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A STUDY OF SELF-ASSESSMENT ACCURACY AND PERSONALITY

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ABSTRACT

The present study examines the relationship between the accuracy of self-assessment of leadership competencies, personality, and demographic information including academic major and gender. The study looks at data collected from a leadership assessment center conducted in the honors college of a large northeastern public university. These data have been analyzed in terms of the consistency between self-assessment ratings prior to the leadership assessment and its correspondence with ratings given to the students by trained assessors. The study compares ratings on Bartram's Great Eight Competencies and was further analyzed as a function of the participant's major and gender. Based on earlier research it was hypothesized that the participants from majors in the college of liberal arts will be more accurate in their competency ratings than students majoring in business and engineering. It is also predicted that men will rate themselves higher, reflecting a degree of over-confidence in their abilities, relative to women in terms of their leadership abilities. A research question was also explored directed at whether or not there are personality characteristics that enhance the accuracy of self-ratings.

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Chapter 1

Introduction

It has long been known that assessment centers are a valid and effective method of selecting and training employees in the business community. Assessment centers have been used in a variety of environments and for varying purposes such as selection decisions including employee hiring and promotion and for purposes of employee development. The assessment center being utilized in this research is developmental in nature and focuses on leadership competencies as defined by Bartram's (2005) "Great Eight." The use of these competencies allows for the examination of a participant's work behaviors as well as their leadership capabilities, making the resulting data extremely beneficial in developing competent and charismatic workers. In a world that has adopted a strong business culture, it will continue to be of the utmost importance that strong employees are selected for opportunities that they are well suited for and that employees are aware of their capabilities, work consistently to develop their competencies, and use them accordingly.

Self-Assessment

One of the most telling aspects of an assessment center is the way in which a participant rates their own abilities in relation to their actual performance. For this reason pre and post exercise self-assessment ratings are often included in assessment center procedures. This not only allows those being assessed to consider the competencies being measured by the assessors

but allows the participants themselves to see where they over- or under-estimated their own abilities relative to assessors who are often more experienced in assessing these competencies and who are most like the supervisors, managers, and leaders who will be doing future assessments in the workplace.

With this being said, self-assessment is by nature an exercise that allows for substantial bias, and so the self-rating data should be viewed with caution. Multiple studies have analyzed the personal characteristics of participants in terms of the accuracy of their self-assessment scores, and this literature points to the fact that certain traits allow for more accurate results. Grotas (2004) concluded that individuals with higher emotional intelligence were more accurate in self-perception ratings. In addition to this, multiple researchers including Bass and Yammarino (1991) and Church (1997) have concluded that having more accurate self-assessment scores is highly correlated with better overall job performance. Knowing that individuals with high self-insight (the ability to correctly estimate their abilities) will also be likely to perform those abilities well is important knowledge when using assessment for promotion or hiring. In addition to this, it has been found that those participants that over-rated their abilities in terms of the actual performance were the lowest quality performers compared to accurate raters and under-raters (Atwater & Yammarino, 1992).

Bartram's Great Eight Competencies

While there are multiple models used to rate participants during assessment centers, the Great Eight Model proposed by Bartram (2005) was used as part of the assessment center that generated the data for this study. This model has been proven to effectively predict workplace

performance based on the specific behaviors and abilities included and has a high operational validity, estimated at .53 in predicting actual job performance. The eight competencies cover the major behaviors displayed in the workplace, as well as the qualities that are important in leading others. The eight competencies and their definitions are as follows:

Analyzing and Interpreting

To have high analyzing and interpreting skills an individual would have to show clear evidence of analytical thinking. They need to be able to get the bottom of complex issues, and apply their own expertise in an effective way. Analyzing and interpreting also includes high communication skills and the ability to adjust to new technologies.

Creating and Conceptualizing

This competency embodies the ability to handle situations with innovation and creativity, and to think in broad, strategic ways. Individuals high in creating and conceptualizing will also work well in situations requiring openness to new ideas, and thus will help drive organizational change.

Interacting and Presenting

Interacting and presenting is displayed through the successfulness of an individual to persuade and influence others. The competency also includes communicating effectively and relating to others in a confident manner.

