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The Impact of Social Desirability on an Individual's Scale of Accurate Personality Prediction (SAPP) Score

Alexander James Kiss

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By
Alexander James Kiss

Bachelor of Arts
Psychology
Rutgers University
2014

Bachelor of Science
Exercise Science and Sport Management
Rutgers University
2014

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Psychology
Florida Institute of Technology
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We the undersigned committee hereby approve the attached doctoral level project,
"The Impact of Social Desirability on an Individual's
Scale of Accurate Personality Prediction (SAPP) Score"
by Alexander James Kiss, M.S.

_____
Richard T. Elmore, Jr., Ph.D.
Associate Professor
College of Psychology and Liberal Arts
Committee Chair

_____
Victoria Follette, Ph.D.
Professor and Program Chair
College of Psychology and Liberal Arts
Committee Member

_____
John Frongillo, Ph.D.
Assistant Professor
College of Arts and Communication
Committee Member

_____
Lisa Steelman, Ph.D.
Professor and Dean
College of Psychology and Liberal Art

Abstract

TITLE: The Impact of Social Desirability on an Individual's Scale of Accurate Personality Prediction (SAPP) Score

AUTHOR: Alexander James Kiss, M.S.

MAJOR ADVISOR: Richard T. Elmore, Jr., Ph.D.

The Scale of Accurate Personality Prediction (SAPP), developed by Miller (2000), was derived from the 16PF and purports to measure an individual's ability to accurately assess his or her own self-knowledge. The scores from the SAPP are derived from calculating the absolute value of the difference between the individuals predicted scores on the 16PF, and the individual's actual scores on the 16PF. The present study aimed to determine if individuals with lower SAPP scores were influenced by social desirability, and if social desirability perception differs by gender. Archival data of 607 individuals was organized into 150 low scoring SAPP individuals and analyzed through a series of T-tests on each of the 16PF 21 factors. Analyses indicated that Warmth (A+), Emotional Stability (C+), Rule Consciousness (G+), Social Boldness (H+), Sensitivity (I+), Abstractness (M-), Apprehension (O-), Perfectionism (Q3+). Tough Mindedness (TM-), and Self Control (SC+) showed a significant difference between obtained and predicted scores. Male respondents did not show significant differences in Social Boldness, and males showed additional significant difference in Tension (Q4-). Implications, limitations, and suggestions for further research are discussed.

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Literature Review

Theories of Personality

Although the concepts of personality and persona have existed for hundreds, if not thousands, of years, organized psychological theories and studies on personality, in contrast, are relatively new to human thought. Theories of personality were developed in order to assist in understanding the complexity of human nature and its interaction with the world. These theories help bring together and simplify various observations of human activity, as well to create hypotheses for the prediction of future human behavior.

The Psychodynamic theory of personality, developed by Sigmund Freud, suggests that personality is composed of three components, which serve very different functions for the individual. The three parts of personality, according to psychodynamic theory, include the Id, Ego, and Superego. The Id, Latin for "it", represents the primitive drives, instincts, and the "creature-like" aspects of personality. The Id is seen as operating entirely beneath one's conscious awareness, as is guided by the pleasure principle. The Ego, Latin for "I", is the decision-making function of human personality, and is seen as reality based, and operates to satisfy one's Id needs within the constraints of reality. This feature is contemplative and considers the primal needs of the Id, as well as the balance and limitation of the

Superego. The Superego is the part of personality that develops through socialization, and serves as one's moral compass. This is where values, rules, norms, and ethics are developed. This feature of personality serves as a balance against the instinct driven impulsive nature of the Id, to help shape the decision-making Ego (Hjelle & Ziegler, 1992). Psychodynamic theorists such as Carl Jung and Sigmund Freud suggest that personality is a result of unconscious drive and conscious interaction with the world, with the unconscious serving as a primary driving force. Jung described a collective unconscious and predispositions to perceive the world in different ways, called archetypes. Chief among these archetypes is the self, which he suggested is the true midpoint of personality (Engler, 2003).

While psychodynamic approach tends to focus more on unconscious personality development, social learning theorists such as Albert Bandura, have had a more conscious interactive view on personality development. Beyond simple behaviorism and animalistic drives, Bandura suggested personality develops through modeling and social learning, and not just balancing instinctual urges with reality and morality (Engler, 2003). Modeling through learning shapes personality by perceiving one's own behavior, remembering the behavior observed, translating the behavior into new response patterns, and then enacting the modeled behavior if it is positively reinforced (Hjelle & Ziegler, 1992 from Bandura, 1989a).

Personality is thus shaped by observing and repeating behavior that is reinforced. Logically, if a certain behavioral trait is reinforced it will be repeated, and the developing person will form this trait as part of his or her personality. Bandura further suggested that there are different reinforcement types; vicarious and self-reinforcement. He argues that most human behavior is regulated through self-reinforcement (Hjelle & Ziegler, 1992 from Bandura, 1988). Self-reinforcement occurs when people set standards of performance for achievement, and then proceed to reward or punish themselves for attaining, exceeding, or falling short of their own expectations. In essence, social learning theories of personality suggest behavior shapes personality due to reward systems, and that behavior is learned through socialization. Individuals will respond to situations in ways in which they can expect to be rewarded, and the reward may be external motivated by others, or internal motivated by the self.

