

INTERNAL PROCESSES IN RELATION TO DISSIMULATION

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**THE PREDICTIVE ACCURACY OF CONSCIENTIOUSNESS WHEN RESPONSES
ARE DISSIMULATED: DOES SELF-CONSISTENCY MATTER?**

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(ABSTRACT)

The present study used a laboratory setting to explore the criterion-related validity of non-cognitive measures as related to personnel selection. The focal study investigated psychological processes resulting from situational causes of motivation to distort item responses. In particular, I investigated whether differences in the motivation to distort item responses interacted with self-consistency in the prediction of performance on a clerical task. Findings suggested that despite range restriction and the existence of faking behavior, a positive correlation between conscientiousness and performance exists. Variation of selection ratio (SR) and monetary incentives successfully produced faking behaviors, and the existence of faking behaviors was found in selection setting. Results partially supported the proposed hypothesis that there are positive and negative effects of faking behaviors. Implications of the present study were further discussed.

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Introduction

As personality measures have become more accepted as predictors of job-related criteria (Barrick & Mount 1991; Costa 1996), understanding the process and consequences of response distortion of personality measures has become important (Kroger & Wood, 1993; Levin & Zicker 2002; Douglas, McDaniel, & Snell, 1996; Hauenstein 1998; Lemmond, 2001, Mueller-Hanson, Heggstad, Thornton III, 2003). Researchers have examined several issues related to faking, including: the ease with which people can fake (Thornton & Gierasch, 1980; Miller & Barrett, 2001), the extent to which distortion occurs in applicant settings (Donovan, Dwight, & Hurtz, 2002), the strategies which respondents use when distorting responses (Hauenstein, Bradley, & O'Shea, 2001; Anderson, Warner, & Spencer, 1984), and the effects of faking on criterion-related validity and construct validity (Dunnette, McCartney, Carlson, & Kirchner, 1962; Hough, Eaton, Dunnette, Kamp, & McCloy, 1990; Muller-Hanson et al., in press; Ones, Viswesvaran, & Schmidt, 1993).

Research indicates that non-cognitive measures can be readily distorted (Thornton et al., 1980; Christiansen, Goffin, Johnston, & Rothstein, 1994; Ones, Viswesvaran, & Reiss, 1996; Miller et al., 2001). When instructed, respondents can provide distorted responses in efforts to appear more desirable to the hiring organization. A common finding is that the effect size for faked scores is 1.5 standard deviations higher than honest scores (Ones, Viswesvaran, and Korb, 1995). Although it is known that non-cognitive measures make it easy to distort responses, the effects of response distortion on other variables of interest are not clear.

The use of personality measures in selection has increased along with the popularity of the Five Factor Model (FFM) (Barrick and Mount, 1991). According to Hough et al. (1990), faking, although present, does not affect the utility of hiring decisions in selection situations. The reality, however, is that there is no clear picture of the effects of faking on selection utility. Furthermore, even though the effects of response distortion on criterion-related validity have been studied extensively, there is little research that attempts to understand the effects of response distortion on internal psychological processes and the subsequent effects of response distortion on overt behavior. In the current study, situational variables (e.g., the selection ratio and monetary incentives) are manipulated to cause different levels of motivation to fake item responses. The focus of the current study is to assess the extent to which self-consistency (an internal psychological variable) provides a broader explanation of the relationship between self-report

personality scores and task performance than motivation to distort responses. In particular, I study whether participants' levels of self-consistency moderates when high scores on conscientiousness are predictive of task performance, regardless the participants' motivations to distort responses to the personality test items.

The current study aims to extend the work of Mueller-Hanson et al. (2003), who studied the effects of faking when using conscientiousness to predict performance on a clerical task. Their intent was to simulate real-world selection situations in which applicants feel situational pressures that lead to response distortion. Mueller-Hanson et al. (2003) divided subjects into two groups: incentive and non-incentive groups. Neither group was instructed to fake. The incentive group was informed about a lottery of \$20.00 for participating in the second phase of the study, whereas the non-incentive group was not. Mueller-Hanson et al. (2003) used the Achievement Motivation Inventory (AMI) as the predictor measure, and used clerical task performance as the criterion measure. Their results suggested that faking behaviors undermine the predictive validity of non-cognitive measures. They found that, relative to the group with no incentive to fake, the magnitude of predictive error in top third of the conscientiousness distribution was greater in the group with the incentive to fake. In other words, those who likely would be selected in from the group with the incentive to fake were more likely to perform poorly on the task than those who would likely be selected from the group that but had no motivation to distort responses on the conscientiousness scale.

Although Mueller et al. (2003) suggest that faking negatively affects the predictive accuracy of conscientiousness measures, their results may not generalize to typical selection situations. Most importantly, participants had little opportunity to develop any type of psychological commitment to the "hiring organization." The entire experiment took place in a classroom, with the use of mass testing for all phases of the study (e.g., screening process, hiring decision, and performance). As such, the current study aims to conceptually replicate the Mueller-Hanson et al. (2003) study in a manner that provides participants with an opportunity to develop a stronger level of psychological commitment to the "hiring organization," and to further study the relationship between responding to conscientiousness items and task performance. Furthermore, I extended the Mueller et. al. (2003) study by examining the extent to which participants' desires for consistency impacted the predictive accuracy of conscientiousness under differing levels of motivation to distort personality items.

Conscientiousness and Job Performance

Recent research has shown that personality constructs are important predictors of job-related criteria (Barrick & Mount, 1991, 1995; Costa, 1996; Tett, Jackson, & Rothstein, 1991). Among these personality constructs, conscientiousness is generally considered the most consistent predictor of job performance (Barrick & Mount, 1991; 1995, Hough, 1992; Hough et al., 1990). Several meta-analytical studies on personality predictors of performance have established conscientiousness' prediction of job performance across occupations (Barrick & Mount, 1991; 1995; Salgado, 1997; Hertz & Donovan, 2000). Barrick et al. (1991) found that conscientiousness ($\rho = .22$) was predictive of job performance, training proficiency, salary level, turnover, and tenure across occupational groups. Mount and Barrick (1995) further distinguished the broad vs. narrow trait measures in their meta-analysis; they suggested that their prior meta-analysis underestimated the validity of conscientiousness. A more accurate measurement of the validity of conscientiousness would be $\rho = .31$. Later meta-analysis also confirmed the relation between conscientiousness and job performance (Salgado, 1997; Hertz & Donovan, 2000). Salgado (1997) replicated Barrick et al. (1991) and Hough et al. (1990) and conducted meta-analyses in Europe, finding that conscientiousness ($\rho = .20$) and emotional stability ($\rho = .19$) were valid predictors of performance across occupations. Another meta-analysis, by Hertz and Donovan (2000), examined measures that were designed to measure the Big 5 Personality Traits. Hertz and Donovan's results also supported the assertion that conscientiousness ($\rho = .20$) and emotional stability ($\rho = .13$) were predictive of job performance.

As the above review indicates, conscientiousness is generally regarded as the best and most consistent predictor of job performance among other traits predictors. Therefore, like Mueller-Hanson et al. (2003), the current study uses conscientiousness as the predictor of task performance. Furthermore, in terms of studying the effects of dissimulation, the current study follows the practice established by Schmidt and Ryan (1992) and Mueller-Hanson, et al. (2003) to explore faking behaviors. In other words, unlike the conventional method to study faking, in which participants were directly instructed to fake or honestly respond to non-cognitive measures, the present study manipulated situational factors (e.g., selection ratios and incentives) to induce differing levels of the motivation to fake personality test items.

Motivation to Distort

Studies that have used a job application simulation (Schmidt & Ryan, 1992;

Mueller-Hanson et al., 2003) assume that employment opportunities represent a situation from which people can derive positive reinforcement (i.e., getting the job). Furthermore, the magnitude of the positive reinforcement from securing the job varies in part as a function of the perception of the probability of being hired for the job. As such, when applicants perceive the selection ratio is small, there should be a strong motive to distort responses to personality test items. This idea was supported by Van Engelen (1969), who investigated applicants' behaviors in response to questionnaires in "pressure situations" in which 61 applicants applied for only 6 positions as ambulance drivers. Two questionnaires were administered: the Amsterdam Biographical Questionnaire (ABV) and the Achievement Motivation Test (PMT). The subtests of the ABV are (1) neurotic complaints, (2) functional somatic disorders, (3) social extroversion, and (4) test attitudes and the subtests of the PMT measures (1) achievement motivation, (2) facilitating anxiety, and (3) debilitating anxiety. Results showed that participants were lower than the norm for neurotic complaints and functional somatic disorders and higher than the norm on social extroversion and test attitudes on the ABV. In terms of the PMT, participants were higher than the norm on achievement motivation and facilitating anxiety, and lower than the norm on debilitating anxiety. The findings indicated that participants reported better adjustment on those items that were socially desirable. The study suggested that participants' scores deviated from the norm because those desirable responses were perceived to have a greater chance of leading to a job offer. The Van Engelen (1969) study is just one example that supports the notion that the job application situation is perceived in terms of an opportunity to receive positive reinforcement, which in turn leads to response distortion on personality test items (Van Engelen, 1969; Schmidt & Ryan, 1992, & Mueller-Hanson et al., 2003). Therefore, the current study used selection ratio information as one mechanism by which to manipulate participants' motivation to fake personality test items.

Previous literature has also shown that motivation to fake can be induced by providing monetary incentives (Schmit & Ryan, 1992; Mueller-Hanson et al., 2003). Schmit and Ryan (1992) provided cash prizes for those participants who scored the highest on the tests in both Time 1 and Time 2. Mueller-Hanson et al. (2003) successfully induced motivation to fake by providing monetary incentives.