Leading and Deciding

These qualities are shown through initiating action, giving direction, and taking responsibility for the owners' actions. Leading and deciding is also displayed through the amount of control being taken and the leadership action they perform.

Organizing and Executing

This competency represents an individual's ability to plan ahead and work in an organized and systematic way. High organizing and executing individuals will follow directions and procedures well, but also focus on customer satisfaction and meeting company standards.

Supporting and Cooperating

Individuals with high supporting and cooperating skills will put others first and work effectively with others as well as in teams. These individuals will also support those they come into contact with and show respect for them in social situations. Supporting and cooperating also measures a participant's personal values that compliment the organization.

Adapting and Coping

As the name implies, this competency measures the ability to properly adapt to changes as well as respond in an appropriate manner. These people will also manage pressure well and adequately cope with setbacks.

Enterprising and Performing

Individuals high in this competency will show an understanding of business and finance, focus on results and personal achievements, as well as seek opportunities for self-advancement or career development. Enterprising and performing often includes people who prefer to be directly involved with company results and where the impact of personal efforts is obvious.

Self-Insight Models

In analyzing self-assessment accuracy it is important to understand how self-assessment ratings are different from observer ratings and the possible insights they can provide. One such method of explaining this is the Johari Window proposed by Luft and Ingham (1955). This

model states that there are four main domains of knowledge about a person: Area of Free Activity, Avoided or Hidden Area, Blind Area, and Area of Unknown Activity (See Figure 1). These domains are split on the basis of whom the information is available to or more commonly, which rating source has the critical and correct view. Information can either be known to self or unknown to self, or it can be known to others or unknown to others. The Johari Window explains that there are certain qualities about oneself that cannot be fully realized by the owner, and that outsiders are needed to disclose this information to them. Information like this is necessary in getting a deeper understanding of a person's strengths and abilities, but is it possible that others be solely responsible for evaluating a person? It seems rather obvious that the answer to this question is "no". The "hidden area" of the Johari Window suggests that there will always be key information hidden to others that an individual is aware of about themselves. It is this information that is often overlooked in evaluations, for the simple reason that it is not always evident to those observing. Regardless of who is responsible for observing behaviors, knowing all possible information about an individual and their abilities is of the utmost importance when trying to improve upon skills or use abilities in the most effective way. For this reason, self-assessment is very often utilized in assessment centers in addition to professional assessor evaluations in order to maintain the highest possible accuracy.

While the Johari Window explains the different sectors of observable information about an individual, The Self Other Knowledge Asymmetry (SOKA) model extends Johari by stating three basic ideas about what kind of information may be in each window. The first idea of the SOKA model is that the self is more accurate than others for traits low in observability (e.g., neuroticism). The second is that others are more accurate than the self for traits high in evaluativeness (e.g., intellect). And lastly, that people of all perspectives were equally good at

judging extraversion-related traits (e.g. dominance) (Simine, 2010). If, for example, an assessment was conducted simply using professional evaluations (from others) it would be very likely that certain traits such as neuroticism, self esteem, or happiness would be incorrectly recorded since many times some or all of these characteristics are not displayed to the assessor. Likewise, if assessments were based solely on self-evaluation then behavioral traits such as creativity and intelligence would be over- or under-estimated. This continues to reinforce the idea that while each assessment method contains valuable information, both are key in attaining the full picture of a person's abilities and characteristics.

Self-evaluation is also said to be based on feelings of self-worth, control over events, vulnerability, and competence (Judge et al., 2003). When situations or behaviors alter these feelings, our self-evaluations are subject to change. These perceptions greatly affect our self-efficacy, and are influenced by self-referenced information and social comparisons (Steyn, 2008). Steyn proposed three main methods of attaining information when forming self-evaluations. The first of which are other people's perceptions of how an individual is viewed. Thinking about how your actions are appraised by someone else greatly affects how you see your own behaviors. The second form of information attainment is through social comparisons, or observing how others are acting in order to evaluate your own behavior. And thirdly, self-evaluations are manipulated by authentic information. These details are a key point in determining why self-assessment ratings change over the course of an assessment period.