As personality theories continued to develop, one known as Trait Theory has drawn considerable attention. Theorists such as Raymond Cattell sought to identify common traits of personality in order to better understand and categorize individuals. This search for these traits, which are seen as reflecting well-established human tendencies to act in certain predictable ways, has led to the Trait Theory approach to understanding personality. Cattell defined personality as "…that which permits a prediction of what a person will do in a given situation"

(1950). He described surface traits as cluster of overt behavioral responses that appear to go together, and underlying source traits that seem to determine the manifestation of the surface ones. Cattell's primary contribution was to research, and then, identify the various source traits using self-report questionnaires, life records, and behavior observations. Through a series of oblique factor analyses, Cattell identified 16 basic primary source traits, and five more global factors that were derived from those 16 initial ones. Cattell believed that these 21 factors represent the building blocks of personality (Engler, 2003).

Through Cattell's example, five primary factors of personality have been identified. Popularly known as the "Big Five", and also known as "OCEAN", these traits include Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness, though Cattell himself was not a proponent of the "Big Five", believing that five factors was too few (Engler, 2003). Support for the Big Five comes from analysis of language, using terms that have been used to describe personality. Cattell's factor analyses of the structure of personality was able to reduce the initial list of over 17,000 to 16, and later researchers, such as Tupes and Christal (1961), were able to consistently replicate five personality factors using the same data as Cattell. Cattell used the 16 factors he narrowed down to develop the 16 Personality Factor Questionnaire, which will be discussed later.

From the “Big Five”, using analysis of language, the “Five Factor Model” was developed. This model is recognizes as an interpretation of the Big Five factors. It attempts to describe personality structure in terms of five broad categories, essentially claiming that individuals can be described by their scores on the measure of the broad concepts, or subsets. It further suggests that the differences among these people in these dimensions are stable over time (Engler, 2003). In essence, using the Big Five as a basis of argument in determining the language that mankind has created in order to define personality and interpreting these broad categories to describe an individual’s personal makeup has allowed for a description of an individual’s personality makeup.

The application of the Five Factor model has resulted in the development of personality measures. These personality measures have had a wide variety of uses, including predicting job success (Engler, 2003 from Barrick and Mount, 1991), satisfaction (Tokar & Subich, 1997), goodness of fit (Holland, 1996), or how well people may get along with one another. Measures using the dimensional method of personality traits as discussed can give an individual a nice representation of which personality traits likely combine to form the individual’s specific personality makeup, and subsequently who that individual is. The emphasis of the Five Factor model is on traits rather than types, which allows for the examination of personality on a dimensional level rather than a categorical one. Although some personality

measures have used the dimensional approach to identify personality factors as part of a continuum, thus relying on the five-factor model to shape the view of personality, it should be noted that these efforts rely primarily on self-report. Self-report in and of itself relies on the concept and accuracy of self-knowledge.

Self-Knowledge

For many, the self can be viewed from the perspective of the self as "I", or the self as "Me". The "I" concept of the self is the self that exists, thinks, and is aware of itself. It reflects the sentient and conscious aspect of one's being. It has no component parts, and is not reducible to what might constitute it. It simply is, and reflects that it is. The "Me" concept of the self, on the other hand, includes all the mental concepts, ideas, beliefs, etc. of who an individual is, was, or will become. It also includes one's biological, physiological, chemical, and psychological constructs that are part of the individual, and that are potentially measurable. This is the content of self-concept (Oyserman, Elmore, Smith, 2005). Given this, the concept of self-knowledge has best been viewed as a Self as "Me" construct and will be considered as such for the remainder of this paper.

While the development of "I" self-knowledge occurs as a natural phase of human development when the child learns that he or she is a distinctly different person from the caregiver and he or she begins to develop his or her own self

distinct from others (Erikson, 1950), the development of "Me" is a more complicated and longer lasting process that involves the features and aspects of personality, that will come to describe an individual's self.

The development of self-knowledge, as demonstrated by the preceding theories, is a vastly complicated process. In order to understand how an individual acquires self-knowledge, it is vital to understand how an individual acquires the beliefs and knowledge of one's self. This "Me" knowledge of the self is thought to be a two-fold process; an individual's personal memories help that person define him or herself, and generalizations and representations about the self, such as appearance, abilities, and other psychological characteristics add to the self-definition (Hart & Matsuba, 2012). Attributions such as "I am a good dancer" or "I am good at math" help an individual define him or herself based on these generalizations or representations about the self. The two-fold process of awareness is thus a consequence of past personal experience, and a comparison to external social factors. Personal identity of being "good" or "bad" at a particular skill would have to be relative to be defined properly. So profound is the impact of self-knowledge that neuropsychologists have implicated the Medial Prefrontal Cortex in playing a vital role in self-knowledge (Lieberman, 2012), suggesting that self-knowledge is a neurological process involved with the memory and decision-making areas of the brain. Individual have to pull from memory those aspects that

make up parts of themselves, and then formulate a decision to proceed in their life roles based on those memories and a social analysis of the situation at hand. Self-Verification theory suggests that humans have a fundamental motive to confirm their existing self-views. They use these self-views to make predictions about the world, guide their behaviors, and maintain a sense of continuity. Others may assist in the development of self-knowledge through multiple factors including; younger age social influence, perceived expertise, and attributes that are defined by others' perceptions (Srivastava, 2012). In early development, identity formation is largely shaped by external appraisals. As people age, they tend to rely on and trust expert opinion, such as from a doctor. All the same, some attributes that help to define an individual can only be defined through social comparison, such as social status, attractiveness, and likeability, among other socially defined traits. The important takeaway is that the individual's concept of self is largely influenced by social factors.

