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Building a Statistical Model of the Drivers of Self-Presentation

Kathleen Jocoy

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BUILDING A STATISTICAL MODEL OF THE DRIVERS OF SELF-PRESENTATION

by

Kathleen Jocoy

Bachelor of Arts
Winthrop University, 2008

Master of Arts
Appalachian State University, 2010

Submitted in Partial Fulfillment of the Requirements

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Experimental Psychology

College of Arts and Sciences

University of South Carolina

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Accepted by:

Alberto Maydeu-Olivares, Major Professor

Suzanne Swan, Committee Member

Dexin Shi, Committee Member

Brian Habing, Committee Member

Cheryl L. Addy, Vice Provost and Dean of the Graduate School

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ABSTRACT

The attempt to maintain a consistently positive public image is known as self-presentation; however, the structure of self-presentation has not been adequately explored. This paper aimed to identify a theory-based model for self-presentation by examining the relationship between personality traits and utilization of self-presentational behaviors. A review of the literature suggested self-presentation would be best modeled with a second order two-factor model with second order factors of Evaluation and Response. The second order factor of Evaluation is expected to explain the first order factors Perceived Anonymity, Sociability, and Communality while the second order factor of response is expected to explain the first order factors of Dominance and Self-Acceptance. For each trait, a single scale was selected and purified until it was unidimensional with good fit. Those items were entered into a second order two-factor structure using target rotation. The results show that the model did not fit well. This may be due to scale selection and problems with data quality. Dominance was a consistent predictor of midpoint responding, and sociability and self-acceptance were consistent predictors of extreme responding.

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CHAPTER 1

INTRODUCTION

The study of psychological phenomena is complicated by the subjective nature of our measures. Criticisms of subjective measurement are intuitive and have been explored as early as 1675 in Nicholas Malebranche's *De la recherches de la verité*, though the earliest criticisms are often attributed to Immanuel Kant's *Metaphysical Foundations of Natural Science* (Kant, 1786; Sturm, 2006). More recently, research has shown that the methodology of a research study often has a direct impact on the results, regardless of the content being explored (Bachman & O'Malley, 1984; Friedman, 1967; Horan, DiStefano, & Motl, 2003; Kam & Meyer, 2015; Kieruj & Moors, 2013; Orne, 1962, 1969).

Collected data will inevitably contain measurement error, only some of which is attributable to the features of methodology. A significant portion of measurement error can be attributed to features of the individual participating in the research. These individual features may result in voluntary, though largely automatic, behavioral patterns of self-presentation. For the purposes of this paper, self-presentation will be defined as the selective disclosure of self-relevant information during social interactions with the goal of making a consistent, desired impression (Leary, 1992). The goal of this paper is to test a new, theory-based model of the construct.

The self-presentation perspective argues that most social interactions involve some level of measured deceit as individuals are attempting to portray the best version of themselves. While it is unlikely that the majority of research participants are knowingly

and willfully engaging in deceit, there is strong support for the assertion that research participants are not fully accurate in their responses (Levashina & Campion, 2007; Tyler & Feldman, 2004; Weiss & Feldman, 2006). This may be due to a desire to appear consistently positive in the eyes of the researcher (Jones & Pittman, 1982; Schneider, 1981) which could have consequences for data quality.

There are a variety of indicators of data quality that can be obtained from survey responses. The completeness of a survey, the time to complete, and the uniformity of responses could be used as indicators of data quality. Incomplete or quickly finished surveys with low response variability would suggest the participant did not provide thoughtful responses. Failure to answer similarly to identical items would also indicate that the participant is not providing high quality responses. Other indicators of data quality include response styles (e.g. social desirability responding, extreme responding and midpoint responding) which are unique approaches to answering survey questions regardless of the construct being measured.

1.1 DEFINITIONS AND THEORIES OF SELF-PRESENTATION

1.1.1 Self-Disclosure or Self-Presentation?

An overarching concern for psychological scientists is the veracity of claims made or endorsed by individuals during a research study. Participants may be providing fully factual information about themselves, or they may be engaging in various levels of deceit. The self-presentation perspective argues that there is some level of measured deceit as individuals are attempting to portray the best version of themselves (Baumeister & Jones, 1978; Goffman, 1959; Jones & Pittman, 1982) whereas the self-disclosure

perspective argues that people attempt to be honest about themselves without regard for the potential social implications of sharing that information (Johnson, 1981).

If the self-disclosure perspective were accurate, one would expect variables like honesty, cooperativeness, and self-control to be related to response consistency and scale validity. Response consistency is defined as answering identically to items that appear twice on a scale (Johnson, 1981) and would indicate that an individual either is consistent, or is making attempts to appear consistent. If, however, self-presentation is the more likely approach to sharing self-relevant information, we might expect to see clarity of self-image and perceptual conformance (e.g. the tendency to interpret social situations similarly to one's peers, Sarbin & Hardyck, 1955) to be related to response consistency and scale validity (Johnson, 1981). When these perspectives were tested, only variables the authors related to self-presentation emerged as significantly related to response consistency. Specifically, variables like dominance, sociability, self-acceptance, empathy, and self-confidence were all positively related to response consistency while variables like responsibility, self-control and flexibility were not significantly related at all (Johnson, 1981). These findings suggest that individuals who know and accept themselves are more consistent in their scores which supports the self-presentation claim that individuals aim to be perceived as consistent. The use of self-presentational behaviors appears to be largely automatic, however that automaticity depends upon prior experience (Langer, Blank, & Chanowitz, 1978). In other words, self-presentational behaviors are voluntary to the extent that they are changeable with conscious effort, however individuals tend to rely on past experiences to develop these presentations, thus requiring minimal conscious effort.

While it is unlikely that the majority of research participants are knowingly and willfully engaging in deceit, there is strong support for the assertion that research participants are not fully accurate in their responses (Levashina & Campion, 2007; Tyler & Feldman, 2004; Weiss & Feldman, 2006). This may be due to a desire to appear consistently positive in the eyes of the researcher (Jones & Pittman, 1982; Schneider, 1981) and can result in overemphasis of a participant's positive traits and deemphasis of their negative traits. This desire to present a consistent, positive, mostly accurate version of ourselves is the driving force behind self-presentational behaviors (Goffman, 1959; Jones & Pittman, 1982; Leary & Kowalski, 1990).

1.1.2 The Dramaturgical Discipline of Self-Presentation

Self-presentation theory began with sociologist Erving Goffman's 1959 book *The Presentation of Self in Everyday Life*. In this book, social interaction is explored through the analogy of stage acting and performance. Disruptions in our everyday performances, such as unmeant gestures and faux pas, cause the performer to feel threatened and react with one or many of a variety of negatively perceived behaviors. Behaviors like nervousness and embarrassment are common responses to a disruption as they reveal a discrepancy between the image that one portrays (e.g. the performance) and the true image of the actor behind the performance (Goffman, 1959). This lack of consistency between the projected self and the true self is a specific application of cognitive dissonance theory (Festinger, 1957) and is the foundation of self-presentation theory. Unlike cognitive dissonance, however, there is no expectation that people's beliefs or behaviors will actually change; just that those they present publicly may change. The ways in which people attempt to prevent and respond to these disruptions are sometimes

called impression management (Gaes, Kalle, & Tedeschi, 1978; Goffman, 1959; Leary & Kowalski, 1990).

While the terms impression management and self-presentation are often used interchangeably, some researchers have distinguished between the two (Leary & Kowalski, 1990; Schlenker, 1980; Schneider, 1981). Impression management is a broader term than self-presentation since one can manage the impressions of others and even nonhuman things such as cities and products (e.g. Public Relations; Schlenker, 1980). As this paper is only focused on the individual in a social situation, the term self-presentation will be used exclusively to avoid confusion.

Goffman believed the social actor must maintain dramaturgical discipline if he wishes to cope with disruptions as they arise. This dramaturgical discipline requires that the performer remain emotionally detached while maintaining a show of intellectual and emotional involvement that appears uncalculated. To do otherwise is to damage the possibility of a successful recovery from a disruption. The risk of a disruption is also included in the mental calculations of self-presentation and dramaturgical discipline. If the interaction is expected to be brief and nonrecurring, the risk of a disruption is low and thus a greater discrepancy between the true and projected self can be maintained. If however, the interactions are likely to recur, we may expect a desire for consistency to override the benefits of an enhanced projected image since the risk of a disruption is increased (Goffman, 1959).

1.1.3 Expansions on Goffman's Original Theory

After Goffman's seminal text, research on self-presentation began to emerge from social psychologists covering diverse fields such as athletics (Leary, 1992), social anxiety

(Schlenker & Leary, 1982) and feedback seeking (Morrison & Bies, 1991). The earliest social psychological exploration of self-presentation theory, however, was ingratiation: a specific relationship in which there is a power differential between two people and one or both aim to develop a continually beneficial relationship with the other (Jones, 1964).

Ingratiation is a very narrow form of self-presentation though. While one can assert that a power differential exists in a research setting, it is rare that participants expect to develop a continuing relationship with the researcher. An exception could be in longitudinal research where the participant is expected to maintain some level of continued contact with the research team. As such, ingratiation is not expected to emerge frequently in studies with one data collection point but may be an issue for longitudinal researchers.

Following from ingratiation, other researchers began conceptualizing self-presentation as either *acquisitive* or *protective* (Arkin, 1981). An individual with an acquisitive self-presentation style is focused on obtaining both social approval and resources while an individual with a protective self-presentation style is more focused on avoiding losses of those resources and social approval. While both styles are concerned with social approval, the approaches taken will vary. For example, a protective self-presentation style results in more conservative behavior than an acquisitive style (Schütz, 1998).

A second study argued that *assertive* and *defensive* self-presentation styles were more common (Tedeschi & Norman, 1985). An assertive self-presentation style aims to establish an identity for the self-presenter while a defensive self-presentation style seeks to reestablish a positive identity. While this categorization appears similar to Arkin's

(1981) classifications, there are some important distinctions. Assertive and acquisitive self-presentation styles have similar underpinnings as the goal is to generate a positive social identity. The motivation (seeking social approval vs. identity creation) may differ, but the behavioral traits of an acquisitive vs. assertive self-presentation style are largely indistinguishable. Both are marked with exemplification (e.g. helping behaviors), ingratiation (e.g. describing oneself favorably and/or complimenting others), and self-promotion (e.g. positively describing ones experiences as indicative of their competency). For this reason, acquisitive and assertive self-presentation styles may be difficult to distinguish (Schütz, 1998).

These two approaches to classify self-presentation styles were unified into an integrative taxonomy which combined acquisitive with the assertive self-presentation style and proposed a fourth self-presentation style: *offensive*. Schütz's (1998) taxonomy proposes two main intentions (trying to look good and trying not to look bad), each with two main approaches resulting in four self-presentation styles. One can try to look good by presenting a favorable image (assertive; Tedeschi & Norman, 1985) or by making others look worse (offensive; Schütz, 1998). The offensive self-presentation style involves the attack or derogation of others with the aim of elevating their own appearance by comparison. To look good with offensive presentations, the derogation should be subtle or framed as being a fair and honest evaluation of another (Buss & Dedden, 1990).

Instead of trying to look good, one can try not to look bad. Rather than emphasize one's own good traits or pointing out the flaws of others by comparison, one can deemphasize any potentially negative traits. This approach results in either protective (Arkin, 1981) or defensive self-presentations (Tedeschi & Norman, 1985). Those with a

protective approach might avoid social interaction or remain relatively passive about interactions while those with a defensive approach may offer excuses or justifications for their perceived negative traits. The self-presentation style utilized is dependent upon both personality traits of the individual and situational variables (Schütz, 1998).

While these identified styles are interesting and provide good insight into how self-presentation might result in certain behaviors, this taxonomic approach has received little attention. One argument against this approach centers on the utility of categorizing individuals into groups based on levels of various dimensions (e.g. “type” inventories). Categorization has been questioned in both the diagnosis of mental disorders (Kraemer, 2007; Widiger & Samuel, 2005) and the study of personality (De Boeck, Wilson, & Acton, 2005; Haslam, Holland, & Kuppens, 2012). The act of discretizing self-presentation into categories may result in a loss of useful data and therefore may not be the best approach to exploring this construct. For that reason, many subsequent researchers began focusing on the antecedents of self-presentation. Two interrelated themes repeatedly emerged: the interpretation of the social interaction and the expectations about future interactions.