Liberal Arts Advantages

Science and engineering careers have grown in popularity in recent years, but there is still much to be said for a career that has a basis in the liberal arts. It has been found that liberal arts majors tend to have highly developed skills such as numeracy, literacy, and critical thinking (Rajecki & Borden, 2010). Skill sets such as these are often overlooked, but are extremely necessary and desired by most employers. Liberal arts majors also have practice with subjective, probabilistic, and ambiguous topics. Having to analyze scenarios in varied ways and take multiple points of views allows a liberal arts major to have a more diverse way of viewing complex issues. While technical careers often look at problems as black and white and search for one specific answer, the professional world is often not like that. Liberal arts majors have been given practice with skills that are functional in virtually any situation. While these skills are valued in a professional and academic sense, these attributes may also affect the accuracy of personal self-insight, granting yet another benefit to liberal arts degrees.

Gender Differences

Regardless of a person's major, other demographic traits may also have an effect on a person's self-insight and self-rating accuracy. One trait that has been proven to correlate with self-assessment accuracy is gender. Pallier (2003) states that both males and females were generally over-confident on their self-assessment of cognitive tasks, but males were more often over-confident in their assessments relative to women. Men therefore over-estimated their abilities to a large degree and were thus less accurate than woman in their self-assessment. It has also been found that females are more likely to recall their mistakes in a post performance self-

assessment than men (a negative recall bias) (Beyer, 1998). Again, this idea suggests that females might be more likely to be accurate in post-assessments, as they will adjust their ratings due to their performance. This quality will, however, cause women to have more discrepancy between pre- and post-assessment scores.

WAVE Development Report

In order to evaluate personality characteristics of each participant and to provide accurate information regarding individual work style preferences, the WAVE Development Report by Saville Consulting was administered the week prior to the actual assessment center day. The WAVE is a self-report work styles questionnaire that gives us valuable insights on how each participant views themselves as a member of a team and as a leader within an organization. The report allows participants to obtain a greater understanding of an individual's motives, identify strengths and weaknesses, as well as highlight overplayed strengths and suggest ways to avoid limitations. This information is also valuable in the post-assessment debrief to help contextualize performance and to assist in better understanding performance strengths and deficiencies. The development report relies on self-account and produces a psychometric profile of four main clusters: Thought, Influence, Adaptability, and Delivery. These clusters are broken down into 12 focus styles that further define participant characteristics and abilities. Each style is described by three underlying facets, resulting in 36 total dimensions that further explain the participant's results. These facets vary depending on each individual's score.

Saville Consulting has built upon years of self-report methods and has combined a technological aspect that allows for accurate results of individual and work variables. The

hierarchy of information described above allows for levels of detail that have not previously been available. One of the reasons for the WAVE success is that it combines three perspectives simultaneously (Passmore, 2008). Inductive theorizing provides a basis for the four-cluster model, while deductive modeling and validation methods create the criteria for the facets. Providing feedback with the WAVE development report becomes extremely beneficial in that the data accounts for the participant's preferences as well as potential on a series of management competencies that can easily be linked to any job requirements. The WAVE development results are also directly linked to the Bartram Great Eight Competencies that are measured during the actual assessment center exercises (See Figure 2).

In addition to the psychometric profile, the WAVE report includes a predicted culture/environment fit report, as well as a competency potential profile. The predicted culture/environment fit is comprised of specific aspects of a situation that will enhance or inhibit an individual's work success. These enhancers and inhibitors are prescribed based on the participant's self reports and the corresponding personality styles that are assigned to them. The last report is the competency potential profile which allows a more detailed understanding of the participant's skills, and ranks each of their 12 styles in terms of "Low", "Fairly Low", "Average", "Fairly High", and "High" in comparison to the greater population (Saville, 2014). This analysis permits the reader to not only see the participant's strengths and weaknesses, but also view how they differ from other participants. This information encourages participants to further develop low ranking areas and take advantage of those that are highly ranked. These qualities make the WAVE development report increasingly useful in assessment center data collection as well as feedback presentation. Given the focus of this study was on a better

understanding of factors that influence self-rating accuracy, the WAVE scales were used to test their ability to predict rating accuracy.

Chapter 2

Hypotheses

1. There will be a wide range of accuracy scores when comparing self-ratings of competencies relative to the ratings given by trained assessor.

This hypothesis is based on the assumption that accuracy, like many other personal characteristics, varies considerably. If this were not the case the remaining hypotheses would make no sense.

