.20***	0.20***
Level-2 characteristic (β_{11}) (SS/SM/Cust/Std)		0.02		0.06
Variance of random components				
Var(r0)	0.23***	0.23***	0.23***	0.23***
Var(r1)	0.05***	0.05***	0.05***	0.05***
Var(e)	0.31	0.31	0.31	0.31
Deviance (-2LL)	1859.74	1859.50	1861.48	1859.18
Change in -2LL	1.85	0.24	0.11	2.30
df	8	9	8	9

Note. †p<.10. * p <.05. ** p < .01. *** p < .001

Relationship between Service Relationship and State Extraversion

Because the Service Relationship variable has to do with the extent to which the service provider expects future interactions with the customer, only interactions with customers were included in the analyses involving relationship as the predictor. Level-1 data were screened for non-customer interactions, resulting in a reduction of 356 observations, with 642 observations remaining.

Testing of the null model showed that between-individual variance accounted for a large percentage of total variance in State Extraversion when interacting with customers, as indicated by an ICC of .32. Adding the fixed effect of Service Relationship, Model 2 failed to provided a better fit to the data, although the effect was in the hypothesized direction ($\beta 10 = .05$, $p = .14$). Thus, Hypothesis 4 was not supported. Because Model 2 was not significant, no further models were tested. Results are presented in Table 11.

Relationship between Service Relationship and State Agreeableness

The effect of Service Relationship on State Agreeableness was tested on the same screened dataset. A similar result was found. Model 1 resulted in an ICC of .43, indicating non-independence of observations. Model 2 failed to provide significant better fit to the data, but the effect of Service Relationship on State Agreeableness was in the hypothesized direction (($\beta 10 = .04$, $p = .15$). Hypothesis 5 was again not supported, and no further models were tested. Results are presented in Table 12.

Table 11 Tests of Service Relationship – State Extraversion relationship

	Model 1	Model 2
Coefficients for fixed components		
Intercept (β_{00})	3.47***	3.47***
Slope		
Service Relationship (β_{10})		0.05
Variance of random components		
Var(r0)	0.23**	0.23***
Var(e)	0.50	0.50
Deviance (-2LL)	1474.50	1472.35
Change in -2LL		2.15
df	3	4

†p<.10. * p <.05. ** p < .01. *** p < .001

Table 12 Tests of Service Relationship – State Agreeableness relationship

	Model 1	Model 2
Coefficients for fixed components		
Intercept (β_{00})	4.13***	4.13***
Slope Service Relationship (β_{10})		0.04
Variance of random components		
Var(r0)	0.26**	0.26***
Var(e)	0.34	0.34
Deviance (-2LL)	1254.02	1251.99
Change in -2LL		2.03
Df	3	4

†p<.10. * p <.05. ** p < .01. *** p < .001

Summary of Tests of Hypotheses

All study hypotheses were tested in the analyses above. In sum, Task Focus was found to predict State Conscientiousness within individuals, supporting Hypothesis 1. Although the association between Task Focus and State Conscientiousness varied across individuals, the variation was not associated with any of the level-2 predictors, thus H7(a) ~ H9(a) were not supported. Friendliness was found to predict state extraversion and state agreeableness across individuals, supporting H2 and H3. However, the variation in the association between Friendliness and State Extraversion or State Agreeableness was not associated with any of the level-2 predictors in the hypothesized direction. Thus, H7(b) ~ H9(b) and H7(c) ~ H9(c) were not supported. Interestingly, Customization moderated the association between Friendliness and State Extraversion, such that for individuals with highly customized jobs, the association was weaker than for individuals with jobs that required less customization.

Finally, the association between Service Relationship and State Extraversion or State Agreeableness was examined respectively. Neither state was found to be associated with Service Relationship. Thus, the results failed to support H4 and H5, and no further tests of H7(d) ~ H9(d) were conducted.

Exploratory Analyses

After the hypotheses of the study were examined, a number of exploratory analyses were conducted to address the following research questions. First, one may wonder to what extent personality states varied with different types of interactional partner. It is possible that a service employee may be more extraverted when interacting with a coworker but much less so when interacting with a supervisor. Second, if

personality states were in fact associated with types of interactions, did Task Focus and Friendliness account for variance in the respective personality states above and beyond the type of interactions? In other words, controlling for whom the service employee interacted with, did Task Focus and Friendliness still predict their respective outcome variables as hypothesized?

The third exploratory research question has to do with the non-hypothesized relationships between situational characteristics and personality states. It is possible to examine the extent to which Task Focus may predict State Extraversion and State Agreeableness after controlling for the type of interactions and Friendliness. Similarly, the degree to which Friendliness may predict State Conscientiousness, controlling for Friendliness and the type of interactions, may be further examined.

The fourth exploratory research question pertains to State Neuroticism and State Openness: did Task Focus and Friendliness predict State Neuroticism and State Openness across individuals? If so, what is the direction of association?

The first three research questions were addressed in a progression of models, the logic of which is similar to a linear regression. The variable Type of Interactions contained three categories, including customer, supervisor, and coworker. To enter this variable in the analyses, two dummy variables were introduced: Supervisor and Coworker. When the interaction was with a customer, both Supervisor and Coworker were scored as 0. When the interaction was with a supervisor, Supervisor was scored as 1 and Coworker was scored as 0. When the interaction was with a coworker, Supervisor was scored as 0 and Coworker was scored as 1.

State Conscientiousness will be used as an example of the steps of the exploratory analyses. The null model was used as the baseline, named Model I. The fixed effects of these two dummy variables were entered simultaneously into Model II. When Model II was significant, Type of Interaction did have an effect on the mean level of State Conscientiousness across individuals. Because Type of Interaction may serve as a control, the hypothesized fixed effect of Task Focus was entered in Model III(a), regardless of the significance of the Model II. If Model III(a) was significant, Model III(b) was tested, where the fixed effect of Task Focus was relaxed to be a random effect. If Model III(a) was not significant, Model IV(a) would be tested, where the fixed effect of the unhypothesized situational characteristics variable was added, in this case, Friendliness. Finally, if Model IV(a) was significant, the random effect of Friendliness was tested in Model IV(b).

The testing of the series of models with State Conscientiousness as outcome is presented in Table 13. All tests of models were significant, except for Model IV(b). Test of Model II revealed that, on average, participants reported the highest level of State Conscientiousness when interacting with customers ($M = 4.23$), less so with supervisors ($M = 4.01$) and coworkers ($M = 3.91$). Models III(a) and III(b) were both significant. After controlling for Type of Interaction, Task Focus had a random effect on State Conscientiousness. Not only did individuals' State Conscientiousness depend on the situational characteristics of Task Focus, the association between Task Focus and State Conscientiousness also varied across individuals. Hypothesis 1 was further supported.

Additional analysis was conducted to examine the interactive effect between Task Focus and Type of Interaction on State Conscientiousness. After entering Task Focus and

Type of Interaction in the model, the addition of the product of these two variables did not lead to significant better fit (change in -2LL = 0.43, $df = 2$, $p>.50$). Thus, Type of Interaction did not moderate the relationship between Task Focus and State Conscientiousness within-individual.

Based on the significant result of Model IV(a), it can be concluded that, on average, Friendliness of the interactional partner was related to State Conscientiousness. The random effect of Friendliness had conflicting results: the test of parameter was significant whereas the fit for Model IV(b) was not. Thus, although Friendliness had a significant fixed effect on Task Focus, the extent to which the regression slopes varied across individuals was inconclusive.

Table 13 Exploratory analyses on State Conscientiousness

	Model I	Model II	Model III(a)	Model III(b)
Fixed components				
Intercept (β_{00})	4.12***	4.23***	4.21***	4.20***
Slope				
Supervisor (β_{10})		-0.22***	-0.19**	-0.17**
Coworker (β_{20})		-0.32***	-0.25***	-0.23***
Task Focus (β_{30})			0.05*	0.06†
Friendliness (β_{40})				
Variance of random components				
Var(r0)	0.26***	0.26***	0.26***	0.26***
Var(r1)				
Var(r2)				
Var(r3)				0.03***
Var(r4)				
Var(e)	0.33	0.32	0.32	0.30
Deviance (-2LL)	1883.87	1837.94	1833.32	1814.34
Change in -2LL		45.93***	4.62*	18.98***
df	3	5	6	8

Table 13 (cont'd)

	Model IV(a)	Model IV(b)
Fixed components		
Intercept (β_{00})	4.19***	4.19***
Slope		
Supervisor (β_{10})	-0.15*	-0.15*
Coworker (β_{20})	-0.22***	-0.22***
Task Focus (β_{30})	0.10**	0.10**
Friendliness (β_{40})	0.11***	0.11***
Variance of random components		
Var(r0)	0.26***	0.26***
Var(r1)		
Var(r2)		
Var(r3)	0.03***	0.03***
Var(r4)		0.01**
Var(e)	0.29	0.28
Deviance (-2LL)	1785.33	1778.70
Change in -2LL	29.01***	6.63†
df	9	12

Notes. †p<.10. * p <.05. ** p < .01. *** p < .001

The progression of model tests was conducted with State Extraversion as outcome, with relevant test statistics reported in Table 14. With the fixed effect of Type of Interaction, Model II did not provide significant fit, but the Wald test was significant for supervisor interaction. Although individuals did not differ on State Extraversion when interacting with customers versus with coworkers, they did report lower levels of State Extraversion when interacting with supervisors ($M = 3.32$) as compared to with customers ($M = 3.48$).

