

---

Theses, Dissertations, and Other Capstone Projects

---

2013

# An Investigation of Online Unproctored Testing and Cheating Motivations Using Equity Theory and Theory of Planned Behavior

Valerie Nicole Brophy  
*Minnesota State University - Mankato*

Follow this and additional works at: <http://cornerstone.lib.mnsu.edu/etds>

 Part of the [Industrial and Organizational Psychology Commons](#)

---

## Recommended Citation

Brophy, Valerie Nicole, "An Investigation of Online Unproctored Testing and Cheating Motivations Using Equity Theory and Theory of Planned Behavior" (2013). *Theses, Dissertations, and Other Capstone Projects*. Paper 148.

This Thesis is brought to you for free and open access by Cornerstone: A Collection of Scholarly and Creative Works for Minnesota State University, Mankato. It has been accepted for inclusion in Theses, Dissertations, and Other Capstone Projects by an authorized administrator of Cornerstone: A Collection of Scholarly and Creative Works for Minnesota State University, Mankato.

An Investigation of Online Unproctored Testing and Cheating Motivations Using Equity Theory  
and Theory of Planned Behavior

Valerie N. Brophy

A Thesis Submitted in Partial Fulfillment of the  
Requirements for the Degree of  
Master of Arts  
In  
Industrial/Organizational Psychology

Minnesota State University, Mankato

Mankato, Minnesota

May 2013

Date: \_\_\_\_\_

This thesis paper has been examined and approved.

Examining Committee:

---

Kristie Campana, Ph.D., Chairperson

---

Emily Stark, Ph.D., Committee Member

---

Miles Smayling, Ph.D., Committee Member

### **Abstract**

The prominence of unproctored online testing in selection has caused researchers and practitioners to turn their attention to the possibility of cheating and methods of detecting and decreasing it. Past research has shown that separately both equity theory and theory of planned behavior can predict maleficent behaviors. This study combines both of these theories—with equity theory as an operationalization of the precedents of theory of planned behavior—in attempt to predict past cheating behaviors. The present study aims to give selection professionals a framework by which to understand the motivations behind cheating on pre-employment tests. Equity sensitivity findings were limited due to a restricted sample. Recommendations are made that will, hopefully, rectify the constraints of this study and lead to better results.

**Table of Contents**

Abstract.....	3
Literature Review.....	5
Technology in Employee Selection.....	6
Unproctored Testing and Cheating.....	7
Cheating Behaviors and Motivation Research.....	11
Previous Cheating Research.....	12
Theory of Planned Behavior.....	13
Equity Theory.....	16
Equity Theory and Individual Differences.....	16
Current Study.....	19
Methods.....	26
Participants.....	26
Measures.....	27
Procedure.....	30
Results.....	32
Discussion.....	33
Limitations and Future Research Directions.....	37
Conclusions.....	39
References.....	40
Appendix A: Means, SD, and Correlations of Demographics and Scales.....	48
Appendix B: Survey.....	49

## **An Investigation of Online Unproctored Testing and Cheating Motivations Using Equity Theory and Theory of Planned Behavior**

Selection testing professionals strive to find the best person for a position all in the hopes of a good fit leading to increased job performance outcomes. The internet and technological advances are quickly changing how selection professionals are able to find and assess individuals for fit. For example, many companies, because of technological innovation, are able post positions online, host the application process online, and even use cognitive and personality measures to pre-screen applicants.

The validity of previous selection testing procedures has been extensively researched. Now, current research is scrambling to keep pace with technological advancement and concerns in selection. One such concern is cheating. For example, an individual completing a pre-employment assessment could research which tests that employer uses to find a test key of correct answers.

Carstairs and Moyers (2009) found that the presence of a proctor significantly altered test performance on cognitive tests, where test scores were much higher for those in unproctored settings. This study evidences that test-takers in unproctored settings seem to be cheating. The same does not, however, hold true for non-cognitive tests (e.g., personality and vocational interests inventories; Salgado & Moscoso, 2003). This is indicative of cheating on cognitive tests, but not personality tests, in unproctored settings.

Cheating is a cause for unease because when cheating on a selection test increases, arguably the validity of that test decreases (Tippins, 2009a). Put in concrete terms, if an individual cheats on his/her selection tests and is chosen for the job based on these artificially

inflated scores, s/he will not perform as well as someone who received those scores ought to. By determining not only the ways in which applicants cheat, but also their motivations, selection professionals across organizations can work to engineer various deterrents to, as well as better detections of, cheating.

### **Technology in Employee Selection**

Online application processes allow organizations an easy and convenient way to reach more applicants in shorter periods of time while giving applicants greater access to information about vacancies. Consequently, organizations are receiving far more job applications than ever before (Beatty et al., 2011). In fact, online application processes are nearly ubiquitous—most employers, including all Fortune 500 companies, utilize an online application process (Younger, 2008). For job applicants, this means that it is possible to reply to several job postings in a relatively short period of time. Individuals can now complete applications online at their own discretion wherever they happen to be. No longer do individuals do have to set-up an interview with their potential employer, drive to the location, and complete the application process with the assistance of a hiring representative. Processes that could take up to half a day for the applicant (as well as the employer) can now be completed with less time, effort, and expense. Because of this, most applicants actually prefer online applications and generally respond positively to online selection testing (Anderson, 2003; Mead, 2001; Richman-Hirsch, Olson-Buchanan, & Drasgow, 2000; Salgado & Moscoso, 2003; Weiss & Barbeite, 2001; Zusman & Landis, 2002). Applicants do, however, find technology-based application and screening methods to be somewhat impersonal (Bauer, Tuxillo, Paronto, Weekly, & Campion, 2004). In turn, employers are pushing for more extensive use of online application processes because:

- They can obtain applicants from a wider geographic range
- It tends to be cheaper (because you don't need personnel directly interacting with applicants; much can be automated using online systems) (Nagelieri et al., 2004)

This influx of applicants and their preference for online interaction puts pressure on selection professionals to find economical and efficient ways of combing through applicants to go on to further levels of the selection process. Unproctored internet testing (UIT) is a testing process where an internet-based test is completed by an applicant without a proctor, but where other forms of non-human proctors may be utilized (Tippins, 2009a). This process is used to help cut the volume of applicants to find those who are best qualified for the position with less expense and time than more traditional processes like multiple interviews or on-site proctored testing.

Mere years ago, one of the most prevalent concerns of UIT was the reliability of equipment and internet connections. Now, technical problems are almost a non-issue and the fear of cheating has taken the spotlight. There are many forms of cheating: assistance from others (either during the test or by sharing test items), substitution of test takers, possibility of altering test scores in the database, using outside sources to find answers, et cetera.

### **Unproctored Testing and Cheating**

In a 2006 SIOP panel discussion comprised of expert researchers of unproctored selection testing, UIT was extensively debated. The panel was unable to come to agreement on whether or not UIT is an acceptable practice overall. The panel cited the following concerns about UIT and its use for selection purposes:

- the identity of the test taker cannot be verified



- there is some cheating, especially on cognitive ability UITs
- the effectiveness of deterrents (warnings against cheating, threats of verification testing, et cetera) is unknown
- overexposure of or familiarity with test items could compromise the validity of the test (Tippins et al., 2006).

Additionally, the panel of experts concluded that UIT alone is never acceptable in cases of high-stakes testing (selection testing, for example) and verification testing was recommended as an appropriate follow-up to UIT, despite the costs and inherent inefficiencies of doing so. Additionally, the International Guidelines on Computer-Based and Internet-Delivered Testing recommend to follow up the results of high-stakes testing with a confirmation test in a controlled setting (International Test Commission, 2001). Follow-up confirmation is recommended because testing in high stakes situations determines outcomes for important outcomes like administrative compensation or career advancement, while low-stakes testing is often used for decisions involving development.

Overall, among practitioners and scientists, there seem to be five groups of thought concerning the proper use (or lack-thereof) of UIT. The first is that UIT is completely unacceptable in all situations because test-taker identity cannot be confirmed, there is increased ability to cheat, and the validity of inferences made based on unproctored test scores is lower. This group also questioned the ethics of UIT, mostly due to the possibility of cheating. The second group believes that UIT is appropriate for only some types of tests (e.g., non-cognitive) and purposes (e.g., development). They advocate using UIT in situations where there is no advantage to cheating. The third group seeks to prevent cheating or to cease testing as soon as there is evidence of cheating behaviors. These individuals advocate the use of warnings against

cheating, retesting threats, or honor statements to attempt to deter individuals from cheating. They are also advocating for developments in technology to verify test taker identity, monitor behavior during tests, and to end testing as soon as cheating behaviors are detected. The fourth group is interested in the detection of cheating through statistical means or verification testing. Finally, the fifth group is generally unconcerned about UIT and does not feel the need to take substantial measures to prevent or detect cheating because of UIT's utility and overall benefits (Tippins, 2009a).

UIT is a cost effective and efficient solution to many of employers' testing problems (e.g., wide dispersion and volume of candidates; Beaty et al., 2011). For most, it is not really a question of whether or not UIT should be used, but rather how best to use UIT to minimize detrimental outcomes. UITs offer many benefits to candidates and employers: candidates do not have to travel to testing sites and the costs associated with test proctors and testing equipment can be eliminated. In addition, UIT can deliver administration, scoring, and recording uniformity, especially when contrasted with traditional human administration, scoring, and recording (Tippins, 2009a). UIT can also provide more consistency (e.g., instructions are always the same) and a good deal more information than traditional paper-and-pencil tests (e.g., item-level responses, answer changes, response time). UIT also speeds up the employment process by allowing candidates to take assessments immediately after (or even before) an application is processed. In addition, oftentimes scores are available to employers immediately after the candidate finishes the test (Tippins, 2009a; Naglieri et al., 2004)

Many employers—around two thirds—use UIT in their selection process (Beaty et al., 2011). Many employers believe that UIT makes their company more attractive to potential employees because it indicates that the company utilizes cutting-edge technology. It also opens

the door to applicants (e.g., high quality applicants who are already employed) unable to go to a testing center during normal business hours (Tippins, 2009a), therefore widening the applicant pool and increasing applicant quality.