The present study combined the two methods (selection ratio and cash lottery) to induce motivation to distort (MTD). The purpose of the current study was to assess the effects of faking, not to isolate the causes of faking behavior. As such, it is not critical in the current study that the

specific causes of faking behavior are identified nor that the relative amount of variance captured by each putative cause of faking behavior is specified. In the current study, to induce a strong MTD, participants were informed of their potential eligibility to enter into a cash lottery *if* they were selected for continuation based on their test scores. However, these participants were also informed that the probability of being "hired" was low. In the weak MTD condition, participants were told the probability of being asked to continue in the study was high, and they were not informed of their eligibility in the cash lottery until after they had responded to the selection measures.

Faking and Criterion-Related Validity

Results are mixed as to the effects of distortion on the validity of personality measures.

Evidence that Faking is Detrimental

Douglas et al. (1996) found that distortion on non-cognitive measures has adversely affected criterion-related validity because people who faked were usually selected and were found in the top ten of the total predictor scores. Results showed that response-distorted behaviors scored higher on conscientiousness and agreeableness compared to non-response-distorted behaviors. Given findings suggest that faking reduced criterion-related validities of the personality test.

In the previously-mentioned study by Mueller-Hanson, et al. (2003), the researchers found that the utility of non-cognitive measures was less predictive of performance in an incentive condition. That is, the evidence of reduction in criterion-related validity was found for those in the incentive group, who had lower mean performance on jobs and yet were more likely to be selected. The researchers further suggested that personality tests are better suited for selecting applicants out of the applicant pool as opposed to selecting applicants for the job.

Schmit and Ryan (1992), provided incentives (e.g., a \$20.00 or \$10.00 prize) to participants taking both a cognitive ability test and a personality test. The selection ratio was 2:150 at Time 1 and 6:148 at Time 2. Participants who were not selected at Time 1 received negative feedback (they were not selected) and took TAS, a measure to assess motivation and dispositions. The researchers found that the criterion-related validity of personality test scores was lower for a subsample which had higher test-taking motivation than a subsample with lower test-taking motivation. Results suggest that faking has detrimental effects on criterion-related validity.

Faking Does Not Affect Validity

In contrast to the arguments that faking is detrimental, Hough et al. (1990) found small

differences in predicting job performance between groups of applicants and incumbents who were either low or high on social desirability. The difference of uncorrected correlation between the high and low social desirability group on the targeted predictor-criterion combination (ABLE Surgency and Achievement scales and the effort and leadership criteria) was only .03. The results suggested that social desirability rarely happened and remained stable over time. Therefore, criterion-related validity was established regardless of the existence of social desirability. In accordance with Hough et al. (1990), Ones et al.'s (1996) meta-analysis found that Emotional Stability and Conscientiousness became less predictive when the social desirability factor was partialled out, suggesting that faking did not affect the predictive validity of the test scores. The scores on emotional stability and conscientiousness were consistent, indicating that true variances will disappear after partialling out the social desirability scores. Ones et al. (1996) concluded that social desirability is a multi-faceted trait, that it is not a mediator between predictor-criterion relationship, and more importantly, that it is not a response bias that negatively affects criterion-related validity. These studies suggest that faking, as operationalized by social desirability, does not affect the criterion-related validity of personality tests. Such results possibly imply that faking might even enhance criterion-related validity. In the current study, applicants' performance might increase after they are hired. To establish the connection between faking and criterion-related validity, individuals' intrapsychic processes need to be explored. How does an applicant react when he/she is hired through a competitive screening process? How well is he/she going to perform on the job? At least short term, the answers lie within the individual's psychological response to the hiring process, including his/her reactions and attitudes about the hiring process. Unfortunately, there is limited research exploring what might affect the relationship between response distortion and subsequent behavior (i.e., performance).

Behavioral Consistency as a Function of Person X Situation Interaction

Given all of the faking literature on criterion-related validity, research on the psychological processes that connect faking to overt behaviors is limited. Studies are typically like Mueller-Hanson et al. (2003), in which there are no psychological variables measured except for the predictor (non-cognitive measure) and the criterion (performance measure). As previously mentioned, these researchers found a greater magnitude of prediction errors in the incentive condition for those with scores in the top third of the predictor distribution. Further, those in the incentive condition were more likely to be selected and had lower mean performance than those in

the control group. The researchers concluded that faking has a detrimental effect on the criterion-related validity of personality test scores and on the quality of decisions made using those scores.

Although Mueller-Hanson et al. (2003) successfully demonstrated that predictor errors increase in the incentive group, which implied that faking occurs more when incentives were salient, it does not necessarily mean that every high scorer on the personality test performed poorly on the task, nor does it indicate that all the good performers were from the control group. When MTD is high, then individuals will tend to distort responses to personality items. Once selected, persons who have distorted their responses are faced with potential dissonance in relation to overt behaviors. The results of Mueller-Hanson et al. (2003) suggest that participants who distorted were unlikely to perform in a manner consistent with their self-portrayal. However, this is not surprising because given the nature of the study, there was little chance for participants to experience any dissonance related to being inconsistent. The current study hypothesizes that overt behaviors will only be consistent with the image portrayed on a personality test if internal psychological processes motivate the participant to behave in this manner.

As previously mentioned, a critical missing aspect of the Mueller-Hanson et al. (2003) study is an opportunity to form a psychological bond between the individual and the "hiring organization." Without a minimal level of such a bond, there is little reason to expect participants who distorted responses to experience any dissonance when performing subsequent task behaviors. This idea is supported by socioanalytic theory (Hogan, 1983) that combines role theory and evolutionary biology, which claims that social force and temperament shape personality and role-related overt behaviors. For example, through role experience, a child develops a sense of self, which includes a social identity responsive to personal identity, expectation of others, and role-related behaviors. Role performance is a function of meeting the demands among feelings, values, and temperament within an individual (Hogan & Cheek, 1983), and role identity is a combination of social and personal identity. Within an individual, personality and social roles might match or conflict and create both consistent and inconsistent behavior across roles.

The idea that the desire to be self-consistent should matter in selection situations is also supported by the social influence principle in social psychology. Social influence emphasizes interpersonal processes that lead to changes in the feelings, attitudes, and behaviors of another person (Forsyth, 1995). Social influence takes many forms, ranging from subtle, internal processes

to overt behaviors on the part of others. The concepts studied from the social influence perspective include attitude change, persuasion, obedience, compliance, and conformity. According to the consistency principle (Cialdini, 2001), once an individual makes a choice or takes a stand, he / she will encounter personal and interpersonal pressures to behave consistently within that commitment. An individual is most likely to attempt to behave consistently over time in order to keep his/her thoughts and beliefs consistent with what he/she has already done or decided. In daily life, consistency has served as a heuristic in social situations. Once a commitment is made, an individual is more likely to behave in a consistent manner over time.

It is important to note that behavioral consistency is not necessarily trait-oriented. According to Hartshorne and May's (1928) study, children who cheated in one situation might not necessarily cheat in another situation. The results suggest that behavior is not a product of honest traits, nor is it morally determined. Rather, behavior is in part situation-specific. In the personnel selection context, distortion on personality measures does not necessarily relate to an individual's personality or moral norms. Those who distort responses on personality measures may fake under the powerful influence of situations in order to be hired. The key to consistent behavior lies within an interaction between role identity and personal identity (Hogan, 1983). In this case, a faked applicant's performance is not necessarily worse after being selected if the individual is somehow committed to behaving in a manner consistent with their portrayal on a personality test. The propositions related to self-consistency are also supported by the impression management (also called self-presentation) literature. Impression management contains two processes: impression motivation and impression construction (Leary and Kowalski, 1990). Impression motivation is related to the intention to create certain impressions in others' minds, but may or may not manifest itself in impression-relevant actions. Individuals might increase their impression motivation in a selection setting because getting offers is valued as a desired goal, and goals are highly relevant to individuals in a selection setting. In addition, a larger discrepancy between desired and current image is also a determinant for individuals to increase impression motivation. Once the motivation to enhance his/her self-image is activated during the impression construction stage, the effect of impression management should facilitate the desire for consistency. Five factors interact during the impression construction stage: self-concept, desired and undesired identity images, role constructs, the target's values, and current or potential social image (Leary and Kowalski, 1990).

Mischel & Shoda's (1995) notion of self-perceived consistency also supported this idea.

The researchers found that students who viewed themselves as self-consistent did not behave consistently across situations. Rather, the consistency of behaviors relies on the dynamics of situations. The correlation between certain situations and behavior was close to .5 for those who viewed themselves as consistent. That is, consistency of behaviors depends on the perception of consistency within individuals. This concept fits well within a selection setting because applicants might enhance their self-images in order to appear to be ideal job candidates. Applicants who view themselves as highly consistent might be motivated to work hard to match their ideal images as projected on the personality profiles. However, their ideal personality may not be reflected in other domains such as interactions with friends because their self-perceived consistency does not have to behave consistently across situations.

To summarize, given that faking responses to a personality test antithetical to consistency motives, it is interesting to question the manner in which people resolve this potential for inconsistency. The desire to be self-consistent may be an important variable that establishes the boundary conditions in which faked personality profiles do not adversely affect the predictive accuracy. However, it may be that self-consistency is an important variable independent of the MTD. That is, regardless whether profiles are distorted or not, the behaviors predicted by the personality scores will follow only when individuals are committed to the self-images portrayed on the personality measure.