1.2 PREVIOUS MODELS OF SELF-PRESENTATION

1.2.1 Leary and Kowalski, 1990

The first attempt to model self-presentation resulted in a theory-based two-component model, which conceptualizes self-presentation as the outcome of two related processes (Leary & Kowalski, 1990): impression motivation and impression construction. The impression motivation process involves an evaluation of the goal-relevance of the impressions, the value of the desired goals (e.g. how much the individual wishes to

achieve that goal), and the discrepancy between the desired and true self-image. The second process involves the construction of the impression. This model is entirely based on a review of the literature on self-presentation, not empirical data. See Figure 1.1.

This process of impression construction relies on a number of individual features. The first is the individual's self-concept, which is a measure of how they perceive themselves. Related to the current self-concept is the desired identity, who they would like to be. Movement from the current self-concept to the desired identity is constrained by social roles that guide the expectations others have for your actions. The self-presentational behavior is targeted at an individual, so features of the target, such as personal values, are also important. While this model is rooted in theory, it has not been evaluated statistically (Leary & Kowalski, 1990).

1.2.2 He and van de Vijver, 2015

The second attempt to model self-presentation (He & van de Vijver, 2015) argues that self-presentation should explain values, personality, and response styles. This attempt was based on a misreading of Johnson (1981) which sought to examine whether self-report measures of personality describe how a person truly is (e.g. self-disclosure), or how they wish to be perceived (e.g. self-presentation). In this study, three samples of adults completed personality inventories and the researcher related subscales to response consistency. One hundred fifty five normal adults (sample 1) and sixty-nine murderers (sample 2) completed the California Psychological Inventory (Gough, 1956) while forty-seven undergraduates completed the Philosophies of Human Nature Scale (Wrightman, 1974). Results showed no relationships between response consistency and any self-disclosure variables (e.g. responsibility, self-control), but many relationships between

response consistency and self-presentation variables (e.g. dominance, sociability, communality).

While Johnson (1981) did argue for the importance of personality in understanding self-presentation, values were not explicitly discussed in his paper. Only one study has briefly mentioned values, but refers specifically to the values of the target or the desirability of the goal. In other words, it is not the personal values (e.g. honesty, self-control, logic, etc.) of the presenter that matter in determining a self-presentational behavior; it is the personal values of the individual they are presenting to that matter (Leary & Kowalski, 1990). Similarly, response styles were mentioned briefly but not included in the model (Johnson, 1981).

To develop this second model of self-presentation, He and van de Vijver (2015) utilized principal component analysis (PCA) to obtain a single general component for each of their indicators and followed up with a confirmatory factor analysis (CFA) of the construct based on their theory. While this model was tested statistically, the theoretical arguments for its structure do not conform to previous literature.

1.3 PROJECT AIMS

1.3.1 Constructs Relevant to Self-Presentation

The goal of this paper is to develop a theory-based model of the drivers of self-presentation. To do so, we must look to the published literature for themes. Articles that explored self-presentation variables used multiple outcomes to indicate the use of self-presentation. In Goffman's (1959) book, he described social disruptions (e.g. faux pas) as an opportunity for individuals to display self-presentational behaviors, so many researchers have created situations in which a participant would feel uncomfortable with

their performance. For example, asking individuals to publicly endorse a counterattitudinal statement (Gaes et al., 1978) or receive negative feedback publicly (Baumeister & Jones, 1978; Quattrone & Jones, 1978; Schlenker, 1975). Other researchers have examined outcomes expected to be related to self-presentation such as response consistency (Johnson, 1981) and response styles (Bye et al., 2011; He & van de Vijver, 2015) This paper will use response consistency and response styles as the relevant outcomes as they do not require an experimental design. The approaches to measuring response consistency and response style will be explained in section 2.2.

Searching the literature, five constructs emerged in a number of studies on self-presentation theory. The first is *Sociability*, a feature of extraversion. Sociability regards the tendency to socialize with other people and has been positively associated with self-presentation (Johnson, 1981; Kristof-brown, Barrick, & Franke, 2002; Weiss & Feldman, 2006). Sociable individuals likely have more social interactions or at least attend to them better. Therefore, they have a larger encyclopedia of past experiences to draw from when interpreting and evaluating a social interaction.

A second construct, *Communality*, appeared in much of the early literature. Communality, also known as perceptual conformance, refers to the tendency to perceive things similarly to one's peers. Communality is positively associated with some measures of self-presentation like response consistency (Johnson, 1981), but has not appeared in much research since the 1970s. Communality shares some overlap with Sociability, but the distinction is that Communality is expected to be a more fundamental trait whereas Sociability provides data of past experiences to assist in the mental calculations of

dramaturgical discipline. In other words, Communality concerns the likelihood of correct social interpretation whereas Sociability concerns the actual evaluation of the situation.

Hypothesis one: Sociability and Communality will be positively associated with response consistency, and use of any response style (i.e. social desirability, extreme, or midpoint responding).

The third construct, *perceived anonymity*, has not been directly measured in any study related to self-presentation; however, its impact has been measured through manipulation of actual anonymity. One study found that when asked to donate privately versus publicly, anonymous donors tended to donate less money, suggesting the participants were more concerned with their outward appearance than in the cause for which they were asked to donate (Satow, 1975). Similarly, when asked to write a counterattitudinal essay on the “dangers” of tooth brushing, students that wrote anonymous essays did not display any later change in opinion while students that had their name published with their essays were more likely to show a change in attitude about tooth brushing. Other studies have manipulated the anonymity of negative feedback (Gaes et al., 1978; Morrison & Bies, 1991; Schlenker, 1975; Tedeschi & Rosenfeld, 1981) such that some participants received negative feedback in front of others.

While previous studies have manipulated actual anonymity, this author believes that actual anonymity is irrelevant to self-presentation. Self-presentation relies on what the participant believes and interprets about the social situation. If they believe they are anonymous, they may indulge in more self-aggrandizing behaviors or change their presentations without concern for consistency (Baer, Hinkle, Smith, & Fenton, 1980; Baumeister & Jones, 1978; Schlenker, 1975). Perceived anonymity does not appear to

affect research participation rates, and rates of trust that anonymous research is actually anonymous is relatively high (Stiglbauer, Gnambs, & Gamsjäger, 2011). Perceived anonymity is expected to be negatively associated with self-presentation.

Hypothesis two: Perceived anonymity will be negatively associated with response consistency, and use of any response style (i.e. social desirability, extreme, or midpoint responding).

Dominance is the fourth construct that showed strong relationships with self-presentational behaviors (Johnson, 1981). Dominance is associated with assertiveness and competitiveness and is associated with a need for heterosexual self-presentation in men (Fox & Tang, 2014). Dominance appears to be a trait that is highly impacted by gender with men typically preferring and engaging in higher levels of dominant behavior (Luxen, 2005; Pratto, Stallworth, Sidanius, & Siers, 1997). Presently, all studies which have explored the relationship between Dominance and self-presentation have relied on majority male samples (>75%). For this reason, it is unclear if Dominance will emerge as a clear component of self-presentation in a gender-mixed study. Nonetheless, Dominance is expected to be positively associated with self-presentation based on the results of previous studies.

Individuals that accept themselves for who they are tend to provide more consistent responses (Johnson, 1981). The final construct expected to be related to self-presentation is *Self-Acceptance*. Self-Acceptance relates to how well one understands and approves of oneself (Ryff & Keyes, 1995; Ryff & Singer, 2008). Self-presentation theory argues that in order to put across a consistent image, the presenter must fully know themselves. In knowing oneself, it is hoped that one can develop an acceptance for the

strengths and weaknesses of ones' character. Only in doing so will they be able to select the appropriate behaviors that will consistently emphasize their best qualities. For this reason, Self-Acceptance is expected to be positively associated with self-presentation. While this may seem counterintuitive, self-presentation is marked by consistency in responding. Those low in self-acceptance may struggle to identify which traits they should emphasize to appear consistent.

Hypothesis three: Dominance and Self-Acceptance will be positively associated with response consistency and use of a response style.

1.3.2 Proposed Structure of Self-Presentation

This dissertation proposes a second order two-factor model with five first order factors identified as the drivers of self-presentation. The first order factors are perceived anonymity, Sociability, Communality, Dominance, and Self-Acceptance. The second order factors put forth are Evaluation and Response. The second order factor of Evaluation reflects the process of evaluating a social situation prior to selecting a response. Evaluation is expected to explain the first order factors of Perceived Anonymity, Sociability, and Communality. Perceived Anonymity will affect how a participant interprets the dangers of inconsistent responding while Sociability will influence the number of previous social experiences an individual has to make adequate interpretations of the social context. Communality is expected to influence how the individual interprets the social situation with regards to social norms. All three of these traits are related to interpretation of a social context, whereas the next second order factor is more related to individual traits.

The second order factor of Response reflects the active process of engaging in a social behavior and occurs after Evaluation of the social situation. Response is expected to explain the first order factors of Dominance and Self-Acceptance. Dominance refers to an individual's tendency to try to use power or influence for his or her own benefit and is typically observed behaviorally. Self-Acceptance relates to how well one understands oneself. To remain consistent, one must have a solid understanding of who they are.

A second order model was selected since they are used when one hopes to account for the relationships between latent factors with a hierarchical structure (Rindskopf & Rose, 1988). The two second order factors represent the process of social interaction. Evaluating a situation and planning a response is the natural approach all creatures tend to take when exploring their world. The second order factor of Evaluation involves the ability to interpret a social situation and determine which outward presentations might be possible to maintain consistency. Response refers to the process one takes in deciding how to actually present oneself. It is expected that these two factors will result in a self-presentational behavior. See Figure 1.2 for the proposed model.

Hypothesis four: A second order two-factor structure will best capture the relationships between the scales.

This model shares some overlap with the model proposed by Leary and Kowalski (1990). See section 1.2.1 for a review. Evaluation is similar to impression motivation while Response is similar to impression construction. The primary differences in these proposed models is in which traits are presumed to be related to evaluation/motivation and response/construction.

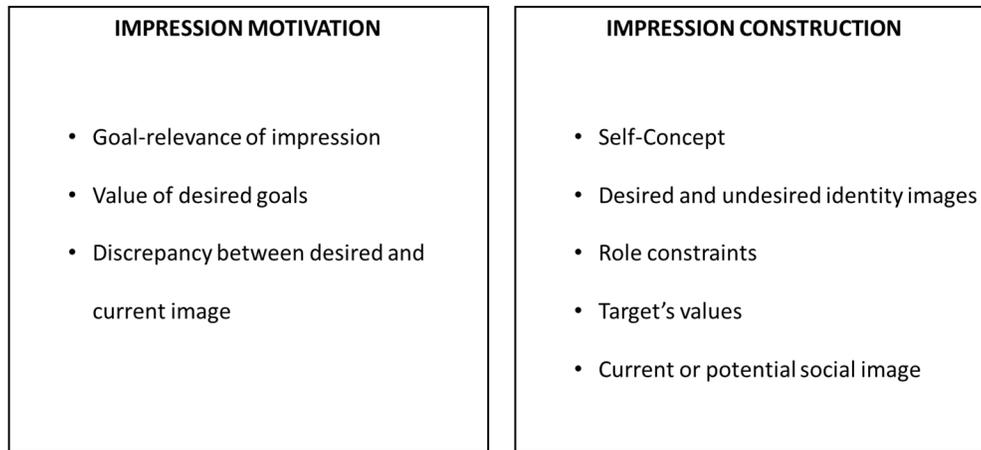


Figure 1.1: Leary & Kowalski's (1990) Two Component Model of Impression Management

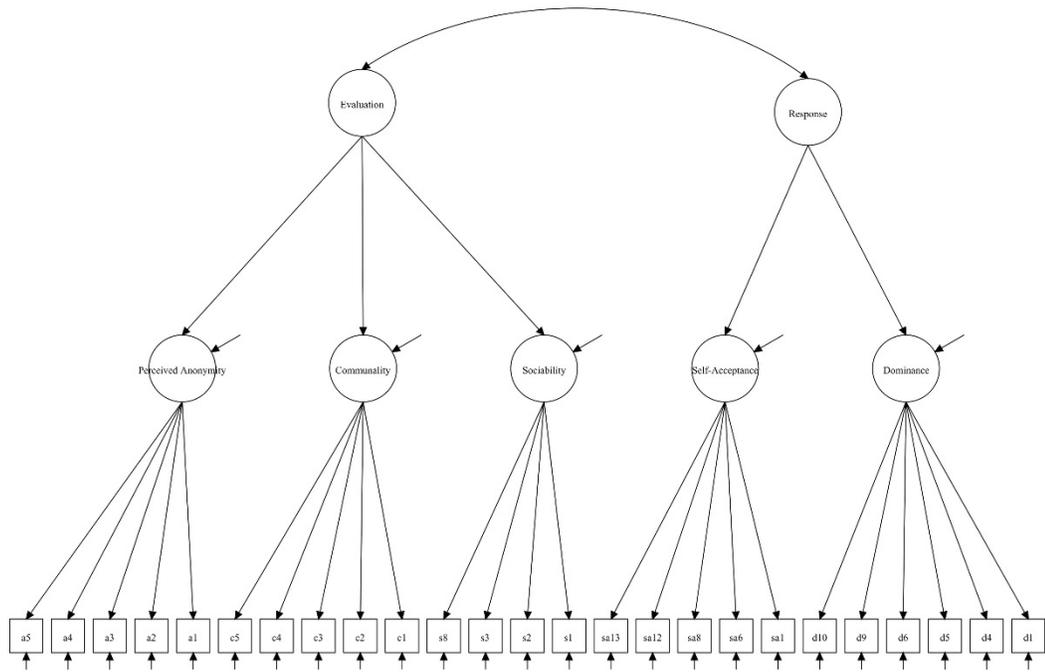


Figure 1.2: A Second Order Two-Factor Model of Self-Presentation

CHAPTER 2

METHODS

2.1 DATA COLLECTION

The study recruited 508 participants using Amazon's Mechanical Turk (MTurk). MTurk is a web-based crowdsourcing instrument for data collection with more than 500,000 registered users (Chandler & Shapiro, 2016). Using a large pool of willing participants (workers), researchers (requesters) offer money in exchange for survey responses. Requesters post surveys called Human Intelligence Tasks (HITs) and qualified workers complete the task quickly.