Some employers have put their assumptions about UIT and proctored testing to the test and have found little to no evidence to support a preference for proctors. In some cases, proctors can be unskilled, untrained, or uncommitted. In these instances, they actually do not monitor the behaviors of test takers, rendering the test virtually unproctored. In fact, technology is being developed to act as an alternative to human proctoring. For example, remote cameras and keystroke lag time measurement can be used to detect unscrupulous behaviors. However, this technology has not yet been extensively enough used to properly evaluate the strengths and weaknesses of such an approach (Tippins, 2009a).

Psychologists concur that cheating on unproctored exams occurs at least occasionally, but without proctored verification testing it is nearly impossible to single out cheaters (Tippins, 2009a). However, test scores can change between administrations for many reasons (e.g., regression to the mean, practice effects, reduced anxiety, better health, et cetera). Therefore, verification testing is not the end-all-be-all of cheating evidence. Additionally, verification testing is expensive for employers (e.g., equivalent test forms, adaptive testing, or large item pools; Tippins, 2009a).

Identifying cheaters also has significant implications for businesses. The method of detection must be both highly accurate and able to effectively eradicate other causes of score changes. In addition, the way in which candidates are informed of their disqualification must be handled with sensitivity (Tippins, 2009a). Identifying and predicting who cheats, as well as why,

is valuable in this debate, but it is not well explored outside of academic cheating. Past research has also been largely atheoretical. This paper aims to address these gaps.

### **Cheating Behaviors and Motivation Research**

In order to fully understand the implications of unproctored internet testing, we first need to take a step back and understand how cheating behaviors manifest in typical academic settings, like the classroom. Donald McCabe and colleagues are known for conducting the most extensive studies of undergraduate academic dishonesty (e.g., McCabe, 1992; McCabe & Bowers, 1994, 1996; McCabe & Pavela, 2000; McCabe & Trevino, 1993, 1996, 1997; McCabe, Trevino, & Butterfield, 1999). The most recent study of almost 50,000 students from over 60 institutions found that 70 percent of students reported engaging in some type of cheating behavior and 25 percent admitted to cheating on exams (McCabe, 2005). Similar statistics have been observed by other researchers (e.g., Davis, Grover, Becker, & McGregor, 1992; Diekoff, LaBeff, Clark, Williams, Francis, & Haines 1996; Haines, Diekoff, LaBeff, & Clark, 1986; Newstead, Franklyn-Stokes, & Armstead, 1996; Murdock & Anderman, 2006).

Cheating behaviors do not end completely after a student graduates and moves into the work of work; about 45 percent of job applicants misrepresent their employment histories (Tippins, 2009b). There are well-established links between academic misconduct and unethical workplace behaviors. Not surprisingly, those who admit to cheating in school are more likely to engage in unethical behavior at work (Nonis and Swift, 2001; Sims, 1993; Stone, Jawahar, & Kisamore, 2009, 2012). For example, if a student is willing to compromise his/her ethics and integrity for the reward of higher grades, logically it follows that that individual will find it easier to compromise those same values on the job, especially when the rewards lead to better benefits,

such as pay. The introduction of UIT now allows another avenue for cheating in selection procedures, therefore adding to the concerns of post-selection success (e.g., validity, performance).

### **Previous Cheating Research**

Early research, which was conducted primarily in academic settings, on identifying and predicting the likelihood of cheating concentrated on individual characteristics (e.g., gender, ability and self-efficacy, motivation, personality). For example, past studies have found:

- Persons of high ability are less likely to cheat than their lower ability peers (Newstead, Franklyn-Stokes, & Armstead, 1996).
- Cheaters are less likely to be mastery-oriented rather than extrinsically motivated (Anderman, Griesinger, & Westerfield, 1998; Jordan, 2001).
- Cheating behaviors have been significantly predicted by subclinical psychopathy, narcissism, and Machiavellianism (Nathanson, Paulhus, & Williams, 2006).
- In a study of cheating, Lester and Diekoff (2002) found that the majority of internet-based cheaters were men.
- Additionally, females are less likely to cheat in any context (Niiya, Ballantyne, North, & Crocker, 2008).
- Females overall were less likely than men to resent the cheating of others and they were also more likely to ignore others' cheating (Lester and Diekoff, 2002).

Two experiments by Houston (1978) tested the relationships between anticipated success, temptation to cheat, actual cheating, and perceived instrumentality of cheating. Undergraduates received one of three types of feedback on their performance on a learning task—they had low,

medium, or high potential for success. There was a possible financial reward of \$10 for above average performance. Some participants had the opportunity to cheat, while others did not. It was found that the effect of cheating accessibility was significant, as was the interaction between success and opportunity to cheat. The relationship between cheating and success was curvilinear, meaning that students with a moderate chance of success cheated the most and those students at the extremes cheated the least. It is likely that the subjects with high likelihood of success felt that they would succeed without needing to cheat, while those with lower chances of success did not think that cheating would help them enough to make a difference. In employment testing, that means that those of medium ability may be those most likely to take the risk and cheat because they stand to gain the most from such an action.

Cheating behaviors can also be influenced by other factors, like individual differences and the context of the situation (Beck & Ajzen, 2001). For example, in selection procedures, cheating can be dependent upon the individual's moral convictions, cheating efficacy, the test itself, or the setting in which the test is administered. In this conceptualization of cheating, the Theory of Planned Behavior is a useful model for predicting cheating behaviors.

### **Theory of Planned Behavior**

At its most basic, the Theory of Planned Behavior posits that an individual's intention to perform a behavior is the precursor to the actual behavior. A more complex view asserts that there are three precursors to intention (Ajzen, 1985). The first focuses on the individual's opinions of a behavior, or attitude. For example, the odds that an individual will cheat on a UIT will chiefly be impacted by his/her attitude toward cheating. So, if an individual thinks that cheating is wrong, his/her intention to cheat will decrease, thereby also decreasing the chance

that s/he will actually engage in cheating behaviors. The second focuses on the subjective norms of the behavior, or how the behavior is perceived within a given social group. In other words, individuals are concerned about what those in the social group think about the behavior and how they perceive those who engage in it. So, if an individual's colleagues think that cheating on employment tests is the way to get ahead of other applicants, that individual's intention to cheat will be impacted positively. The third precursor to action is the plausibility of taking the action, or the perceived behavioral control. If the individual believes that performing the behavior is in his/her realm of control, the intention to perform said behavior becomes much greater. However, when the behavior is not possible (or is at least perceived by the individual to be impossible), it is unlikely that the individual will continue to pursue the action. For example, if the individual from the previous examples does not have access to test questions and/or answers, s/he is less likely to attempt to cheat.

The theory of planned behavior has been shown to predict dishonest behaviors. The combination of attitudes, subjective norms, and perceived behavioral control has been shown to explain around 67 percent of the variance in individual's intentions to cheat and lie (Beck & Ajzen, 1991). A meta-analysis of 107 studies of academic dishonesty provides support for the theory of planned behaviors as a predictive model of cheating. Findings include:

- students who view cheating favorably are more likely to cheat than those with unfavorable views
- students who feel that social norms are supportive of cheating are the most likely to engage in cheating
- students with positive perceptions of their cheating efficacy are more likely to cheat (Whitley, 1998; Whitley & Keith-Spiegel, 2002).

The best predictor of students' cheating behaviors, regardless of honor codes, was their perceptions of peers' cheating behaviors (McCabe, Trevino, & Butterfield, 2002). Additionally in a study of 5,331 graduate students, the belief that other students were cheating explained the most variance in cheating behaviors (McCabe, Trevino, & Butterfield, 2006). Furthermore, a survey by Chapman, Davis, Toy, and Wright (2004) of 824 undergraduate and graduate business students indicated that participants were much more likely to cheat if friends also participated in the deviant behavior.

A study by McCabe and Trevino (1997) found that the students who self-reported the highest levels of cheating were those who believed their peers also often engaged in cheating behaviors. Students who believed their peers to be against cheating reported far fewer cheating behaviors. Jordan (2001) found similar results in a study of college students' perceived social norms and self-reported cheating. In this study, cheaters both estimated the percentage of other students at the college who cheated to be higher than non-cheaters (31.2 percent vs. 20.6 percent, respectively), and also reported significantly higher rates of having seen another student cheat (70.8 percent vs. 40.5 percent, respectively).

Research suggests that students are much more likely to rationalize their cheating behaviors than to prevent themselves from cheating (Johnson, Hogan, & Zonderman, 1981). A possible explanation of this phenomenon could be that, because cheating is so prevalent on campuses (and indeed, elsewhere as well), students become calloused to the "wrongness" of cheating (Kaufman, 2008). Researchers Teixeira and Rocha (2008) suggest that students do not identify cheating as a serious offense. These same attitudes can easily transfer to the world of work, where cheating and maleficent behaviors learned in the educational system can be applied to the workplace.



## **Equity Theory**

In order to determine whether an individual's behaviors are appropriate in relation to group norms and attitudes, s/he needs a frame of reference in order to approximate whether or not his/her decisions are rational. This frame of reference, better understood through an understanding of the tenets of equity theory, can be used by individuals to rationalize their behaviors in relation to others'. The focus of equity theory is to determine if the dissemination of resources is equitable to both parties. Equity theory consists of three components: inputs, outputs, and their ratio to one another. Inputs are commonly conceptualized as items such as effort, time, loyalty, commitment, skill, ability, and personal sacrifice. Outputs, on the other hand, are thought of as results such as pay and benefits, rank, job security, recognition, reputation, responsibility, and sense of achievement. According to equity theory, individuals are motivated by a comparison of their inputs and outcomes in relation to those of others (Adams, 1963, 1965). While it is not necessary that each person receives equal benefits or make equal contributions, the ratio of the two should be perceived as roughly equitable by both members, in order for those individuals to continue expending effort on the activity.

## **Equity Theory and Individual Differences**

Equity sensitivity moderates the relationships between an individual's equity perceptions and organizational outcomes (e.g., job satisfaction, quantity and quality of work, absenteeism, turnover), as well as ambiguous job elements that could be perceived as inputs or outputs depending on the individual (e.g., challenging work). Researchers have also speculated that the

equity construct should also be related to variables unrelated to the job, such as an individual's need for approval (Huseman, Hatfield, & Miles, 1987).

Individuals can differ on their levels of sensitivity to inequity and perceived justice. Individual differences can have a significant impact on the assessment and perception of the relationship, inputs, and outcomes (Guerrero, Andersen, & Afifi, 2007). It should be noted that, like many psychological constructs, individuals do not consistently conform to equity norms. Individuals instead respond with consistency to particular, but different, predilections for balance between personal outcome/input ratios compared to those of a comparison other (Huseman, Hatfield, & Miles, 1987). Researchers have labeled three types of equity preferences: benevolents, entitleds, and sensitives.