Self-Consistency as a State or a Trait

Although many different literatures support the notion that self-consistency is an important determinant of behavior, the conceptualizations and the operationalizations of self-consistency vary. In the social influence literature, self-consistency historically has been treated as a state. However, support for self-consistency hypotheses are mixed when manipulating the desire to be consistent. Cialdini et al. (1995) explored the possibility that there is an individual propensity to behave consistently across situations. They developed the Preference for Consistency (PFC) scale as a measure of dispositional self-consistency and found individuals who scored higher on PFC measure were more likely to be consistent than those who scored low on the PFC. Similarly, Nail, Correll, Drake, Glenn, Scott, Stuckey (2001) used the PFC as a moderator of cognitive dissonance effects. They found that when individuals experience cognitive dissonance, those with high PFC scores were more likely to behave consistently when compared to individuals with low PFC scores. Finally, other researchers suggest that self-consistency motivation is a function of the person and

the environment. For example, in Hogan's socioanalytic theory, self-consistency is viewed as the match between personality and social roles within an individual.

To summarize, the conceptualization of the self-consistency motive includes arguments that self-consistency is a state, a trait, and an interaction between the situation and the person. At this point in time it is not clear that any one perspective is superior to the other. Therefore, I decided to operationalize self-consistency as both a state and a trait in the current study. Treating self-consistency as a trait was accomplished by having subject fill out the PFC at a much earlier time than the focal experiment. For the state operationalization, a self-consistency manipulation was included in the focal study. My predictions regarding the effects of self-consistency were the same for both operational definitions.

Overview

There were three phases of participation in the current study. The first phase required participants to complete the online version of the International Personality Item Pool (IPIP). Participants who scored in the top 40% on the Conscientiousness portion of the IPIP were invited to participate in the laboratory experiment. In Phase II, those participants scoring in the top 40% of Conscientiousness were contacted to participate via e-mail in the laboratory phase of the study (i.e., Phase III). As part of the e-mail solicitation, participants were asked to fill out the PFC measure on-line. In Phase III, participants were exposed to a situational manipulation of self-consistency, and then performed the criterion task.

The current study conceptually replicated Mueller-Hanson et al. (2003), with particular focus on those participants scoring high on conscientiousness. Only those participants scoring in the top 40% on conscientiousness were "hired" by the organization. Among these high-conscientiousness participants, the extent to which MTD manipulation affected responses to the personality items was examined. More importantly, I also examined the extent to which self-consistency provided a more general explanation of when personality scores predicted task performance. Three hypotheses were proposed:

Hypothesis 1: Recognizing that direct range restriction caused by selecting only participants with high conscientiousness scores will reduce the relationship between conscientiousness and performance, there will nonetheless be a positive correlation between conscientiousness and task performance for the total sample.

Hypothesis 2: Even though only those participants in the top 40% of the Conscientiousness

distribution will be "hired", individuals with a high MTD will still score higher on conscientiousness than those individuals with a low MTD.

Hypothesis 3: For the total sample, self-consistency will moderate the relationship between conscientiousness and task performance. That is, correlations between conscientiousness and performance will be stronger when motivation to be self-consistent is high.

Hypothesis 3a: The predicted moderating effect of self-consistency will occur when using the self-consistency manipulation (SC) .

Hypothesis 3b: The predicted moderating effect of self-consistency will occur when using the self-report measure (PFC) of self-consistency.

Methods

Phase I

Participants Several studies in the faking literature have successfully used student populations (e.g., Mueller et al., 2003, and Schmit et al., 1992). The current study adopted the same application by using students in the experiment. Participants were 570 undergraduates enrolled in psychology. Each participant was asked to role-play as a job applicant and while responding to an online personality measure. Any student who participated in phase I received one (1) extra credit point.

Procedure Phase I of the experiment was completed on-line. Participants were instructed to assume the role of a job applicant for the target position of a library clerk. They were told that a personality test, the IPIP, would be used as a primary selection test. Then, participants were exposed to differential instructions. After reviewing their respective instructions, participants responded to the IPIP measure online.

Personality Measure The International Personality Item Pool (IPIP) was used as a measure of the Five Factor Personality Dimensions: extraversion, conscientiousness, emotional stability, agreeableness, and intellectuality (IPIP, 2001; Goldberg, 1992; Goldberg, 1997). Each broad factor was composed of 20 items and a number of subscales (see Appendix B). The five dimensions' scores were calculated by summing their respective items or subscales, as indicated on the IPIP Tables and Scoring Keys (available online).

Pilot Study Because there has not been any research in the faking literature that used IPIP as a predictor, a pilot study was conducted to ensure the predictive validity of conscientiousness. Thirty-six students (11 graduate and 25 undergraduate students) at Virginia

Tech participated in the pilot testing. Undergraduate students received 2 extra credit points for participation. Participants were asked to fill out the IPIP online and then performed the same clerical task used in Phase III. The correlation between conscientiousness ($M = 82.14$, $SD = 8.46$) and task performance ($M = 150.14$, $SD = 36.39$) was $r = .225$, $p < .10$. This value is similar to the range of values reported in prior meta-analyses of conscientiousness and job performance (Tett et al., 1991; Mount & Barrick, 1995; Salgado, 1997; Hurtz & Donovan, 2000). Although not statistically significant, a sample of 150 (the approximate sample size for the focal study) with the same covariance as seen in the pilot study would result in a significant conscientiousness - performance relationship, $t = 2.81$, $p < .01$. Given that the magnitude of the validity coefficient was similar to that seen in meta-analyses of the relationship between conscientiousness and performance, and given that the correlation of that magnitude is significant for sample sizes in the range of the focal study, it is concluded that the IPIP conscientiousness measure was appropriate for use in the current study.

Motivation to Distort (MTD) Manipulation: In the High MTD condition, before filling out the IPIP, participants were told that their likelihood of being hired was 5%. Also, participants were told that if they were “hired,” they would be invited back to participate in a second phase of the study that entitled them to two more extra credits and entry into a lottery for cash prizes of \$100, \$50, or \$30. In the Low MTD condition, participants were informed prior to filling out the IPIP that there was an 80% chance of being hired. Furthermore, participants in the Low MTD condition were not informed that they could earn two more extra credit points and be entered into a cash lottery until after they had completed the IPIP.

Experimental Design: Ideally, assignment to the MTD condition would be done based on random assignment to condition. However, random assignment to conditions was not feasible due to the constraints of the software through which participants accessed the online questionnaire. Therefore, the design was technically a quasi-experiment because subjects were assigned to conditions based on which day of the week they accessed the website. The MTD manipulation was alternated based on the day of the week.

Furthermore, because I was selecting the top 40% scorers on conscientiousness, regardless the MTD condition, it was necessary that more subjects were run using the Low MTD manipulation than the High MTD manipulation. This was done to ensure that the sample sizes for the MTD conditions would be relatively equal in subsequent phases of the experiment. Therefore,

the Low MTD instructional condition was used for 32 days, and the High MTD instructional condition was used for only 16 days. For the first 32 days of recruiting, the MTD manipulation was alternated every day. However, after 32 days, only the Low MTD manipulation was used for the next 16 days.

Phase II

Participants: In Phase II, the 228 participants scoring in the top 40% of Conscientiousness distribution were contacted via e-mail and invited to participate in the laboratory phase of the study (i.e., Phase III). The goal was to recruit 150 participants into Phase III. A total of 161 participants volunteered for the experiment but 6 participants were excluded from statistical analyses because standardized residuals of performance measure used in Phase III showed that 6 participants had extremely large standardized residuals. These six participants were excluded from the Phase III analyses. Students who completed Phase III received two (2) extra credit points for finishing the experiment.

An independent t-test was conducted within each MTD condition to compare the conscientiousness scores for participants who did or did not participate in Phase III. There were 141 participants who were eligible for the lab experiment in High MTD group. Out of 141 participants, 66 participants signed up for the lab experiment whereas 75 participants did not. One hundred and fifteen students participated the lab experiment in Low MTD group. Using a two-tailed test, results indicated that there were no differences on the conscientiousness scores for the High MTD group ($t_{(139)} = 1.71, p < .1$) or the Low MTD group ($t_{(113)} = .51, p > .6$).

Procedure Eligible participants were sent an e-mail from the experimenter informing them of their eligibility to participate in Phase III of the experiment. As part of the e-mail solicitation, subjects were required to fill out the Preference for Consistency Measure (PFC) on-line.

PFC Measure The PFC measure (Cialdini et al., 1995, see Appendix A) was used as the dispositional measure of self-consistency. Cialdini et. al. view the PFC measure as an individual's desire to behave consistently across different situations. Participants were asked to rate how accurately each statement described him or her on a 9-point likert scale (1=very inaccurate to 9=very accurate). Coefficient alpha reliability for the PFC was .75.

Phase III

Participants As previously mentioned, one hundred and sixty-one students

participated in phase III but 6 participants were excluded due to the extremely large standardized residuals on task performance. Recruited participants were those who scored in the top 40th percentile or better on the conscientiousness measure in Phase I. There were 78 participants in the High MTD group and 77 participants in the Low MTD group. Out of 155 participants, 104 participants were female and 51 participants were male. Only 9 participants reported that they did not have work experience.

Procedure Participants reported to the lab in groups of 1 to 15 participants; they were informed that during this third phase of the experiment they would be treated as if they were hired by the hypothetical organization. The experimenter explained that the reason that they were selected to participate in the lab experiment was because they scored high on conscientiousness. The experimenter explained to the participants that conscientiousness is characterized as competent, orderly, dutiful, achieving, self-disciplined, and deliberate behavior.