Friendliness was found to have both a fixed and a random effect on State Extraversion, as shown in the significant results from Models III(a) and III(b). After controlling for type of interaction, State Extraversion was still associated with Friendliness, further supporting Hypothesis 2. When the fixed effect of Task Focus was entered in Model IV(a), the model failed to provide better fit. Thus, Task Focus had no effect on State Extraversion.

Additional analysis was conducted to examine the interactive effect between Friendliness and Type of Interaction on State Extraversion. After entering Friendliness and Type of Interaction in the model, the addition of the product of these two variables did not lead to significant better fit (change in -2LL = 1.58, $df = 2$, $p>.50$). Thus, Type of Interaction did not moderate the relationship between Friendliness and State Extraversion within-individual.

The same progression of model tests was run for State Agreeableness, and the results are presented in Table 15. Model II provided significant better fit, and the parameter estimates showed that, on average, participants reported higher levels of State Agreeableness when interacting with customers ($M = 4.09$) compared to interacting with

supervisors (M = 3.76) or coworkers (M = 3.80). Both Models III(a) and III(b) were significant, showing that Friendliness had a significant fixed effect as well as a random effect on State Agreeableness, after controlling for Type of Interaction. Thus, Hypothesis 3 was further supported. The fixed effect of Task Focus, entered in Model IV(a), was not significant. Thus, Task Focus did not have an influence on State Agreeableness. Additional exploratory analysis revealed that gender had a significant influence on the mean level of State Agreeableness at work ($\beta_{02} = -.37, p < .05$), after controlling for Trait Agreeableness. On average, females were more agreeable at service work than males when they report the same level of Trait Agreeableness.

Additional analysis was conducted to examine the interactive effect between Friendliness and Type of Interaction on State Agreeableness. After entering Friendliness and Type of Interaction in the model, the addition of the product of these two variables did not lead to significant better fit (change in -2LL = 0.32, df = 2, p>.50). Thus, Type of Interaction did not moderate the relationship between Friendliness and State Agreeableness within-individual.

Table 14 Exploratory analyses on State Extraversion

	Model I	Model II	Model III(a)	Model III(b)
Fixed components				
Intercept (β_{00})	3.43***	3.48***	3.50***	3.50***
Slope				
Supervisor (β_{10})		-0.16*	-0.16*	-0.17*
Coworker (β_{20})		-0.08	-0.15*	-0.15*
Friendliness (β_{30})			0.20***	0.20***
Task Focus (β_{40})				
Variance of random components				
Var(r0)	0.20***	0.21***	0.21***	0.21***
Var(r1)				
Var(r2)				
Var(r3)				0.01*
Var(r4)				
Var(e)	0.53	0.53	0.49	0.48
Deviance (-2LL)	2315.21	2309.97	2241.68	2234.17
Change in -2LL		5.24†	68.29***	7.51*
df	3	5	6	8

Table 14 (cont'd)

	Model IV(a)	Model IV(b)
Fixed components		
Intercept (β00)	3.51***	
Slope		
Supervisor (β10)	-0.19*	
Coworker (β20)	-0.19**	
Friendliness (β30)	0.19***	
Task Focus (β40)	-0.04	
Variance of random components		
Var(r0)	0.21***	
Var(r1)		
Var(r2)		
Var(r3)	0.01*	
Var(r4)		
Var(e)	0.48	
Deviance (-2LL)	2233.00	Not tested
Change in -2LL	1.17	
df	9	

Notes. †p<.10. * p <.05. ** p < .01. *** p < .001

Table 15 Exploratory analyses on State Agreeableness

	Model I	Model II	Model III(a)	Model III(b)
Fixed components				
Intercept (β_{00})	3.97***	4.09***	4.11***	4.11***
Slope				
Supervisor (β_{10})		-0.33***	-0.33***	-0.31***
Coworker (β_{20})		-0.29***	-0.37***	-0.38***
Friendliness (β_{30})			0.22***	0.22***
Task focus (β_{40})				
Variance of random components				
Var(r0)	0.33***	0.31***	0.31***	0.31***
Var(r1)				
Var(r2)				
Var(r3)				0.05***
Var(r4)				
Var(e)	0.39	0.37	0.33	0.29
Deviance (-2LL)	2038.82	1993.48	1877.87	1809.98
Change in -2LL		45.34***	115.61***	67.89***
df	3	5	6	8

Table 15 (cont'd)

	Model IV(a)	Model IV(b)
Fixed components		
Intercept (β00)	4.11***	
Slope		
Supervisor (β10)	-0.31***	
Coworker (β20)	-0.38***	
Friendliness (β30)	0.22***	
Task focus (β40)	-0.01	
Variance of random components		
Var(r0)	0.31***	
Var(r1)		
Var(r2)		
Var(r3)	0.04***	
Var(r4)		
Var(e)	0.29	
Deviance (-2LL)	1809.88	Not tested
Change in -2LL	0.10	
df	9	

Notes. †p<.10. *p <.05. **p < .01. ***p < .001

Exploratory analyses on State Neuroticism

Exploratory analyses were conducted to determine the effects of Task Focus, Friendliness, and Type of Interaction on State Neuroticism. The null model for State Neuroticism showed that ICC = .36, indicating that 36% of variance observed in State Neuroticism was due to variation between individuals. State Neuroticism was found to be associated with neither Task Focus (β_{10} = .02, p = .24) nor Friendliness (β_{10} = -.01, p = .60). Type of Interaction, however, did have an effect on State Neuroticism. Participants reported highest levels of State Neuroticism when interacting with supervisors (M = 2.55) as compared to interacting with customers (M = 2.43) and with coworkers (M = 2.38), and the difference between interactions with customers and with coworkers was not significant.

The effect of level-2 variables was also explored. As would be expected, Trait Neuroticism was found to predict the mean level of State Neuroticism across individuals. Each unit of increase on Trait Neuroticism (measured on a 7-point scale) was associated with .20 unit increase on the mean level of State Neuroticism (measured on a 5-point scale). In addition, Trait Extraversion and Trait Agreeableness predicted the average State Neuroticism, beyond what was accounted for by Trait Neuroticism. For individuals with the same levels of Trait Neuroticism, the more extraverted and less agreeable they were, the less neurotic they reported being on the job. These significant results are presented in Table 16.

Table 16 Exploratory analyses on State Neuroticism

	Null model	Type of Interaction	Trait Neuroti-cism	Trait Extraver-sion	Trait Agreeable-ness
Fixed components					
Intercept (β00)	2.44***	2.44***	2.44***	2.44***	2.44***
Trait Neuroticism (β01)			0.20***	0.16***	0.23***
Trait Extraversion (β02)				-0.11*	-0.15**
Trait Agreeablenes s (β03)					0.22**
Slope					
Supervisor (β10)		0.13*	0.13*	0.13*	0.13*
Coworker (β11)		-0.05	-0.05	-0.05	-0.06
Variance of random components					
Var(r0)	0.14***	0.14***	0.10***	0.09***	0.07***
Var(r1)					
Var(r2)					
Var(e)	0.25	0.25	0.25	0.25	0.25
Deviance (-2LL)	1596.22	1586.71	1567.99	1563.45	1554.04
Change in -2LL		9.51**	18.12***	4.54*	9.40**
df	3	5	6	7	8

Notes. †p<.10. * p <.05. ** p < .01. *** p < .001

Exploratory analyses on State Openness

The effects of level-1 predictors were first explored on State Openness. The null model for State Openness showed that ICC = .41, indicating that 41% of variance observed in State Openness was due to variation between individuals. Task Focus did not have a significant effect on State Openness ($\beta 10 = -.02, p = .40$). Friendliness was positively associated with State Openness ($\beta 10 = .14, p < .001$), and the association varied across individuals. Type of Interaction was also found to predict State Openness. Specifically, participants reported highest level of State Openness when interacting with customers ($M = 3.69$), less so when interacting with supervisors ($M = 3.56$) and with coworkers ($M = 3.52$). The fixed and random effect of Friendliness remained significant after entering Type of Interaction.

The effects of level-2 variables were also explored on the mean level of State Openness. As would be expected, Trait Openness had a significant effect on the mean level of State Openness across individuals. Each unit of increase on Trait Openness (measured on a 7-point scale) was associated with .20 unit increase on the mean level of State Openness (measured on a 5-point scale). In addition, Trait Extraversion and Trait Agreeableness predicted the average State Openness, beyond what was accounted for by Trait Openness. For individuals with the same levels of Trait Openness, the more extraverted and agreeable they were, the more open they reported being on the job. The results of exploratory analyses on State Openness are presented in Table 17.