Of the three personality types delineated by equity theory, benevolents have the highest tolerance for under-reward situations (Huseman, Hatfield, & Miles, 1985, 1987). Rychlak (1973) termed benevolents as those who "think more of giving than receiving" (p. 116). It has been speculated that the preference for lower outcome to input ratios could be the result of either a need for approval (Blau, 1964) or a wish to enhance self-image (Homans, 1961). Distress occurs for benevolents either when the ratio of inputs to outputs between themselves and another are equal or when the benevolent's ratio is greater.

In contrast, entitleds are very focused on outputs, thereby having much less tolerance for under-reward situations. In fact, entitleds actually prefer over-reward situations. Entitleds are frequently considered to be "getters" because of their preference for exploitive, or unfair, equity relationships. For an entitled, it is distressing to not get a better deal than comparison others (Huseman, Hatfield, & Miles, 1985, 1987).

Equity sensitives are the most likely to act in accordance with equity theory, preferring their input and outcome ratio to be equal to that of their comparison other. Sensitives feel distress when under-rewarded and guilt when over-rewarded. This is the only group that experiences both of these feelings (Huseman, Hatfield, & Miles, 1985, 1987). Although, it should be noted that the empirical support for feelings of guilt in over-reward situations, especially non-interpersonal relationships, is not strong (Homans, 1974; Austin & Walster, 1974; Gray-Little & Teddlie, 1978; Hegtvedt, 1990; Sprecher 1992, 1986).

Later studies have found these different equity preference types to be slightly more complicated than originally conceptualized, with individual differences within each group causing a good deal of variation. For example, self-efficacy can moderate the relationship between intent to leave and job satisfaction between benevolents and entitleds in such a way that when self-efficacy is high, these two groups actually act quite similarly. However, when self-efficacy is low, benevolents experience higher job satisfaction and lower intentions to leave than entitleds with low self-efficacy (O'Neill & Mone, 1998). Despite these differences, research with equity sensitivity in under- and over-reward situations is more consistent. Huseman, Hatfield, and Miles (1985) found that no matter the reward situation, entitleds exhibited the lowest levels of job satisfaction, while benevolents displayed the highest. As situations go from under reward to over-reward, both benevolents and entitleds experience more job satisfaction. Benevolents are also more willing to work harder for lower pay than either sensitives or entitleds (Miles, Hatfield, & Huseman, 1989). Basically, benevolents have a strong tolerance for under-reward situations and are more satisfied regardless of reward levels.

In 1968, Stephenson & White predicted cheating behaviors of young boys by conducting an experiment with four equity conditions ranging from deprived to privileged. The subjects

were asked questions after playing with model cars. The difficulty of the questions asked necessitated cheating in order to answer correctly. It was discovered that subjects in the absolutely deprived condition cheated more than those in the relatively deprived condition, and they, in turn, cheated more than those in the equity condition. Subjects in the privileged condition showed contrasting trends of having highly polarized groups of cheaters and non-cheaters. Most importantly, to this study, was the tendency of underpaid subjects to “even the score” through cheating.

There has been speculation that the findings of equity experiments (such as Stephenson and White's 1968 study above) dealing with interpersonal situations cannot be applied to impersonal situations. Klass (1978) argues that in the above Stephenson and White study, the participants did not perceive that there would be any damage to others on account of their cheating because there was no visible other. Therefore, when another party is present (even if unseen), Klass hypothesizes that there may be different emotional and cognitive components involved. During employee selection procedures, other applicants, or even the organization, could fall into this category. Cheating seems like a victimless crime, because the cheater does not see directly any of the other parties or the negative consequences caused by the cheater's actions.

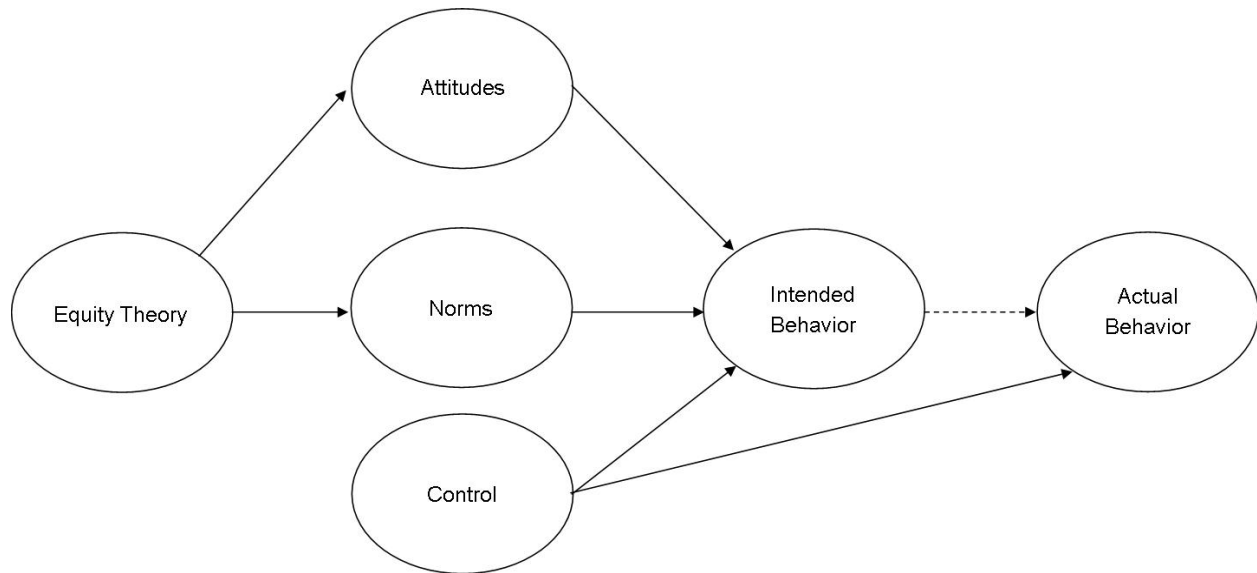
### **Current Study**

Equity theory has been studied extensively in employment settings, but only rarely has it been investigated in the pre-employment process. Very little research has been conducted to create a case for the tenets of equity theory as motivational drivers of cheating behaviors and even less connecting equity theory to the norms and attitudes in the theory of planned behavior.

The present study is set to make a significant contribution to the literature and study of cheating behaviors, UIT, theory of planned behavior, and equity theory by linking these distinct areas of research. This study would add greatly to this field of research by laying a foundation for further research.

In this study, it is proposed that equity theory is an operationalization of the norms and attitudes outlined in the first stage of the theory of planned behavior. Equity theory can help us to measure norms and attitudes in a novel manner. These precedents of behaviors (specifically regarding cheating)—norms and attitudes—can be better understood and predicted when analyzed in the context of equity theory. Additionally, by linking these two theories, we are able to add together years of research, strengthening and furthering our understanding of complex human behaviors.

The norms, attitudes, and control of theory of planned behavior then predict intention to cheat, which, in turn, predicts actual behavior. In the proposed model, attitudes include the individual's moral stance on cheating. Similarly, norms include the belief that others are cheating. Control, while not influenced by equity theory, is of interest in this research because UIT removes many (if not all) situational constraints to cheating, thereby placing most of the burden of control on the individual's cheating efficacy.



*Figure 1.* Proposed Model

Additionally, this study is interested in investigating the individual equity sensitivity differences between benevolents, sensitives, and entitleds. Opportunities for unscrupulous behavior, which can be abundant in unproctored testing situations, can be seen as a source of inequity among test-takers. It is hypothesized in this paper that inequity will actually provoke cheating behaviors. According to equity research, we should expect that benevolents would be less likely to cheat, and therefore should score the lowest of the three groups on actual cheating behaviors and the highest on beliefs that cheating is wrong. Benevolents, as a whole, are hypothesized to take the selection tests without cheating (on average). Their reasoning being that they will try their best, and if that is not good enough, they are undeserving of the position. Conversely, entitleds, according to the theory, should score the highest on positive attitudes toward cheating and past cheating behaviors. Entitleds should be expected to want to be competitive or better than the rest of the applicant pool, so they are more likely to cheat when given the opportunity. Meanwhile, sensitives should be expected to score between benevolents and entitleds on attitudes toward cheating and past cheating behaviors.

Generally, people who cheat believe that others also cheat, while those who do not also believe that most others do not. In social psychology, this is called the false consensus bias (Ross, Greene, & House, 1976). In this study, it is hypothesized that those who perceive inequity will be moved to remove that inequity through cheating. This will then cause them to further believe that others are cheating, which will continue to lead to perceptions of inequity and further cheating. In terms of norms, it could be expected that entitleds should score highly on beliefs that others are cheating, and therefore be more likely to cheat themselves (past behavior). Both benevolents and sensitives are expected to score lower in actual past cheating behaviors. Similarly, entitleds should score higher than the two other personality types in cheating efficacy (control). In summary, an individual's equity preference will predict the relationship between whether s/he believes others are cheating (norms), and his/her personal attitude toward participating in cheating behaviors him/herself.

### **Hypothesis 1**

Equity sensitivity predicts attitudes towards cheating. Specifically, participants with lower equity sensitivity scores will also score higher on cheating attitudes. It is expected that entitleds and equity sensitives will hold more positive attitudes toward cheating.