Next, the self-consistency manipulation was induced. Participants then completed the verbal subtest of the Wesman Personnel Cognitive Test (WPCT), and finally, participants completed the paper-and-pencil clerical task

Participants were given the following instructions for both the WPCT and the clerical task:

Now you are going to complete a task. The task contains two parts: an 18-minute cognitive test and a 45-minute clerical task. The 18-minute cognitive test is to measure your verbal ability and it will not be counted as your performance scores. If you finish before 18 minutes, please stop and wait for further instructions. Once participants finished the cognitive test, the experimenter gave further instructions:

Now you are going to perform a search task. You will have 45 minutes to work at this task. It contains comparisons, number and letter scramble, and alphabetizing with a total of 270 items on the test. You need to follow the instructions provided in the test booklet and use a No.2 pencil. It is important to note that it is possible that you will not finish the entire task in 45-minutes. In addition, please do not mark on the test booklet.

Participants then worked on the task for 45 minutes. When the allotted time was up, the experimenter ended the task, and reminded participants that a drawing would be held once all sessions of the experiment were completed. Winners were announced and notified via e-mail and/or telephone. Due to the deception used in the experiment, participants were debriefed after the completion of the experiment.

Self-Consistency (SC) Manipulation Participants in Phase III were randomly assigned to the SC manipulation. In the High SC condition, after participants were told why and how they were hired they were then asked to review their responses in the IPIP items. In the Low SC condition, participants were only given the reason for being hired. The intention of this manipulation was to increase the salience of being consistent in the High SC condition, while avoiding doing so in the Low SC condition.

Verbal Ability The WPCT was administered to each participant for two reasons. First, it is well established that cognitive ability predicts performance in most domains, and that the variance in task performance that is captured by cognitive ability is not that which is captured by personality (Schmidt & Hunter; 1998). Therefore, it was likely that in the current study controlling the effects of GMA would increase the power of the significance tests in relation to conscientiousness. Second, measuring cognitive ability allowed for the exploration of other potentially interesting issues.

The verbal items of the WPCT require both reasoning through analogy and the perception of relationships. The verbal section of the WPCT contained 40-items; participants were given 18 minutes to perform the test. The number correct was used as the score for each participant.

Task Performance The clerical task was routine, ordered, and detailed; it was specifically designed for this experiment. The test items were selected from Bobrow's (2000) "How to prepare for the Civil Service Examination, 4th edition." The test items were comparable to the level of GS-2 and GS-3 (General Service or related categories) of clerical positions, according to "Job Classification Standards in the United Nations" (available online). The task comprised of three skills: making comparison, number and letter scramble, and alphabetizing. There were 90 items within each category. Performance was operationalized as the number of right answers minus 1/4 the number of wrong answers (Right - 1/4 Wrong). The distribution of performance scores was slightly negatively skewed where skewness = -.11 and kurtosis = -.60.

Results

IPIP Norms

Conscientiousness scores for the participants in Phase I were compared to the norms of the online IPIP version. The normative data were drawn from a large sample reported by IPIP by Trippe (2004). Participants in the Trippe study responded to the IPIP under the standard

instructional set. Because Tippe used a 5-point Likert scale and I used a 7-point Likert scale, Angoff's (1975) linear equating was used to convert the scores of the current study into 5-point Likert scale. Angoff's linear equating assumes that items on the two tests are equivalent, which is a safe assumption given that the items are exactly the same. Table 1 presents the conscientiousness scores at 25th percentile, 50th percentile and 75th percentiles for the normative sample and my sample. Results indicated that the Low MTD group had a similar distribution to the normative sample. Not surprisingly, the High MTD quartile scores were consistently higher than corresponding quartile scores for the normative sample and the Low MTD groups, suggesting that the MTD manipulation was successful.

Focal Study

Hypothesis 1. The first hypothesis predicted a positive relationship between conscientiousness and task performance for the total sample, despite direct range restriction on the conscientiousness measure. To test hypothesis 1, correlations were computed between conscientiousness scores and clerical task performance, both collapsed over the MTD manipulation, and within the conditions of the MTD manipulation. Table 2 and 3 present the descriptive statistics for conscientiousness, cognitive ability, preference for consistency (PFC), and task performance for the total sample and broken down by MTD. Mean and standard deviations appear in Table 2. The bivariate validity coefficients for both conscientiousness and cognitive ability appear in boldface below the diagonal of Table 3. The boldface values above the diagonal of Table 3 are the validity coefficients for each predictor, with the contribution of the other predictor partialled out. For the total sample, the correlation between conscientiousness and clerical job performance was significant ($r = .16, p < .05$). The correction for range restriction increased the validity coefficient to $r = .29$. In conclusion, hypothesis 1 was supported in that the conscientiousness scores predicted task performance for the total sample.

The pattern of subgroup correlations in Table 3 is interesting in that the magnitude of the conscientiousness–task performance relationship is greater in the High MTD group than the Low MTD group. This pattern is seen whether cognitive ability is partialled out of the relationship or not.

Moderated regression analyses were also conducted to investigate the possible moderating effect of MTD (see Table 4 and Table 5). The results indicated that MTD did not moderate the predictive validity of the conscientiousness scores, regardless of whether cognitive ability was in

the regression model or not.

Finally, an independent t-test was conducted to check whether performance differed as a function of MTD. There was not a significant difference between the conditions ($t = .36, p > .1; d = .029$), High MTD condition ($M = 154.99, SD = 30.39$) and Low MTD condition ($M = 153.26, SD = 30.37$). In conclusion, hypothesis 1 was supported in that conscientiousness was related to task performance in the total sample. Other findings included mean task performance scores did not differ as a function of MTD, and there was conflicting evidence regarding whether the MTD manipulation moderated the conscientiousness - task performance relationship. Finally, due to the relationship between cognitive ability and task performance, cognitive ability was controlled for in all analyses for hypothesis 3.

Hypothesis 2. Hypothesis 2 predicted that the motivation to distort would vary as a function of the MTD manipulation, with the High MTD group distorting conscientiousness scores more than the Low MTD group. An independent-samples t-test was conducted. As predicted, the participants in the High MTD group scored higher on conscientiousness ($M = 90.74, SD = 5.35$) than participants in the Low MTD group ($M = 87.77, SD = 3.88$), $t(153) = 3.96, p < .01; d = .318$. Moreover, the MTD manipulation accounted for 9.3 percent of the variance in task performance.

Hypothesis 3. The third hypothesis predicted that Self-Consistency moderates the predictive validity of conscientiousness scores. Furthermore, the correlation between conscientiousness and task performance will be stronger when self-consistency is high (using either the self-consistency scores, or the self-consistency manipulation) and weaker self-consistency is low. Table 6 indicates that the correlations between PFC and the other variables were not significant. In addition, an independent t-test was conducted to investigate whether PFC was different depending on SC situational manipulation. Results showed that PFC was not statistically different as a function of SC manipulation ($t = .05, p > .1; d = .004$).

Hypothesis 3a: For the manipulation of SC (e.g., reviewing participants' own responses or not reviewing their own responses), task performance was regressed in three steps: cognitive ability, conscientiousness, and a dummy-coded vector for SC, and the product vector for conscientiousness * SC (see Table 7). Results indicated that SC manipulation did not have any effect, either as a main effect or as a moderator.

In summary, these results failed to support hypothesis 3a in that SC did not moderate the predictive validity of conscientiousness scores.

Hypothesis 3b: For the individual orientation for consistency measure (i.e., the PFC scores), the moderating analyses were repeated with all individual difference measures (value-mean score) centered prior to entry, as suggested by Cohen & Cohen (1983), in order to reduce collinearity problems. Table 8 reports the results for the PFC, and similar to SC manipulation, PFC did not moderate the validity of conscientiousness scores. As such, hypothesis 3b was not supported.

Both hierarchical moderated regression analyses indicated that neither the manipulation of self-consistency, nor the self-report measure of self-consistency, moderated the relationship between conscientiousness and job performance. Therefore, hypothesis 3 was not supported.

Exploratory Analyses:

There was no support for consistency moderating the predictive validity of conscientiousness on performance. However, a pattern emerged whereby the conscientiousness - performance relation was positive in the overall group and in the High MTD group, but a weaker relationship was observed in the Low MTD group (see Table 3). This pattern suggested that the interconnections among MTD, consistency and conscientiousness might be more complex than predicted in hypotheses 3. Therefore, the full model was tested in order to assess the potential for a 3-way interaction, within which both MTD and self-consistency moderate the relationship between conscientiousness and task performance. .

Due to the lower power for testing the 3-way interaction, a new performance variable based on the unstandardized residuals of task performance when regressed on cognitive ability was created. This strategy allowed for the recovery of a degree of freedom in the error term for the full model. For manipulated self-consistency, the unstandardized residuals of task performance were regressed onto conscientiousness, MTD, and SC in the first step; three 2-way interactions (Conscientiousness * MTD, Conscientiousness * SC, and MTD * SC) in the second step; and, finally, the 3-way interaction among conscientiousness, MTD, and SC in the third step. Results indicated that no higher order interactions were significant (See Table 9).

As for PFC, the unstandardized residuals of task performance were regressed on Z-scores of conscientiousness (Z_CON), Z-scores of PFC (Z_PFC) and MTD in the first step; Z_CON * Z_PFC, Z_PFC * MTD, Z_CON * SR in the second step; and Z_CON * Z_PFC * MTD in the third step (see Table 10). Again, findings suggested no interaction among conscientiousness, MTD, and PFC.