Table 17 Exploratory analyses on State Openness

	Null model	Friendliness (fixed effect)	Friendliness (random effect)	Type of Interaction (fixed effect)
Fixed components				
Intercept (β_{00})	3.63***	3.63***	3.63***	3.69***
Trait Openness (β_{01})				
Slope				
Friendliness (β_{10})		0.14***	0.13***	0.14***
Supervisor (β_{20})				-0.13*
Coworker (β_{30})				-0.17***
Variance of random components				
Var(r0)	0.19***	0.20***	0.20***	0.19***
Var(r1)			0.01***	0.01***
Var(e)	0.27	0.25	0.24	0.23
Deviance (-2LL)	1652.50	1589.80	1574.08	1555.53
Change in -2LL		62.70***	15.72**	18.55***
df	3	4	6	8

Table 17 (cont'd)

	Trait Openness	Trait Extraversion	Trait Agreeableness
Fixed components			
Intercept (β_{00})	3.69***	3.69***	3.69***
Trait Openness (β_{01})	0.20**	0.08	0.01
Trait Extraversion (β_{02})		0.20**	0.17*
Trait Agreeableness (β_{03})			0.20*
Slope			
Friendliness (β_{10})	0.14***	0.14***	0.14***
Supervisor (β_{20})	-0.12*	-0.12*	-0.12*
Coworker (β_{30})	-0.17***	-0.17***	-0.17***
Variance of random components			
Var(r0)	0.16***	0.14***	0.12***
Var(r1)	0.01***	0.01***	0.01***
Var(e)	0.23	0.23	0.23
Deviance (-2LL)	1547.14	1538.58	1532.69
Change in -2LL	8.38**	8.56**	5.89*
df	9	10	11

Notes. †p<.10. * p <.05. ** p < .01. *** p < .001

DISCUSSION

Summary of findings

The purpose of this study is to investigate within the service work setting whether the variability of personality states are meaningful to capture, whether the variability is associated with features of the situations, and whether the associations between situational features and personality states (i.e., situational contingencies) are influenced by individual and job characteristics. The results of this study indicate that personality states did vary within individuals across situations at service jobs, and some of the variation was associated with the situational factors of task focus and friendliness. The degree of association, however, was not found to be influenced by individual or job characteristics in the hypothesized direction. A summary of hypotheses and corresponding findings is presented in Table 18.

The findings from exploratory analyses provide additional information on the personality processes at service work (see Table 19 for a summary of all findings). In general, personality states differed across type of interaction (customer, supervisor, or coworker). On average, the service employees were more conscientious, more extraverted, more agreeable, and more open when interacting with customers than with supervisors and coworkers. They were also more neurotic when interacting with supervisors as compared to customers. After controlling for type of interaction, the effects of situational characteristics were still significant. Specifically, task focus and friendliness accounted for variation of state conscientiousness within individual, and friendliness accounted for variation of state extraversion, state agreeableness, and state openness within individual.

Table 18 Summary of hypothesis tests

Hypotheses	Result
H 1: Within individuals, task focus will be positively related to state conscientiousness	Supported
H 2: Within individuals, friendliness will be positively related to state extraversion	Supported
H 3: Within individuals, friendliness will be positively related to state agreeableness	Supported
H 4: Within individuals, service relationship will be positively related to state extraversion	Not supported
H 5: Within individuals, service relationship will be positively related to state agreeableness	Not supported
H 6: Autonomy will moderate the relationship between situational characteristics and personality states between-individual. Specifically, the situational contingencies predicted in Hypotheses 1~5 will be stronger in jobs with low autonomy and weaker in jobs with high autonomy	Not tested
H 7: Standardization of service interaction will moderate the relationship between situational characteristics and personality states between-individual. Specifically, the situational contingencies predicted in Hypotheses 1~5 will be stronger in jobs with customized service interaction and weaker in jobs with standardized service interaction	Not supported
H 8: Social skill will moderate the relationship between situational characteristics and personality states between-individual. Specifically, the situational contingencies predicted in Hypotheses 1~5 will be stronger for individuals high on social skill and weaker for individuals low on social skill	Not supported
H 9: Self-monitoring will moderate the relationship between situational characteristics and personality states between-individual. Specifically, the situational contingencies predicted in Hypotheses 1~5 will be stronger for individuals high on self-monitoring and weaker for individuals low on self-monitoring	Not supported

Table 19 Summary of findings

Personality domain	[a] Type of interaction	Situational contingency	Job/individual characteristics on situational contingency	Trait relationship with average State	Job/ individual characteristics on average state
Conscientiousness	Customer > S & C	Task focus (H1)	None	[†]Conscientiousness	Self-monitoring Social skill
		Friendliness	None		
Extraversion	Customer > S	Friendliness (H2)	Customization	Extraversion	[†]Social skill
Agreeableness	Customer > S & C	Friendliness (H3)	None	Agreeableness	None
Neuroticism	Customer < S	None	N/A	Neuroticism Extraversion Agreeableness	None
Openness	Customer > S & C	Friendliness	None	Openness Extraversion Agreeableness	None

[a] For effects of type of interaction: Customer: Average state for customer interactions; S: average state for supervisor interactions. C: average state for coworker interactions. [†]$p<.10$.

Of the variables proposed, only the relationship between friendliness and extraversion could be explained by any of the level 2 variables. Opposite to what was originally hypothesized, the more a service job required customization of service provision, the weaker the association was between friendliness and state extraversion within individual. Two possible explanations are proposed below.

It is likely that when a service employee has to discover the client's need to tailor the service provision, he/she oftentimes has to ignore the features of the situation. Rather than shifting his/her level of state extraversion according to the friendliness of the customer, he/she may express a fairly high level of extraversion that is deemed most suitable for customization.

Another potential explanation is the influence of unmeasured variables. The provision of customized service may be qualitatively different from the provision of noncustomized service such that the psychologically active features of the situation at work are different. When the job requires significant amount of customization, the service employee may be taking situational cues other than friendliness of the other party. Research on restaurant tipping has suggested that the server's sociable behaviors such as introducing self to customers by name and writing "thank-you" on the back of the bill tend to increase tips (Garrity & Degelman, 1990; Rind & Bordia, 1995). Perhaps the expectation of the size of tips from clients influenced the service employee in his/her level of extraversion.

On the between-individual level, personality traits were able to predict average personality states in all Big-Five factors except conscientiousness, which was approaching significance. Interestingly, after controlling for trait conscientiousness,

social skill and self-monitoring predicted average state conscientiousness, and after controlling for trait extraversion, the relationship between social skill and average state extraversion was approaching significance. In addition, trait extraversion and agreeableness predicted average state neuroticism and state openness beyond what was accounted for by respective trait.

The implications of this study will be discussed in light of these findings in the following sections.

Understanding the situations

This study provides support to the notion that personality states do vary meaningfully within individual, and the variation can be accounted for, in part, by situational factors. This piece of evidence lends further support to Fleeson's (2007) argument that situations may represent psychologically active features that influence personality states and extends it to work settings, specifically customer service settings.

Approached from an interactionist's perspective, this study examined both personal and situational influences to the expression of personality. The stable individual difference is shown from the correlation between Big-Five personality traits and the average of personality states. The situational influences drive the variation of personality states around an individual mean. Even within the service work setting, where the situational influence may be more homogeneous than daily interactions in general, the study found significant relationships between task focus and state conscientiousness, and between friendliness and state conscientiousness, state extraversion, state agreeableness, and state openness. The influences of situations on individuals have primarily been

studied from a between-person perspective, and this study adds to the knowledge of situations by examining the effects of situations on states within-person.

The finding on the effects of situational characteristics not only helps understand the influences on personality expression at a particular moment, it may also facilitate prediction. The trait approach considers variation of personality states within individuals as "noise" in measurement. Thus, the variation is removed by way of averaging, such as asking for respondents to report their tendencies *on average* or *in general.* The extent to which the trait approach is predictive of moment-to-moment states may depend on how much variability there is in the personality state of interest, which may in turn be determined by how much variability there is in the situational features associated with the personality state.

As for the field of I/O psychology, the influences of situations on personality states call into question the common practice of using personality traits to predict performance on the job without a clear understanding of the situational features of the job. Indeed, I/O psychologists seem to rely on a rather broad categorization of jobs, using the job labels to define the contexts in which personality traits are used while neglecting the potential differences within the same job categories (e.g., Robertson & Kinder, 1993). The situational characteristics of friendliness and task focus, as well as their variations present in a job, may be utilized to gauge the applicability of personality traits in the prediction of job performance.