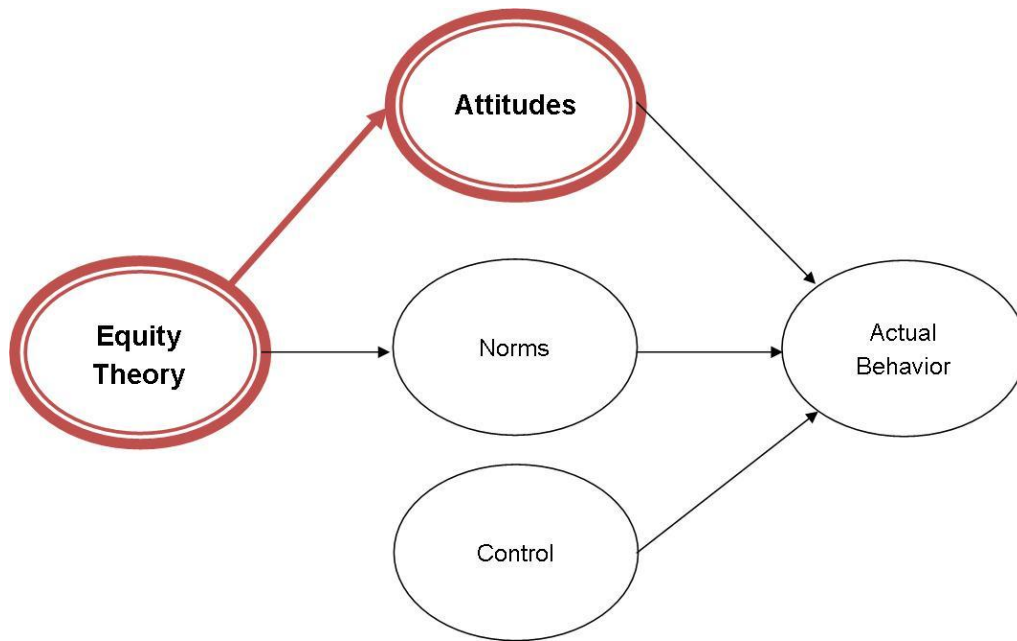


Figure 2. Hypothesis 1

**Hypothesis 2**

Equity sensitivity predicts cheating norms in such a way that lower scores on equity sensitivity will predict higher scores on cheating norms. Entitleds and equity sensitives will perceive more positive norms toward cheating.

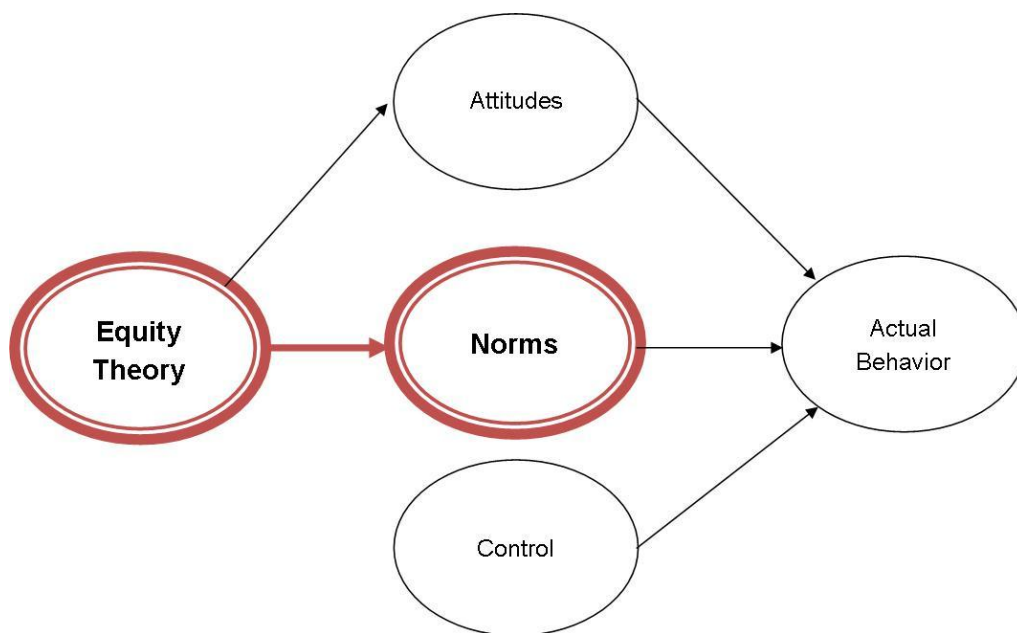




Figure 3. Hypothesis 2

### Hypothesis 3

Attitudes toward cheating will predict past cheating behaviors. Higher scores on cheating attitude measures will predict higher incidence of past cheating.

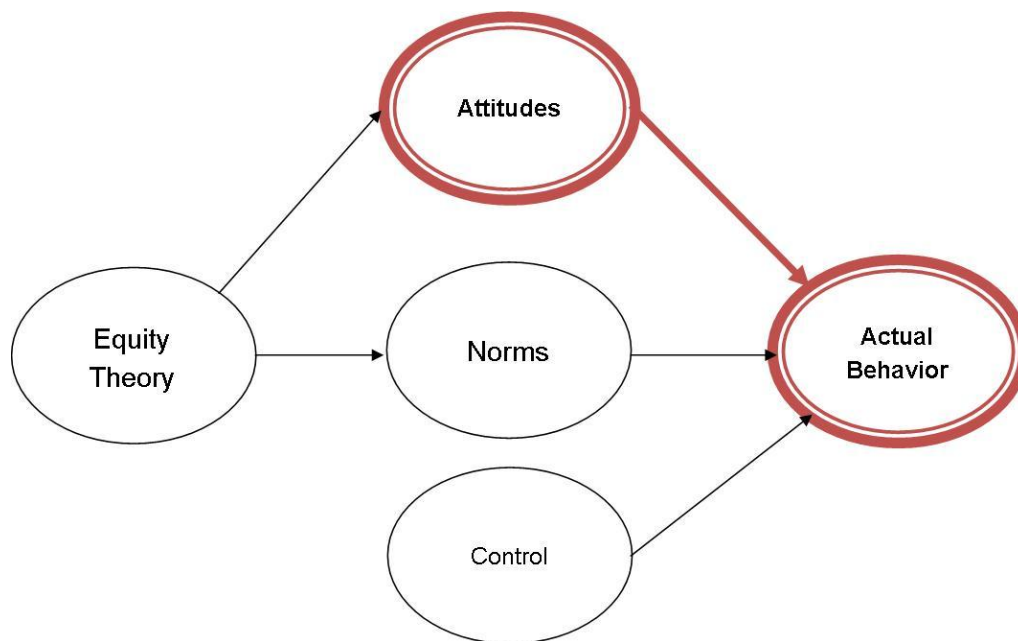
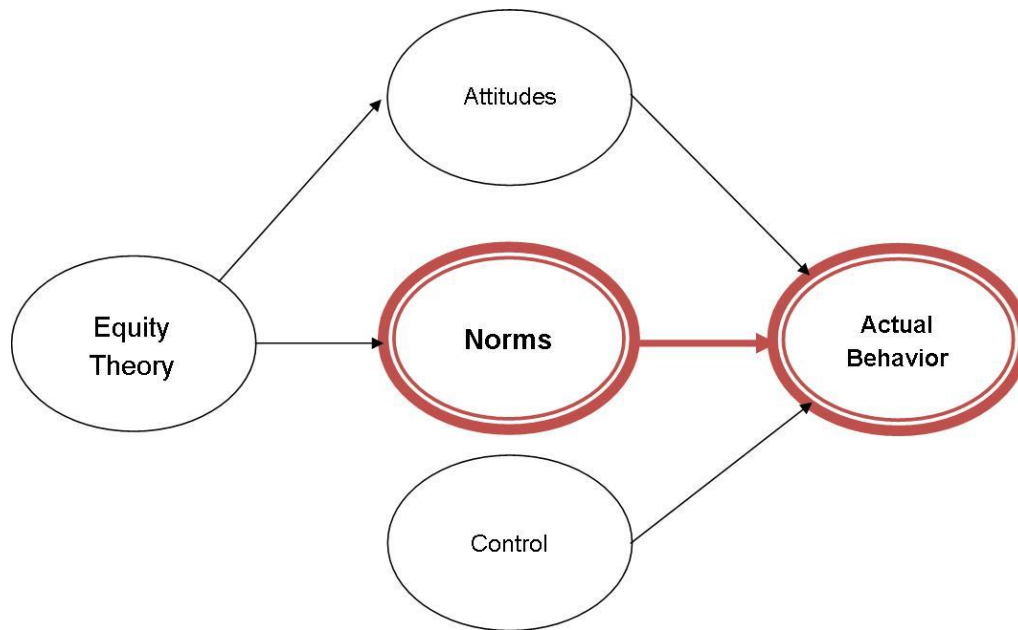


Figure 4. Hypothesis 3

### Hypothesis 4

Perception of cheating norms will predict past cheating behaviors. Higher scores on cheating norm measures will predict higher incidence of past cheating.



*Figure 5.* Hypothesis 4

### **Hypothesis 5**

Perceptions of cheating control will predict past cheating behaviors. Higher scores on cheating control measures will predict higher incidence of past cheating.

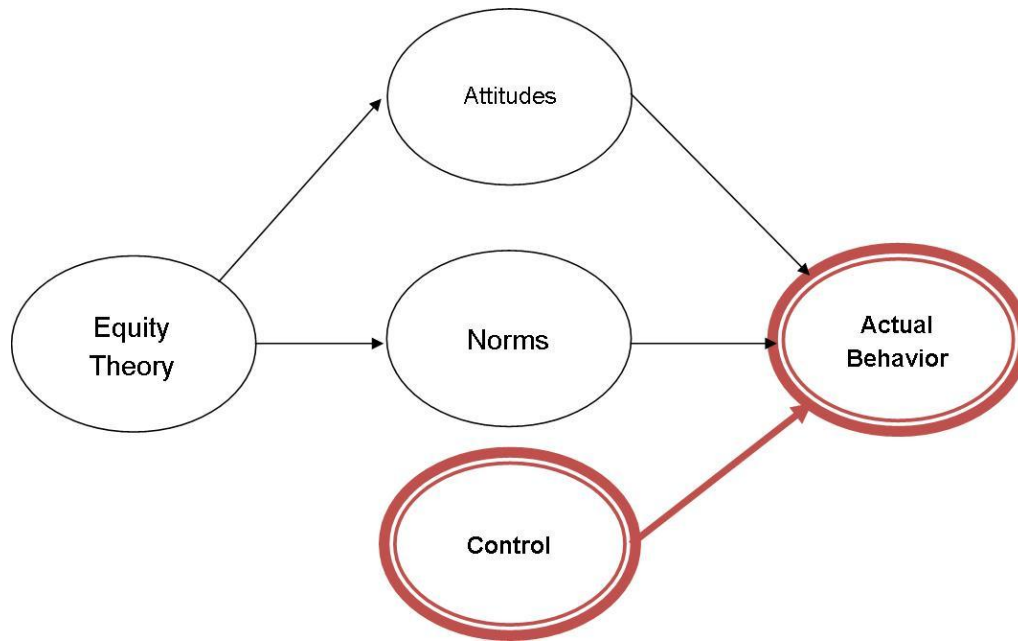


Figure 6. Hypothesis 5

## Methods

### Participants

A sample of 108 undergraduate psychology students from a small Midwestern university participated in the study in exchange for research credits. Participants were recruited by means of university-implemented human participant pool management software. Participants were required to be over the age of 18, be able to speak English, and have some prior experience with applying for jobs.