Previous studies have found the MTurk work force to be quite varied with regards to education, financial need, religious affiliation, and marital status with roughly equal representation of the genders (Levay, Freese, & Druckman, 2016; Ross, Irani, Silberman, & Zaldivar, 2010). Additionally, MTurk has also been found to be more representative of the United States population than undergraduate samples (Berinsky, Huber, & Lenz, 2012) and slightly more diverse than other online samples making such a sample more generalizable than a typical sample obtained from undergraduate psychology students despite being a nonprobability sample (Buhrmester, Kwang, & Gosling, 2011).

Writing a survey on MTurk requires knowledge of HTML, so many researchers use third party survey websites ("Using linked surveys in MTurk," 2014). While participants were recruited via MTurk, all data for this study was collected on Qualtrics, a data collection website which enables quick creation of surveys with a simple user

interface. Several qualification options are available to ensure the survey gets to the best possible participants. Only participants in the United States that have completed more than 100 HITs were given an opportunity to participate. One of the features of MTurk is that researchers can reject and refuse payment to low-quality responses. Over time, workers will earn an approval rating to indicate how frequently their work is accepted. You can also filter participants with this approval rate; only those with an approval rate greater than 95% were given an opportunity to participate. These qualifications are expected to increase the quality of the data.

2.1.1 Procedure

The survey and procedure were approved by the University of South Carolina Institutional Review Board. The HIT was posted to MTurk on July 14, 2018 (see Appendix A). Workers who selected the HIT were provided with a link to the survey on Qualtrics which included the informed consent (see Appendix B). After finishing the survey on Qualtrics, participants were asked to confirm their consent and given a code that they entered into MTurk to verify completion. After 14 hours and 37 minutes, the requested final sample of $n = 500$ was exceeded, and data was collected from 508 individuals. All participants that completed the survey consented to the use of their data for the study. The survey contained 108 questions and took an average of 11 minutes and 12 seconds to complete however; the median time was 8 minutes 37 seconds. Participants received \$2 for completing the survey. This amount was selected as the survey was expected to take about 15 minutes, thus paying an \$8 per hour wage. This rate is much higher than the median wage of \$2 per hour, and somewhat higher than the mean wage, \$6 per hour, for participants with the high approval rate qualification (Hara et al., 2018).

2.1.2 Data Cleaning

To collect survey responses via MTurk, the requester specifies how many responses they are seeking. Once the response goal has been met, all in-progress surveys are terminated, however some individuals finish after the goal has been met, but prior to termination of the in-progress survey. Two surveys were completed after the deadline had passed with full responses. An additional six surveys were terminated in progress. The six incomplete surveys were excluded from analysis; however, the two late surveys, and any survey with missing data was still included. Approximately 4.18% of participants had some missing data ($n = 21$), but only four individuals missed more than one response. Response rates for individual questions were also high. No item had more than two missing observations.

While many have argued that MTurk yields high quality data (Berinsky et al., 2012; Buhrmester et al., 2011; Miller, Crowe, Weiss, Maples-Keller, & Lynam, 2017), there is also a risk of obtaining lower quality data (Dutwin & Buskirk, 2017), including bot-generated data (Dupuis, Meier, & Cuneo, 2018) and inattentive responding (Greszki, Meyer, & Schoen, 2014; Oppenheimer, Meyvis, & Davidenko, 2009). Survey responses collected through MTurk are completed faster than those completed in person (Smith, Roster, Golden, & Albaum, 2016) which may indicate low cognitive effort on the part of the participant (Greszki et al., 2014; Greszki, Meyer, & Schoen, 2015). When individuals provide data in a face-to-face interaction, they take more time responding, provide fewer “don’t know” responses, and respond to more questions when compared to online respondents which suggests participants take more care with surveys when they are interacting with the researcher in a face-to-face context (Heerwegh & Loosveldt, 2008).

Some studies have found that MTurk workers are less attentive to instructions (Oppenheimer et al., 2009) while others have found the opposite to be true (Hauser & Schwarz, 2016). The reasoning for these inconsistent findings is unclear. One possible reason may be in the selected qualifications. Oppenheimer and colleagues (2009) do not specify any qualifications while Hauser and Schwarz (2016) restricted participant selection to those with higher than 95% approval rate on more than 100 approved HITs. Because previous requesters have rated the work of the workers, those that meet the 95% qualification rate are less likely to provide inattentive responses compared to those that have not. This study uses the same qualifications; however, it is still possible that some participants may be inattentive.

When participants do not read the instructions, the quality of their data is questionable. Detecting low quality responses is not simple though. Some researchers remove surveys with fast response times; however, there is little evidence that quick responses are detrimental. Instead, fast response times added random noise and did not damage the marginal means obtained in nine online studies using univariate and multivariate analyses (Greszki et al., 2015). While fast response times may indicate low quality data, they may also be obtained from individuals with higher education and cognitive ability. It is possible that removal of participants with fast responses may result in the removal of valid responses.

Reading questions and responding to them takes time (R Tourangeau, Rips, & Rasinski, 2000), however. While fast responses just add a little random noise, there is some support for removing very fast responses (40-50% of the median response time) as such response times are unlikely to reflect valid responses (Greszki et al., 2014, 2015).

Because removal of fast responses may result in the removal of valid responses, and their removal is not beneficial to model interpretation, only very fast responses (50% of the median response time) were removed. The median response time was 517 seconds (8 minutes 37 seconds), so twenty-one individuals with responses shorter than 259 seconds (4 minutes 19 seconds) were removed at this stage resulting in a sample of $n = 481$.

An additional metric for data quality is insufficient response variability. The process of selecting the same response option many times in a row is called straightlining and is an approach to survey completion where the participant selects the same response option without reading the content. It is an indication that the participant is not attending to the questions adequately (Conrad, Tourangeau, Couper, & Zhang, 2017; Greszki et al., 2014, 2015; Turner, 2018). Detection of straightlining in a lengthy survey is difficult, however the removal of straightlined responses is more important than the removal of fast responses as straightlined responses are the only known type of responses to introduce bias and negatively impact model interpretation (Turner, 2018). One way is to count the frequency with which individuals endorse the same item consistently. For example, selecting “strongly agree” three times in a row indicates two instances of straightline selection. Some level of straightlining is to be expected, especially if the items are grouped by construct and in the same direction.

Because grouping items by construct increases the reliability of a scale (Melnick, 1993), the items used in this study were grouped by construct. While this does increase the likelihood of straightlining, there are still opportunities to detect inattentive straightlining. So long as some items are reversed, we can identify straightline responding easily when reverse-worded items are positioned next to positively worded items within

the same scale (Conrad et al., 2017). There were nine instances in which the directionality of the wording changed within a scale. At each instance, an additional variable was calculated to detect the distance between their responses on the two items. A distance of zero indicated a straightline response. A cutoff to remove the top 5% most frequent straightline responders was selected. This cutoff wound up being five straightline responses.

Any participants who endorsed five or more straightline responses were determined to be inattentive and were removed from analysis. Twenty-three individuals were removed for straightlining. Eight of the twenty-one participants removed for very fast responding also exhibited excessive straightline responding. Most participants endorsed at least one straightline data pair. See Table 2.1 for the frequency of straightline responses on reverse direction item pairs. The final sample size was $n = 458$.

Once the data was cleaned, it was split into two samples using SPSS Version 21.0 (2012), one for exploratory analyses and another for confirmatory analyses. One hundred fifty-eight participants were randomly selected for the exploratory models while the remaining 300 were used for the confirmatory models. The confirmatory analyses were run using exploratory factor analysis with target rotation which allows for better fit by using exploratory methods while still being rooted in theory. In other words, we retain the improved fit from an exploratory approach but also have the benefit of being able to specify predicted relationships. While exploratory is in the name, this was treated as the confirmatory approach.

2.2 MEASURES

2.2.1 Demographics

Information about the participant's age, gender, ethnicity, and employment status was collected at the start of the survey. The final sample contained 458 individuals (47.6% male, 52.4% female) with a mean age of 38.84 ($SD=12.59$). The youngest participant was 18 and the oldest was 80. The mean completion time was 11 minutes 17 seconds ($SD = 7$ minutes 15 seconds). Of the sample, 77.07% were Caucasian, 8.08% were African American, 4.37% were Asian American, 3.28% were Hispanic American, 2.40% were Native American, 3.93% identified as biracial, and .87% identified as multi-racial. The majority of the sample (67.18%) were employed full-time while 8.32% were employed part time, 13.10% were self-employed, 2.41% were students, and 8.97% were unemployed.

The samples were split randomly into $n = 158$ and $n = 300$ and compared on basic demographics. The two samples were not significantly different with regards to age, $t(456) = -.737, p = .461$; gender, $\chi^2(1) = .188, p = .664$; ethnicity, $\chi^2(6) = 3.055, p = .802$; or employment status, $\chi^2(4) = 3.674, p = .452$.

2.2.2 Self-Presentation Measures

Where possible, measures were drawn from the International Personality Item Pool (IPIP). The IPIP contains over 3,000 items within 250 scales. All items, scales, and subscales are in the public domain and therefore free for anyone to use. In addition to open access, the IPIP provides information about the reliability of each of the selected scales (Goldberg et al., 2006), however the source for those reliability assessments are unclear, and no additional information about the quality of the scales or the process of

evaluation is available on the site. For each construct measured in this study, multiple scales were often available. When multiple scales were available, the scale with the highest reliability and/or most substantively related questions was selected. Negatively worded items often introduce methods effects (Cordery & Sevastos, 1993; Horan et al., 2003; Lindwall et al., 2012; Marsh, 1996). While methods effects are not inherently artifactual (Horan et al., 2003), they may be related to education (Marsh, 1996), care in responding (Cordery & Sevastos, 1993), or negative mood states (Lindwall et al., 2012). For these reasons, scales that have few or no negatively worded items were preferred. Please see Appendix C for the full questionnaire.

Sociability was measured with the Sociability subscale of the Hogan Personality Inventory (Hogan, 1995). The Hogan Personality Inventory is one of the 250 scales available in the IPIP. This subscale has acceptable reliability ($\alpha = .75$). The subscale contains 10 items scored on a five-point Likert scale and asks participants to indicate how well phrases like *Amuse my friends*, and *love large parties* describe themselves (from “very inaccurate” to “very accurate”). Two of the items are designed to be reverse coded.

Communality was measured with the Conformity subscale of the Jackson Personality Inventory (Jackson, 1994). This subscale contains 10 items and is also publicly available via the IPIP. Reliability is acceptable ($\alpha = .71$). Participants were asked to identify how much a given statement describes them from “very inaccurate” to “very accurate” on a 5-point Likert scale using items like *Do what others do* and *need the approval of others*. Five of the items are designed to be reverse coded.

Perceived anonymity is a difficult construct to measure, and no good scales exist at present. Therefore, five items were written by this author and evaluated by two

members of the research team for quality. Participants responded with their level of agreement using a five-point scale to statements like *I am confident that my survey responses will be kept anonymous*. No items are reserve-coded.