Take state agreeableness as an example. If agreeableness is conducive to better in-person service performance, it would be desirable for the service employee to display uniformly high state agreeableness. When the service employee is placed on a job where

the friendliness of the customers varies considerably, he/she may be agreeable in some interactions while not so much in other interactions. The same employee, if placed on a job where the friendliness of the customers does not vary much, will be much more stable in his/her performance. Because variability in service performance may factor in the evaluation of the situation by the service employee, the variation of friendliness on the job may moderate the validity of using trait agreeableness to predict service job performance, such that trait agreeableness may be a better predictor of job performance when the friendliness level of customers is more constant rather than variable.

Understanding Situational Contingencies

The potential use of situational contingencies to dissect and analyze jobs as stated above may be only one of the many ways to apply knowledge of situational contingencies to work contexts. Although this study did not involve investigation of customer service performance, a discussion of the effects of situational contingencies on performance may help highlight the limits of current understanding and direct future research effort to evaluate viable ways to improve prediction of performance.

In making prediction of job performance with personality traits, I/O psychologists have assumed the direct linkage between personality expression at work on average and performance, while considering the variation of states across situations at work as errors. *If* this model holds true, theoretically, situational contingencies may be irrelevant for prediction because the positive and negative fluctuation of personality states cancel each other out. In this case, the prediction is valid as long as trait personality predicts state personality on average at work (to be discussed in the next section).

I/O psychologists may also need to rethink the way performance is conceptualized and operationalized. Meaningful information is lost if moment-to-moment performance is blindly aggregated up to the mean level. As shown in the above example of agreeableness, when service performance is evaluated not only as the mean level of each service provision, but also involves variation or even lowest ratings of those provisions, situational characteristics of friendliness can moderate the agreeableness-performance relationship.

However, it is possible that the current model of prediction is insufficient or incomplete, and situational contingencies may be associated with job performance directly. Take the situational contingency between task focus and state conscientiousness as example. It is likely that a job requires the employee to respond to task demands dynamically, in addition to the main effect of conscientiousness. When job demands rise, the employee has to be extremely attentive and organized, whereas he/she may relax and recoup when task demands decline. For employees with the same level of trait conscientiousness, the ones whose situational contingency between task focus and state conscientiousness are higher will perform better.

Furthermore, the effects of personality traits and situational contingencies may not operate additively as described above. Indeed, these two factors may interact to affect job performance for some jobs. For example, it may be desirable for individuals who are high on trait conscientiousness not to vary their state conscientiousness on the job. Thus, the situational contingency's effect on job performance depends on the level of trait conscientiousness.

The potential effect of situational contingencies on job performance can be examined in future studies by three approaches: (a) measuring or manipulating the variation of situational characteristics, (b) selecting individuals who are more or less prone to vary across situations, and/or, (c) identifying job characteristics that influence the situational contingencies. For approach (a), future research can identify situational characteristics relevant to the expression of an important personality domain and either measure or manipulate them. Then, the effect of variation of the situational characteristics on performance can be estimated. A possible situational candidate for future investigation is task challenges. According to flow theory (Csikszentmihalyi, 1990), when both the challenge and skill level are high, individuals can engage in a deep state of absorption in an activity that is accompanied with increased self-esteem and enjoyment. It is conceivable that a person experiencing flow may exhibit higher levels of state conscientiousness and state openness, which lead to higher performance during that period. The variability of task challenges at work, however, can serve to disrupt flow and thus may further impact performance.

The viability of approach (b) depends on researchers' ability to measure the between-individual differences in situational contingencies. As shown in the results of this study, neither self-monitoring nor social skill was associated with the extent to which individuals' personality states were associated with situational characteristics. Future research effort may be directed toward the measurement of the between individual differences that explain the association between personality states and situational characteristics. Researcher may wish to investigate the construct of perspective taking, defined as the cognitive tendency to put oneself into other's place and thus accurately

perceive others (Davis, 1980; as cited in Bernstein & Davis, 1982). It is possible that a better understanding of the social interaction may drive the responses to situational characteristics.

Instead of searching for a broadband individual difference variable to account for situational contingencies in multiple personality domains, future research may also be directed towards the prediction of a particular situational contingency. For example, if a researcher is only interested in predicting the between-individual association between task focus and state conscientiousness, he/she may wish to design and validate a measure specific for this purpose, such as a situational judgment test.

With the advancement of approaches (a) and (b), researchers will need to identify the job characteristics that moderate the association between situational characteristics and personality states. The finding in the current study suggests that customization influences the association between friendliness and state extraversion. Job characteristics such as customization may moderate the extent to which situational contingencies predict job performance. Unfortunately, the investigation of the effect of autonomy on situational contingencies was not conducted due to the low reliability of the autonomy measure, which is possibly due to the fact that it was developed with a focus on managerial autonomy. Researchers interested in the effect of autonomy can develop a measure specific for the service jobs.

Other job characteristics variables can be explored in future studies. For example, the reward structure of the job may facilitate the relationship between task focus and state conscientiousness. When the tasks are tightly associated with rewards, task focus is likely to exert higher influence on state conscientiousness. When the tasks are weakly linked to

rewards, however, the relationship between task focus and state conscientiousness may be much weaker.

On the Validities of Trait Measures

The correlation between each trait measure and the corresponding average state measure provides evidence of validity for the trait measure. Except for conscientiousness, the correlations were all significant and ranged from .36 to .53. The IPIP Big-Five measures of extraversion, agreeableness, neuroticism, and openness seem to be valid predictors of their corresponding personality expressions on service job *on average*. This finding shows that the way in which people describe themselves in general on a self-report measure of personality predicts how they are on average at work, as would be expected.

The low and nonsignificant correlation between trait conscientiousness and average state conscientiousness is somewhat surprising, given the correlation was not severely attenuated by measure unreliability. At least two explanations can be proffered. Approached from a situationist's perspective, it is likely that different jobs exerted different influences on state conscientiousness, and such effect existed between individuals.

From an individualist's perspective, however, it is possible that some stable individual traits influenced the expression of state conscientiousness. A closer look at the results supports the notion: social skill and self-monitoring predicted average state conscientiousness at work, over and beyond what was accounted for by trait conscientiousness. Controlling for the effect of trait conscientiousness, for the individuals who were more adept at monitoring themselves to be situationally appropriate, their

average state conscientiousness was elevated at work, compared to those individuals who were more consistent across situations.

The finding on the relationship between trait conscientiousness and average state conscientiousness is even more interesting considering that trait conscientiousness is the best predictors of job performance across all jobs among Big-Five factors (Barrick & Mount, 1991; Barrick et al., 2001). For trait conscientiousness to be associated with customer service performance, it can be assumed that such association is mediated by average state conscientiousness. If trait conscientiousness measures can be developed or modified to better predict average state conscientiousness, the relationship between conscientiousness and job performance may be improved. This line of reasoning echoes the findings by Heller (2007), where personality within a special role predicted outcome variables better than personality in general.

The effects of trait extraversion and trait agreeableness on average state neuroticism and average state openness are also interesting to note. An extraverted individual would appear, across situations, to be more emotionally stable and more open to experiences, whereas an agreeable individual would appear, across situations, to be less emotionally stable and more open to experiences. The influence of irrelevant traits on the expression of state neuroticism and state openness underscores the potential lack of validity when inferring personality at work from personality measures in general. Moreover, the nature of such influence is largely unknown and awaits future research for explication.

On the Nature of Social Skill and Self-monitoring

This study also provides additional information towards the understanding of social skill and self-monitoring, albeit somewhat unexpectedly. That social skill and RSMS are tapping the same constructs is hardly surprising, considering the similarity both in terms of construct definition and the wording of the two measures. In this study, more has been revealed about the extent to which these two constructs affect personality states in meaningful ways. The hypotheses stated that self-monitoring and social skill function on the observation level in the study, such that situational contingencies will be higher for individuals who are high on self-monitoring and social skill than those who are low. None of the hypotheses were supported. Instead, the results revealed that self-monitoring and social skill were still associated with the expression of personality states, except that they function at the individual level. That is, individuals higher on social skill displayed higher mean level of state conscientiousness and extraversion, after controlling the effect of the respective trait.

The failure to support the hypothesized effects may be attributed to the level of specificity of the meaning of *situation*. According to the hypotheses, the situation refers to the customer interaction, which provides psychologically active cues that influence personality expression. For the participant, however, the situation may have referred to the job. Thus, each participant modified his/her state conscientiousness and state extraversion almost uniformly across interactions at work, and the extent of the modification depended on his/her level of social skill. This line of reasoning is compatible with the current understanding of the effects of self-monitoring and social skill on work performance (Day et al., 2002; Witt & Ferris, 2003).

An alternative explanation of the failure to support the hypotheses has to do with the saliency of the situational cues investigated in this study. It is possible that none of the situational characteristics were salient enough to activate social skill and self-monitoring. As mentioned above, the expectance of a sizeable tip, if applicable, may be highly associated with the expression of personality states. A service employee higher on social skill may be more adept at appearing extraverted, agreeable, and conscientious when faced with such an expectancy. Future research may be directed toward better understanding the effects of self-monitoring and social skill within-individual.