84 percent of participants were female, 15 percent male, and 1 percent preferred not to disclose gender. Respondents were 91 percent Caucasian, 7 percent African-American, 4 percent Hispanic/Latino, and 2 percent Asian/Pacific Islander. Ages ranged from 18 to 50 with a median of 20. The split of participants in each year in school was 17 percent Freshmen, 28 percent Sophomores, 30 percent Juniors, 23 percent Senior, and 2 percent Graduate/Other. 93 percent of

participants are either employed or actively looking for employment and of those, 84 percent work part-time (20 or fewer hours per week) and 16 percent work full-time (30 or more hours a week). 52 percent of the sample has been employed for three or more years. Only 44 percent have actually encountered internet-based, unsupervised pre-employment tests before. In this sample, 26 percent of participants ranked as equity sensitive, 74 percent counted themselves as benevolent, and there were no entitleds. Means, standard deviations, and correlations for all scales are provided in Table 1 (see Appendix A).

## Measures

**Equity preference questionnaire.** This scale was originally created and validated by Sauley and Bedeian (2000) to assess equity sensitivity. Items have been included in Appendix A. This instrument consists of 16 items rated on a five-point Likert scale (*Strongly Disagree* (1) to *Strongly Agree* (5)). Items 1 through 7 and item 10 were reverse coded after data collection. Items are summed to ascertain a participant's equity sensitivity type. A low score represents an entitled attitude and a high score a benevolent attitude (entitled: 16-37, sensitive: 38-58, benevolent: 59-80). Items are included in Appendix B.

In this sample, a mean of 62.74, standard deviation of 7.20, and an alpha of .81 were obtained. In their validation studies, Sauley and Bedeian (2000) used similar populations to this one (university students) and found means of 37.61 and 36.96, with standard deviations of 9.05 and 8.72, and alphas equaling .87 and .86, respectively. Hence, the variable demonstrated some range restriction.

**Impression management.** This measure was created specifically for this research to assess cheating attitudes, norms, and efficacy. In order to obtain the most honest responses possible from participants by avoiding demand characteristics, dishonest behaviors were labeled as “impression management behaviors.” Participants were told that impression management is a process by which an individual attempts to influence others’ perceptions by closely controlling the type of information s/he gives about him/herself. For the purposes of this study, impression management could include: using outside sources to answer questions, obtaining prior copies of an exam, having someone else take the exam, or misrepresenting employment history in order to look like a better candidate for a position. This measure includes 23 questions. Most questions are rated on a five-point Likert scale (*Strongly Disagree* (1) to *Strongly Agree* (5)). Item 22 asks participants how dishonest they view a number of relevant behaviors to be using a five-point Likert scale (*Very Dishonest* (1) to *Very Honest* (5)). Items 13, 15, 18, and 19 were reverse scored. Items have been added in Appendix B for reference. The alpha for this measure is .76, indicating that it is reliable.

**Control.** In order to assess the extent to which participants believed they had control over managing impressions on selection measures, I created a control scale. The control scale consists of the following items: I think I could successfully manage impressions on a personality test; I think I could successfully manage impressions on an intelligence test; I think I could successfully manage impressions on a job application; I think I could successfully manage impressions on a resume; and I think I could successfully manage impressions on a work history. This scale has a mean of 23.56 with standard deviation of 3.45, and an alpha of .73, indicating it is reliable.

**Attitudes.** I also wanted to assess an individual's attitudes toward impression management on tests in general. The attitude scale is comprised of: I would never engage in impression management on a pre-employment test (reverse scored); I can imagine times when I might engage in impression management on a pre-employment test even if I hadn't planned to; Even if I had a good reason, I could not bring myself to engage in impression management on a pre-employment test (reverse scored); It is wrong to manage impressions on pre-employment tests (reverse scored); Managing impressions is the way to get ahead; In order to be competitive with other applicants, I need to manage impressions of myself; and If I don't manage impressions of myself, I won't get the job I want. This scale has a mean of 9.72 with standard deviation of 2.17, and an alpha of .68, indicating it is reliable.

**Norms.** Finally, I wanted to examine how participants believed their peers managed impressions on selection measures. The norm scale combines: I think my friends manage impressions on pre-employment tests; I think everyone manages impressions on pre-employment tests; and Everyone manages impressions on pre-employment tests to some extent. The item "My peers think it is wrong to manage impressions on pre-employment tests" (reverse scored) was removed from the scale to increase reliability. This scale has a mean of 19.95 with standard deviation of 4.91, and an alpha of .86, indicating it is reliable.

## **Procedure**

The survey was administered online. The participants volunteered to join the study through university-implemented human participant pool management software. They were then able to access the survey link. They first were asked to read through and electronically sign the

consent form. The survey was then administered. After the survey was completed, the participant was able to read a debriefing statement explaining the purpose of the study.

## Results

The first hypothesis proposed that an individual's equity sensitivity predicts attitudes towards cheating. Specifically, it was expected that participants with lower equity sensitivity scores (entitleds and equity sensitives) would score higher on cheating attitude scales. A regression indicates that, in this population, equity sensitivity does not significantly predict cheating attitudes,  $\beta = -.004$ ,  $t(28) = -.02$ ,  $p = .982$ . This hypothesis was not supported.

The second hypothesis posits that equity sensitivity predicts cheating norms in such a way that lower scores on equity sensitivity will predict higher scores on cheating norms. Entitleds and equity sensitives will perceive more positive norms toward cheating. Regression analyses indicate that equity sensitivity does not significantly predict cheating norms in this population,  $\beta = -.07$ ,  $t(73) = -.70$ ,  $p = .49$ . This hypothesis is not supported. Again, this is likely due to the lack of equity preference diversity in this sample.

Hypothesis three asserts that attitudes toward cheating will predict past cheating behaviors in such a way that higher scores on cheating attitude measures will predict higher incidence of past cheating. Similar to past research, regression analyses indicate that attitudes toward cheating significantly predict cheating behaviors,  $\beta = .53$ ,  $t(30) = 3.44$ ,  $p < .05$ . Cheating attitudes also explain a significant proportion of variance in cheating behaviors,  $R^2 = .28$ ,  $F(1, 30) = 11.82$ ,  $p < .05$ . The data supports this hypothesis.

The fourth hypothesis speculates that the perception of cheating norms will predict past cheating behaviors. Specifically, higher scores on cheating norm measures will predict higher

incidence of past cheating. Again, consistent with past research on theory of planned behavior, a regression indicates that cheating norms significantly predict cheating behaviors,  $\beta = .43$ ,  $t(105) = 4.82$ ,  $p < .001$ . Cheating norms also explain a significant proportion of variance in cheating behaviors,  $R^2 = .18$ ,  $F(1, 105) = 23.18$ ,  $p < .001$ . The data supports this hypothesis.

The last hypothesis, hypothesis five, proposes that perceptions of cheating control will predict past cheating behaviors in such a way that higher scores on cheating control measures will predict higher incidence of past cheating. A regression indicates that perceived control over cheating does significantly predict cheating behaviors,  $\beta = .31$ ,  $t(103) = 3.30$ ,  $p < .05$ . Perceived control also explains a significant proportion of variance in cheating behaviors,  $R^2 = .10$ ,  $F(1, 103) = 10.89$ ,  $p < .05$ . This hypothesis is supported.

Additional exploratory analyses were conducted to test other relationships between cheating, equity sensitivity, attitudes, norms, and control. In this study, 65 percent of participants responded that they have not cheated on an unproctored online pre-employment test in the past (combined *Strongly Disagree* and *Disagree* on I have engaged in impression management on unsupervised pre-employment testing in the past), while 35 percent have (combined *Strongly Agree* and *Agree*).

When asked if impression management behaviors were the same as cheating behaviors, 49 percent of participants responded in the affirmative (combination of *Agree* and *Strongly Agree*), while 22 percent thought that they were different (combination of *Disagree* and *Strongly Disagree*), and 29 percent responded neutrally.

However, the belief that impression management behaviors are the same as cheating behaviors does significantly predicts past cheating behaviors,  $\beta = -.38$ ,  $t(105) = -4.21$ ,  $p < .001$ . The belief that impression management behaviors are the same as cheating behaviors also



explained a significant proportion of variance in cheating behaviors,  $R^2 = .38$ ,  $F(1, 105) = 17.72$ ,  $p < .001$ . Again, this could be the result of participants justifying past cheating behaviors to remove cognitive dissonance.

Participants were asked to rate how dishonest they considered seven different types of cheating behaviors to be. The results are listed below in Table 2. While most rated these common cheating behaviors as dishonest, it is particularly interesting to note how many students think that these behaviors are honest. For example, 8 percent of respondents think that falsifying information on a resume is *Honest* or *Very Honest*. Additionally, 6 percent think that having someone else take a test for them is *Honest* and a surprising 11 percent think that using other resources on an unproctored test is *Honest* or *Very Honest*.

Table 2

*Perceived Dishonesty of UIT Cheating Behaviors*

	Very Dishonest		Neither Dishonest nor Honest		Very Honest
	Dishonest	Dishonest		Honest	Honest
Falsifying information on a resume.	65%	23%	4%	7%	1%
Using outside sources (a book, the Internet, a friend) on an unsupervised test.	22%	37%	29%	9%	2%
Having someone else take an unsupervised pre-employment test for you.	64%	25%	6%	6%	0%
Mentioning only positive information in an interview.	3%	9%	49%	33%	7%
Misrepresenting work history or previous experiences on a resume.	38%	44%	10%	6%	2%
Falsifying information on a resume.	60%	30%	5%	6%	0%
Falsifying information in an interview.	59%	27%	9%	5%	0%

### Discussion

The prominence of unproctored online testing in selection has caused researchers and practitioners alike to turn their attention to the possibility of cheating and methods of detecting and decreasing it. Past research has shown that separately both equity theory and theory of planned behavior can predict maleficent behaviors. The present study aims to give selection professionals a framework by which to understand the motivations behind cheating on pre-employment tests. This framework would then aid in the efforts to determine those most likely to cheat so that measures can be taken to minimize those maleficent behaviors, thereby reducing the incidence of cheating and making selection tests more valid. It was hypothesized that

differences in equity perceptions (as measured through equity sensitivity) should inform how an individual would react to perceived inequities (as measured by cheating behaviors) in the pre-employment testing process.