Because SC and the PFC were orthogonal, it is possible that the effects of self-consistency were being offset by the inclusion of subjects with self-report consistency scores that were contrary to the self-consistency manipulation to which they were randomly assigned. This logic implies the possibility of a 4-way interaction. To test a 4-way interaction required 15 terms: four main effects, six 2-way interaction terms, four 3-way interaction terms, and one 4-way interaction term. Regression analyses showed that the four way interaction approached significance ($\Delta R^2 = .023, p = .06; \beta = -.6.43, p = .06$).

The 4-way interaction suggested that the criterion-related validity for conscientiousness and task performance was moderated by a 3-way interaction between MTD, the SC manipulation, and the self-reported PFC. Therefore, a median split was taken on the PFC measure, creating eight combinations for which we examined the within-cell correlations between conscientiousness and residualized task performance (See Table 12). Corrected correlations (r_c) for range restriction were also computed in Table 12. The boldface values (See Table 12) represent the Joint Consistency (JC) groups in which the manipulated SC and self-report PFC were consistent (i.e., high SC/high PFC or low SC/low PFC). The analyses were focused on those correlations because they are clearly the driving force in the variance accounted for by the 4-way interaction. For the SC and PFC groups that were consistent, correlations indicated a positive relationship for three of the four combinations: High MTD/High JC ($r = .11, n = 21, p > .31$), High MTD/Low JC ($r = .61, n = 19, p < .01$), and Low MTD/High JC ($r = .41, n = 21, p < .05$). The correlation between conscientiousness and residualized task performance was negative for the Low MTD/Low JC group ($r = -.25, n = 17, p > .16$). For those groups in which SC and PFC were inconsistent, the correlations were close to zero except for High MTD/High SC/Low PFC group ($r = .23, n = 18, p > .18$).

Given that the 4-way interaction was driven by the groups that were consistent on self-consistency, moderated regression analysis were conducted only on the joint consistency groups ($N = 73$). As shown in Table 11, the test for the 3-way interaction on this restricted sample was significant ($\Delta R^2 = .10, p < .01; \beta = -.11.28, p < .01$).

As a final analysis, tests for significant differences between correlations (Cohen, 1988) were conducted among the four within-cell correlations for the joint consistency groups. The correlations were converted to Fisher's z-scores; the test statistic (i.e., q_s) for each comparison is simply the deviation between the z-scores. This deviation is compared to a significance cut-off, q_c .

(Cohen, 1988, p. 119). These tests were conducted using a two-tailed significance test; because of the low power, $p < .10$ was established as the Type I error rate. The correlations between the High MTD/Low JC group ($r = .61$) and Low MTD/Low JC ($r = -.25$) group were statistically different ($n' = 18$, $q_s = .964$, $p < .10$), as were the correlations between the Low MTD/High JC ($r = .41$) and Low MTD/Low JC groups ($r = -.25$; $n' = 16$, $q_s = .691$, $p < .10$). The other comparisons were not significantly different.

However, power is clearly an issue. Table 13 presents a power analysis for various levels q_s (assumed to represent the population parameter) that correspond to the range of q_s values and n' values observed when testing the within - cell correlations in Table 12 for significant differences. The four cells of the q_s values ranged from .273 to .964 ($n' = 16$ to 20). The power for the smallest (.273) and the largest discrepancy ($q_s = .964$) were .2 and .8 accordingly.

For edification, the groups with positive relationships were combined; the criterion-related validity coefficient was then computed. The conscientiousness-performance relationship for these three groups was significantly different from zero ($r = .36$, $n' = 56$, $p < .01$). The correlation was $r = .38$ when corrected for range restriction on conscientiousness.

In the end, the interpretation of the 4-way interaction is speculative given the exploratory nature of the analyses. I have focused on the 3-way interaction for the joint consistency cells, but in doing so I treated the validity coefficient in the High SC/Low PFC group ($r = .23$) as unimportant even though it was larger than the validity coefficient for the High SC/High PFC ($r = .11$). Nonetheless, it is intriguing that the correlations for all joint consistency/MTD groups are positive, except for the Low MTD/Low JC group. This finding tentatively suggests that self-consistency has a complex interaction with motivation to fake on the personality test. However, to go much beyond this conclusion requires replicating the above findings with larger sample sizes.

Discussion

The goal of personnel selection is to identify those individuals' characteristics that lead to successful job performance. Among these selection methods (e.g., cognitive ability tests, psychomotor and perceptual ability tests, personality tests, assessment centers, biodata, and interviews), personality measures have gained popularity in the selection field for the past decades (Salgado, Viswesvaran, & One, 2002). Along with personality measures' prevalent use, previous literature has established empirical evidence that personality measures were easily distorted to make people more socially desirable (Thornton et al., 1980; Miller & Barrett, 2001; Donovan, et

al., in press). In addition, faking issues are complicated by the fact that the effects of faking on the predictive accuracy of personality tests remain unclear (Dunnette, McCartney, Carlson, & Kirchner, 1962; Hough, Eaton, Dunnette, Kamp, & McCloy, 1990; Muller-Hanson et al., 2003; Ones, Viswesvaran, & Schmidt, 1993). The present study attempts to examine more closely the relationship between responses to personality test items and task performance by examining internal psychological processes. More specifically, the extent to which self-consistency moderated the predictive accuracy of conscientiousness when personality was assessed under varying levels of motivation to distort responses was examined.

Findings and Conclusions:

Hypothesis 1: The first hypothesis predicted a positive relationship between conscientiousness and performance despite direct range restriction on the conscientiousness variable. This hypothesis was supported; it replicates prior research regarding the conscientiousness-performance relationship (Barrick & Mount, 1991; Hough, 1992; Ones et al., 1993; Salgado, 1997; Hertz & Donovan, 2000). In addition, the High MTD group showed higher zero-order correlation between conscientiousness and performance than the Low MTD group for the current study, although MTD was not a significant moderator of the conscientiousness-performance relationship. Nonetheless, the pattern of correlations is inconsistent with research that faking lowers the predictive accuracy of conscientiousness (Douglas et al, 1996; Mueller-Hanson et al., 2003; Schmit & Ryan, 1993).

Hypothesis 2: It was hypothesized that within the top 40 percent of conscientiousness scores, the MTD manipulation would still cause higher conscientiousness scores in the High MTD condition relative to the Low MTD condition. This prediction was made even though the percentage of subjects receiving Low MTD manipulation in phase 1 outnumbered the number of subjects receiving High MTD manipulation in phase 1. As predicted, test takers in the High MTD group had higher mean scores on the conscientiousness scale than test takers in the Low MTD group. Support for hypothesis 2 simply reinforces prior research findings that dissimulation can be readily induced through manipulation of selection ratios and incentives (Schmit & Ryan 1993; Mueller-Hanson et al, 2003). More interesting is the indication that such dissimulation manipulations produce higher conscientiousness scores even when compared to the highest conscientiousness scores produced under conditions in which subjects are not motivated to fake.

Hypothesis 3: The third hypothesis predicted a moderating effect of self-consistency on

conscientiousness and task performance. The current study proposed that correlation between conscientiousness and performance would be stronger when self-consistency is high, regardless the motive to fake. Because the literature is not clear on whether self-consistency is a state or a trait (Cialdini, 2001), the study operationalized self-consistency as both a situationally induced state and as a stable trait. However, both operational definitions of self-consistency failed to demonstrate a moderating effect of self-consistency on conscientiousness-performance relationship.

Why Did Self-Consistency Not Work?

The key manipulation of self-consistency was to make subjects aware of the image that they had projected in the personality measure, the idea being that awareness of their projected image would lead subjects to behave in a manner consistent with that image. It is possible that situational manipulation (SC) was not strong enough for individuals to process at the cognitive level, and therefore, a moderating effect of consistency was not found. In addition, as previously mentioned, the motivation to be consistent can generate from multiple sources (Geller, 2002). Cialdini et al. (1995) noted that increased motivation in self-consistency can be explained by balance theory (Heider, 1946, 1958), foot-in-the-door technique (Freeman & Fraser, 1966), and (3) cognitive dissonance (Festinger, 1957). Perhaps the study's SC manipulation was not strong enough to engage any of the above mechanisms that increase the drive to be consistent. The primary intent was for SC manipulation to increase the salience of being consistent. It may have been that the manipulation was not strong enough or perhaps it did not convey that consistency is a positive characteristic.

The PFC measure was used to see whether individual differences on consistency orientation moderated the conscientiousness-performance relationship. Unfortunately, PFC also failed to detect the moderating effect of consistency-based principles. According to Guadagno, Asher, Demaine, and Cialdini (2001), a significant delay between requests can reduce the consistency effect. In the current study, it is possible that the motivation to be consistent was not salient during the experiment because of the time delay between the measurement of self-consistency orientation and the performance phase. However, such logic implies that self-consistency is not really a trait. Rather, it implies that filling out the self-consistency questionnaire *primes* participants to act in a consistent manner. In that sense, the argument that the self-consistency questionnaire should be answered at a point close in time to the behavior being

measured is actually an admission that self-consistency is more of a state than a trait.

Another possible reason for failing to detect the moderating effect of consistency is that similar to equity theory, satisfaction of the motivation to be consistent can be satisfied by either attitudinal change or behavioral change (Geller, 2002). Perhaps participants' attitudes were changed, but the change did not reflect on the behavioral domains. This notion was also supported by Newby-Clark, McGregor, and Zanna (2002), who found that the relationship between potential ambivalence (thinking) and felt ambivalence (caring) was the strongest when potential ambivalence was high during the simultaneous processing of inconsistent stimuli (simultaneous accessibility). In other words, participants were not aware enough of stimulus inconsistency at the same time to care and serve as a motivator to perform well on task.