In conjunction with external input regarding the self, internal processes help to organize what the individual has come to know about him or herself, and how to respond to specific stimuli based on the knowledge obtained. Leary and Tagney suggest attentional processes, cognitive processes, and executive processes play a role in the organization of the self, as it relates to "Me" self-knowledge (2005). The attentional process allows the individual to direct attention onto oneself, which in

turn increases self-awareness. This process has important effects on thoughts, emotions, and behaviors. Following self-focused attention, self- centered thought underlies self-concept and identity, and allows for further guidance for one's own actions. This further allows for metacognition about how one's own actions may influence or impact those around the individual based on the idea of self-knowledge and self-awareness of one's own actions. Executive processes involve the individual carrying out these actions, adjusting for error, and planning for the future based on determined adjustments. By identifying the existence of the self and the impact self-knowledge has on an individual, self-knowledge could be thought of as essentially free will, allowing individuals to act in autonomous, self-directed ways (Leary and Tagney, 2005).

Given that self-knowledge is generally seen as Self as "Me" entity, it therefore lends itself to a more scientific approach to understanding its nature (as opposed to the Self as "I", which is better suited for philosophical and phenomenological study). Thus, it is a construct that opens itself up to more traditional assessment, and numerically-based, efforts.

Assessment of Self-Knowledge

Researchers have demonstrated various ways of assessing self-knowledge, including a study by Klein and Loftus using descriptive, autobiographic, and

semantic traits to determine if subjects are primed to endorse whether a specific trait applies to them (1993). Much of the Self-knowledge research relies heavily on self-description and comparison between self-rating on personality measures as well as other-rating to self-rating. In one study, participants rated themselves on the California Adult Q-sort. This measure consists of 100 descriptive statements on separate cards that describe a full range of personality attributes, and the individual was tasked with sorting the cards into nine categories ranging from "extremely characteristic" to "extremely uncharacteristic". These ratings were compared to ratings on the Revised NEO Personality Inventory, which assesses the big five factors of personality previously discussed (Vogt & Colvin, 2005). By assessing individuals across multiple personality measures, researchers were looking for consistent responses across similar factors of personality. A consistent pattern of response would allude to a stable personality attribute, at least in the eyes of that individual. When spouse or other relationship ratings are added, it theoretically adds a degree of external validity to the personality attribute (Vogt & Colvin, 2005).

While some researchers rely on comparison between measures of personality to provide support for evidence of self-knowledge, others focus on the ability of the individual to predict his or her own personality traits. One such method involves allowing the individual to view a list of variables on a 10-point

scale, predict where his or her personality will fall on each factor, and then take the personality assessment. The researcher then would compare the difference between the predicted score and the actual score to ascertain the individual's level of self-knowledge. This is the method utilized for the development of the Scale of Accurate Personality Prediction (SAPP).

Development of the SAPP

The SAPP was devised from the 16 Personality Factor Questionnaire developed by Raymond Cattell in 1946 and which is considered an indirect measure of personality. Direct measures of personality present traits or personality domains to the individual and ask that individual to decide whether that trait or domain is an accurate depiction of his or her perception of his or her own personality. These measures rely on accurate self-knowledge of an individual. Indirect measures of personality are considered formal tests because they are not directly asking an individual to rate agreement on a specific trait or domain, rather these measures ask agreement on a statement without the test-taker explicitly knowing which trait or domain his or her answer will code to. These tests have been accused of being face-valid, with some questions more obviously leaning toward one trait than others, and thus could be faked. However, these tests are examined for how easily they can be faked, empirically validated, and often have

built-in safeguards to prevent or adjust for such bias. The 16PF, for example, has three such scales protecting against faking good or faking bad, endorsing every item, or variable responding that may be inconsistent with the norm. The 16PF has an internal reliability mean of .75 and a test-retest within two weeks of .8, with each individual factor ranging between .72 and .86 (Russell & Carol, 1994). Overall, indirect measures have high empirical support for their ability to detect bias and present an accurate estimation of an individual's personality.

Since the time of its inception, the 16PF has undergone five editions, and it is the Fifth Edition that was used in this study. The 16PF, Fifth Edition, is a 185 item self-report questionnaire, which yields 16 personality factors and five global scales, measured on a 10-point bipolar continuum. On each side of the personality factor lie descriptive words to allow individuals to understand what the scale presumably measures (See Appendix for a copy of the 16PF, Fifth Edition Profile Form). There are also three response styles measurements (Impression Management (IM), Infrequency (INF), and Acquiescent (ACQ)) that are included to determine if an individual is attempting to answer the questionnaire in a way that might skew the obtained results. For the basic 21 factors, each factor has been normalized into standard ten scores (or sten scores). Each sten score has a range from 1 – 10, with a mean of 5.5, and a standard deviation of two. The average range on each trait is then between four and seven, and a score below four and

above seven are considered more indicative of the presence of the trait being measured. The 16 traits measured by the 16PF include: Warmth (A), Reasoning (B), Emotional Stability (C), Dominance I, Liveliness (F), Rule-Consciousness (G), Social Boldness (H), Sensitivity (I), Vigilance (L), Abstractness (M), Privateness (N), Apprehension (O), Openness to Change (Q1), Self-Reliance (Q2), Perfectionism (Q3), and Tension (Q4). These traits are grouped into broader global factors that include: Extraversion (EX), Anxiety (AX), Tough-mindedness I, Independence (IN), and Self-Control (SC).