In their validation studies, Sauley and Bediean (2000) used similar populations to this one (university students) and found much lower means (indicating higher incidence of entitlements) than seen here. Hence, the variable demonstrated some range restriction. It seems that there is something about our population that is different from Sauley and Bediean's, leading to less equity sensitivity diversity. It is possible that there could be a regional difference (Midwest versus Southeastern) behind this. Or, there could be something about social sciences students (of which this sample was almost exclusively) and the sample Sauley and Bediean used (demographics not given).

Due to the limiting effects of a rather homogenous equity sensitivity sample, equity sensitivity was not found to be a statistically significant predictor of either attitudes toward cheating (hypothesis one), or perceptions of cheating norms (hypothesis two). It seems that there is something about this population that leads to less equity sensitivity diversity than in the general population. It is possible that this could be an effect of a young sample of university students—students tend to be more socially liberal than the general population. Or, there could be something about social sciences students specifically that leads to this difference. For example, individuals who are less concerned about equity (benevolents) could be drawn to social sciences fields more than to business-related fields, et cetera.

Another possibility is that students could have been primed by the questions about their past working experiences in the demographics section to respond in a more balanced and socially

desirable manner to the equity sensitivity items which lead to higher equity scores overall (i.e.: sensitive and benevolent).

Consistent with past findings concerning the theory of planned behavior, cheating attitudes (hypothesis three) and cheating norms (hypothesis four), and perceptions of control individually predict past cheating behaviors. As you may recall, attitudes, norms, and control are the three precedents of behaviors according to the theory of planned behavior. The combination of these precedents has been shown to explain around 67 percent of the variance in individual's intentions to cheat and lie (Beck & Ajzen, 1991) and a meta-analysis of 107 studies of academic dishonesty provides support for the theory of planned behaviors as a predictive model of cheating (Whitley, 1998; Whitley & Keith-Spiegel, 2002)

It is a real concern that many test-takers do not seem to be aware of what constitutes cheating behaviors (or seem to think some very dishonest behaviors are acceptable). Participants in this study were asked to rate how dishonest they considered seven different types of cheating behaviors to be (see Table 2 above). It is particularly interesting that 8 percent of respondents think that falsifying information on a resume is *Honest* or *Very Honest*. Additionally, 6 percent think that having someone else take a test for them is *Honest* and a surprising 11 percent think that using other resources on an unproctored test is *Honest* or *Very Honest*. This is notable because, while most participants believed these common cheating behaviors to be dishonest (as was expected), multiple students responded that they were quite acceptable. These individuals will soon be entering the work force and will bring those beliefs with them. So, when they sit down to take pre-employment tests, they very well may engage in these sorts of common cheating behaviors and not even realize that this is technically considered cheating. It would be

very prudent for employers who utilize unproctored testing to outline specifically what kinds of behaviors constitute cheating and are therefore unacceptable in unproctored settings.

In this study, 35 percent of participants responded that they have cheated on unproctored internet testing. The number of those who have cheated may actually be higher than reported, especially when taking the above findings into consideration—people may be cheating and not even know it! It is very possible that individuals taking pre-employment tests are not aware of what unacceptable behaviors are in that context.

Forty-nine percent of participants in this sample responded that impression management was the same as cheating (combination of Agree and Strongly Agree), while 22 percent thought that they were different (combination of Disagree and Strongly Disagree), and 29 percent responded neutrally. This indicates that the use of “impression management” as a proxy for cheating may not have been as successful as planned. It seems that in the pursuit of more honest answers by reducing negative participant reactions, some validity was lost. This could also be the result of participants’ justification of past cheating behaviors, or essentially removal of cognitive dissonance (Festinger, 1957) caused by a disconnect of values (e.g. cheating is wrong) and actions (e.g. cheating on an unproctored test).

Past research suggests that students are much more likely to rationalize their cheating behaviors than to prevent themselves from cheating (Johnson, Hogan, & Zonderman, 1981). A possible explanation of this phenomenon could be that, because cheating is so prevalent on campuses (and indeed, elsewhere as well), students become calloused to the “wrongness” of cheating (Kaufman, 2008). Researchers Teixeira and Rocha (2008) suggest that students do not identify cheating as a serious offense. These same attitudes can easily transfer to the world of

work, where cheating and maleficent behaviors learned in the educational system can be applied to the workplace.

### **Limitations and Future Research Directions**

A major limitation of this study seems to be the population used. The participants were homogenous in not only general demographics like age and race, but also in their equity sensitivity. As previously noted, 74 percent of participants were equity benevolent, 26 percent were sensitive, and there were no entitled. The lack of variation in this sample made it difficult to test my hypotheses regarding the role of Equity Sensitivity in predicting cheating behaviors. It is likely that the population sampled (young college students in a liberal arts degree) could have had an impact on the type of participants recruited. As discussed earlier, it is possible that participants in this study are more socially liberal than the general population, as a result of both their age and their interest in the social sciences, which is likely to impact equity sensitivity preference scores in such a way that there are more higher scorers than in the general population (i.e. more sensitives and benevolents). In the future, testing this theory on a more diverse sample will give researchers a clearer indication of the true relationship between equity sensitivity and cheating. It would be wise to study populations of workers outside of the university setting. And older, more experienced, and more varied population has the potential to tell researchers a good deal about cheating in testing environments. Additionally, an interesting direction for future research would be to examine the relationship between equity sensitivity, world views and occupation choice.

Because this study was based upon self-report of cheating behaviors that happened in the past, there are some concerns regarding validity. In general, however, researchers believe that

self-reports of cheating behaviors are reliable and valid measures, especially when anonymity is preserved (Athanasou & Olasehinde, 2002; Genereux & McLeod, 1995; Graham et al., 1994; McCabe 1993; Singg et al., 2008; Hindelang, Hirsch, & Weis, 1981; Hollinger & Lanza-Kaduce, 1996).

Additionally, measuring cheating behaviors using the term “impression management” did not work as well as was hoped. Responses from participants indicate that these cheating and impression management may actually be perceived as separate constructs. Future studies should test these hypotheses through more direct measures of cheating. Future studies should also consider testing the role of Equity Sensitivity in cheating behaviors through experimental design—first a lab study, then a field study—to further measure relationships and to get truer measures of causality. For example, a lab study using controlled cheating scenarios (a comparison other cheated or not) where the participant has an option to cheat (or not) on a pre-employment-type (i.e. knowledge-based) test could establish a link between equity sensitivity and cheating. An example field study could measure equity sensitivity, perceptions of cheating norms, attitudes toward cheating, and perceived cheating control at the same time as an applicant takes an unproctored, knowledge-based pre-employment test. Follow-up testing could then be used in attempt to determine what individuals may have cheated.

Other future research could examine what applicants think constitute cheating behaviors and why. It is possible that there has been a normative shift in recent generations due to the amplified availability of information through multiple types of media. A quick Google search can now provide as much, if not more, information as a multiple hour trip to the library used to. This could have changed perceptions of acceptable and unacceptable behaviors in certain contexts.

There are so many possible motivations and considerations at play in complex human behaviors like cheating. It is very likely that the myriad factors involved in the decision to cheat (or not) on pre-employment tests is considerably more complex than hypothesized here. For example, there are many factors that can impact control (situational constraints and opportunities, self-efficacy, locus of control, et cetera), individual differences in morality, fear of being caught, and differing motivational drivers that could all affect an individual's decision to cheat or not.

## **Conclusions**

While there is some research linking cheating and equity theory, there is very little regarding work contexts and, more specifically, none regarding unproctored testing. The same is true for linking the theory of planned behavior to unproctored testing and equity theory. Before this study, there has also been no research conducted linking equity theory to the theory of planned behavior. While this study was mostly unsuccessful in finding the relationships between equity sensitivity and cheating as was anticipated, it does lay the groundwork for future investigations.



### References

- Adams, S. J. (1965). Inequity in social exchange. In L. Berkowitz (ed.), *Advances in social experimental psychology* (Vol. 2, pp. 267-299). New York: Academic Press.
- Ajzen, I. & Fishbein, M. (1985). Attitudinal and normative variables as predictors of specific behavior. *Journal of Personality and Social Psychology*, 27, 41 – 57.
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action control: From cognition to behavior* (pp. 11-39). Heidelberg: Springer.
- Anderman, E.M., Griesinger, T., & Westerfield, G. (1998). Motivation and cheating during early adolescence. *Journal of Educational Psychology*, 90, 84-93.
- Anderson, N. (2003). Applicant and recruiter reactions to new technology in selection: A critical review and agenda for future research. *International Journal of Selection and Assessment*, 11, 121-136.
- Austin, W. & Walster, E. (1974). Reactions to confirmations and disconfirmations of expectancies of equity and inequity. *Journal of Personality and Social Psychology*, 30, 208-216.
- Bauer, T. N., Truxillo, D. M., Paronto, M. E., Weekley, J. A. A. and Campion, M. A. (2004). Applicant Reactions to Different Selection Technology: Face-to-Face, Interactive Voice Response, and Computer-Assisted Telephone Screening Interviews. *International Journal of Selection and Assessment*, 12, 135-148.
- Beatty, J. C., Nye, C. D., Borneman, M. J., Kantrowitz, T. M., Drasgow, F., & Grauer, E. (2011). Proctored Versus Unproctored Internet Tests: Are unproctored noncognitive tests as

predictive of job performance? *International Journal of Selection and Assessment*, 19(1), 1-10.

Beck, L., & Ajzen, I. (1991). Predicting dishonest actions using the theory of planned behavior. *Journal of Research in Personality*, 25, 285-301.

Blau, P. M. (1964). *Exchange and power in social life*. New York: Wiley.

Callahan, D. (2004). *The cheating culture: Why more Americans are doing wrong to get ahead*. Orlando, FL: Harcourt.

Chapman, K.J., Davis, R., Toy, D. and Wright, L. (2004), Academic integrity in the business school environment: I'll get by with a little help from my friends. *Journal of Marketing Education*, 26, 236-49.