There is also the low power explanation for failing to detect moderating effects of self-consistency. There are five difficulties associated with moderated multiple regression (MMR): range restriction, error variance heterogeneity across moderator-based subgroups, measurement error, small total sample size, and unequal sample size across the moderator-based subgroups (Aguinis, H., Boik, R. J., & Pierce, C. A., 2001). In addition, Stone and Hollenbeck (1989) also note that skewed criterion distributions affect the power to detect interactions in MMR. The present study had direct range restrictions on the conscientiousness measure, and the task performance was negatively skewed despite of large sample ($N = 155$).

Finally, the variables of interests for the current study were MTD, conscientiousness, consistency, and performance. All of the hypotheses made above were simply 2-way interactions among either conscientiousness-consistency-performance relationships. It is possible that the present study underestimated the complexity of the moderating effects of self-consistency.

Does Self-Consistency Really Matter?

Conceptually, self-consistency should play a role in the extent to which people act in a manner consistent with the image that they portray on a personality test. As previously mentioned, it is possible that the role of motivation to be self-consistent is more complex than predicted. This more complex explanation is suggested in the current study by the pattern of within - cell correlations for the predictive accuracy of conscientiousness, which led to exploratory analyses testing for the presence of a 4-way interaction. The 4-way interaction approached significance when all of the samples were in the model. When the sample was restricted to only those subjects whose SC manipulation and PFC scores were in concert (i.e., High/High or Low/Low), a

significant 3-way interaction among MTD, conscientiousness, and joint consistency emerged. Although regression analyses showed that a significant amount of variance accounted for performance, the interpretation of the results should be especially cautious due to the restricted samples used in the analyses. To understand what role self-consistency plays in the selection setting requires more samples and replications in support of existence of such intrapsychic processes within individuals between faking and subsequent task performance.

Despite the cautious interpretation of the exploratory analyses, the finding does suggest two potentially important points for future research. First, although the consistency principle is based on social psychology, it seems that individual preference for consistency matters. This notion is supported by Cialdini et al. (1995) and many others' replications (Newby-Clark and McGregor, and Zanna, 2002; Guadagno, Asher, Demaine, and Cialdini, 2001), which together imply that self-consistency is as much an individual preference as it is a situationally - determined motive. Second, many psychological constructs (e.g., goal orientation) appear to have both trait and state characteristics. Research on such variables often produces conflicting results regarding the trait versus state debate. The findings of the current study suggest that one explanation for the conflict between these approaches is that the individual preference aspect of the variable requires some type of environmental affordance before emerging. That is, situations need to be structured so as to allow the preference to be expressed. The above interpretation is interesting, but it should be treated with caution until further replication.

The 4-way interaction was primarily driven by the 3-way interaction that involved those participants for whom the SC manipulation was consistent with their preference for consistency as measured by the PFC. This 3-way interaction is suggestive of issues for further faking research. For example, dissimulation only adversely affected the predictive accuracy of conscientiousness when joint self-consistency was low. As such, it may be that the effect of faking on the predictive accuracy of personality scores depends on other variables, such as self-consistency. It is interesting that our results indicate that for the joint consistency sample, only when there was no motivation to dissimulate and when there was low joint consistency, the predictive accuracy of conscientiousness was seriously compromised, suggesting that self-consistency may be just as important as the motivation to fake when examining the relationship between conscientiousness and task performance.

Mueller-Hanson et al (2003) vs. The Current Study

The current study was a replication and extension of Mueller-Hanson et al. (2003). Therefore, a direct comparison between the two studies is warranted. The current study focused on participants on the high end of conscientiousness distribution, whereas the Mueller-Hanson et al. (2003) separated the entire conscientiousness distribution group into high, medium, and low scores. My focus on the high conscientiousness scores was predicted on the fact that the most interesting findings for Mueller-Hanson et al. (2003) was for those subjects scoring high on conscientiousness.

In regards to measuring conscientiousness, the groups in Mueller-Hanson et al. (2003) received either honest instructions (control group) or an incentive stimulus (incentive group), whereas the current study used differential selection ratios of 80% hiring rate (HSR) and 5% hiring rate (LSR) in combination with an incentive (i.e., a lottery) that subjects were made aware of at different points in time depending on the MTD condition to which they were assigned. It is clear that both manipulations in both studies were successful at inducing response distortion.

A more critical difference between the present study and the one conducted by Mueller-Hanson et al. (2003) is that they conducted their study in a classroom setting in which the predictor and criterion scores were collected sequentially. Given the large group setting, subjects were fairly anonymous regarding both their responses to the personality test and task performance. In the current study, there was a separate selection phase and task performance phase. Overall, the current study tried to enhance the realism of the hiring situation rather than combining the selection and performance phases together into one setting. More importantly, the current study was examining self-consistency as a moderator of the conscientiousness-performance relationship. To examine this issue required a clearer understanding of the consequences of the responses to the personality test on the part of the participants.

Mueller-Hanson et al. (2003) found that mean task performance in the control group was better than in the incentive group, and further suggested that faking reduced the predictive accuracy for the top 25% of the distribution of conscientiousness scores. In contrast, the current study found no mean differences in task performance as a function of response distortion, and also found that the predictive accuracy of conscientiousness was at the very least no worse for those in the High MTD condition than for those in the Low MTD group. In fact, based on the pattern of within - cell correlations, and the exploratory analyses, there is evidence that the predictive accuracy of conscientiousness was *better* in the High MTD condition in which participants clearly

distorted their responses.

Given their results, Mueller-Hanson et al. (2003) suggest using personality tests as a "select out" strategy. The select-out strategy uses conscientiousness to exclude those applicants scoring low on conscientiousness. However, the determination of who to hire (i.e., "select in") is based on other predictors. The present study's results indicate that the Mueller-Hanson et al.'s (2003) findings may be an artifact of their method. As such, the notion of using a select-out strategy with conscientiousness is premature. Until we have better understanding about the internal processes that affect the predictive accuracy of conscientiousness, the select out strategy is not warranted, and the traditional view of a linear relationship between personality and task performance should be maintained at this time.

In that spirit, future research on the predictive accuracy of personality measures should stop asking the simple question of "What effect does faking have on the predictive accuracy of personality test scores?" Instead, the question should be: "Under what conditions does faking inflate or deflate the predictive accuracy of personality test scores?" The current study indicates that self-consistency may be one of the boundary conditions that affect predictive accuracy, but more research is needed.

Implications:

The findings from the present study contribute to faking and personality-performance literature in several ways. First, distortion has the major concern when non-cognitive measures are used in personnel selection because the situation is so strong that applicants distort their images in a more favorable way. Some researchers claimed that distorted behaviors reduced the criterion validity of non-cognitive measures (Douglas et al., 1996; Mueller-Hanson et al., 2003; Schmit & Ryan, 1993), whereas others claimed that distorted behaviors did not reduce the criterion validity (Ones et al., 1996). I have argued that the effects of faking on criterion-related validity are complex and depend on other variables. In fact, the relationships appear more complex than I anticipated. As such, more research is needed to replicate my findings regarding self-consistency, and certainly self-consistency may not be the only variable of interest.

The second implication of the present study is that self-consistency is not a simple variable. The debate whether self-consistency is a trait or a state has been inconclusive (Cialdini et al., 1995; Cialdini, 2001). The most interesting conclusion to be made related to self-consistency is that it may be a preference that emerges when affordances are present in the situation. The implication of

this finding is not limited to self-consistency in that the logic of affordances can be applied to any variable where it has been debated whether the variable is a trait or a state (e.g., goal orientation).

Limitation:

As previously mentioned, the present study was experimentally based. Therefore, the lack of generalizability to a real job setting is an issue. Although the current experiment required participants to play the role of an applicant seeking a position as a library clerk, the generalizability to real applicants is a concern. However, it should be recognized that the predictive accuracy of conscientiousness in the pilot sample and the total sample (when corrected for range restriction) was similar to meta-analytic estimates of the conscientiousness-job performance relationship (Tett et al., 1991; Mount & Barrick., 1995; Salgado, 1997; Hurtz & Donovan, 2000).

The second limitation is the problem of the construct of self-consistency. Although self-consistency has been studied in different domains, the concept of self-consistency has not reached a consensus. The operationalization of self-consistency as a state and/or trait variable remains controversial. The present study suggested that self-consistency should be measured in both ways. In additions, attention should be paid when a preference for consistency (PFC) questionnaire (Cialdini et al., 1995) is used for future research in personality since the construct might share variance with the conscientiousness in the personality measure. The reason that the PFC did not correlate highly with conscientiousness in the current study might be due to the use of IPIP as the personality measure. However, Cialdini et al. (1995) found that the correlation between conscientiousness in Big-5 and the PFC was .2. Therefore, future use of the PFC should be cautious in personality research.

The final limitation of the current study is that the most interesting findings came from the exploratory analyses based on the restricted sample. All conclusions regarding these exploratory analyses are tentative and require further replication.

In sum, the understanding about dissimulation is limited. The current study took the initial step to investigate the inner processes after occurrence of faking behaviors in relation to subsequent behaviors. The present study suggests that faking behaviors are more complex than as predicted. The clearer scheme of response distortion will not be fully captured until psychological processes are understood. Future research is warranted.

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Table 1 *Comparing IPIP Norms to Low MTD and High MTD groups Quartertiles Distribution.*

	IPIP Norm	Low MTD	High MTD
25 th	4.07	4.25	4.35
50 th	4.24	4.35	4.50
75 th	4.37	4.40	4.70

Note. Mean scores of IPIP Norm are equated using Angoff's (1971) linear transformation equivalent to the current data. IPIP Norm (N = 397), Low MTD (N = 234), High MTD (N = 333).