Practical Implications for Service Work

Although most of the contributions of this paper are theoretical, facilitating the understanding of personality at work, the findings do provide insights for applied settings. The findings are particularly relevant for service sectors. If an organization identifies areas where it needs to enhance service employees' attention to detail and responsibility, measures can be taken to increase the immediacy of the tasks and to make salient the potential of evaluation. Rather than selecting employees with personality measures that have low validities and are possibly susceptible to faking, organizations may adopt the alternative of designing training programs to instruct service employees to be more polite, energetic, sympathetic, and organized when the situation requires.

From a job design perspective, the organization may modify elements of the job and procedure of service provision to facilitate or restrict the association between friendliness and extraversion, if the association is deemed relevant for job performance.

Practical Implications for the Use of Personality Measures at Work

Before more is known about the underlying process and its connection to job performance, a practitioner interested in utilizing personality measures to predict job performance may first consider the variations of job-relevant personality states on the job that are associated with characteristics of the situation and the person. A set of questions may be used to guide the thought process:

1. What is the nature of job performance? Is it merely a mean, the worst, or the best, of moment-to-moment performance? Does variation of moment-to-moment performance influence overall job performance?

2. For each personality trait that predicts job performance, what is the nature of the relationship between personality state and job performance?

3. What are the situational factors that may influence expression of job-relevant personality states?

4. Are there features of the job that may either magnify or reduce the association stated in step 3? If so, in which way? Can these features be modified?

5. Are there features of the incumbent that may either magnify or reduce the association stated in step 3? If so, in which way? Can these features be used in personnel selection and/or training?

The study was targeted towards the understanding of personality process at work, without direct investigations of job performance, which, as hinted above, may involve complex conceptualizations. Much more needs to be done before I/O psychologists can identify definitive links from personality states and their variations, situational characteristics, job characteristics, and individual traits to job performance.

Limitations

The study is limited in several respects. The following section will describe the four major limitations and how they were mitigated in the study.

First, the study sample consisted of college students who worked part time or full time at service jobs. Service provision was more likely a means to maintain college expenditure than a path to future career. They were also more likely to have short tenures at the organizations they worked for. Further, they were less likely to have received formal training on service provision. In this sense, the sample may be different from individuals who deem service provision as a career, in terms of motivation and concern over quality of service provision.

Another potential issue of sampling only college students concerns the stability of personality. Costa and McCrae (1997) summarized research evidence and suggested that personality development continues until around age 30. The participants of the current study were mostly below 30, and thus may still experiencing change in their personality traits, which may have effects on their variability of personality states. Future research may extent the investigation to sample service providers who are more than 30 years old, have longer tenure, and/or view service provision as their career.

Second, because of the demands to fill out the ESS, participants' self-selection and attrition are particularly problematic for studies using experience sampling methodology (Scollon, Kim-Prieto, & Diener, 2003). The self-selection problem was probably more severe in the beginning of data collection, when the original recruiting strategy was used. The modified recruiting strategy may have helped alleviating the self-selection issue by providing potential participants with more information about the study.

It should still be acknowledge that the intrusiveness of the ESS prohibited individuals who could not bring Palm computers with alarms to work or who could not take breaks to fill out surveys at work.

On the other hand, the problem of attrition is highlighted by one atypical incidence where the participant never returned the Palm computer and charger, despite several attempts to contact her via email, phone calls, and regular mail.

The impacts of self-selection and attrition were assessed in this study. The participants were in fact slightly different from nonparticipants in that they were more conscientious and more agreeable. However, the effect sizes of the differences were small. Therefore, although self-selection and attrition may restrict the generalizability of the current findings to some extent, their impact seems limited.

Third, the failure to find support for between-individual hypotheses may be partially attributed to the low power of the test. With a sample size of 56, it was difficult to find significant effect on the between-individual level.

Fourth, researchers have acknowledged that participants' motivation throughout the experience sampling study may impact the quality of data collected (Christensen et al., 2003). Several measures were taken to ensure study participants' motivation, including establishing rapport with the participants, emphasizing the importance of the study, provide extra-credit and monetary incentives. Allowing participants to skip surveys when they needed to also helped to reduce imposition on responding and to ensure the quality of data. In addition, the final ESS data were screened for overly rapid responses with a rather conservative cutoff. Thus, the problem of participant motivation was mitigated.

Fifth, this study relied on self-report for data collection, which is suspect to common-method variance. Factor such as acquiescence, social desirability, consistency bias may all contribute the inflation of relationships among variables (Schmitt, 1994). Other potential influences include item scale format and anchors, item complexity, and transient mood state (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Care was taken to mitigate the impact of method variance in the study. Respondents were encouraged to respond truthfully to the items, and they were ensured that responses would be analyzed only on the sample level. The temporal separation of the pre-test measures and the ESS may have helped to reduce the influence of method variance.

Alliger and Williams (1993) acknowledged that common method variance is difficult to avoid in experience sampling studies and suggested the examination of ESM variables for evidence of differential responses to scales. In the current study, the finding of both positive and negative correlations at level-2 among average personality states and average situational characteristics suggests that participants did in fact respond differentially to different scales. To fully avoid common method variance, future studies may examine personality states with other methods such as interviews, observations, and others' reports to collect information.

Conclusion

The findings of this study contribute to the literature on personality at work in a number of ways. First, personality states were found to fluctuate according to situational features at service work. Specifically, the immediacy of a task influenced state conscientiousness, and the friendliness of the interaction partner influenced state extraversion, state agreeableness, state conscientiousness, and state openness. These

findings point to the potential benefits from examination of the variations of situational features at work when using personality trait measures to predict performance. These findings also highlight the necessity of better conceptualizing the relationship between personality states and moment-to-moment job performance. Second, the level of customization of the job moderated the association between friendliness and state extraversion. This evidence supports the notion that features of the job have contextual effects on how individuals respond to situations. Future research may investigate the influence of customization on the relationship between personality traits, situational contingencies, and job performance.

Third, general personality trait measures were validated in the service work context for all of Big-Five factors except conscientiousness. Besides providing insights into the process by which personality influences work, this finding also furnishes an explanation for the weak relationship between personality traits and job performance. Fourth, social skill and self-monitoring were found to influence average state conscientiousness and state extraversion at work, but not the way in which individuals respond to moment-to-moment situational features. These between-individual effects may help explain the effects of social skill and self-monitoring on job performance.

APPENDICES

Appendix A: Pilot Study Informed Consent Form

Project Title: Job Characteristics Study

Investigators' Names: Ann Marie Ryan, Ph.D. and Jason Huang

Description and Explanation of Procedure:

This study explores customer service job characteristics.

You will be asked to rate some general characteristics of your job. Then, you will need to recall work-related interactions that you have had recently, and complete ratings on the characteristics of the situations. Some demographic information will also be collected.

Estimated time required: **20** minutes

Risks and discomforts: None anticipated

Note: If you are under 18 years old, please DO NOT proceed and inform the researcher. This study is restricted to students equal to or older than 18. Thank you.

Compensation: You will receive **ONE** extra credit upon the completion of this study. In addition, you will receive a brief introduction of psychological scale development upon completion of the study.

Agreement to Participate:

Participation in this study is completely voluntary. You have been fully informed of the above-described procedure with its possible benefits and risks. You are free to withdraw this consent and discontinue participation in this project at any time without penalty. If you choose to withdraw from the study prior to its completion, you will receive credit for the time you have spent in the study (1 credit per 30 minutes). You can also refuse to answer any particular question without penalty.

The investigators will be available to answer any questions you may have. If, at any time, you feel your questions have not been adequately answered or you want to discuss the research, please contact the investigators (Jason Huang, (517) 355-2171, email: huangle1@msu.edu, mail: 346 Psychology Bldg, Michigan State University, East Lansing, 48824; Professor Ann Marie Ryan, (517) 353-8855, email: ryanan@msu.edu, mail: 333 Psychology Bldg, Michigan State University, East Lansing, 48824). If you have questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact - anonymously, if you wish - Peter Vasilenko, Ph.D., Director of Human Research Protections, (517) 355-2180, fax: (517) 432-4503, e-mail: irb@msu.edu, mail: 202 Olds Hall, Michigan State University, East Lansing, MI 48824-1047

If you agree to participate, please type in your name, and today's date. Participants' identity data will be kept secure and confidential. Your identity will not be associated with your responses for any data analyses. Your privacy will be protected to the maximum extent allowable by law.

Name: _____ **Date:** _____

Appendix B: Pilot Study Debriefing Statement

This study is designed to pilot the use of several scales to measure situational characteristics for customer service jobs. In scale development, we are interested in the empirical relationship between pairs of items on the same scale. The extent to which items on the same scale correlate with each other is generally understood as internal consistency, calculated as Cronbach's alpha (Cronbach, 1951). We expect to select items with high internal consistency to form scales to be used in further investigations of situational characteristics at work.

To get an understanding of the use of Cronbach's alpha, please refer to Schmitt (1996). If you are interested in general scale development in psychological research, please refer to Clark and Watson (1995).