Using the 16PF, the SAPP was developed by Miller (2000) in order to provide one method of assessing the accuracy of one's self-knowledge. Miller's study relied both concepts of direct and indirect measurement of personality.

Miller's Study

Miller asked participants to complete the 16PF as per the manual instructions. Following completion, she provided subjects with a blank scoring form consisting of 1) each factor and global factor of the 16PF as the 1-10 scale, asked them to rate themselves on the bipolar continuum for each of the 16 factors and 5 global factors. A SAPP score for each participant was then derived by utilizing the following formula:

SAPP = [OSA-PSA]+[OSB-PSB]+[OSC-PSC]+[OSE-PSE]+[OSF-PSF]+[OSG-PSG]+[OSH-PSH]+[OSI-PSI]+[OSL-PSL]+[OSM-PSM]+[OSN-PSN]+[OSO-PSO]+[OSQ1-PSQ1]+[OSQ2-PSQ2]+[OSQ3-PSQ3]+[OSQ4-PSQ4]+[OSEX-PSEX]+[OSAX-PSAX]+[OSTM-PSTM]+[OSIN-PSIN]+[OSSC-PSSC]

In the above formula, OS refers to obtained score, and PS refers to predicted score. Each letter following OS and PS refers to the obtained and predicted scores for each scale of the 16PF. As can be seen, SAPP scores derived from this formula can range from 0 to 189, with high scores reflecting poorer predictive ability, and lower scores, better predictive ability (Miller, 2000). Following Miller's study, multiple efforts have been made to assess the SAPP's degree of reliability and validity.

SAPP Reliability

The reliability of the SAPP has been investigated through test-retest measures. Silva (2011) examined individual's SAPP scores during an initial testing and compared it to a testing session two weeks later and did not find a correlation significant enough for the scientific community ($r^2 = .397$, $p < .05$). Sverdlova (2012) sought to replicate Silva's study instead using a 4-week interval between testing sessions, with similar significance below the scientific standard of acceptance but still acceptable ($r^2 = .466$, $p < .05$). These results could have been in part due to low sample sizes, or limited diversity in the subject pool.

In order to further attempt to establish reliability of the SAPP, Hirsch (2012) replicated Silva's study using the same two-week interval between testing periods and her results yielded a significant correlation between SAPP scores (r^2 = .566, $p < .01$), suggesting a more acceptable degree of test-retest reliability. Elghossain (2012) instead used a 6-week interval between testing periods and was able to produce a significant correlation between SAPP scores (r^2 = .772, $p < .01$), despite test-retest measures generally decreasing in reliability with greater intervals between testing, further demonstrating support for reliability of the SAPP in measuring self-knowledge.

The test-retest reliability of the SAPP is limited by test-retest reliabilities of its constituent 21 factors. Thus, what might appear to be lower test-retest results, are actually better than what would ordinarily be expected.

SAPP Validation

Miller's hypothesis of the SAPP was that lower scores would indicate higher self-knowledge, with the logical inference that an individual who can predict his or her own personality scores with reliable accuracy would tend to know his or her personality fairly well. Several studies have sought to validate this hypothesis. Validity is described as the ability to accurately measure what a test, or any measure, purports to measure. Validity studies often use two aspects of validity;

convergent and divergent. Convergent validity is demonstrated by establishing a strong correlation between the measure in question and another measure which purports to measure the same construct. In this case, the SAPP convergent validity would be supported by finding a significant correlation between it and other seemingly comparable constructs. Divergent validity of the SAPP relies on discovering a lack of correlation between the SAPP and a dissimilar construct.

Unfortunately, perusal of the available literature does not reveal other singular and clear-cut measures of the self-knowledge construct. Given this, efforts have been made to support the convergent validity of the SAPP by comparing it to somewhat similar constructs. For example, Hood (2001) compared the SAPP with the Self-Consciousness Scale to examine its convergent validity, and with the Tennessee Self-Concept Scale to look for its divergent validity. Hood found no significant correlations with either of the two measures, providing support for the SAPP not measuring a self-concept dimension, but neither measuring the construct of self-reflection. A study by Anderson (2002) used the Self-Monitoring Scale to study the SAPP's convergent validity with it, but again no positive correlation emerged. Glywasky (2003), in an attempt to replicate the study by Hood, determined that the SAPP does not measure self-concept or self-esteem and unrelated to a person's ability to be self-reflective and introspective, traits thought to be related to self-knowledge. Winter (2002) attempted to support the SAPP's

construct validity by suggesting that graduate psychology students would be able to better predict their personality characteristics than engineering students on the premise that possessing certain personality characteristics would make one better at predicting one's personality. Yet she too was unable to find significant results. However, in a replication study, Grossenbacher (2006) was able to achieve positive results using a larger sample.

A study by Layton (2005) looked to validate the SAPP by using comparison between self and other-reports. Layton's study used friends of the target person, who rated their respective target individuals across the 21 16 PF variables, and then developed a concordance measure of the targets' self-ratings and those of the two friends. A positive correlation between the concordance measure and the SAPP scores yielded a positive correlation, but one that did not reach level of statistical significance. A study by Hickey (2005) used a similar concordance measure of family member ratings compared to SAPP ratings (instead of peer ratings per Layton), and also found a positive correlation, though again not to a significant level. Blankemeier (2007) was able to replicate Hickey's study to a significant level and concluded that the SAPP was a valid measure for self-knowledge. A key difference in Blankemeier's study was the use of a larger sample size. Wolf (2006) replicated Layton's study with a larger sample size as well, and was able to find a significant positive correlation between the concordance measure and the SAPP.