Dominance was measured using the Dominance subscale of the California Personality Inventory (Gough, 1956). This scale contains items like *Am quick to correct others*, and *Put people under pressure*. These statements also used the 5-point Likert scale format described above. The reliability of the Dominance subscale is good ($\alpha = .82$) and one of the items is presented in reverse direction.

Self-Acceptance was measured using the 14-item Self-Acceptance subscale of Ryff's scale of psychological well-being (1989). There were no scales with acceptable reliability available on the IPIP, so permission to use the Ryff scale of psychological well-being was granted via email. This scale also asks participants to rate the accuracy of the statements on a five-point scale. Items include *When I look at the story of my life, I am pleased with how things have turned out*, and *I like most aspects of my personality*. The reliability of the Self-Acceptance subscale is acceptable ($\alpha = .79$) and half of the items are reversed.

2.2.3 Validation Measures

To validate the model, three different types of response style were measured (social desirability responding, extreme responding, and midpoint responding). In addition to response style, response consistency was also explored. These validation measures have been used previously as indications of data quality (de Beuckelaer, Weijters, & Rutten, 2010; He, van de Vijver, Espinosa, & Mui, 2014; Johnson, 1981). Response styles are a “tendency to select some response category a disproportionate

amount of time independently of the item content” (Rorer, 1965, p. 134). Some response styles are related to content (e.g. socially desirable responding) while other response styles are not (e.g. extreme and midpoint responding).

Socially desirable responding was assessed with a short form version of the Marlowe-Crowne scale (Ballard, 1992). This shortened scale contains 13 true-false items such as *There have been times when I was quite jealous of the good fortune of others*. To remain consistent with the rest of the survey, these items were presented with the statement “How accurately do the following statements describe you?” on a five-point scale anchored from “very inaccurate” to “very accurate.” The short form version of the Marlowe-Crowne has suitable reliability ($\alpha = .70$; Ballard, 1992).

Extreme and Midpoint responding was measured by two separate scales designed to be devoid of content. While no contentless scales currently exist, heterogeneous items with low correlations can be combined to create a contentless scale (de Beuckelaer et al., 2010; Weijters, Geuens, & Schillewaert, 2010). Using this approach, all items have content, but the content across items is not related. While some correlations may exist, most will be very small and not significant. was measured using factual items with low intercorrelations measured on a 5-point scale. To obtain these scales, 40 factual items were included in the survey. The 40 items were written for this project and cover behaviors (e.g. *I play video games*) and opinions (e.g. *History is an interesting subject*) that were not expected to be related. Any items not retained for the factor models were also included in the list of items that could be included in these measures.

Half of the selected items were used to measure each response style. Assignment to each response style was conducted randomly. Extreme responding is measured by the count of extreme responses (e.g. 1 or 5 on a 5-point scale) of 15 items of heterogeneous content while midpoint responding is measured by the count of middle responses (e.g. 3 on a 5-point scale) of 15 additional items of heterogeneous content not overlapping with any other measures. This method has been shown to produce valid estimates of response styles (de Beuckelaer et al., 2010; Weijters et al., 2010).

Response consistency was measured by repeating four of the factual or personal opinion items and summing the number of instances in which a consistent response was given. A consistent response is identified as a response that is identical to the response given previously. No duplicated items appeared on the same page of the survey. This approach is a modification of the approach taken in Johnson (1981) which used 12 duplicated true/false questions. Items which were duplicated were not used for calculating extreme or midpoint responding. The duplicated factual items were *History is an interesting subject, I drive more than 10 miles per day, I stretch daily, and The weather has been pleasant lately.*

2.3 DATA ANALYSIS

2.3.1 Model Fit

Data analyses were performed with SPSS Version 21.0 (2012) and Mplus 7.4 (Muthén & Muthén, 1998-2012). Although Likert data is ordinal in nature, it was treated as continuous to simplify analyses. Treating ordinal data as continuous has minimal impact on interpretation and is a relatively common practice (Baker, Hardyck, & Petrinovich, 1966; Knapp, 1990). If the Likert scale has five or more options, maximum

likelihood will produce suitable estimates (Rhemtulla, Brosseau-Liard, & Savalei, 2012). There was nonnormality in the data, so all analyses were performed with maximum likelihood parameter estimates with robust standard errors which results in chi-square test statistics that are robust to non-normality and non-independence.

The following statistics and indices were used to evaluate the quality of the models: chi-square test of model fit (χ^2), root mean square error of approximation (RMSEA), the standardized root mean square residual (SRMR), and the comparative fit index (CFI). The chi-square is a test that is almost always significant if the sample is sufficiently large (Hu & Bentler, 1998; Marsh, Balla, & McDonald, 1988) or the model contains a large number of variables (Shi, Lee, & Terry, 2018), so additional measures of fit were selected to assess model. The RMSEA and SRMR are measures of absolute fit for which values closer to zero indicate better fit. The CFI is a measure of incremental fit that compares the fitted model to a null model.

The RMSEA (Browne & Cudeck, 1992), and SRMR (Bentler, 1995) to assess the unstandardized and standardized size of model misfit. The RMSEA is the most commonly reported measure of model close fit. However, it has reduced utility in low df models (Kenny, 2015; Kenny, Kaniskan, & McCoach, 2015). For this reason, depending on the outcome of the scale purification process, RMSEA may not be useful for some scales. Unlike the previously described measures of fit, SRMR does not penalize for model complexity. For RMSEA and SRMR, Hu and Bentler (1999) recommend a cutoff value of .06 and .08 respectively with lower values indicating better fit. The RMSEA has limited utility in models with small degrees of freedom (Kenny et al., 2015) as it often

falsely indicates poor fit. For that reason, RMSEA will not be interpreted in low df models (e.g. fewer than 10 df).

The CFI is reported on a scale from zero to one with higher values indicating better fit. For CFI, .95 is often recommended as a cutoff (Hu & Bentler, 1999), though some have argued that strictly adhering to these cutoffs may lead to type 1 errors (Marsh, Hau, & Wen, 2004). The CFI depends on the correlations in the data such that low correlations will result in low incremental fit, thus penalizing complex models (Kenny, 2015).

2.3.2 Reliability Assessment

The reliability of each scale was assessed separately using coefficient omega (McDonald, 1999), a model based counterpart of coefficient alpha suitable for one factor models. Coefficient alpha is based on the tau-equivalent measurement model (Graham, 2006), however the assumptions, such as uncorrelated errors, are rarely met in psychological research. Coefficient alpha provides the lower bound for reliability (Lord & Novick, 1968) which is often an underestimation of the true reliability. Coefficient omega consistently provides better estimates of scale reliability (Dunn, Baguley, & Brunsten, 2014; Trizano-Hermosilla & Alvarado, 2016). A value of .7 will be treated as suitable for omega in this study.

2.3.3 Convergent Validity

The convergent validity of the model's relevant factors was explored using proposed outcomes of self-presentation. The convergent validity was assessed by correlating the final scales with the four data quality measures: the three response styles measures (social desirability, extreme responding, and midpoint responding) as well as

with response consistency. Regression models were fit to predict each of the four measures of data quality.

Table 2.1 Frequency of Straightline Responses.

Number of straightline responses	Number of participants n (%)
0	112 (23.28%)
1	154 (32.02%)
2	105 (21.83%)
3	58 (12.06%)
4	29 (6.03%)
5	12 (2.49%)
6	5 (1.04%)
7	1 (.21%)
8	3 (.62%)
9	2 (.42%)

N = 481; final sample includes only those with four or fewer straightline responses, $n = 458$.

CHAPTER 3

RESULTS

3.1 SCALE PURIFICATION

To fit the final model, the 108 items collected needed to be reduced to remove any items that were either not capturing the construct adequately, or were behaving poorly. The scales were reduced individually by exploratory factor analysis. For the Sociability, Communality, Dominance, and Self-Acceptance scales, one to three factor solutions were explored. Due to the small number of items for the perceived anonymity scale, only a one-factor solution was examined. Multiple factor solutions were explored to determine if the scales were assessing more than one construct. Scale purification was completed in SPSS Version 21.0 (2012).

3.1.1 Self-Presentation Measures

Items that did not match the intended construct and items with poor factor loadings were discarded. Selected cutoffs for standardized factor loadings vary widely in the literature with .3 considered the lower boundary of acceptable (Merenda, 1997; Tabachnick, Fidell, & Ullman, 2007). Given the exploratory nature of this portion of the analysis, a cutoff of .3 was used. Additionally, any items with many high, unexplainable, residual correlations were removed. If the residual correlations were logical (e.g. similar wording or content of the items), the items were not discarded. This process is intended to purify the scales and remove any items that are not representing the construct well.

Sociability generally regards the tendency to enjoy interactions with others and was measured using the Sociability subscale of the Hogan Personality Inventory (Hogan, 1995). This measure has 10 items (see Appendix C). The three-factor model showed the items sorting into three factors that could be labeled as Socialization, Amusement, and Adventure seeking, however Amusement and Adventure seeking each only have two items loaded onto the factor. Two items (“Like to amuse others” and “Love action”) appeared as a Heywood cases which indicates improper solution (McDonald, 2004). The two-factor model separated Amusement from Adventure seeking and socialization however, the adventure seeking items had the lowest loadings (.525 and .404).

The one-factor model revealed very low loadings for *like to amuse others* and *amuse my friends*, (.389 and .382 respectively). While these loadings were above the threshold to keep (.3), they were removed for being insufficiently related to the construct of sociability. One item (i.e. *Dislike loud music*) failed to load significantly on any factor in any model and was also removed. Because the items *Love adventure* and *Love action* both address a specific quality of sociability, adventure seeking, they were both dropped as well. One item (i.e. *Don't like crowded events*) was negatively worded and had high residual correlations with three other items; however the residual correlations did not appear to be due to anything predictable. As such, this item was also removed. The model did not fit the data exactly, $\chi^2(2) = 37.362, p < .001$, and measures of close fit were mixed with only SRMR indicating suitable fit, CFI = .901. SRMR = .054. The reliability of the scale was good, $\omega = .866$. See table 3.1 for the factor loadings of the retained items.

Communality, also known as perceptual conformance, refers to the tendency to perceive things similarly to one's peers and was measured with the Conformity subscale

of the Jackson Personality Inventory (Jackson, 1994). This measure has 10 items (see Appendix C) and suitable reliability ($\alpha = .71$). The three-factor model showed all of the positively worded items together with the negatively worded items split between the other two factors. When the two-factor model was explored, the positively worded items formed the first factor and the negatively worded items formed the second factor, however there was substantial cross-loading (5 of 10 items had factor loadings greater than .3 on both factors).

When the one-factor model was explored, three items (i.e. *Want to be different from others, want to form my own opinions, and am not concerned with making a good impression*) had factor loadings below .3 and were removed. The remaining negatively worded items (i.e. *don't care what others think and feel it's OK that some people don't like me*) had multiple (7) high residual correlations that did not appear to be related to any wording or construct similarity, so they were also dropped. Absolute fit for this model was suitable, $\chi^2(5) = 10.679$, $p = .0581$ and measures of close fit were good, CFI = .978. SRMR = .032. Scale reliability was good, $\omega = .842$. See table 3.2 for the factor loadings for communality.

Perceived anonymity was measured by items written specifically for this study (see Appendix C for items). The measure was designed to detect how much participants actually believe their responses are being treated confidentially and centered specifically on perceived anonymity in a research context. Participants responded with their level of agreement using a five-point scale to five items regarding how they felt their anonymity was being protected by the research team. Because the number of items was so small, only a one-factor solution was explored. One item (i.e. *It would be difficult for others to*

identify me based on my responses alone) had large residual correlations with two other items: *I believe that my responses will not be tracked back to me* (.075) and *I trust that the researchers will not disclose my identity* (.071). The item was retained, however, as the residual correlations appear to be related to similar wording. The one factor model did not fit the data $\chi^2(5) = 12.543$, $p = .028$, however other measures of fit were satisfactory, CFI = .979. SRMR = .030. Scale reliability was good, $\omega = .895$. See table 3.3 for the factor loadings for perceived anonymity.

Dominance was measured using the Dominance subscale of the California Personality Inventory (Gough, 1956). This scale contains 11 items with one presented in reverse direction (see Appendix C for items). The three-factor model did not yield any discernable factors within the dominance construct. In addition, one item (i.e. *Try to outdo others*) appeared as a Heywood case. Similarly, the two-factor model did not show the presence of any additional dimensions of dominance and *try to outdo others* still appeared as a Heywood case.