Table 2

Means and Standard Deviations for Conscientiousness (CON), Preference for Consistency (PFC), Cognitive Ability (G), and Performance (PERF) for the Total Sample and Broken Down by MTD

	<u>CON</u>		<u>PFC</u>		<u>G</u>		<u>PERF</u>	
	M	SD	M	SD	M	SD	M	SD
Total Sample	89.25	4.88	5.74	1.01	56.09	8.30	154.12	30.29
High MTD	90.74	5.35	5.74	.74	55.22	8.84	155.00	30.39
Low MTD	87.77	3.88	5.74	1.22	56.95	7.69	153.26	30.37

Note. Total Sample (N = 155), High MTD (n=77), Low MTD (n=78).

Table 3

Intercorrelations and Predictive Validity among Conscientiousness, Cognitive Ability and Clerical Task Performance

Measure	CON			G			PERF			PFC		
	1	2	3	4	5	6	7	8	9	10	11	12
CON												
1 Total sample	--						.18**					
2 High MTD		--						.22*				
3 Low MTD			--						.09			
G												
4 Total sample	.05			--			.27**					
5 High MTD		.07			--			.27**				
6 Low MTD			.01			--			.29**			
PERF												
7 Total sample	.16*			.27**			--					
8 High MTD		.20			.25*			--				
9 Low MTD			.07			.29**			--			
PFC												
10 Total sample	-.06			.04			-.12			--		
11 High MTD		.04			.10			.03			--	
12 Low MTD			-.18			-.03			-.21			--

Note. CON = Conscientiousness, G = Cognitive Ability, PERF = Task Performance; Boldface indicates the predictive validity; Zero-order intercorrelations and predictive validity for total sample (N = 155), High MTD (N = 77) and Low MTD (N = 78) are presented below the diagonal, and predictive validity after either cognitive ability or conscientiousness is controlled are presented above the diagonal. ** $p < .01$. * $p < .05$

Table 4

Hierarchical Regression Examining the Moderating Influence of MTD on the Relationship Between Conscientiousness (CON) and Performance

Step	Variable(s) entered	<i>B</i>	β	R^2	ΔR^2	F_{change}
1	MTD	1.73	.03	.00	.00	.13
2	CON	1.00*	.16	.02	.02	3.70*
3	MTD X CON	.34	.51	.03	.01	.10

Note. $N = 155$. b = the unstandardized regression coefficient for the variable of interest. β = the standardized regression coefficient for the variable of interest. R^2 = the proportion of variance in the dependent variable accounted for by all predictors in the regression equation. ΔR^2 = the incremental variance accounted for by the predictor variables entered at each step. F_{change} = the F ratio to assess the significance of the incremental variance accounted for. * denotes a statistic that is significant at the .05 level. ** denotes a statistic that is significant at the .01 level. *** denotes a statistic that is significant at the .001 level.

Table 5

Hierarchical Regression Examining the Moderating Influence of MTD on the Relationship Between Conscientiousness and Performance after controlling cognitive ability.

Step	Variable(s) entered	<i>B</i>	β	R^2	ΔR^2	F_{change}
1	Cognitive ability	.98***	.27	.07	.07	11.76***
2	MTD	.37	.01			
	Conscientiousness	1.05	.17	.10	.03	2.44
3	MTD X Conscientiousness	.55	.83	.10	.00	.27

Note. $N = 155$. b = the unstandardized regression coefficient for the variable of interest. β = the standardized regression coefficient for the variable of interest. R^2 = the proportion of variance in the dependent variable accounted for by all predictors in the regression equation. ΔR^2 = the incremental variance accounted for by the predictor variables entered at each step. F_{change} = the F ratio to assess the significance of the incremental variance accounted for. * denotes a statistic that is significant at the .05 level. ** denotes a statistic that is significant at the .01 level. *** denotes a statistic that is significant at the .001 level.

Table 6

Correlations between among Preference for Consistency (PFC) and Conscientiousness (CON), Cognitive Ability (G), and Performance (PERF) for the Total Sample and Broken Down by MTD.

	PFC		
	Total	High MTD	Low MTD
CON	-.069	.042	-.180
G	.038	.102	-.003
PERF	-.116	.027	-.208

Note. Total (N=155), High MTD (N=77), Low MTD (N=78).

Table 7

Hierarchical Regression Examining the Moderating Self-Consistency (SC) on the Relationship Between Conscientiousness and Performance Controlling for Cognitive Ability.

Step	Variable(s) entered	<i>b</i>	β	R^2	ΔR^2	F_{change}
1	Cognitive ability	.98***	.27	.07	.07	11.76***
2	Conscientiousness	1.02	.17	.10	.03	2.72
	SC	1.00	.28			
3	Conscientiousness x SC	.15	.22	.10	.00	.02

Note. $N = 155$. b = the unstandardized regression coefficient for the variable of interest. β = the standardized coefficient for the variable of interest. R^2 = the proportion of variance in the dependent variable accounted for by all predictors in the regression equation. ΔR^2 = the incremental variance accounted for by the predictor variables entered at each step. F_{change} = the F ratio to assess the significance of the incremental variance accounted for. * denotes a statistic that is significant at the .05 level. ** denotes a statistic that is significant at the .01 level. *** denotes a statistic that is significant at the .001 level.

Table 8

Hierarchical Regression Examining the Moderating Preference for Consistency (PFC) on the Relationship Between Conscientiousness and Performance Controlling for Cognitive Ability.

Step	Variable(s) entered	<i>b</i>	β	R^2	ΔR^2	F_{change}
1	Cognitive ability	.98***	.27	.07	.07	11.76***
2	Conscientiousness	1.01*	.16	.11	.04	3.61*
	PFC	-3.49	-.12			
3	Conscientiousness X PFC	.06	.18	.11	.00	.01

Note. $N = 155$. b = the unstandardized regression coefficient for the variable of interest. β = the standardized regression coefficient for the variable of interest. R^2 = the proportion of variance in the dependent variable accounted for by all predictors in the regression equation. ΔR^2 = the incremental variance accounted for by the predictor variables entered at each step. F_{change} = the F ratio to assess the significance of the incremental variance accounted for. * denotes a statistic that is significant at the .05 level. ** denotes a statistic that is significant at the .01 level. *** denotes a statistic that is significant at the .001 level.

Table 9

Hierarchical Regression Examining the 3-way Interaction among Manipulated Self-Consistency (SC), Conscientiousness (CON) and MTD of Unstandard Residuals of the Cognitive Ability on the TaskPerformance

Step	Variable(s) entered	<i>B</i>	β	R^2	ΔR^2	F_{change}
1	CON	1.01*	.17*	.04	.04	1.81
	MTD	.30	.01			
	SC	3.44	.06			
2	CON * SC	.58	.91	.04	.00	.27
	SC X MTD	.15	.23			
	MTD * CON	-.12	-.11			
3	CON * SC * MTD	.31	.04	.00	.00	.08

Note. $N = 155$. b = the unstandardized regression coefficient for the variable of interest. β = the standardized regression coefficient for the variable of interest. R^2 = the proportion of variance in the dependent variable accounted for by all predictors in the regression equation. ΔR^2 = the incremental variance accounted for by the predictor variables entered at each step. F_{change} = the F ratio to assess the significance of the incremental variance accounted for. * denotes a statistic that is significant at the .05 level. ** denotes a statistic that is significant at the .01 level. *** denotes a statistic that is significant at the .001 level.

Table 10

Hierarchical Regression Examining the 3-way Interaction among Standardized Preference for Consistency (Z_PFC), Standardized Conscientiousness (Z_CON) and MTD of Unstandard Residuals of the Cognitive Ability on the TaskPerformance

Step	Variable(s) entered	<i>b</i>	β	R^2	ΔR^2	F_{change}
1	Z_CON	4.84*	.17*	.04	.04	2.40
	MTD	.48	.01			
	Z_PFC	-3.49	-.12			
2	Z_CON * Z_PFC	-1.43	-.05	.05	.01	.49
	Z_PFC * MTD	5.96	.11			
	Z_CON * MTD	4.35	.12			
3	Z_CON * Z_PFC * MTD	-8.11	-.16	.07	.02	1.77

Note. $N = 155$. Z_CON = standardized conscientiousness; Z_PFC = standardized PFC. b = the unstandardized regression coefficient for the variable of interest. β = the standardized regression coefficient for the variable of interest. R^2 = the proportion of variance in the dependent variable accounted for by all predictors in the regression equation. ΔR^2 = the incremental variance accounted for by the predictor variables entered at each step. F_{change} = the F ratio to assess the significance of the incremental variance accounted for. * denotes a statistic that is significant at the .05 level. ** denotes a statistic that is significant at the .01 level. *** denotes a statistic that is significant at the .001 level.

Table 11

Hierarchical Regression Examining the Three-Way Interaction Among Joint Consistency (JC), Conscientiousness (CON) and MTD of Unstandard Residuals of the Cognitive Ability on the Task Performance

Step	Variable(s) entered	<i>B</i>	β	R^2	ΔR^2	F_{change}
1	CON	1.61*	.26*	.06	.06	1.49
	MTD	-5.40	-.09			
	JC	.15	.02			
2	CON * JC	-.05	-.47	.12	.06	1.49
	JC * MTD	4.27	.41			
	MTD X CON	1.21	1.85			
3	CON * JC * MTD	-1.28**	-11.28**	.22	.10	7.90**

Note. $N = 73$. b = the unstandardized regression coefficient for the variable of interest. β = the standardized regression coefficient for the variable of interest. R^2 = the proportion of variance in the dependent variable accounted for by all predictors in the regression equation. ΔR^2 = the incremental variance accounted for by the predictor variables entered at each step. F_{change} = the F ratio to assess the significance of the incremental variance accounted for. * denotes a statistic that is significant at the .05 level. ** denotes a statistic that is significant at the .01 level. *** denotes a statistic that is significant at the .001 level.