A study by Afandor (2006) predicted lower client SAPP scores would significantly correlate positively with higher therapist ratings of clients' self-knowledge, yet found no significance emerged. The author pointed to the very small sample size (N=29) as a very limiting condition. Hadricky (2009) conducted a similar study and again found no significance, likely due also to its limited sample size.

Overall, there appears to be some reasonableness to the consistency of the SAPP, given its acceptable test-retest results found to date. Its validity appears worthy of continued study, with possible replications of the studies cited indicated.

Generalizability of the SAPP

In order to establish the generalizability of the SAPP, Rodriguez (2011) conducted a study aimed at comparing the SAPP scores from the Hispanic population to those of the general population, with the hypothesis that the scores from the Hispanic population will be similar to the general population. Rodriguez discovered no significant differences between overall SAPP scores of the Hispanic community and the general population, suggesting that the SAPP is generalizable to the Hispanic community. Significant differences in the domains of Liveliness, Rule-Consciousness, Abstractedness, and Apprehension were hypothesized to be due to the limited sample size.

Zeng (2014) attempted to determine the generalizability of the SAPP to the Asian population and found no significant differences between SAPP scores of the general population and of the scores of the Asian community she identified in two of the three random samples. Overall differences on individual factors were found to be on dimensions of Social Boldness, Independence, Dominance, Emotional Stability, and Openness to Change. These are consistent with differences between collectivist and individualistic cultures, but may also be due in part to limited sample size. Overall, these two studies demonstrate significant results to suggest the overall SAPP score to be generalizable across at least these two different cultures.

Bias in Self-Knowledge

Overwhelmingly, the largest problem in personality prediction is reliance on an individual's ability to accurately predict his or her own personality, which is inherently biased. People tend to overestimate themselves, exaggerating positive abilities and minimizing negative abilities. This is known as the "above-average effect", where people on average tend to view themselves as above-average. This may result in an individual overestimating a score on an assessment or underestimating the time it may take to complete a project to prove one's own competency (Dunning et al, 2004). Due to this tendency, asking an individual to

predict one's own personality traits, with the knowledge of the above-average effect, one might expect a bias in prediction. This bias could potentially result in a self-knowledge error that may impact the validity and effectiveness of a measure such as the SAPP. Overly positive views of the self are nothing new. People tend to have statistically unrealistic optimism with regard to their traits, traits of those around them, and expectation of positive and negative events (Brown, 1991). A study using the Self-Deception Questionnaire showed that those with depression and other mental illness have been found to be more accurate in self-assessment. Those individuals most prone to engage in self-deception also score lowest on pathology measures, suggesting accurate self-knowledge may not be essential for mental health (Brown, 1991).

Holding a favorable bias may not be the worst thing; people who hold overly positive self-views tend to be happier. However, those unaware of their own biases may well be ill equipped to functionally optimally, and may often lead to unsatisfying relationships, work environments, and poor decision making (Zell & Krizan, 2014). This may be due to the individual's bias perceptions meeting reality, and the inevitable consequence of that discrepancy. Zell and Krizan (2014) did not find significant results in people's self-insight ability, suggesting that most people do not have accurate insight into their own traits.

Inaccuracies may result from additional factors other than self-enhancement tendency. A study using ambiguous and unambiguous traits showed that individual raters were more likely to trend toward favorable ratings in the ambiguous traits than the unambiguous traits (Felson, 1981). While this may also be due to the general above-average effect, it highlights an important piece of personality prediction. Given a neutral trait, people will tend to trend toward a favorable rating, or their perception of a favorable rating. A clearly socially defined favorable trait would thus be expected to produce inaccurate prediction in individuals for this same reason. When success as a trait is more clearly defined, people tend to be much more accurate. Much like Felson's study, ambiguous traits such as "sensitive" or "neurotic" are much more prone to self-favorability instead of unambiguous traits, such as "mathematical" (Carter & Dunning, 2008). This research suggests that perhaps the reason some individuals are poor predictors of their own personality is because personality assessments rely heavily on ambiguous traits, such as "openness" and "sensitivity".

Research on the impact of social desirability on personality predictions is limited, with some suggesting a significant impact on accurate predictive ability (Vogt & Colvin, 2005). Current research suggests that overrating is more prevalent, but it is unclear whether inaccuracies are due to overrating or underrating (Zell & Krizan, 2014). Both implicit and explicit factors play a role in an individual's

development of a personality concept (Back et al., 2009). It is important to consider the factor of social influence on self-assessment. Research has shown social norms have impacted the accuracy of self-assessment (Fay et al, 2012). In addition, informational and motivational factors may influence one's accurate self-knowledge. Information barriers are due to the fact that individuals have to assess their abilities based on how they understand their own behavior, and how they utilize the feedback of others. Motivation barriers of self-enhancement and self-verification suggest that people want to view themselves in a more positive light, yet also want to have proof. This means that people will tend to highlight positive attributes and ignore negative attributions that could threaten their self-enhanced views (Carlson, 2013). This interplay may suggest an important role in uncovering the reasoning behind inaccurate self-perception, and how it impacts an individual's prediction in personality measurements.