Cook, G. (2008). News analysis: Hard times for today's teens, families, and American schools. *American School Board Journal*, 6-7.

Davis, S. F., Grover, C. A., Becker, A. H., & McGregor, L. N. (1992). Academic dishonesty: Prevalence, determinants, techniques, and punishments. *Teaching of Psychology*, 19, 16-20.

Diekoff, G. M., LaBeff, E. E., Clark, R. E., Williams, L. E., Francis, B., & Haines, V. J. (1996). College cheating: Ten years later. *Research in Higher Education*, 37, 487-502.

Gray-Little, B. & Teddlie, C. B. (1978). Racial differences in children's responses to inequity. *Journal of Applied Psychology*, 90, 893-914.

Guerrero, Andersen, and Afifi. (2007). *Close Encounters: Communication in Relationships*, 2nd edition. Sage Publications, Inc.

- Haines, V. J., Diekoff, G. M., LaBeff, E. E., & Clark, R. E. (1986). College cheating: Immaturity, lack of commitment, and the neutralizing attitude. *Research in Higher Education, 25*, 342–354.
- Hegtvedt K. A. (1990). The effects of relationship structure on emotional responses to inequity. *Social Psychology Quarterly, 53*, 214-228.
- Homans, G. (1961). The cash posters. *American Sociological Review, 19*, 724-733.
- Homans, G. C. (1974). *Social Behavior in its Elementary Forms*. New York: Harcourt, Brace, and World.
- Houston, J. P. (1978). Curvilinear relationships among anticipated success, cheating, behavior, temptation to cheat, and perceived instrumentality of cheating. *Journal of Educational Psychology, 70*(5), 758-762.
- Huseman, R.C., Hatfield J.D., & Miles, E.W. (1985). Test for individual perceptions of job equity: Some preliminary findings. *Perceptual and Motor Skills, 61*, 1055-1064.
- Huseman, R.C., Hatfield J.D., & Miles, E.W. (1987). A New Perspective on Equity Theory: The Equity Sensitivity Construct. *Academy of Management Review, Vol. 12, No. 2*. 222-234.
- International Test Commission. (2001). International guidelines on computer-based and internet-delivered testing. *International Journal of Testing, 6*, 143-172.
- Johnson, J. A., Hogan, R., & Zonderman, A. B. (1981). Moral judgment, personality, and attitudes toward authority. *Journal of Personality and Social Psychology, 40*, 370-373.
- Jordan, A. E., (2001). College students cheating: The role of motivation, perceived norms, attitudes, and knowledge of institutional policy. *Ethics & Behavior, 3*, 233-247.

- Kaufman, H. E. (2008). Moral and ethical issues related to academic dishonesty on college campuses. *Journal of College & Character, 5*, 1-7.
- Klass, E.T., (1978). Psychological effects of immoral actions: the experimental evidence. *Psychological Bulletin, 85*(4), 756-771.
- Landers, R.N. & Sackett, P.R. (2012). Offsetting performance losses due to cheating in unproctored internet-based testing by increasing the applicant pool. *International Journal of Selection and Assessment, 20*, 220-228.
- Lester, M. C., & Diekhoff, G. M. (2002). A comparison of traditional and Internet cheaters. *Journal of College Student Development, 43*, 906–911.
- McCabe, D. (1992). The influence of situational ethics on cheating among college students. *Sociological Inquiry, 62*, 365–374.
- McCabe, D. L., Trevino, L. K. and Butterfield, K.D. (2002), “Honor codes and other contextual influences on academic integrity: a replication and extension of modified honor code settings”, *Research in Higher Education, 43*, 357-78.
- McCabe, D. with the Center for Academic Integrity. (2005). CAI research. Retrieved December 12, 2012, from [http://www.academicintegrity.org/cai\\_research.asp](http://www.academicintegrity.org/cai_research.asp)
- McCabe, D., & Bowers, W. J. (1994). Academic dishonesty among males in college: A thirty year perspective. *Journal of College Student Development, 35*, 5–10.
- McCabe, D., & Bowers, W. J. (1996). The relationship between student cheating and college fraternity or sorority membership. *NASPA Journal, 33*, 280–291.
- McCabe, D., & Pavela, G. (2000). Some good news about academic integrity. *Change, 33*(5), 32–38.

- McCabe, D., & Trevino, L. K. (1993). Academic dishonesty: Honor codes and other contextual influences. *Journal of Higher Education, 64*(5), 522–538.
- McCabe, D., & Trevino, L. K. (1996). What we know about cheating in college: Longitudinal trends and recent developments. *Change, 28*(1), 28–33.
- McCabe, D., & Trevino, L. K. (1997). Individual and contextual influences on academic dishonesty: A multicampus investigation. *Research in Higher Education, 38*, 379–396.
- McCabe, D., Trevino, L. K., & Butterfield, K. D. (1999). Academic integrity in honor code and non-honor code environments: A qualitative investigation. *Journal of Higher Education, 70*, 211–234.
- McCabe, D.L., Butterfield, K.D. and Trevino, L.K. (2006), Academic dishonesty in graduate business programs: prevalence, causes, and proposed action. *Academy of Management Learning and Education, 5*, 294-306.
- Mead, A.D. (2001) How Well Does Web-Based Testing Work? Results of a Survey of Users of NetAssess. Paper presented at the 16th Annual Conference of the Society for Industrial and Organizational Psychology, April, San Diego, CA.
- Miles, E. W., Hatfield, J. D. & Huseman, R. C. (1989). The equity sensitivity construct: Potential implications for worker performance. *Journal of Management, 15*, 581-588.
- Murdock, T. B., & Anderman, E. M. (2006). Motivational perspectives on student cheating: Toward an integrated model of academic dishonesty. *Educational Psychologist, 41*(3), 129-145.
- Naglieri, J. A., Drasgow, F., Schmit, M., Handler, L., Prifitera, A., Margolis, A., et al. (2004). Psychological testing on the Internet. New problems, old issues. *American Psychologist, 59*, 150–162.

- Nathanson, C., Paulhus, D. L., & Williams, K. M. (2006). Predictors of a behavioral measure of scholastic cheating: Personality and competence but not demographics. *Contemporary Educational Psychology, 31*, 97–122.
- Newstead, S. E., Franklyn-Stokes, A., & Armstead, P. (1996). Individual differences in student cheating. *Journal of Educational Psychology, 88*, 229–241.
- Niyya, Y., Ballantyne, R., North, M. S., & Crocker, J. (2008). Gender, contingencies of self-worth, and achievement goals as predictors of academic cheating in a controlled laboratory setting. *Basic and Applied Social Psychology, 30*(1), 76-83.
- Nonis, S. and Swift, C.O. (2001), “An examination of the relationship between academic dishonesty and workplace dishonesty: a multi-campus investigation”, *Journal of Education for Business, 77*, 69-77.
- O’Neill, B. S. & Mone, M. A. (1998). Investigating equity sensitivity as a moderator of relations between self-efficacy and workplace attitudes. *Journal of Applied Psychology, 83*, 805-816.
- Richman-Hirsch, W.L., Olson-Buchanan, J.B. and Drasgow, F. (2000) Examining the Impact of Administration Medium on Examinee Perceptions and Attitudes. *Journal of Applied Psychology, 85*(6), 880–887.
- Rychlak, J. F. (1973). *Introduction to personality and psychotherapy: A theory-construction approach*. Boston: Houghton Mifflin.
- Salgado, J. F., & Moscoso, S. (2003). Internet-based personality testing: Equivalence of measures and assesses’ perceptions and reactions. *International Journal of Selection and Assessment, 11*, 194–205.

- Salgado, J.F. and Moscoso, S. (2003) Internet-Based Personality Testing: Equivalence of measures and assessees' perceptions and reactions. *International Journal of Selection and Assessment*, 11, 194–205.
- Sauleya, K.S. and Bedeian, A., G. (2000). Equity Sensitivity: Construction of a Measure and Examination of its Psychometric Properties. *Journal of Management*, 26, 885-910.
- Sims, R.L. (1993), The relationship between academic dishonesty and unethical business practices, *Journal of Education for Business*, 68, 207-12.
- Sprecher, S. (1986). The relation between inequity and emotions in close relationships. *Social Psychology Quarterly*, 49, 309-321.
- Sprecher, S. (1992). How men and women expect to feel and behave in response to inequity in close relationships. *Social Psychology Quarterly*, 55, 57-69.
- Stephenson, G.M. & White, J.H. (1968). An experimental study of some effects of injustice on children's moral behavior. *Journal of Experimental Social Psychology*, 4, 460-469.
- Stone, T. H., Jawahar, I. M., & Kisamore, J. L. (2010). Predicting Academic Misconduct Intentions and Behavior Using the Theory of Planned Behavior and Personality. *Basic and Applied Social Psychology*, 32, 35-45.
- Stone, T.H., Jawahar, I.M. and Kisamore, J.L. (2009), Can academic misconduct predict OCB and CWB, unpublished manuscript.
- Teixeira, A. C., & Rocha, F. M. (2008). Academic cheating in Spain and Portugal: An empirical explanation, *International Journal of Iberian Studies*, 21, 1-22.
- Tippins, N. T. (2009). Internet alternatives to traditional proctored testing: Where are we now? *Industrial and Organizational Psychology*, 2(1), 2-10.

- Tippins, N. T. (2009). Where is the unproctored Internet testing train headed now? *Industrial and Organizational Psychology*, 2(1), 69-76.
- Tippins, N. T., Beaty, J., Drasgow, F., Gibson, W. M., Pearlman, K., Segall, D. O., & Shepherd, W. (2006). Unproctored internet testing in employment settings. *Personnel Psychology*, 59(1), 189-225.
- Walster, E. Berschied, E., & Walster, G.W. (1973). New directions in equity research. *Journal of Personality and Social Psychology*, 25(2), 151-176.
- Weiss, E.M. and Barbeite, G.F. (2001). Internet as a Job Source and Job Site Preference. Paper presented at the 16th Annual Conference of the Society for Industrial and Organizational Psychology, San Diego.
- Whitley, B. E., Jr. (1998). Factors associated with cheating among college students: A review. *Research in Higher Education*, 39, 235–274.
- Whitley, B. E., Jr., & Keith–Spiegel, P. (2002). *Academic dishonesty: An educator’s guide*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Younger, J. (2008). *Online job recruitment – Trends, benefits, outcomes and implications*. Retrieved December 12, 2012 from <http://ezinearticles.com/?Online-Job-Recruitment---Trends,-Benefits,-Outcomes-And-Implications&id=750692>
- Zusman, R.R. and Landis, R.S. (2002). Applicant Preferences for Web-Based Versus Traditional Job Postings. *Computers in Human Behavior*, 18, 285–296.