Table 12

Within Cell Correlations of Conscientiousness-Residuals of Performance Controlling for Cognitive Ability

	High MTD		Low MTD	
	PFC			
Manipulated Self-Consistency	High	Low	High	Low
High	r = .11	r = .23	r = .41*	r = .06
	r_c = .18	r _c = .29	r_c = .71	r _c = .11
	(n=21)	(n=18)	(n=16)	(n=21)
Low	r = .00	r = .61**	r = -.05	r = -.25
	r _c = .00	r_c = .82	r _c = -.16	r_c = -.54
	(n=19)	(n=19)	(n=24)	(n=17)

Note. $N = 155$. Bold values are where manipulated self-consistency and self-reported preference for consistency are in the same direction. r is the correlation between conscientiousness and unstandardized Residuals of Performance controlling for cognitive ability. r_c is the corrected correlation for range restriction.

* $p < .05$;

** $p < .01$

Table 13

Power of Normal Curve Test of $r_1 = r_2$ via Fisher z transformation at $\alpha_1 < .10$

	q							
n'	.2	.3	.4	.5	.6	.7	.8	1.0
16	14	20	27	36	45	56	65	82
17	15	20	28	38	48	58	68	84
18	15	21	29	39	50	61	71	86
19	15	22	31	41	52	63	73	88
20	15	23	32	43	54	65	75	90

q = effect size index ($r_{z1} - r_{z2}$), n = the size of each of the two samples whose r_s 's are being compared; the value in the body of the table are the power of the test divided by 100, i.e., the probability of detecting tests carried out under the given conditions which will result in the rejection of the null hypothesis.

Appendix A

Preference for Consistency Measure

Please read each question carefully and circle your level of agreement or disagreement with each statement: Strongly Disagree (1), Disagree (2), Somewhat disagree (3), Slight Disagree (4), Neither Agree nor Disagree (5), Slightly Agree (6), Somewhat Agree (7), Agree (8), and Strongly Agree (9).

1. I prefer to be around people whose reactions I can anticipate.
2. It is important to me that my actions are consistent with my beliefs
3. Even if my attitudes and actions seemed consistent with one another to me, it would bother me if they did not seem consistent in the eyes of others.
4. It is important to me that those who know me can predict what I will do.
5. I want to be described by others as a stable, predictable person.
6. Admirable people are consistent and predictable.
7. The appearance of consistency is an important of the image I present to the world.
8. It bothers me when someone I depend upon is unpredictable.
9. I don't like to appear as if I am consistent.
10. I get uncomfortable when I find my behaviors contradict my beliefs.
11. An important requirement for any friend of mine is personal consistency.
12. I typically prefer to do things the same way.
13. I dislike people who are constantly changing their opinions.
14. I want my close friends to be predictable.
15. It is important to me that others view me as a stable person.
16. I make an effort to appear consistent to others.
17. I'm uncomfortable holding two beliefs that are inconsistent.
18. It doesn't bother me much if my actions are inconsistent.

Appendix B
Personality Measure

SD D MD N MA A SA

- 1 Am the life of the party.
- 2 Insult people.
- 3 Am always prepared.
- 4 Get stressed out easily.
- 5 Have a rich vocabulary.
- 6 Often feel uncomfortable around others.
- 7 Am interested in people.
- 8 Leave my belongings around.
- 9 Am relaxed most of the time.
- 10 Have difficulty understanding abstract ideas.
- 11 Feel comfortable around people.
- 12 Am not interested in other people's problems.
- 13 Pay attention to details.
- 14 Worry about things.
- 15 Have a vivid imagination.
- 16 Keep in the background.
- 17 Sympathize with others' feelings.
- 18 Make a mess of things.
- 19 Seldom feel blue.
- 20 Am not interested in abstract ideas.
- 21 Start conversations.
- 22 Feel little concern for others.
- 23 Get chores done right away.
- 24 Am easily disturbed.

- 25 Have excellent ideas.
- 26 Have little to say.
- 27 Have a soft heart.
- 28 Often forget to put things back in their proper place.
- 29 Am not easily bothered by things.
- 30 Do not have a good imagination.
- 31 Talk to a lot of different people at parties.
- 32 Am not really interested in others.
- 33 Like order.
- 34 Get upset easily.
- 35 Am quick to understand things.
- 36 Don't like to draw attention to myself.
- 37 Take time out for others.
- 38 Shirk my duties.
- 39 Rarely get irritated.
- 40 Try to avoid complex people.
- 41 Don't mind being the center of attention.
- 42 Am hard to get to know.
- 43 Follow a schedule.
- 44 Change my mood a lot.
- 45 Use difficult words.
- 46 Am quiet around strangers.
- 47 Feel others' emotions.
- 48 Neglect my duties.
- 49 Seldom get mad.
- 50 Have difficulty imagining things.
- 51 Make friends easily.

- 52 Am indifferent to the feelings of others.
- 53 Am exacting in my work.
- 54 Have frequent mood swings.
- 55 Spend time reflecting on things.
- 56 Find it difficult to approach others.
- 57 Make people feel at ease.
- 58 Waste my time.
- 59 Get irritated easily.
- 60 Avoid difficult reading material.
- 61 Take charge.
- 62 Inquire about others' well-being.
- 63 Do things according to a plan.
- 64 Often feel blue.
- 65 Am full of ideas.
- 66 Don't talk a lot.
- 67 Know how to comfort others.
- 68 Do things in a half-way manner.
- 69 Get angry easily.
- 70 Will not probe deeply into a subject.
- 71 Know how to captivate people.
- 72 Love children.
- 73 Continue until everything is perfect.
- 74 Panic easily.
- 75 Carry the conversation to a higher level.
- 76 Bottle up my feelings.
- 77 Am on good terms with nearly everyone.
- 78 Find it difficult to get down to work.

- 79 Feel threatened easily.
- 80 Catch on to things quickly.
- 81 Feel at ease with people.
- 82 Have a good word for everyone.
- 83 Make plans and stick to them.
- 84 Get overwhelmed by emotions.
- 85 Can handle a lot of information.
- 86 Am a very private person.
- 87 Show my gratitude.
- 88 Leave a mess in my room.
- 89 Take offense easily.
- 90 Am good at many things.
- 91 Wait for others to lead the way.
- 92 Think of others first.
- 93 Love order and regularity.
- 94 Get caught up in my problems.
- 95 Love to read challenging material.
- 96 Am skilled in handling social situations.
- 97 Love to help others.
- 98 Like to tidy up.
- 99 Grumble about things.
- 100 Love to think up new ways of doing things.

CURRICULUM VITA

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Education

- May 2004 M.S., Industrial / Organizational Psychology
Virginia, Tech, Blacksburg, Virginia.
Thesis: The Predictive Accuracy of Conscientiousness when Responses
were Dissimulated: Does Self-Consistency Matter?
- May 2003 Statistical Seminar 1 credit
Categorical Analysis
- May 2001 B. A., Psychology
Washburn University of Topeka
Graduated Summa Cum Laude
- Sep 1999 B.A., Applied English (transferred)
National Taiwan University
Honor Student Awards

Professional Experience

- Aug 2003 – Present Teaching Assistant, Virginia Tech
- Class Participation
 - Grading
 - Student consulting
- Aug 2001 – May 2003 Recitation Instructor, Department of Psychology
- Lecture preparation
 - Grading
- Sep 1996 – Present Customs Broker, Great China Transportation Co., Ltd.
- Import/export documents screening
 - Import/export business related consultant
- Sep 1999 – May 2001 Help Desk, Computer Center at Washburn University
- Computer assistance
 - Test Scoring
 - Computer server maintenance
- Jan 1998 – Mar 1999 English Teacher, Gram English Center / Sesame Kindergarten

	<ul style="list-style-type: none"> • Lecture preparation
Jun 1994 – Jan 1998	<p>Customer Service Representative, Great China Transportation Co., Ltd.</p> <ul style="list-style-type: none"> • Communication with importers/exporters • Contact with agency overseas • Coordination between Operation Department and Customers
Jun 1992 – Jun 1994	<p>Operator., Regency Express Co., Ltd.</p> <ul style="list-style-type: none"> • Documents preparation for importers/exporters.

Professional Affiliations

	Society for Industrial and Organizational Psychology (Student Member)
	Psi Chi
	Kappa Phi

Related Graduate Courses

Psychology	Industrial Psychology, Organizational Psychology I & II, Personality Processes Psychology, Social Psychology, Research Methods, Developmental Psychology
Quantitative Courses	Statistics in Research I and II, Structural Equation Modeling, Multiple Regression Analysis, Psychometrics.

Language Skills

Mandarin/Chinese	Excellent writing, reading, speaking abilities.
Taiwanese	Excellent writing, reading, speaking abilities.
English	Good reading, speaking, and writing abilities.
Spanish	Fair reading abilities.

Computer Skills

Operating Systems	Windows 95, 98, XP
Application Software	MS Word, MS Excel, MS Power Point, MS Outlook,

Statistical Packets

MS Internet, Netscape.
SAS, SPSS