Thank you for your participation, and please feel free to contact Jason Huang at huangle1@msu.edu if you have questions, concerns, or comments.

Reference

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Appendix C: Pilot Study 1 Survey

What kind of customer service job do you work at (e.g., cashier, waiter/waitress, sales associate, or fast food server)?

How many months have you been working in this position?

Please indicate the extent to which the following sentences describe *your position*, using the scales provided below. The focus is the general expectation of performance for the type of position you have, not necessarily how you perform your job.

1: Very Inaccurate
2: Moderately Inaccurate
3: Somewhat Inaccurate
4: Neither Inaccurate nor Accurate
5: Somewhat Accurate
6: Moderately Accurate
7: Very Accurate

1. There is a standard procedure or a script for the service employee to follow.

2. The customer service employee has to find out the customer's need and then customizes the service for him/her.

3. All customers have very similar service experiences.

4. To provide good service, the customer service employee needs to discover what each customer wants.

5. Interactions with customers tend to be unique; what the service employee says and does is different each time.

6. The way a service employee interacts with customers is pretty similar from customer to customer.

7. There is no standard approach to interacting with customers.

8. There tends to be high consistency between the way an employee interacts with one customer versus another.

Please rate the degree to which you agree with the following statement, using the scale provided below.

1: Strongly Disagree
2: Moderately Disagree
3: Somewhat Disagree
4: Neither Disagree nor Agree
5: Somewhat Agree
6: Moderately Agree
7: Strongly Agree

1. In social situations, I have the ability to alter my behavior if I feel that something else is called for.
2. I am often able to read people's true emotions correctly through their eyes.
3. I have the ability to control the way I come across to people, depending on the impression I wish to give them.
4. In conversations, I am sensitive to even the slightest change in the facial expression of the person I'm conversing with.
5. My powers of intuition are quite good when it comes to understanding others' emotions and motives.
6. I can usually tell when others consider a joke to be in bad taste, even though they may laugh convincingly.
7. When I feel that the image I am portraying isn't working, I can readily change it to something that does.
8. I can usually tell when I've said something inappropriate by reading it in the listener's eyes.
9. I have trouble changing my behavior to suit different people and different situations.

10. I have found that I can adjust my behavior to meet the requirements of any situation I find myself in.

11. If someone is lying to me, I usually know it at once from that person's manner of expression.

12. Even when it might be to my advantage, I have difficulty putting up a good front.

13. Once I know what the situation calls for, it's easy for me to regulate my actions accordingly.

14. I find it easy to put myself in the position of others.

15. I am keenly aware of how I am perceived by others.

16. In social situations, it is always clear to me exactly what to say and do.

17. I am particularly good at sensing the motivations and hidden agendas of others.

18. I am good at making myself visible with influential people in my organization.

19. I am good at reading others' body language.

20. I am able to adjust my behavior and become the type of person dictated by any situation.

Situation 1 - Customer

Please take a moment to recall a recent interaction at work between you and a customer. Describe the interaction, using *no less than 3 sentences*. You may include things such as how the interaction was initiated, what the purpose of the interaction was, and how the interaction ended.

Please describe the interaction:

Please complete the following ratings for the situation you just described, using the scale provided below.

1: Very Inaccurate
2: Moderately Inaccurate
3: Neither Inaccurate nor Accurate
4: Moderately Accurate
5: Very Accurate

1. I chose to interact with this person but did not have to interact with him/her.

2. I had no choice but to interact with this person.

3. If I had a choice I would not have interacted with this person.

4. The interaction was a required part of my job.

5. The interaction required me to attend to things immediately.

6. The interaction occurred only because I was free from other tasks.

7. I had to put aside other tasks to interact with this person.

8. I had to stop what I was doing to have this interaction.

9. I will be (or was) evaluated for the interaction.

10. The other person was friendly.

11. The other person was sociable.

12. The other person was quite willing to engage in conversation.

13. It is unlikely for the other person to interact with me in the near future.

14. I have (or am likely to have) a long lasting relationship with the other person.

15. I expect to have future interaction with the other person.

Situation 2 - Supervisor

Please take a moment to recall a recent interaction at work between you and your supervisor. Describe the interaction, using *no less than 3 sentences*. You may include things such as how the interaction was initiated, what the purpose of the interaction was, and how the interaction ended.

Please describe the interaction:

Please complete the following ratings for the situation you just described, using the scale provided below.

1: Very Inaccurate
2: Moderately Inaccurate
3: Neither Inaccurate nor Accurate
4: Moderately Accurate
5: Very Accurate

1. I chose to interact with this person but did not have to interact with him/her.

2. I had no choice but to interact with this person.

3. If I had a choice I would not have interacted with this person.

4. The interaction was a required part of my job.

5. The interaction required me to attend to things immediately.

6. The interaction occurred only because I was free from other tasks.

7. I had to put aside other tasks to interact with this person.

8. I had to stop what I was doing to have this interaction.

9. I will be (or was) evaluated for the interaction.

10. The other person was friendly.

11. The other person was sociable.

12. The other person was quite willing to engage in conversation.

13. It is unlikely for the other person to interact with me in the near future.

14. I have (or am likely to have) a long lasting relationship with the other person.

15. I expect to have future interaction with the other person.

Situation 3 - Coworker

Please take a moment to recall a recent interaction at work between you and one of your colleagues. Then, describe the interaction, using *no less than 3 sentences*. You may include things such as how the interaction was initiated, what the purpose of the interaction was, and how the interaction ended.

Please describe the interaction:

Please complete the following ratings for the situation you just described, using the scale provided below.

1: Very Inaccurate
2: Moderately Inaccurate
3: Neither Inaccurate nor Accurate
4: Moderately Accurate
5: Very Accurate

1. I chose to interact with this person but did not have to interact with him/her.

2. I had no choice but to interact with this person.

3. If I had a choice I would not have interacted with this person.

4. The interaction was a required part of my job.

5. The interaction required me to attend to things immediately.

6. The interaction occurred only because I was free from other tasks.

7. I had to put aside other tasks to interact with this person.

8. I had to stop what I was doing to have this interaction.

9. I will be (or was) evaluated for the interaction.

10. The other person was friendly.

11. The other person was sociable.

12. The other person was quite willing to engage in conversation.

13. It is unlikely for the other person to interact with me in the near future.

14. I have (or am likely to have) a long lasting relationship with the other person.

15. I expect to have future interaction with the other person.

Demographic information

Sex: ☐ Male / ☐ Female

Age:_____

Class year:

☐ ***Freshman***
☐ ***Sophomore***
☐ ***Junior***
☐ ***Senior***
☐ ***Graduate***

Appendix D: Pilot Study 2 Survey

What kind of customer service job do you work at (e.g., cashier, waiter/waitress, sales associate, or fast food server)?

How many months have you been working in this position?

Please indicate the extent to which the following sentences describe *your position*, using the scales provided below. The focus is the general expectation of performance for the type of position you have, not necessarily how you perform your job.

1: Very Inaccurate
2: Moderately Inaccurate
3: Somewhat Inaccurate
4: Neither Inaccurate nor Accurate
5: Somewhat Accurate
6: Moderately Accurate
7: Very Accurate

1. There is a standard procedure or a script for the service employee to follow.

2. The customer service employee has to find out the customer's need and then customizes the service for him/her.

3. All customers have very similar service experiences.

4. To provide good service, the customer service employee needs to discover what each customer wants.

5. Interactions with customers tend to be unique; what the service employee says and does is different each time.

6. The way a service employee interacts with customers is pretty similar from customer to customer.

7. There is no standard approach to interacting with customers.

8. There tends to be high consistency between the way an employee interacts with one customer versus another.

Please rate the degree to which you agree with the following statement, using the scale provided below.

1: Strongly Disagree
2: Moderately Disagree
3: Somewhat Disagree
4: Neither Disagree nor Agree
5: Somewhat Agree
6: Moderately Agree
7: Strongly Agree

1. In social situations, I have the ability to alter my behavior if I feel that something else is called for.
2. I am often able to read people's true emotions correctly through their eyes.
3. I have the ability to control the way I come across to people, depending on the impression I wish to give them.
4. In conversations, I am sensitive to even the slightest change in the facial expression of the person I'm conversing with.
5. My powers of intuition are quite good when it comes to understanding others' emotions and motives.
6. I can usually tell when others consider a joke to be in bad taste, even though they may laugh convincingly.
7. When I feel that the image I am portraying isn't working, I can readily change it to something that does.
8. I can usually tell when I've said something inappropriate by reading it in the listener's eyes.
9. I have trouble changing my behavior to suit different people and different situations.