When the one-factor model was explored the reversed item (i.e. *Hate to seem pushy*) had a loading below .3 (-.263) and was dropped. Four items were dropped due to multiple (4-7) very high residual correlations (.51-.481) many of which could not be clearly explained. The item *try to outdo others* had the highest average absolute value residual correlation (.110) of all items, which may explain why the item presented as a Heywood case in both the two and three-factor models. The final model fit very well according to all fit indices and statistics, $\chi^2(9) = 3.917$, $p = .917$. CFI = 1.00. SRMR = .015. These fit statistics are typical when sample size is small and there are very few indicators (Anderson & Gerbing, 1984), however neither condition is met here suggesting

the model simply fits very well. This is likely due to the overwhelming similarity in the items. The scale was also reliable, $\omega = .861$. See table 3.4 for the factor loadings of dominance.

Self-Acceptance was measured using the 14-item Self-Acceptance subscale of Ryff's scale of psychological well-being (1989). This scale asks participants to rate the accuracy of statements about self-acceptance and self-image on a five-point scale. Half of the items are reversed, representing a lack of self-acceptance. The three-factor model produced only two factors. For the third factor, only one item (i.e. *In general, I feel confident and positive about myself*) had a loading greater than .3. The other two factors very clearly separated the positively worded items from the negatively worded items. This pattern was replicated in the two-factor model.

A one-factor model was testing using all the items and showed appropriate directionality for the positively and negatively worded items. There were no Heywood cases and all items had factor loadings greater than .3. Many of the items had very high residual correlations with others. Of the 91 nonredundant residual correlations, 78 (85%) had an absolute value greater than .05. Consistent with previous scales, the negatively worded items had higher average residual correlations than the positively worded items (.120 and .081 respectively). Because the construct of interest was self-acceptance (as opposed to self-rejection) and the frequency of large residual correlations was larger for reversed items, only positively worded items were retained.

The one-factor model with only positively worded items had seven high residual correlations (out of 21). One item, *In general, I feel confident and positive about myself*, had residual correlations greater than .05 with all but one of the other items. It was

dropped for this reason. Another item, *I like most aspects of my personality*, had high residual correlations which could not be clearly explained with two other items and was also dropped. The final model fit very well, $\chi^2(5) = 4.152$, $p = .528$. CFI = 1.00. SRMR = .011, and scale reliability was high, $\omega = .910$. The resulting scale contains five items (see Table 3.5).

3.1.2 Validation Measures

Social Desirability was assessed with a short form version of the Marlowe-Crowne scale (Ballard, 1992). This shortened scale contains 13 true-false items presented on a five-point scale similar to the other scales. Eight of the items are reversed and represent socially undesirable behaviors. The short form version of the Marlowe-Crowne has suitable reliability ($\alpha = .70$; Ballard, 1992). One item (i.e. *There have been occasions when I took advantage of someone*) was erroneously duplicated in place of a socially desirable item (i.e. *I'm always willing to admit it when I make a mistake*). The second instance of the duplicated item was dropped.

The three factor solution kept the positively loaded items together and split most of the negatively worded items into two factors that could be described as negative thoughts and negative actions; however, there were only two indicators of negative action (i.e. *I sometimes try to get even, rather than forgive and forget* and *There have been occasions when I took advantage of someone*). One negatively worded item, *I am sometimes irritated by people who ask favors of me*, loaded with the socially desirable items with a negative loading (-.421). This pattern was replicated in the two-factor model as well. The socially desirable (positively worded) items comprised a factor while the socially undesirable (negatively worded) items comprised a separate factor. The item *I*

am sometimes irritated by people who ask favors of me, loaded equally on the socially desirable and socially undesirable factors (-.409 and .407 respectively).

When tested as a one-factor model, the socially desirable items had very small loadings (-.300 to -.132), so the items were split and tested separately. The one-factor model for the socially desirable factor contained four items. One item (i.e. *I have never deliberately said something that hurt someone's feelings*) had two high residual correlations that were not easily explained by wording or content. For the one-factor model of the socially undesirable factor, three items, *There have been occasions when I took advantage of someone*, *I am sometimes irritated by people who ask favors of me*, and *I sometimes try to get even, rather than forgive and forget* were dropped for multiple high residual correlations that could not be explained by content or wording.

The resulting model contains five items (see table 3.6). There is a residual correlation (.064) between *On a few occasions, I have given up doing something because I thought too little of my ability*, and *It is sometimes hard for me to go on with my work if I am not encouraged*, which could likely be explained by the similarity in content. The fit was acceptable, $\chi^2(5) = 9.665$, $p = .085$. CFI = .985. SRMR = .026, however reliability was poor, $\omega = .389$. A likely explanation for the poor reliability is the inclusion of a reversed item.

Extreme and Midpoint responding was measured by two separate scales designed to be devoid of content. While no contentless scales currently exist, heterogeneous items with low correlations can be combined to create a contentless scale (de Beuckelaer et al., 2010; Weijters et al., 2010). Using this approach, all items have

content, but the content across items is not related. While some correlations may exist, most will be very small and not significant.

To obtain these scales, 40 factual items were written for this project and cover behaviors (e.g. *I play video games*) and opinions (e.g. *History is an interesting subject*) that were not expected to be related. Of the 40 items, eight were used for response consistency (see below). The remaining 32 items were selected for these measures. In addition to the 32 items written for this measure, all items not selected in the final CFA models (for each driver) were also considered for inclusion in these measures. This resulted in 65 items that were randomly split into two groups and further reduced into scales of 15 items. Assignment to each response style was conducted randomly. Items with the highest absolute value of correlations were removed first until each scale had 15 items.

Extreme responding is measured by the count of extreme responses (e.g. 1 or 5 on a 5-point scale) of 15 items of heterogeneous content while midpoint responding is measured by the count of middle responses (e.g. 3 on a 5-point scale) of 15 additional items of heterogeneous content not overlapping with any other measures. This method has been shown to produce valid estimates of response styles (de Beuckelaer et al., 2010; Weijters et al., 2010).

The correlation between the two scales was significant, $r(154) = -.343, p < .01$. To verify the two scales were contentless, both alpha and split half reliability were explored. In all cases, reliability of the scales was poor indicating that no substantive content could be derived from the scales. Extreme responding was more common ($M = 6.49, SD = 2.98$) than midpoint responding ($M = 1.72, SD = 1.58$). The distribution of extreme

responding was slightly skewed, however the distribution of midpoint responding had substantial positive skew. See table 3.7a for the scale statistics for the exploratory sample and table 3.7b for the confirmatory sample.

Response consistency was measured by repeating four of the factual or personal opinion items and summing the number of instances in which a consistent response was given. A consistent response is identified as a response that is identical to the response given previously. No duplicated items appeared on the same page of the survey. This approach is a modification of the approach taken in Johnson (1981) which used 12 duplicated true/false questions. Fewer items were used to keep the survey at a reasonable length. Items which were duplicated were not used for calculating extreme or midpoint responding. The duplicated factual items were *History is an interesting subject*, *I drive more than 10 miles per day*, *I stretch daily*, and *The weather has been pleasant lately*. Most participants were fairly consistent with 60.9% of all participants endorsing 100% consistent responses. See table 3.8 for the frequency distribution of response consistency. The EFA sample and CFA sample were not significantly different with regards to overall response consistency, $\chi^2(2) = .749$, $p=.688$.

To see if there were any significant differences between the frequency of consistent responses as a function of item, the most consistent item pair was compared to the least consistent item pair using a McNemar test (McNemar, 1947). Individuals were dichotomized as consistent or inconsistent for both item pairs for this analysis. While most participants were consistent, they were somewhat more likely to be consistent on the item *I drive more than 10 miles per day* than on the item *I stretch daily*. This effect was significant, McNemar's $\chi^2(1) = 4.321$, $p = .038$ in the exploratory sample.

The reason for this difference is unclear. Item proximity can often explain differences in consistency (Feldman & Lynch, 1988; Roger Tourangeau, Rasinski, Bradburn, & D'Andrade, 1989), with people being more consistent the closer the items are in the survey, however, this item pair *I stretch daily* had the second smallest distance (11 items apart) so that is unlikely. This difference was not detected in the confirmatory sample (McNemar's $\chi^2(1) = 0, p = 1.0$), so it is likely that the difference observed in the exploratory sample was artifactual. See table 3.9a and 3.9b for the contingency tables.

3. 2 FIVE-FACTOR TARGET ROTATED EFA

All of the remaining items were entered into a target rotated exploratory factor analysis. A target rotated EFA is an exploratory model in which theory guides rotation towards a partially specified target (Browne, 2001). This approach shares some similarities to confirmatory factor analysis (Jöreskog, 1969), but allows for much easier identification of misspecified elements (Browne, 2001). Once a misspecified element is identified, its target can be changed. This approach was used prior to building the confirmatory model to identify any items that may load on more than one factor. The target rotated EFA was conducted in MPlus version 7.4 (Muthén & Muthén, 1998-2012). See table 3.10 for the pattern matrix. While the model did not have absolute fit, $\chi^2(185) = 248.587 p = .0013$, our other metrics of fit were suitable, RMSEA = 0.047. CFI = .965. SRMR = .028.

3.2.1. Crossloadings and Residual Correlations

Once the exploratory model was built on the sample of $n = 158$, we began building the confirmatory model. This model was still built with target rotation which will allow for a better fit than CFA, however it was built with the second sample of $n =$

300. One of the criteria in the scale purification process was to use only items with standardized factor loadings greater than .3. This was necessary to develop reliable, unidimensional scales of the constructs. Once the scales have been purified though, there is no need to restrict factor loadings to .3. Instead, any crossloading greater than .1 identified in table 3.10 that substantively fit with the factor were entered into the target rotated model. This allowed for improved fit of the measurement model.

The item, *Worry about what people think of me*, an item from the communality scale, loaded negatively (-.176) on the sociability factor while *Want to control the conversation*, an item from the dominance scale, loaded positively (.308) on the sociability factor. *Try to surpass others' accomplishments*, an item from the dominance scale, loaded positively (.249) on the communality factor. Two items from the sociability scale loaded positively on the dominance factor, *Like to attract attention* (.206) and *Make myself the center of attention* (.246) and two items from the perceived anonymity scale also loaded on the dominance factor: *I believe that my responses will not be tracked back to me* (.106) and *It would be difficult for others to identify me based on my responses alone* (-.113). One item from the dominance, *Try to surpass others' accomplishments*, factor loaded positively (.116) on the self-acceptance factor. Upon review of the items, only those with loadings above .2 appeared to be substantively related to the factor and were therefore retained in the next step.

The target EFA did not have suitable absolute fit, $\chi^2(261) = 479.704, p < .01$, however RMSEA implies reasonable fit (RMSEA = .053) and the CFI (.929) approached the planned cutoff of .95. To improve the model fit modification indices were explored. The modification indices showed correlated errors between two sociability items. The

items (i.e. *Love large parties* and *Enjoy being part of a large crowd*) uses similar wording and addresses similar content, so this correlated error makes sense and was taken into consideration in the model. Two additional items from the dominance scale (i.e. *Lay down the law to others* and *Put people under pressure*) also had correlated errors that appear to be rooted in content. When these two correlated error statements were included (see figure 3.1), model fit improved. While absolute fit was still poor, $\chi^2(259) = 408.214$, $p < .01$, all other metrics implied reasonable fit (RMSEA = .044, CFI = .951, SRMR = .059) based on the cut-offs selected (Browne & Cudeck, 1992; Hu & Bentler, 1999).

3.2.2. Factor Correlations

As the factors are expected to be correlated to fit into a larger confirmatory model, the factor correlations were also explored. In the proposed second order model, the second order factor of Evaluation is expected to explain the first order factors Perceived Anonymity, Sociability, and Communality while the second order factor of response is expected to explain the first order factors of Dominance and Self-Acceptance. Once modeled, the correlations between these factors were explored. For the hypothesized model to be correct, the indicators of the evaluation factor (sociability, communality, and perceived anonymity) should be more highly correlated among themselves than with the indicators of the response factor, and the indicators of response factor (dominance and self-acceptance) should be more correlated with each other than the indicators of evaluation. This is not what was seen in the correlation matrix. The correlation matrix shows that the factor Dominance may not perform well in the confirmatory model as it is most related to the factor Sociability, and only moderately related to Self-Acceptance. See Table 3.11 for the factor correlation matrix.