Statement of Purpose

Mankind's fascination with human personality has existed for as far back as human records go, and most likely for as long as humans have been able to think and communicate. Theories of personality have sprouted from every corner of the globe, with each culture adding its own definition and conceptualization of what personality truly is. The common usage of the term "personality" comes from the Latin "persona", referring to the masks that actors wore in ancient Greek plays. Actors would change personae to let the audience know that a different role was being played (Engler, 2003). Modern theorists have generally suggested that the core of personality is the concept of the self. How mankind has come to measure personality and the self has evolved over time, with testing becoming more and more sophisticated. Objective personality tests, such as the 16 Personality Factor Questionnaire (16PF), were developed to better examine the vast differences in features of personality that make up an individual's self. In examining different personality factors that are thought to make up who a person is, (e.g., his or her self), researchers have prodded the topic of self-knowledge. Self-knowledge, conceptualized as the ability for one to understand and know oneself, has been studied for many years. The concept itself is inherently tricky to examine, primarily because it relies on the individual's own estimation of his or her self. Human

beings are inherently very social creatures. This biological fact is rooted in evolutionarily advantageous interaction.

Research and history suggests personality traits can be narrowed and described within a limited number of traits. In these limited traits, individual people can select traits that they think might best describe their personalities. A study by McElligott (2014) did not show specific personality factors being more susceptible to social desirability overall. However, a preponderance of research suggests that people are often highly inaccurate in attributing traits to themselves, whether due to self-enhancing biases, above-average effects, or the ambiguity of the various traits. The purpose of the SAPP was to determine the accuracy of individuals when asked to predict their own scores on the 16PF. The hypothesis generated in this study aims to determine one possible explanation as to why some individuals are more accurate than others in predicting their own personality. It is believed that people with poorer SAPP scores have obtained those scores due to overestimation on personality traits considered to be more socially desirable.

Method

Subjects

This study used existing data from a non-randomly drawn database of over 600 subjects compiled over the past 15 years who completed the 16PF and then subsequent predicted their individual scores across the 16PF 21 scales. Subjects include college students, other professionals, and individuals from the community.

Procedure

Participants were administered the 16PF and were provided a scoring sheet, where they were asked to rate themselves on each of the sixteen personality factors and five global factors. The scores obtained in the 16PF were then compared to the scores obtained from the self-rating scoring sheet.

Data Analysis

Results of administration yielded an obtained score (OS) and predicted score (PS) for each of the sixteen personality factors and five global factors. These scores were subsequently used to calculate each individual's SAPP score based on the formula from Miller's (2000) study.

The present study involved identifying specific personality traits thought to be more or less socially desirable and examining whether the social desirability of the trait impacted SAPP scores for individuals obtaining poor SAPP scores. Individuals obtaining poor SAPP scores are identified as scoring within the first quartile of SAPP scores. Poor SAPP scores would suggest an individual shows less self-knowledge and is less in tune with their own personality. Paired T-tests were conducted on each of the 21 factors for 150 individuals identified in the first quartile of SAPP scores. Additional analysis divided these 150 individuals by gender and ran additional paired T-tests on each of the 21 factors to determine isolated gender significance.

Hypotheses

The primary hypothesis in this study was that individuals with poorer SAPP scores, identified as those scoring within the first quartile of SAPP scores, were influenced by social desirability. The factors chosen as most likely to be influenced by social desirability are based on a study by McElligott (2014). These factors included the global factors of Extraversion, Tough-Mindedness, and Self-Control. Also included are the primary factors Warmth (Factor A), Emotional Stability (Factor C), Rule-Consciousness (Factor G), Sensitivity (Factor I), and Perfectionism (Factor Q3).

The second hypothesis in this study was that male and female respondents would be impacted differently by social desirability, such that there will be some factors that show significant differences in prediction for males but not females, or vice versa. This hypothesis is largely based on the notion that males and females are influenced differently by, and face, different social pressures.

Results

The first quartile in SAPP scores, reflecting those who did most poorly in predicting their overall 16PF scores and resultantly did the least well in their accuracy of self-knowledge, was identified as SAPP scores below 32.6, and yielded a first quartile total number of 150 respondents, and consisting of 30% male and 70% female subjects. The overall set was composed of 42.9% male and 57.1% female respondents. This discrepancy between overall and first quartile may be due to greater influence of social desirability on female respondents, as more female respondents are represented in the first quartile than would be expected based on the overall sample.

T-tests Overall Analyses

The average difference in predicted vs. obtained values for each factor were compared for the entire set of 150 individuals. Full results can be seen in Table 1. Significant differences, in order of mean difference, were seen in predictions on the factors of Emotional Stability (C+), Warmth (A+), Rule Consciousness (G+), Tough Mindedness (TM-), Self Control (SC+), Perfectionism (Q3+), Sensitivity (I+), Abstractness (M-), Apprehension (O-), and Social Boldness (H+). Positive markers next to traits indicate desire to be seen as more of that trait, negative indicate desire to be seen as less of that trait. For example, on the factor Emotional

Stability, individuals predicted their Emotional Stability to be significantly higher than the actual obtained scores, suggesting that these individuals wanted to be seen as more emotionally stable. On the factor Apprehension, individuals predicted their Apprehension to be significantly lower than the actual obtained scores, suggesting these individuals wanted to be seen as less apprehensive.