10. I have found that I can adjust my behavior to meet the requirements of any situation I find myself in.

11. If someone is lying to me, I usually know it at once from that person's manner of expression.

12. Even when it might be to my advantage, I have difficulty putting up a good front.

13. Once I know what the situation calls for, it's easy for me to regulate my actions accordingly.

21. I find it easy to put myself in the position of others.

22. I am keenly aware of how I am perceived by others.

23. In social situations, it is always clear to me exactly what to say and do.

24. I am particularly good at sensing the motivations and hidden agendas of others.

25. I am good at making myself visible with influential people in my organization.

26. I am good at reading others' body language.

27. I am able to adjust my behavior and become the type of person dictated by any situation.

Situation 1 - Customer

Please take a moment to recall a recent interaction at work between you and a customer. Describe the interaction, using *no less than 3 sentences*. You may include things such as how the interaction was initiated, what the purpose of the interaction was, and how the interaction ended.

Please describe the interaction:

Please complete the following ratings for the situation you just described, using the scale provided below.

1: Very Inaccurate
2: Moderately Inaccurate
3: Neither Inaccurate nor Accurate
4: Moderately Accurate
5: Very Accurate

1. I chose to interact with this person but did not have to interact with him/her.

2. I had no choice but to interact with this person.

3. If I had a choice I would not have interacted with this person.

4. The interaction was a required part of my job.

5. The interaction required me to attend to things immediately.

6. The interaction occurred only because I was free from other tasks.

7. I had to put aside other tasks to interact with this person.

8. I had to stop what I was doing to have this interaction.

9. I will be (or was) evaluated for the interaction.

10. The other person was friendly.

11. The other person was sociable.

12. The other person was quite willing to engage in conversation.

13. It is unlikely for the other person to interact with me in the near future.

14. I expect to have future interaction with the other person.

15. This is someone whom I have interacted with in the past.

16. This is a "regular" customer.

17. This is someone who has come here before.

Situation 2 - Supervisor

Please take a moment to recall a recent interaction at work between you and your supervisor. Describe the interaction, using *no less than 3 sentences*. You may include things such as how the interaction was initiated, what the purpose of the interaction was, and how the interaction ended.

Please describe the interaction:

Please complete the following ratings for the situation you just described, using the scale provided below.

1: Very Inaccurate
2: Moderately Inaccurate
3: Neither Inaccurate nor Accurate
4: Moderately Accurate
5: Very Accurate

1. I chose to interact with this person but did not have to interact with him/her.
2. I had no choice but to interact with this person.
3. If I had a choice I would not have interacted with this person.
4. The interaction was a required part of my job.
5. The interaction required me to attend to things immediately.
6. The interaction occurred only because I was free from other tasks.
7. I had to put aside other tasks to interact with this person.
8. I had to stop what I was doing to have this interaction.
9. I will be (or was) evaluated for the interaction.
10. The other person was friendly.
11. The other person was sociable.
12. The other person was quite willing to engage in conversation.

13. It is unlikely for the other person to interact with me in the near future.

14. I have (or am likely to have) a long lasting relationship with the other person.

15. I expect to have future interaction with the other person.

Situation 3 - Coworker

Please take a moment to recall a recent interaction at work between you and one of your colleagues. Then, describe the interaction, using *no less than 3 sentences*. You may include things such as how the interaction was initiated, what the purpose of the interaction was, and how the interaction ended.

Please describe the interaction:

Please complete the following ratings for the situation you just described, using the scale provided below.

1: Very Inaccurate
2: Moderately Inaccurate
3: Neither Inaccurate nor Accurate
4: Moderately Accurate
5: Very Accurate

1. I chose to interact with this person but did not have to interact with him/her.

2. I had no choice but to interact with this person.

3. If I had a choice I would not have interacted with this person.

4. The interaction was a required part of my job.

5. The interaction required me to attend to things immediately.

6. The interaction occurred only because I was free from other tasks.

7. I had to put aside other tasks to interact with this person.

8. I had to stop what I was doing to have this interaction.

9. I will be (or was) evaluated for the interaction.

10. The other person was friendly.

11. The other person was sociable.

12. The other person was quite willing to engage in conversation.

13. It is unlikely for the other person to interact with me in the near future.

14. I have (or am likely to have) a long lasting relationship with the other person.

15. I expect to have future interaction with the other person.

Demographic information

Sex: ☐ Male / ☐ Female

Age:_____

Class year:

☐	***Freshman***
☐	***Sophomore***
☐	***Junior***
☐	***Senior***
☐	***Graduate***

Appendix E: Flyer Template For Recruiting Participants

Paid Research

Service Work Dynamics Study

You are qualified if:

- You work at least part-time currently
- You have frequent FACE-TO-FACE interactions with customers at work
- For at least two days a week, you work over 3 hours at this job per day
- You can obtain your work schedule for at least the next 10 days that you go to work
- AND you can fill out brief surveys at work.

$30.00 Amazon.com gift card

Contact Jason Huang at jasonhuang98@gmail.com
Or visit www.jasonresearch.net for details.

Appendix F: Email Template For Scheduling Training Session

Dear participant,

Thank you for signing up for the Service Work Dynamics Study. Please go over the requirement for this study again to determine your eligibility for participation.

> **If all of the following three statements are accurate for you, you are eligible to participate in this study**:
>
> 1. You CURRENTLY work at a service job that involves significant amount of FACE-TO-FACE interactions with customers;
> 2. You work over 3 hours at least 2 days a week at this job; and
> 3. You can obtain your work schedule for the next 10 days that you go to work.
>
> If any of the three statements is not true for you, please do not proceed.

To participate, you will be provided with a Palmpilot to bring to work, which will beep to remind you for the surveys. Please make sure you won't have any problem participating (that is, this will not bother your customers and boss, ☺).

To participate in this study, you will need to schedule a 30-minute meeting with me. In this meeting, you will receive the instruction on the data collection. You and I will set up the times for the surveys together, according to your work schedule. *Please bring a copy of your work schedule for your next 10 work days to the meeting.*

I have included a link to my calendar, which lists all the times that I will NOT be able to meet. Please check the calendar and look for a 30-minute block of time that works for both you and me in the next few days and email me about your selection.

Link to the calendar:
http://www.google.com/calendar/embed?mode=week&src=jasonhuang98%40gmail.com&ctz=America/New_York

Thank you!

Jason Huang
Industrial/Organizational Psychology
346 Psychology Building
Michigan State University
East Lansing, MI 48824
Phone: (517) 355-2171
Email: huangle1@msu.edu

Appendix G: Main Study Informed Consent Form

PROJECT TITLE: Service Work Dynamics Study

INVESTIGATORS' NAMES: Ann Marie Ryan and Jason Huang

DESCRIPTION AND EXPLANATION OF PROCEDURE:
Please read the following description carefully, and proceed only if you wish to participate.

Part 1:
You will fill out a questionnaire about your personal and job characteristics. The questionnaire will take about 20 minutes to complete.

Part 2:
You will be provided with a Palm handheld for data collection purpose. You will need to fill out brief surveys on the Palm handheld when you are at work, three times a day, for a total of ten days. Each survey takes about 2 minutes to complete. The Palm handheld will beep when you are at work to prompt you for the surveys, with the time for prompts discussed in the first meeting between you and the experimenter. You have up to 30 minutes after the prompt to complete each survey. Please note that you do not have to complete all surveys. You may skip surveys if you are not at work at the moment, or if it would inconvenience you to fill out the survey, such as when you are very busy. You will not be penalized in any way for missing some of the surveys.

Before data collection, you may need to obtain permission from your supervisor to fill out very brief surveys at work, if necessary.

After you have finished 10 days of surveys, you will need to meet with the experimenter. In this meeting, you will return the Palm handheld and be debriefed. HPR credits and Amazon.com gift certificate (when applicable) will be awarded. Any questions will be addressed.

ESTIMATED TIME REQUIRED:
20 minutes for the questionnaire
40 minutes for two meetings with the experimenter
60 minutes for completing 30 brief surveys

RISKS AND DISCOMFORTS: None anticipated

NOTE: If you are under 18 years old, please DO NOT proceed and inform the researcher. This study is restricted to students equal to or older than 18. Thank you.

COMPENSATION:
You can choose from one of the following options upon completion of this study.

1. 14 HPR credits
2. 9 HPR credits and $10 Amazon.com gift card sent via email.
3. 4 HPR credits and $20 Amazon.com gift card sent via email.
4. $30 Amazon.com gift card sent via email.

AGREEMENT TO PARTICIPATE:

Participation in this study is completely voluntary. You have been fully informed of the above-described procedure with its possible benefits and risks. You are free to withdraw this consent and discontinue participation in this project at any time without penalty. If you choose to withdraw from the study prior to its completion, you will receive credit for the time you have spent in the study (1 credit per 30 minutes). You can also refuse to answer any particular question without penalty.

The investigators will be available to answer any questions you may have. If, at any time, you feel your questions have not been adequately answered or you want to discuss the research, please contact the investigators (Jason Huang, (517) 355-2171, email: huangle1@msu.edu, mail: 346 Psychology Bldg, Michigan State University, East Lansing, 48824; Professor Ann Marie Ryan, (517) 353-8855, email: ryanan@msu.edu, mail: 333 Psychology Bldg, Michigan State University, East Lansing, 48824
If you agree to participate, please sign and date below. Participants' identity data will be kept secure and confidential. Your identity will not be associated with your responses for any data analyses. Your privacy will be protected to the maximum extent allowable by law.