3.2.3 A Second Order Two-Factor Model

The model developed in 3.2.1 was used in this stage of analysis. Target rotation was again used for this application. The items for the five factors (i.e. *Sociability*, *Communality*, *Perceived Anonymity*, *Dominance*, and *Self-Acceptance*) were entered into a model with the crossloadings and residual correlations identified earlier. The second order factor of *Evaluation* was expected to explain the first order factors *Perceived Anonymity*, *Sociability*, and *Communality* while the second order factor of response was expected to explain the first order factors of *Dominance* and *Self-Acceptance*. To fit this model, additional statements were added to indicate the hierarchical structure described.

The model did not fit. Mplus detected a correlation greater than 1 (between *Response* and *Sociability*) which would indicate that this model is not suitable for the data. Fit statistics are not provided, as the model did not converge. See figure 3.2 for the model. To determine if a second order two-factor model could reasonably be applied to this data, an exploratory factor analysis was conducted on the correlation matrix of the five first order factors. While the theory proposed in this paper suggested the best fitting model would be a second order two-factor model, the pattern of factor correlations do not appear to support that. Therefore, to find the best fitting model, both one and two factor solutions were explored.

Two key problems emerged in both models. The first is that the factor, *self-acceptance* has high residual correlations with many other factors. See table 3.12a for residual correlations. The second problem is that the factor loadings for *perceived anonymity* and *self-acceptance* did not reach a factor loading greater than .3 in the one factor model. In the two factor model, only *self-acceptance* loaded on the second factor

(see table 3.12b). The factor loading was also greater than one. While a factor loading greater than one does not mean the model is necessarily wrong, given what we know from the hierarchical model, this is further evidence the model is wrong. Factor loadings greater than one typically only occur when there are high correlations among the factors which was not observed here.

3.3 VALIDATION OF RELATED OUTCOMES

While the second order two-factor model did not fit, the relationships between the factors and outcomes can still be explored. The item structure identified by the exploratory factor analysis was used to compute factor scores for the participants in the confirmatory samples using Bartlett scores in SPSS Version 21.0 (2012). As they are produced with maximum likelihood, Bartlett scores produce unbiased estimates of factor scores (Hershberger, 2005). The distribution of factor scores was examined for all relevant outcomes.

Initially, the related outcomes were going to be entered into the full model once it was built. This would allow for the interrelationships between the outcomes to also be modeled. While there were no *a priori* hypotheses about interrelationships between the outcomes, it was expected that there would be some level of overlap. Since the second order two-factor model did not fit, multiple regressions were calculated for each outcome. In addition to the predictors, each outcome was also considered as a potential predictor in the regression models.

3.3.1 Social Desirability

Social desirability was assessed with a short form version of the Marlowe-Crowne scale (Ballard, 1992). The 13 items were reduced to four and factor scores were created

for the exploratory sample ($n = 158$). The residuals for social desirability factor scores were not normally distributed (Shapiro-Wilk = .971, $p = .002$), however examination of the q-q plot showed this violation was minimal so no transformation was conducted. The assumption of homoscedasticity was also met.

The valence of the measure is flipped. Specifically, the EFA conducted in section 3.1.1 selected items that reflected socially undesirable behavior (e.g. *I sometimes feel resentful when I don't get my own way*), so this is more of a measure of social undesirability. The factor scores were entered into a multiple regression model using forward selection. The predictors selected for inclusion were the factor scores for *Sociability*, *Communality*, *Perceived Anonymity*, *Dominance*, and *Self-Acceptance*. The count of consistent responses and the counts of the midpoint and extreme responses were also entered into the model. The final model included *Communality*, *Self-Acceptance*, *Dominance*, and the count of extreme responses as predictors (see table 3.13 for standardized coefficients).

The multiple linear regression selected from the exploratory sample was applied to the confirmatory sample ($n = 295$). The regression was significant, $F(3, 293) = 59.791$, $p < .001$, and the model fit was adequate ($R^2 = .380$). The results showed that socially undesirable responding was associated with increased scores in communality, $\beta = .333$, $SE = .047$, $t(293) = 6.77$, $p < .001$, 95% CI [.223, .405] and dominance $\beta = .278$, $SE = .047$, $t(293) = 5.90$, $p < .001$, 95% CI [.159, .338], as well as decreased scores on self-acceptance $\beta = -.370$, $SE = .043$, $t(293) = -8.56$, $p < .001$, 95% CI [-.441, -.271].

3.3.2 Extreme Responding

Extreme responding was assessed as the count of extreme responses (i.e. 1 or 5) on 15 randomly selected, uncorrelated variables. The residuals for extreme responding were not normally distributed (Shapiro-Wilk = .980, $p = .021$), however the violation was minimal so no transformation was conducted. The variable showed slight overdispersion, however the violation was small so a Poisson regression was chosen over a negative binomial.

All of the factor scores and outcomes were entered into a poisson regression model of extreme responding. The model was explored for significant predictors and reduced. The final model included *Sociability*, *Self-Acceptance*, and *Social Desirability*, (see table 3.14a for coefficients). The model was not well replicated in the confirmatory sample ($n = 295$). While sociability and self-acceptance remained significant predictors, social desirability did not (see table 3.14b for coefficients).

3.3.3 Midpoint Responding

Midpoint responding was assessed as the count of middle responses (i.e. 3) on 15 randomly selected, uncorrelated items. The residuals for midpoint responding were not normally distributed (Shapiro-Wilk = .882, $p < .001$), however the violation was minimal so no transformation was conducted. While the outcome showed slight overdispersion, the violation was small so a Poisson regression was chosen over a negative binomial.

All of the factor scores and outcomes were entered into a poisson regression model of midpoint responding. The model was explored for significant predictors and reduced. The final model included *Dominance* and *Self-Acceptance* (see table 3.15a for coefficients). Similar to extreme responding, the model was not replicated well. Only

dominance emerged as a significant predictor of midpoint responding (see table 3.15b for coefficients).

3.3.4 Response Consistency

Response consistency was not normally distributed (Shapiro-Wilk = .699, $p < .001$). It was negatively skewed and highly kurtotic. A ceiling effect was observed which resulted in the majority of participants displaying perfect consistency. Because this variable did not provide sufficient variability, it was unsuitable for analysis and was not explored further.

Table 3.1 Standardized Factor Loadings for Sociability.

	Factor loadings
Love large parties	.876
Enjoy being part of a large crowd	.845
Like to attract attention	.748
Make myself the center of attention	.739

Note. $N = 158$. Model estimated using Maximum Likelihood with Robust Standard Errors.

Table 3.2 Standardized Factor Loadings for Communality.

	Factor loadings
Need the approval of others	.898
Conform to others' opinions	.765
Do what others do	.728
Worry about what other people think of me	.675
Want to amount to something special in others' eyes	.667

Note. $N = 158$. Model estimated using Maximum Likelihood with Robust Standard Errors.

Table 3.3 Standardized Factor Loadings for Perceived Anonymity.

	Factor loadings
I am confident that my survey responses will be kept anonymous.	.868
I believe that the researchers are not retaining any identifiable information about me.	.823
I believe that my responses will not be tracked back to me.	.799
It would be difficult for others to identify me based on my responses alone.	.714
I trust that the researchers will not disclose my identity.	.467

Note. $N = 158$. Model estimated using Maximum Likelihood with Robust Standard Errors.

Table 3.4 Standardized Factor Loadings for Dominance.

	Factor loadings
Impose my will on others	.828
Put people under pressure	.789
Demand explanations from others	.756
Lay down the law to others	.747
Want to control the conversation	.725
Try to surpass others' accomplishments	.456

Note. $N = 158$. Model estimated using Maximum Likelihood with Robust Standard Errors.,

Table 3.5 Standardized Factor Loadings for Self-Acceptance.

	Factor loadings
I made some mistakes in the past, but I feel that all in all everything has worked out for the best.	.887
When I look at the story of my life, I am pleased with how things have turned out.	.827
The past has its ups and downs, but in general, I wouldn't want to change it.	.826
For the most part, I am proud of who I am and the life I lead.	.825
When I compare myself to friends and acquaintances, it makes me feel good about who I am.	.787
<i>Note.</i> $N = 158$. Model estimated using Maximum Likelihood with Robust Standard Errors.	

Table 3.6 Standardized Factor Loadings for Social (Un)Desirability.

	Factor loadings
On a few occasions, I have given up doing something because I thought too little of my ability.	.790
I sometimes feel resentful when I don't get my own way.	.779
There have been times when I was quite jealous of the good fortune of others.	.733
It is sometimes hard for me to go on with my work if I am not encouraged.	.675
There have been times when I felt like rebelling against people in authority even though I knew they were right.	.582
Model estimated using Maximum Likelihood with Robust Standard Errors.	

Table 3.7 Statistics for Extreme and Midpoint Scales in the Exploratory Sample.

	Extreme	Midpoint
Range of correlations	-.2690 to .4050	-.201 to .250
Average correlation	.0477	.0266
Average of absolute value of correlation	.0839	.0789
Cronbach's α	.423	.287
Guttman Split-half reliability	.346	.130
Range of scores	0 - 14	0 - 7
Skewness	.262	.941

Note. $N = 156$.

Table 3.8 Statistics for Extreme and Midpoint Scales in the Confirmatory Sample.

	Extreme	Midpoint
Range of correlations	-.1980 to .3680	-.233 to .325
Average correlation	.0421	.0276
Average of absolute value of correlation	.0863	.0809
Cronbach's α	.384	.276
Guttman Split-half reliability	.347	.260
Range of scores	0 - 15	0 - 8
Skewness	-.044	1.429

Note. $N = 300$.

Table 3.9 Frequency of Consistent Responses.

Number of consistent responses	Number of participants n (%)
0	4 (.9%)
1	12 (2.6%)
2	40 (8.7%)
3	123 (26.9%)
4	279 (60.9%)

Note. Because the expected cell counts for 0 and 1 consistent responses was below 5, those cells were excluded from the comparison of the two samples.

Table 3.10 Contingency Table for Most Consistent and Most Inconsistent Item Pairs in the Exploratory Sample.

		Second item pair		
		Consistent	Inconsistent	Total
First item pair	Consistent	122	20	142
	Inconsistent	8	8	16
	Total	130	28	158

Note. $N = 158$

Table 3.11 Contingency Table for Most Consistent and Most Inconsistent Item Pairs in the Confirmatory Sample.

		Second item pair		
		Consistent	Inconsistent	Total
First item pair	Consistent	227	33	260
	Inconsistent	32	8	40
	Total	259	41	300

Note. $N = 300$

Table 3.12 Standardized Loadings for all Selected Items Using Target Rotation.

	Factor				
	F1	F2	F3	F4	F5
Sociability1	.557			.206	
Sociability2	.925				
Sociability3	.923				
Sociability4	.57			.246	
Communality1	-.176	.787			
Communality2		.718			
Communality3		.866			
Communality4		.677			
Communality5		.684			
Anonymity1			.879		
Anonymity2			.831		
Anonymity3			.722	.106	
Anonymity4			.443	-.113	
Anonymity5			.799		
Dominance1		.249		.314	.116
Dominance2				.836	
Dominance3				.807	
Dominance4				.55	
Dominance5				.696	
Dominance6	.308			.811	
Self-Accept1		.116			.801
Self-Accept2					.889
Self-Accept3					.844
Self-Accept4					.821
Self-Accept5					.789

Note. $N = 156$. Factor loadings $< .1$ have not been printed. Model estimated using Maximum Likelihood and rotated with target rotation. Boldface loadings are significant at $p < .05$.

Table 3.13 Factor Correlation Matrix.

	Soc	Com	Anon	Dom	SA
Sociability	1.00				
Communality	.399	1.00			
Perceived Anonymity	-.180	-.069	1.00		
Dominance	.506	.291	-.262	1.00	
Self –Acceptance	.232	-.122	.115	.064	1.00

Note. $N = 298$.

Table 3.14 Residual Correlations after Fitting a One Factor Model to the Target Rotated Inter-Factor Correlation Matrix.

	Soc	Com	Anon	Dom	SA
Sociability	0.00				
Communality	.031	0.00			
Perceived Anonymity	.033	.044	0.00		
Dominance	-.032	.006	-.097	0.00	
Self –Acceptance	.140	-.171	.143	-.007	0.00

Note. $N = 298$.

Table 3.15 Standardized Factor Loadings after Fitting a One Factor Model to the Target Rotated Inter-Factor Correlation Matrix.

	One Factor Model	Two Factor Model	
	F1	F1	F2
Sociability	0.834	0.799	0.153
Communality	0.441	0.483	-0.151
Perceived Anonymity	-0.255	-0.285	0.134
Dominance	0.645	0.650	-0.010
Self –Acceptance	0.110	0.000	1.002

Note. $N = 298$.