T-tests by Gender

The average difference in predicted vs. obtained values for each factor were separated by gender. Full results can be seen in Tables 2 and 3. Significant differences for female respondents, in order of mean difference, were seen in predictions on the factors of Emotional Stability (C+), Rule Consciousness (G+), Warmth (A+), Tough Mindedness (TM-), Perfectionism (Q3+), Self Control (SC+), Apprehension (O-), Sensitivity (I+), and Abstractness (M-). Significant differences for male respondents, in order of mean difference, were seen in predictions on the factors of Warmth (A+), Rule Consciousness (G+), Tough Mindedness (TM-), Emotional Stability (C+), Abstractness (M-), Self Control (SC+), Sensitivity (I+), Social Boldness (H+), Perfectionism (Q3+), Tension (Q4-), and Apprehension (O-).

Discussion

This study utilized McElligott's (2014) identification of eight factors most likely to be influenced by social desirability as a basis for hypothesis. Seven of the eight factors identified (Warmth, Emotional Stability, Rule Consciousness, Sensitivity, Perfectionism, Tough Mindedness, and Self Control) yielded significant results as hypothesized. The global factor of Extraversion (EX+) did not yield significant results, suggesting that the prediction of extraversion scores did not influence poor overall SAPP scores. Additional factors that yielded overall significant results included Social Boldness (H+), Abstractness (M-), and Apprehension (O-). While not initially expected based on prior research, review of description of the scales in the direction of prediction could reasonably suggest poor prediction due to influence of social desirability. The right side meaning of Social Boldness suggests being socially bold, adventuresome, and thick-skinned vs. someone who is shy, threat-sensitive, and timid. The left side meaning of Abstractness suggests someone who is grounded, practical, and solution focused, vs. someone who is abstract, idea-oriented and imaginative. The left side meaning of Apprehension suggests someone who is self-assured, unworried, and complacent vs. someone who is self-doubting, apprehensive, and worried. It should be noted that the most significant results by far were the seven factors initially thought to be influenced by social desirability.

Gender comparison analyses revealed significance for female respondents across the seven factors previously hypothesized overall (Warmth, Emotional Stability, Rule Consciousness, Sensitivity, Perfectionism, Tough Mindedness, and Self Control) as well as the factors of Abstractness and Apprehension. Male respondents were influenced by each of the previous factors mentioned, with the addition of Social Boldness (H+) and Tension (Q4-). The addition of tension suggests that the males with poor SAPP scores were more likely to want to be seen as more relaxed, placid, and patient vs. tense, high energy, impatient, and driven. Additionally, Social Boldness appears to be more of a factor for males than it is for females, as Social Boldness did not yield significance in the female sample. Review of Tables 2 and 3 show which factors elicited the largest mean difference, which suggests which factors contributed the most to poor SAPP scores. Though all were significant at the .05 level, the largest significance for female respondents was on the factor of Emotional Stability, with the least significance on Abstractness. For male respondents however, the largest significance was on the factor of Warmth, the least significance being on the factor of Apprehension. In comparing the two genders, it is apparent Warmth is an important trait for both males and females, but for males it is the largest impacted, and for females it is only the third largest impacted based on mean differences. The least significantly impacted for female respondents, in terms of mean difference, Abstractness, is actually near the

higher end in terms of prediction differences for males. Finally, the factors of Social Boldness and Tension did not show any significance in the predictions for females. These results support the hypothesis that male and female respondents are impacted differently by social desirability.

A limitation of the present study center on the lack of a more diverse sample. While the 150 identified by low SAPP scores may suggest more support for gender differences if females are more impacted by social desirability, the 150 individuals were primarily female. That is, utilizing the present sample, more females than expected obtained lower SAPP scores. Future research should attempt to diversify the current sample to gain further support for the generalizability of the identified factors suggesting influence due to social desirability. It would be reasonable to examine the present database for gender differences in the entire sample. Additionally, future research could ascertain the impact of social desirability by developing a questionnaire possibly asking participants how important certain areas of social desirability are to them, and running analyses on those participants who were more likely to be influenced by social desirability.

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Table 1. Paired Sample T-test Overall

Factor	Mean Difference (Actual-Predicted)	T-Score	df	Sig.
Warmth (A)	-1.020	-7.854	149	.000**
Reasoning (B)	0.187	1.216	149	.226
Emotional Stability (C)	-1.087	-7.068	148	.000**
Dominance (E)	0.027	0.197	149	.844
Liveliness (F)	-0.087	-0.581	149	.562
Rule Consciousness (G)	-0.980	-7.245	149	.000**
Social Boldness (H)	-0.360	-3.236	149	.001**
Sensitivity (I)	-0.560	-3.593	149	.000**
Suspiciousness (L)	0.200	1.382	149	.169
Abstractness (M)	0.553	4.216	149	.000**
Privateness (N)	0.113	0.937	149	.350
Apprehension (O)	0.487	3.870	149	.000**
Openness to Change (Q1)	-0.260	-1.700	149	.091
Self-Reliance (Q2)	-0.200	-1.538	149	.126
Perfectionism (Q3)	-0.687	-5.335	149	.000**
Tension (Q4)	0.067	0.480	149	.632
Extraversion (EX)	-0.115	-0.888	149	.376
Anxiety (AX)	0.055	0.437	149	.663
Tough-Mindedness (TM)	0.838	5.992	149	.000**
Independence (IN)	-0.037	-0.273	149	.785
Self-Control (SC)	-0.752	-5.353	149	.000**