___ I understand that I may need to inform my supervisor and obtain permission to fill out these surveys at work.

___ I agree to use the Palm handheld only for this study, and I will return the Palm handheld and its charger after the survey period.

Name: _____ Date:

Appendix H: Main Study Debriefing Statement

This study examines personality variability in customer service jobs. Building on Fleeson's conceptualization of personality as distribution of states (Fleeson, 2001), I am investigating the relationship between situational characteristics and personality states. For example, I expect that the customer service provider will be more conscientiousness (detail oriented, organized, and exacting) when there is a stronger task focus. The investigation of moment-to-moment personality states at work vis-à-vis situational influences is a new area for study in industrial and organizational psychology. For further reading, I suggest the reference below.

Thank you for your participation, and please feel free to contact Jason Huang at huangle1@msu.edu if you have further questions or concerns.

Reference

Fleeson, W. (2001). Toward a structure- and process-integrated view of personality: Traits as density distributions of states. *Journal of Personality and Social Psychology, 80*(6), 1011-1027.

Appendix I: Main Study Pre-Test Survey

[IPIP Big Five Measures]

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

Response Options

1: Very Inaccurate
2: Moderately Inaccurate
3: Somewhat Inaccurate
4: Neither Inaccurate nor Accurate
5: Somewhat Accurate
6: Moderately Accurate
7: Very Accurate

1	Talk to a lot of different people at parties.
2	Have little to say.
3	Am always prepared.
4	Am quiet around strangers.
5	Have a rich vocabulary.
6	Have a vivid imagination.
7	Often feel blue.
8	Am full of ideas.
9	Am interested in people.
10	Have frequent mood swings.
11	Pay attention to details.
12	Feel comfortable around people.
13	Am not interested in other people's problems.
14	Get upset easily.
15	Keep in the background.
16	Make people feel at ease.
17	Make a mess of things.
18	Worry about things.
19	Follow a schedule.
20	Am the life of the party.
21	Do not have a good imagination.
22	Sympathize with others' feelings.

23 Seldom feel blue.
24 Start conversations.
25 Am not really interested in others.
26 Leave my belongings around.
27 Have difficulty understanding abstract ideas.
28 Use difficult words.
29 Am easily disturbed.
30 Spend time reflecting on things.
31 Take time out for others.
32 Insult people.
33 Have a soft heart.
34 Get chores done right away.
35 Get stressed out easily.
36 Feel little concern for others.
37 Am quick to understand things.
38 Feel others' emotions.
39 Like order.
40 Am not interested in abstract ideas.
41 Don't like to draw attention to myself.
42 Often forget to put things back in their proper place.
43 Get irritated easily.
44 Am relaxed most of the time.
45 Am exacting in my work.
46 Shirk my duties.
47 Don't mind being the center of attention.
48 Change my mood a lot.
49 Have excellent ideas.
50 Don't talk a lot.

[Revised Self-Monitoring Scale]

Please rate the degree to which you agree with the following statement, using the scale provided below.

1: Strongly Disagree
2: Moderately Disagree
3: Somewhat Disagree
4: Neither Disagree nor Agree
5: Somewhat Agree
6: Moderately Agree
7: Strongly Agree

1. In social situations, I have the ability to alter my behavior if I feel that something else is called for.

2. I am often able to read people's true emotions correctly through their eyes.
3. I have the ability to control the way I come across to people, depending on the impression I wish to give them.
4. In conversations, I am sensitive to even the slightest change in the facial expression of the person I'm conversing with.
5. My powers of intuition are quite good when it comes to understanding others' emotions and motives.
6. I can usually tell when others consider a joke to be in bad taste, even though they may laugh convincingly.
7. When I feel that the image I am portraying isn't working, I can readily change it to something that does.
8. I can usually tell when I've said something inappropriate by reading it in the listener's eyes.
9. I have trouble changing my behavior to suit different people and different situations.
10. I have found that I can adjust my behavior to meet the requirements of any situation I find myself in.
11. If someone is lying to me, I usually know it at once from that person's manner of expression.
12. Even when it might be to my advantage, I have difficulty putting up a good front.
13. Once I know what the situation calls for, it's easy for me to regulate my actions accordingly.

[Social Skill Scale]

Please rate the degree to which you agree with the following statement, using the scale provided below.

1: Strongly Disagree
2: Moderately Disagree
3: Somewhat Disagree
4: Neither Disagree nor Agree
5: Somewhat Agree
6: Moderately Agree
7: Strongly Agree

1. I find it easy to put myself in the position of others.
2. I am keenly aware of how I am perceived by others.
3. In social situations, it is always clear to me exactly what to say and do.
4. I am particularly good at sensing the motivations and hidden agendas of others.
5. I am good at making myself visible with influential people in my organization.
6. I am good at reading others' body language.
7. I am able to adjust my behavior and become the type of person dictated by any situation.

[Autonomy Scale]

Please indicate the degree to which the following statements describe ***your job***

accurately.

1: Very Inaccurate
2: Moderately Inaccurate
3: Somewhat Inaccurate
4: Neither Inaccurate nor Accurate
5: Somewhat Accurate
6: Moderately Accurate
7: Very Accurate

1. There is a lot of autonomy in doing the job.
2. The job is quite simple and repetitive.
3. If someone else did the job, they could do the tasks in a very different manner than I do.
4. The way the job is performed is influenced a great deal by what others (supervisors, peers, customers, etc.) expect of the incumbent.
5. The way the job is performed is influenced a great deal by company rules, policies and procedures.
6. The work itself provides a lot of clues about what the incumbent should do to get the job done.

[Standardization and Customization Scales]

Please indicate the degree to which the following statements describe ***your job***

accurately.

1: Very Inaccurate
2: Moderately Inaccurate
3: Somewhat Inaccurate
4: Neither Inaccurate nor Accurate
5: Somewhat Accurate
6: Moderately Accurate
7: Very Accurate

[Standardization]
1. There is a standard procedure or a script for the service employee to follow.
2. All customers experience similar service procedures.

3. The way a service employee interacts with customers is pretty similar from customer to customer.
4. There tends to be high consistency between the way an employee interacts with one customer versus another.

[Customization]
1. The customer service employee has to find out the customer's need and then customizes the service for him/her.
2. To provide good service, the customer service employee needs to discover what each customer wants.
3. Interactions with customers tend to be unique; what the service employee says and does is different each time.

Appendix J: Main Study Experience Sampling Survey

Please answer all of the following questions regarding the interaction at or immediately before the survey alarm started. First, indicate the degree to which these following adjectives describe yourself in that interaction.

1. Quiet
2. Polite
3. Disorganized
4. Self-confident
5. Intelligent
6. Bold
7. Warm
8. Hardworking
9. Sensitive
10. Inquisitive
11. Energetic
12. Unsympathetic
13. Responsible
14. Insecure
15. Creative

Who did you primarily interact with

1. a customer [proceed to Branch 1]
2. a supervisor [proceed to Branch 2]
3. a colleague (including subordinate) [proceed to Branch 2]
4. multiple people
5. no one

[Branch 1]

Please indicate the degree to which these following sentences describe the situational characteristics of that interaction.

1. I chose to interact with this person but did not have to interact with him/her.
2. I had no choice but to interact with this person.
3. If I had a choice I would not have interacted with this person.
4. The interaction was a required part of my job.
5. The interaction required me to attend to the other person immediately.
6. The interaction occurred only because I was free from other tasks.
7. I had to put aside other tasks to interact with this person.
8. I had to stop what I was doing to have this interaction.
9. I will be (or was) evaluated for the interaction.
10. The other person was friendly.
11. The other person was sociable.

12. The other person was quite willing to engage in conversation.
13. It is unlikely for the other person to interact with me in the near future.
14. I expect to have future interaction with the other person.
15. This is someone whom I have interacted with in the past.
16. This is a "regular" customer.
17. This is someone who has come here before.

[Branch 2]

Please indicate the degree to which these following sentences describe the situational characteristics of that interaction.

1. I chose to interact with this person but did not have to interact with him/her.
2. I had no choice but to interact with this person.
3. If I had a choice I would not have interacted with this person.
4. The interaction was a required part of my job.
5. The interaction required me to attend to the other person immediately.
6. The interaction occurred only because I was free from other tasks.
7. I had to put aside other tasks to interact with this person.
8. I had to stop what I was doing to have this interaction.
9. I will be (or was) evaluated for the interaction.
10. The other person was friendly.
11. The other person was sociable.
12. The other person was quite willing to engage in conversation.
13. I have (or expect to have) a long lasting relationship with the other person.
14. I expect to have future interaction with the other person.
15. I have known the other person for quite some time.
16. The other person has an important influence on my job.

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