Table 3.16 Coefficients for Social Undesirability Responding in the Exploratory Sample.

	β	SE	Standardized Coefficients	t
Communality	.479	.063	.488	7.634**
Self-Acceptance	-.355	.060	-.370	-5.965**
Dominance	.257	.066	.258	3.901**
Extreme Responding	.053	.019	.170	2.805**

Note. $N = 157$. **Significant at $p < .001$.

Table 3.17 Coefficients for Social Undesirability Responding in the Confirmatory Sample.

	β	SE	Standardized Coefficients	t
Communality	.333	.047	.345	7.121**
Self-Acceptance	-.370	.043	-.401	-8.626**
Dominance	.278	.047	.290	5.970**
Extreme Responding	.043	.013	.154	3.195**

Note. $N = 295$. **Significant at $p < .001$.

Table 3.18 Coefficients for Extreme Responding in the Exploratory Sample.

	β	SE	Wald χ^2	$Exp(\beta)$
Sociability	-.113	.0351	10.384**	.893
Self-Acceptance	.082	.0355	5.350*	1.086
SDR	.077	.0356	4.642*	1.080

Note. $N = 157$. *Significant at $p < .05$. **Significant at $p < .001$.

Table 3.19 Coefficients for Extreme Responding in the Confirmatory Sample.

	β	SE	Wald χ^2	$Exp(\beta)$
Sociability	-.122	.026	21.716**	.885
Self-Acceptance	.084	.028	9.207*	1.088
SDR	.020	.029	.467	1.020

Note. $N = 295$. *Significant at $p < .05$. **Significant at $p < .001$.

Table 3.20 Coefficients for Midpoint Responding in the Exploratory Sample.

	β	SE	Wald χ^2	Exp(β)
Dominance	.230	.067	11.553**	1.259
Self-Acceptance	-.154	.066	5.398*	.857

Note. $N = 155$. *Significant at $p < .05$. **Significant at $p < .001$.

Table 3.21 Coefficients for Midpoint Responding in the Confirmatory Sample.

	β	SE	Wald χ^2	Exp(β)
Dominance	.213	.046	21.921**	1.238
Self-Acceptance	-.034	.047	.526	.966

Note. $N = 297$. **Significant at $p < .001$.

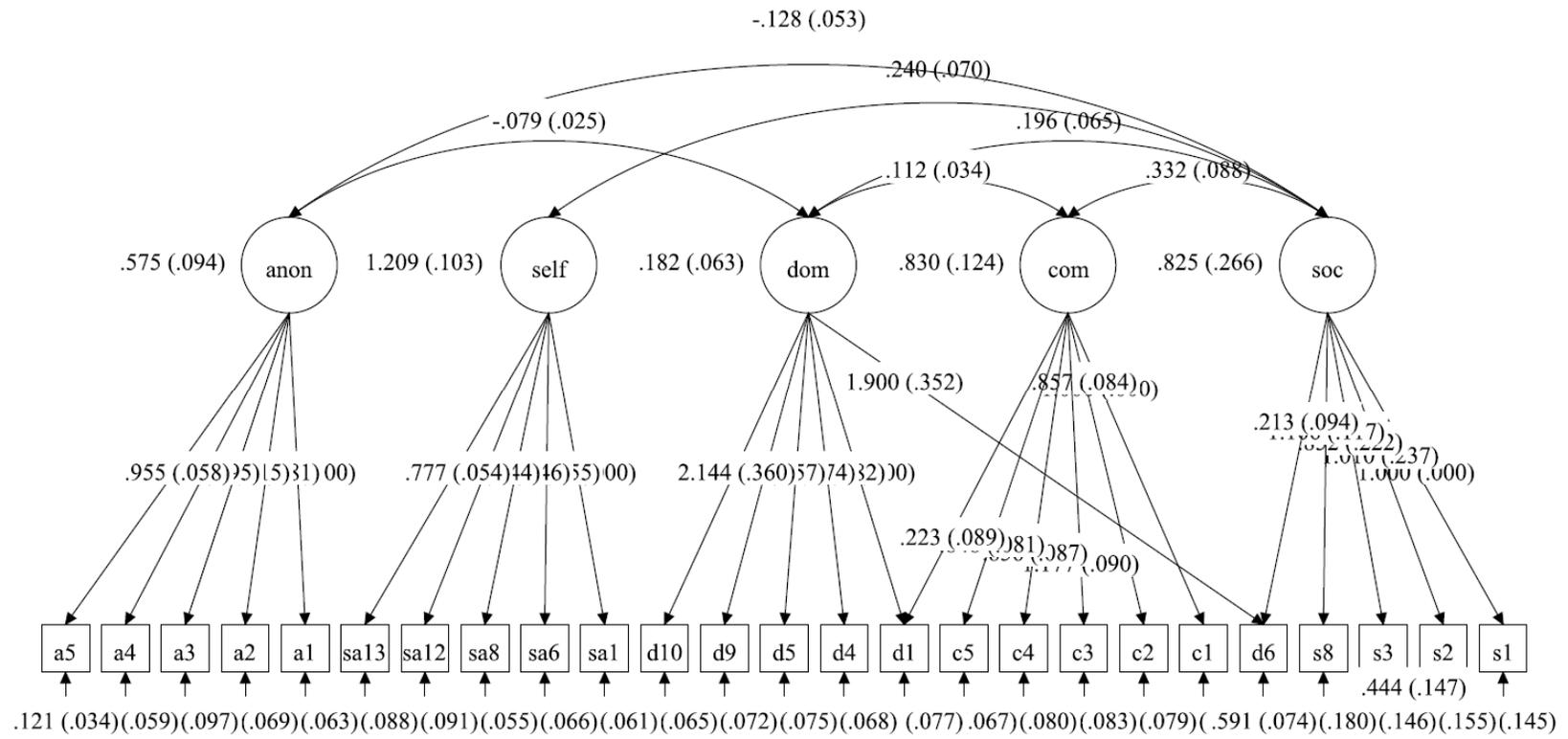


Figure 3.1 Exploratory Factor Analysis of the Selected Items, Fitted Using Target Rotation

Note. Only significant paths were included ($p < .05$)

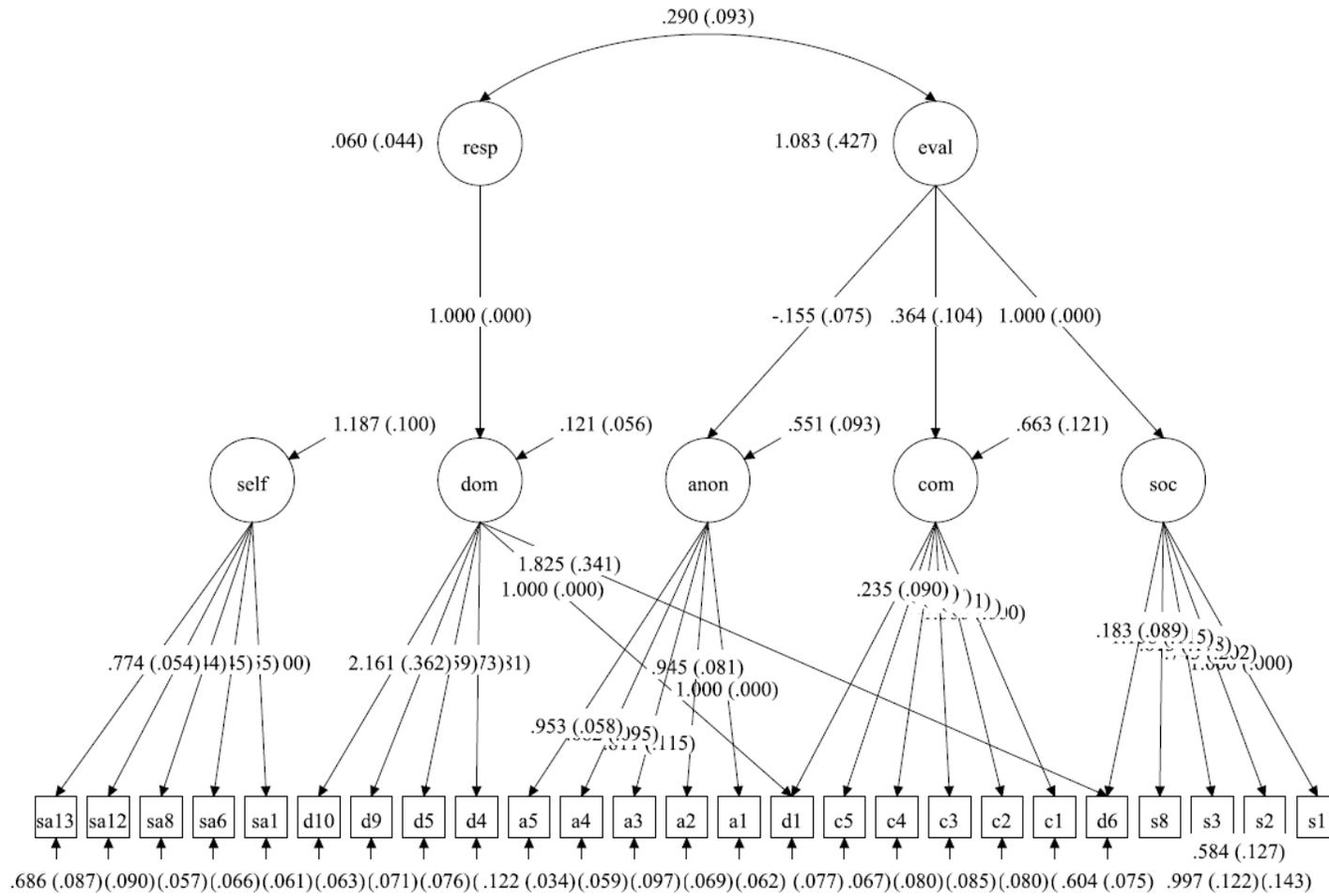


Figure 3.2 Second Order Two-Factor Model, Fitted Using Target Rotation

Note. Only significant paths were included ($p < .05$)

CHAPTER 4

DISCUSSION

4.1 PRIMARY HYPOTHESES

4.1.1. Hypothesis One: Sociability and Communality will be positively associated with response consistency, and use of any response style (i.e. social desirability, extreme, or midpoint responding).

There was partial support for hypothesis one. Contrary to expectations, communality was positively associated with socially *undesirable* responding. There are a number of possible reasons this might have occurred. While the items selected for the purified scale ultimately function best together out of all of the items, they are measuring the inverse of the intended variable. While the behaviors in the measure did not represent *positive* socially desirable items, the measure of communality was still positively related to a measure of *negative* socially desirable items.

When testing the factor structure of the combined items, a two-factor structure emerged, but the positively keyed items did not function well together. This suggests either the measure is capturing two substantive sides of a construct (i.e. socially desirable and undesirable behaviors). While the relationship was not exactly as expected, this still provides partial support. The reduced scale had very poor reliability ($\omega = .389$), however, and may not serve as a good outcome measure. Communality had no other significant relationships with any other outcome variables.

Sociability was negatively associated with use of extreme response style. This was also unexpected. Theory would suggest that sociable people are more likely to engage in self-presentational behaviors as they have more experience socializing and behaving consistently. Sociability has been positively associated with self-presentational behaviors in past studies (Johnson, 1981; Kristof-brown et al., 2002; Weiss & Feldman, 2006), however that did not emerge here. An alternative explanation for this finding is that sociable individuals may not display the self-presentational behavior of extreme responding. Extreme responding could be seen as a less socially acceptable response more likely to alienate others. While this finding was not initially hypothesized, it could explain what was observed.

4.1.2. Hypothesis Two: Perceived anonymity will be negatively associated with response consistency, and use of any response style (i.e. social desirability, extreme, or midpoint responding).

There was no support for hypothesis two. Perceived anonymity was very high ($M = 4.46$, $SD = .71$ on 5 point scale) across the whole sample resulting in a negatively skewed distribution. While the scale had good reliability ($\omega = .895$), the measure lacked sensitivity to detect any meaningful differences in perceived anonymity due to a ceiling effect, severely limiting its utility.

4.1.2. Hypothesis Three: Dominance and Self-Acceptance will be positively associated with response consistency and use of a response style (i.e. social desirability, extreme, or midpoint responding).

There was mixed support for hypothesis three. Self-Acceptance was positively associated with extreme responding but negatively associated with midpoint responding.