**$p < .05$

Table 2. Paired Sample T-test Female

Factor	Mean Difference (Actual-Predicted)	T-Score	df	Sig.
Warmth (A)	-0.819	-5.484	104	.000**
Reasoning (B)	0.171	1.006	104	.317
Emotional Stability (C)	-1.133	-5.620	104	.000**
Dominance (E)	-0.029	-0.165	104	.869
Liveliness (F)	-0.210	-1.155	104	.251
Rule Consciousness (G)	-0.914	-5.407	104	.000**
Social Boldness (H)	-0.257	-1.929	104	.056
Sensitivity (I)	-0.448	-2.452	104	.016**
Suspiciousness (L)	0.133	0.769	104	.444
Abstractness (M)	0.400	2.576	104	.011**
Privateness (N)	0.000	0.000	104	1.000
Apprehension (O)	0.467	3.160	104	.002**
Openness to Change (Q1)	-0.114	-0.667	104	.506
Self-Reliance (Q2)	-0.162	-0.997	104	.321
Perfectionism (Q3)	-0.733	-4.712	104	.000**
Tension (Q4)	-0.143	-0.864	104	.390
Extraversion (EX)	-0.107	-0.679	104	.498
Anxiety (AX)	-0.086	-0.553	104	.582
Tough-Mindedness (TM)	0.745	4.536	104	.000**
Independence (IN)	-0.130	-0.800	104	.426
Self-Control (SC)	-0.684	-4.187	104	.000**

**$p < .05$

Table 3. Paired Sample T-test Male

Factor	Mean Difference (Actual-Predicted)	T-Score	df	Sig.
Warmth (A)	-1.489	-6.067	44	.000**
Reasoning (B)	0.222	0.683	44	.498
Emotional Stability (C)	-0.977	-4.845	43	.000**
Dominance (E)	0.156	0.774	44	.443
Liveliness (F)	0.200	0.771	44	.445
Rule Consciousness (G)	-1.133	-5.169	44	.000**
Social Boldness (H)	-0.600	-3.008	44	.004**
Sensitivity (I)	-0.822	-2.769	44	.008**
Suspiciousness (L)	0.356	1.345	44	.185
Abstractness (M)	0.911	3.803	44	.000**
Privateness (N)	0.378	1.766	44	0.084
Apprehension (O)	0.533	2.211	44	.032**
Openness to Change (Q1)	-0.600	-1.913	44	.062
Self-Reliance (Q2)	-0.289	-1.361	44	.181
Perfectionism (Q3)	-0.578	-2.509	44	.016**
Tension (Q4)	0.556	2.284	44	.027**
Extraversion (EX)	-0.136	-0.580	44	.565
Anxiety (AX)	0.384	1.809	44	.077
Tough-Mindedness (TM)	1.056	3.972	44	.000**
Independence (IN)	0.178	0.701	44	.487
Self-Control (SC)	-0.911	-3.330	44	.002**

**$p < .05$

Appendix

IPAT

16PF® Fifth Edition Individual Record Form

Profile Sheet

Name

Date

Instructions: Write the sten score for each factor in the second column. Starting with Factor A, place a mark over the spot representing the appropriate sten score. Repeat for each factor. Connect the marks with straight lines.

PRIMARY FACTORS

Factor	Sten	Left Meaning	Standard Ten Score (STEN) 1 2 3 4 5 | Average | 6 7 8 9 10	Right Meaning
A: Warmth		Reserved, Impersonal, Distant		Warm, Outgoing, Attentive to Others
B: Reasoning		Concrete		Abstract
C: Emotional Stability		Reactive, Emotionally Changeable		Emotionally Stable, Adaptive, Mature
E: Dominance		Deferential, Cooperative, Avoids Conflict		Dominant, Forceful, Assertive
F: Liveliness		Serious, Restrained, Careful		Lively, Animated, Spontaneous
G: Rule-Consciousness		Expedient, Nonconforming		Rule-Conscious, Dutiful
H: Social Boldness		Shy, Threat-Sensitive, Timid		Socially Bold, Venturesome, Thick-Skinned
I: Sensitivity		Utilitarian, Objective, Unsentimental		Sensitive, Aesthetic, Sentimental
L: Vigilance		Trusting, Unsuspecting, Accepting		Vigilant, Suspicious, Skeptical, Wary
M: Abstractedness		Grounded, Practical, Solution-Oriented		Abstracted, Imaginative, Idea-Oriented
N: Privateness		Forthright, Genuine, Artless		Private, Discreet, Non-Disclosing
O: Apprehension		Self-Assured, Unworried, Complacent		Apprehensive, Self-Doubting, Worried
Q_1: Openness to Change		Traditional, Attached to Familiar		Open to Change, Experimenting
Q_2: Self-Reliance		Group-Oriented, Affiliative		Self-Reliant, Solitary, Individualistic
Q_3: Perfectionism		Tolerates Disorder, Unexacting, Flexible		Perfectionistic, Organized, Self-Disciplined
Q_4: Tension		Relaxed, Placid, Patient		Tense, High Energy, Impatient, Driven

GLOBAL FACTORS

	Left Meaning	1 2 3 4 5 | Average | 6 7 8 9 10	Right Meaning
EX: Extraversion	Introverted, Socially Inhibited		Extraverted, Socially Participating
AX: Anxiety	Low Anxiety, Unperturbed		High Anxiety, Perturbable
TM: Tough-Mindedness	Receptive, Open-Minded, Intuitive		Tough-Minded, Resolute, Unempathic
IN: Independence	Accommodating, Agreeable, Selfless		Independent, Persuasive, Willful
SC: Self-Control	Unrestrained, Follows Urges		Self-Controlled, Inhibits Urges