## Appendix A

Table 1  
*Means, Standard Deviations, and Correlations of Demographics and Scales*

	Mean	Std. Deviation	Age	Equity Sensitivity Scale	Norms Scale	Attitude Scale	Control Scale	Impression management is same as cheating	Have cheated
Gender	1.87	.414	-.008	.008	-.283**	.090	-.185	.120	-.192*
Age	21.33	4.157		.256**	.070	.011	.115	.032	-.135
Equity Sensitivity Scale	62.7404	7.20167			-.069	-.004	-.249*	.211*	-.172
Norms Scale	9.7196	2.16662				.296	.168	-.433**	.425**
Attitude Scale	23.5625	3.45419					.276	-.356*	.532**
Control Scale	16.6571	4.46100						-.312**	.309**
Impression management is same as cheating	3.31	1.013							-.380**
Have cheated	2.36	1.177							

*Note.* \*\*  $p < 0.01$  (2-tailed), \*  $p < 0.05$  (2-tailed)

## **Appendix B**

### **SURVEY**

#### **CONSENT FORM**

You are invited to take part in a research study of equity sensitivity and impression management in pre-employment testing. Please read this form. If you have any questions, please ask them before consenting to participate in the study. Contact information for the researcher is listed at the end of the document.

This survey is very important to the researcher, so please answer with consideration and honesty. This survey should take approximately 20-30 minutes to complete.

Your participation in this study is entirely voluntary. Any decision you make to either participate in this study or not will be fully respected. There will be no penalty or differential treatment based on your decision to participate or not. All responses will be entirely anonymous and will be kept in the strictest of confidence. If at any time during the study you feel uncomfortable, you may choose to not answer a question or to quit the survey by closing the browser. You may skip any questions that you feel are too personal.

#### **BACKGROUND**

The purpose of this study is to investigate the relationship between equity sensitivity and impression management in pre-employment testing.

#### **REQUIREMENTS AND COMPENSATION**

You will receive 2 credits for participating in this online survey. The requirements of this study include:

1. You are over the age of 18.
2. You have had at least one job.

### **RISKS AND BENEFITS**

The risks of participation in the research are no more than encounter in everyday life. However, some of the questions participants respond to might cause discomfort or anxiety. This study is beneficial because it hopes to clarify the link between personality and decision-making.

### **CONFIDENTIALITY**

Consent forms will be stored by the investigator in a secure MSU location for at least 3 years.

Any information you provide will be held in strictest confidence and all participants will remain completely anonymous. Therefore, no information will be collected that could identify individuals (e.g., names, birth date, address, telephone number, social security number, school identification number, or other distinguishing data). The researcher will not use your information for any purposes outside of this research project or anything else that could identify you in any reports of the study.

### **CONTACTS AND QUESTIONS**

This research is being conducted by Valerie Brophy under the guidance of Dr. Kristie Campana.

If you have any questions or would like a copy of this consent form, you may contact the researcher via 319.350.9821 or [valerie.brophy@mnsu.edu](mailto:valerie.brophy@mnsu.edu) or the adviser at [kristie.campana@mnsu.edu](mailto:kristie.campana@mnsu.edu). If you have questions about the treatment of human participants and Minnesota State University, Mankato, contact the IRB Administrator, Dr. Barry Ries, at 507.389.2321 or [barry.ries@mnsu.edu](mailto:barry.ries@mnsu.edu).

Responses will be anonymous. However, whenever one works with online technology there is always the risk of compromising privacy, confidentiality, and/or anonymity. If you would like more information about the specific privacy and anonymity risks posed by online surveys, please contact the Minnesota State University, Mankato Information and Technology Services Help Desk (507-389-6654) and ask to speak to the Information Security Manager.

## **STATEMENT OF CONSENT**

I have read the above information. I am 18 years of age or older and I consent to participate in the study. The completion of the survey will indicate your consent to participate in this study.

- a. Yes, I consent
- b. No, I do not consent

## **DEMOGRAPHICS**

**Please read each statement and provide the necessary information.**

What is your gender?

- a. Male
- b. Female
- d. Other
- c. Prefer not to say

What is your age?

What is your race/ethnicity? (check all that apply)

- a. Caucasian
- b. Asian/Pacific Islander
- c. African/African American
- d. Native American/Alaskan Native
- e. Hispanic/Latin
- f. Other
- c. Prefer not to say

What is your year in school?

- a. Freshman
- b. Sophomore
- c. Junior
- d. Senior
- e. Graduate Student
- f. Other

What is your current GPA?

Are you currently employed or actively searching for employment?

- a. Yes
- b. No

During your job search, have you completed an Internet-based, unsupervised test (assessing either cognitive ability or personality) as a part of pre-employment screening?

- a. Yes
- b. No

How much do you work each week?

- a. Part-time (20 or fewer hours per week)
- b. Full-time (30 or more hours per week)

In total, how long have you been employed?

- a. 6 months or less
- b. 6 months to 1 year
- c. 1 year to 2 years
- d. 2 years to 3 years
- e. 3 years or more

## **EQUITY SENSITIVITY**

**Please read each statement in this instrument and indicate the degree to which you personally agree or disagree with that statement.**

I prefer to do as little as possible at work while getting as much as I can from my employer. (R)

- a. Strongly Disagree

- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

I am most satisfied at work when I have to do as little as possible. (R)

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

When I am at my job, I think of ways to get out of work. (R)

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

If I could get away with it, I would try to work just a little bit slower than the boss expects. (R)

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

It is really satisfying to me when I can get something for nothing at work. (R)

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

It is the smart employee who gets as much as he/she can while giving as little as possible in return. (R)

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

Employees who are more concerned about what they can get from their employer rather than what they can give to their employer are the wisest. (R)

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

When I have completed my task for the day, I help out other employees who have yet to complete their tasks.

- a. Strongly Disagree
- b. Disagree



- c. Neutral
- d. Agree
- e. Strongly Agree

Even if I receive low wages and poor benefits from my employer, I would still try to do my best at my job.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

If I had to work hard all day at my job, I would probably quit. (R)

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

I feel obligated to do more than I am paid to do at work.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

At work, my greatest concern is whether or not I am doing the best job I can.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

A job which requires me to be busy during the day is better than a job which allows me a lot of loafing.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

At work, I feel uneasy when there is little work for me to do.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

I would become very dissatisfied with my job if I had little or no work to do.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree

- e. Strongly Agree

All other things being equal, it is better to have a job with a lot of duties and responsibilities than one with few duties and responsibilities.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

## **IMPRESSION MANAGEMENT**

**Impression management is a process by which an individual attempts to influence others' perceptions by closely controlling the type of information s/he gives about him/herself. For the purposes of this study, impression management could include: using outside sources to answer questions, obtaining prior copies of an exam, having someone else take the exam for you, or misrepresenting your employment history in order to look like a better candidate for a position.**

**Your honest answers are very important. Please remember that this survey is completely confidential and for research purposes only. Read each statement in this instrument and indicate the degree to which you personally agree or disagree with that statement.**

Please rate the following impression management behaviors on how dishonest you believe them to be.

- Falsifying information on a resume
  - Using outside sources (a book, the internet, a friend) on an unproctored test
  - Having someone else take an unproctored employment test for you
  - Mentioning only positive information in an interview
  - Misrepresenting work history or previous experiences on a resume
  - Falsifying information on a resume
  - Falsifying information in an interview
- a. Very Dishonest
  - b. Dishonest
  - c. Neither Dishonest nor Honest
  - d. Honest
  - e. Very Honest

I think I could successfully manage impressions on a personality test.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

I think I could successfully manage impressions on an intelligence test.

- a. Strongly Disagree
- b. Disagree

- c. Neutral
- d. Agree
- e. Strongly Agree

I think I could successfully manage impressions on a job application.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

I think I could successfully manage impressions on a resume.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

I think I could successfully manage impressions on a work history.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

I have engaged in impression management on unsupervised pre-employment testing in the past.

- a. Strongly Disagree

- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

I have had the opportunity to engage in impression management on unsupervised pre-employment tests in the past.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

I have been tempted to engage in impression management on pre-employment tests in the past.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

I have considered engaging in impression management on pre-employment tests in the past.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

If I had the opportunity, I would engage in impression management on a pre-employment test.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

If I tried to manage impressions on a pre-employment test, I could.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

I would never engage in impression management on a pre-employment test. (R)

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

I can imagine times when I might engage in impression management on a pre-employment test even if I hadn't planned to.

- a. Strongly Disagree
- b. Disagree
- c. Neutral

- d. Agree
- e. Strongly Agree

Even if I had a good reason, I could not bring myself to engage in impression management on a pre-employment test. (R)

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

I think my friends manage impressions on pre-employment tests.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

I think everyone manages impressions on pre-employment tests.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

It is wrong to manage impressions on pre-employment tests. (R)

- a. Strongly Disagree



- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

My peers think it is wrong to manage impressions on pre-employment tests. (R)

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

Everyone manages impressions on pre-employment tests to some extent.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

Managing impressions is the way to get ahead.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

In order to be competitive with other applicants, I need to manage impressions of myself.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

If I don't manage impressions of myself, I won't get the job I want.

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

Impression management behaviors are the same as cheating behaviors

- a. Strongly Disagree
- b. Disagree
- c. Neutral
- d. Agree
- e. Strongly Agree

**Thank-you for participating in this survey!**

If you have any questions about the survey, please contact you may contact the researcher, Valerie Brophy, via 319.350.9821 or [valerie.brophy@mnsu.edu](mailto:valerie.brophy@mnsu.edu). You may also contact the advisor, Kristie Campana, at [kristie.campana@mnsu.edu](mailto:kristie.campana@mnsu.edu). If you have questions about the

treatment of human participants and Minnesota State University, Mankato, contact the IRB Administrator, Dr. Barry Ries, at 507.389.2321 or [barry.ries@mnsu.edu](mailto:barry.ries@mnsu.edu).