Midpoint and extreme responding have been shown to be weakly correlated (He & van de Vijver, 2013; He et al., 2014), an effect found in this sample as well ($r = -.381$). Standard approaches to correlation are not appropriate in this instance though as midpoint and extreme responding represent counts and follow a Poisson distribution. This was especially true for midpoint responding which was very positively skewed. I was unable to find an R package available to calculate the correlation between two Poisson distributed variables, so it is unclear if measures of midpoint and extreme responding are capturing the same tendency, or two different response patterns. The correlation may be stronger once the proper joint distribution is used.

Dominance remained a consistent predictor of midpoint responding and social desirability responding in both the exploratory and confirmatory samples; however, it was unrelated to extreme responding. Given the problems with the social desirability scale, the observed relationships between dominance and social desirability responding should be interpreted with caution. The relationship with midpoint responding is more telling though, especially as midpoint responding was the least common response option selected ($M = 14.38\%$ across all items and individuals). Dominance was expected to be associated with self-presentation indicators like midpoint responding, so seeing this relationship here suggests that dominant individuals select middle options more frequently. Possibly to make a quick and decisive impression as midpoint responses are easier to recall. Dominance has been strongly predictive of self-presentational behaviors in men (Fox & Tang, 2014; Johnson, 1981), however it has not yet been explored in a sample containing females. This study provided support for the association between dominance and midpoint responding in a mixed gender sample.

4.1.1. Hypothesis Four: A second order two-factor structure will best capture the relationships between the scales.

This hypothesis was not supported. The theory-based model for self-presentation did not fit and should be reevaluated.

4.2 GENERAL DISCUSSION

The aim of this study was to identify a theory-based model for self-presentation by examining the relationship between personality traits and utilization of self-presentational behaviors. Specifically, measures of sociability, communality, perceived anonymity, dominance, and self-acceptance were explored in relation to one another and to a number of metrics of data quality.

Each of these variables were selected due to strong associations with self-presentation in previous studies. Overall, this study found very little support for the hypotheses laid out in Chapter 1.3. There are a number of possible explanations for the results observed. One possibility is that the model is simply wrong. While all factors selected for inclusion in the second order two-factor model have been shown to be related to self-presentational behaviors in previous studies, the structure selected may not correctly describe the construct.

Interestingly, the relationships observed in previous studies were not replicated in this study. In many instances, a relationship either failed to replicate, or was reversed. For example, sociability was negatively associated with extreme responding and communality was positively associated with socially undesirable responding. These inconsistencies with previous literature suggest there may be alternative explanations for the findings beyond an incorrect model. In other words, if it were simply a problem of

incorrectly specifying the relationships between the factors, the factors should still be independently predictive of specific self-presentation behaviors in the predicted direction. That was not observed in most cases.

It is possible that the selected scales were inadequate for measuring the construct. Support for this explanation can be found in the scale purification process. Very few items were ultimately retained and they were occasionally not the most reflective of the construct. Another possibility is that the screening process to remove low quality data obscured the relationships between our predictors and data quality outcomes. Very fast responses, straightline responses, and incomplete responses were removed prior to building the model, however restricting the data to those that provide higher quality data may not result in a good model to capture predictors of low quality data. There is not a clear solution to this problem though, as inattentive responses are largely meaningless, making any obtained factor scores numeric nonsense for those individuals.

A theoretical explanation could also be contributing. The goal of self-presentation is to present a set of behaviors that are positive and can be maintained consistently. It is possible that what was considered desirable in the formative years of self-presentation theory is no longer as desirable. We saw this in the measure of social desirability where some of the “socially desirable” items would load equally with the “socially undesirable” items. For example, *I am sometimes irritated by people who ask favors of me* was considered socially undesirable, however loaded weakly and equally with the socially desirable and socially undesirable factors when a two-factor model was explored. It is possible that these older measures are no longer tapping into the constructs they were

designed to measure due to social changes in how a particular construct might present behaviorally.

4.3 LIMITATIONS AND FUTURE DIRECTIONS

The primary limitation in this study is in the quality of the measurements. In the process of purifying the scales, many items were shown to either perform poorly, or be inconsistent with the construct. While most of the resulting scales had suitable reliability, the measure for social desirability did not. In addition, the measure for social desirability taps into socially undesirable behaviors instead of socially desirable ones. The measures for perceived anonymity and response consistency showed insufficient variability with a substantial ceiling effect, resulting in insensitive instruments. Response consistency could be improved by increasing the number of items repeated throughout the survey.

Despite the limitations of this study, there were some interesting findings that warrant future consideration. In the process of data cleaning, it was noticed that midpoint responding is exceptionally uncommon. For midpoint responding, there is only one option whose selection would result in being identified as a midpoint response (i.e. 3 on a 5 points scale) whereas extreme responding has two options that can result in being identified as an extreme response (i.e. 1 or 5 on a 5 point scale). After adjusting for the number of options, midpoint responses ($M = 1.71$) were still less common in this sample than extreme responses ($M = 3.22$). While it is not unreasonable to compare these distributions based on the frequency differences, the cause of the frequency difference warrants some consideration.

This may be due to an expectation that a midpoint selection reflects uncertainty unless the wording is clearly referring to a midpoint (e.g. “in between” instead of “not

sure”; González-Romá & Espejo, 2003). This study used “neither accurate nor inaccurate” for the descriptor of the midpoint option which implies some level of uncertainty. Future research should use a more appropriate descriptor to increase midpoint responding in the sample.

Predicting low quality data is difficult because low quality data is inherently of poor predictive value and therefore not suitable for model building. MTurk has a unique identifier for their workers, allowing researchers to reach out to the same group of participants for additional data collection. Future research should use the longitudinal capabilities of MTurk to collect the predictors in short stages. Increased survey length is associated with reduced quality web data (Galesic & Bosnjak, 2009), so by splitting the surveys into separate chunks we should be able to reduce careless responding. Once the predictors have been collected, data validation of the outcomes could be collected by sending a longer, more demanding survey. This would provide greater inducement to provide lower quality responses. Utilizing this blended approach to data collection would assist in getting around the issue of building a predictive model of low quality data using exclusively high quality data.

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APPENDIX A

HIT DESCRIPTION

You are invited to complete a survey that is part of a dissertation-related research project about personality and beliefs at the University of South Carolina. This survey will last about 20 minutes with a compensation rate of \$2.00. If you are interested in participating, please click this link to complete the survey.

Make sure to leave this window open as you complete the survey. When you are finished, you will return to this page to paste the completion code into the box.

APPENDIX B
INFORMED CONSENT

Purpose of Study:

The purpose of this study is to explore how certain personality traits might be related and whether these traits are related to certain outcomes. The results of this study will be used to model the relationships between these traits.

Procedure:

You will complete a confidential online survey that asked demographic information and questions regarding various personality traits, such as sociability and self-monitoring.

Risks and Benefits of Participation:

There are no anticipated health risks related to participating in this study. Please remember that everyone's participation in this study is completely voluntary, so you may withdraw at this point without penalty.

If you participate, you will receive \$2.00 in compensation.

Confidentiality:

All of your responses are completely confidential and will never be shared with anyone outside the research team. All data will be stored in a secure file in an encrypted folder. Once the study closes, the data will be downloaded. No personally identifiable information will be retained.

Voluntary Participation:

Again, participation in this study is voluntary. You are free not to participate, or to withdraw your participation at this point, for any reason without negative consequences. Your participation, non-participation, and/or withdrawal will not affect earning the compensation. If you started the survey but would like any collected data to be deleted, you can contact the Principal Investigator (PI) at kjocoy@email.sc.edu.

Do you consent to have your data used in this study?

APPENDIX C
MEASURES

Demographics

1. How old are you? (in years) [drop-down menu]
2. What is your gender?
 - a. Male
 - b. Female
 - c. Transgender
 - d. Do not identify as male, female, or transgender
3. What is your race/ethnicity? Select all that apply.
 - a. White/European
 - b. Black/African
 - c. Asian
 - d. Hispanic
 - e. Native American/Alaska Native
 - f. Pacific Islander
 - g. Two or more races
 - h. Other

Full Survey

The following questions contain phrases describing behaviors or beliefs. Please use the provided rating scale to describe how accurately each statement describes you. Describe yourself as you are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of your same gender and approximate age. Your responses will be kept completely confidential and will not be associated with any personally identifiable information.

1	2	3	4	5
Very Inaccurate	Moderately Inaccurate	Neither accurate nor inaccurate	Moderately accurate	Very accurate

Sociability

1. Like to attract attention.
2. Love large parties.
3. Enjoy being part of a loud crowd.
4. Amuse my friends.

5. Like to amuse others.
6. Seek adventure.
7. Love action.
8. Make myself the center of attention.
9. Don't like crowded events*
10. Dislike loud music*

Communality

1. Worry about what people think of me.
2. Conform to others' opinions.
3. Need the approval of others.
4. Want to amount to something special in others' eyes.
5. Do what others do.
6. Don't care what others think.*
7. Am not concerned with making a good impression.*
8. Feel it's OK that some people don't like me.*
9. Want to form my own opinions.*
10. Want to be different from others.*

Dominance

1. Try to surpass others' accomplishments.
2. Try to outdo others.
3. Am quick to correct others.
4. Impose my will on others.
5. Demand explanations from others.
6. Want to control the conversation.
7. Am not afraid of providing criticism.
8. Challenge others' points of view.
9. Lay down the law to others.
10. Put people under pressure.
11. Hate to seem pushy.*

Self-Acceptance

1. When I look at the story of my life, I am pleased with how things have turned out.
2. In general, I feel confident and positive about myself.
3. I feel like many of the people I know have gotten more out of life than I have.*
4. Given the opportunity, there are many things about myself that I would change.*
5. I like most aspects of my personality.
6. I made some mistakes in the past, but I feel that all in all everything has worked out for the best
7. In many ways, I feel disappointed about my achievements in life.*
8. For the most part, I am proud of who I am and the life I lead.
9. I envy many people for the lives they lead.*
10. My attitude about myself is probably not as positive as most people feel about themselves.*
11. Many days I wake up feeling discouraged about how I have lived my life.*

12. The past had its ups and downs, but in general, I wouldn't want to change it.
13. When I compare myself to friends and acquaintances, it makes me feel good about who I am.
14. Everyone has their weaknesses, but I seem to have more than my share.*

Social Desirability

1. It is sometimes hard for me to go on with my work if I am not encouraged.*
2. I sometimes feel resentful when I don't get my own way.*
3. On a few occasions, I have given up doing something because I thought too little of my ability.*
4. There have been times when I felt like rebelling against people in authority even though I knew they were right.*
5. No matter who I'm talking to, I'm always a good listener.
6. There have been occasions when I took advantage of someone.*
7. I'm always willing to admit it when I make a mistake.
8. I sometimes try to get even, rather than forgive and forget.*
9. I am always courteous, even to people who are disagreeable.
10. I have never been irked when people expressed ideas very different from my own.
11. There have been times when I was quite jealous of the good fortune of others.*
12. I am sometimes irritated by people who ask favors of me.*
13. I have never deliberately said something that hurt someone's feelings.

Factual Items of Heterogeneous Content

1. Blue is my favorite color
2. I daydream a lot
3. I enjoy Italian food
4. The weather has been pleasant lately**
5. I prefer television to movies
6. I like to travel
7. I learn best by doing
8. Math was my favorite subject as a child
9. I enjoy crafts
10. I use the Internet for email
11. I sometimes use my fingers when counting
12. My daily schedule involves writing a lot
13. I would enjoy working in sales
14. I use the Internet for video streaming
15. I get enough sleep
16. I listen to music regularly
17. I learn best by watching
18. I rarely make spelling mistakes
19. Breakfast is my favorite meal of the day
20. I use basic math every day
21. I stick to a budget
22. I organize my schedule with a planner
23. I am rarely late

24. I read online news articles
25. History is an interesting subject**
26. I enjoy teaching people new things
27. I am a night owl
28. Spices make food taste better
29. I stretch daily**
30. I am a good public speaker
31. I play video games
32. I read the financial section of the paper
33. My major/job requires using spreadsheets
34. I drive more than 10 miles per day**
35. I enjoy negotiating
36. I use the Internet to make purchases
37. I feel challenged by my work
38. I know more than one language
39. I have given a presentation in the past year
40. I am a member of a professional organization

Perceived Anonymity

1. I am confident that my survey responses will be kept anonymous.
2. I believe that the researchers are not retaining any identifiable information about me.
3. I believe that my responses will not be tracked back to me.
4. It would be difficult for others to identify me based on my responses alone.
5. I trust that my identity will not be revealed.

*Indicates the item is a reversed item.

**Indicates an item that was repeated