2. Liberal Arts majors will be more accurate in their self-assessments than other majors.

Consistent with previous literature, it is predicted that individuals who choose liberal arts majors are more self-reflective and will attain more accurate self-assessment results in comparison to professional ratings and those in engineering will be least accurate.

3. Males will be more over-confident and less accurate in their self-assessments than females.

This hypothesis is also based on previous literature that supports males having more inflated views of their abilities in terms of their self-assessment ratings. This is further supported by literature stating that females are more accurate than males in self-reflective skills.

Research Question

Are there personality correlates of accuracy of self-ratings?

Chapter 3

Methods

Participants

The participants of this study were drawn from a large public university in the northeast United States. Each student participant was a member of the honors college, and volunteered to participate in the assessment center. The participant pool included 224 individuals, with 97 males and 127 females. All participants were between the ages of 18 and 25 years old, and were undergraduates enrolled at the university.

Assessment Center Exercises

The assessment center is comprised of many different exercises that are implemented throughout the day-long event. Currently the center utilizes four different sets of exercises with slight variations in the types of organizations used as the background ranging from the merger of two local coffee companies to a variation on Big Brothers – Big Sisters. The data used in this study come from all four exercise sets. Each participant goes through the same exercises, but may be assigned different hypothetical organizations depending on the date of assessment. Regardless of the background information allocated to the participants, the nature of the exercises is identical and each participant is given the same opportunities to demonstrate his or

her competencies. The exercises for each assessment center include a case study analysis, a pair of written exercises, an oral presentation, a role-play scenario, and a leaderless group discussion.

Case Study Analysis

This portion of the assessment center is done on the participant's own time in the week preceding the actual assessment. The analysis is prompted by each participant getting a hypothetical leadership position in a certain company, and being assigned a particular problem to address as if they were actually employed there. The case study requires critical thinking of a professional problem, analyzing multiple sources of data, as well as the creation of a written summary of possible solutions.

Written Exercise

Each assessment center required participants to complete two written exercises. These exercises were typically addressing a complaint or solving a social problem, for example addressing a customer complaint in a letter. These exercises allow participants to show how they would handle delicate situations, deal with customers, and address important concerns of the company. Not only do the written exercises give information on what social and professional skills a participant holds, but they also give an example of their individual communication skills.

Oral Presentation

In order to perform the oral presentation each participant is given information consistent with their position and organization, and asked to present a certain set of data to a superior of their organization (played by an assessor). They are given the resources necessary to come up with a ten-minute presentation of their choice (i.e. PowerPoint) on a certain idea or solution they are trying to promote based on the given data. This exercise gives the participants the opportunity to show his/her creativity and persuasive abilities.

Role-Play Scenario

The role-play gives the participants the chance to interact with another member of the organization through an assessor role-player. An assessor is given the task of portraying a certain character to the participant, and instructed to act in predetermined ways depending on the participant's behavior towards them. The role-play typically involves the participant solving a social interaction problem that is happening between employees, customers, or both.

Leaderless Group Discussion

The last exercise of the day is the leaderless group discussion. Before the actual groups are brought together, each participant is given a list of objectives to meet and outcomes that they should be trying to attain. They are asked to brainstorm ideas about these goals to bring to the larger meetings and discuss with their groups. The participants are then separated into two groups (about 6 people each) and given an overall objective to reach. This group interaction is often tense at times and allows participants to deal with group conflict, problem solve, and compromise in order to meet the assigned goals.

Procedures

The assessment process starts with a meeting to inform participants about the assessment center one week before the day of assessments. The participants are brought together for an orientation in which they are given information on how long the assessment will take, materials to bring, and what to have prepared. This is also when they are given information to begin the case study and instructions to complete two forms. Each participant, prior to the day of assessment, is required to complete the WAVE personality assessment as well as a self-

assessment survey based on Bartram's Great Eight (2005). These assessments are done on-line at a time convenient for the participant.

The day of the assessment center begins by an introduction and instructions on how to complete the first two assigned tasks. Participants are given their own office at the university's career center and a schedule on what to expect for the rest of the day. Participants then take part in five to six hours of assessment exercises while being observed by the trained assessors. The day finishes with participants filling out a post-assessment survey covering the same competencies as the pre-assessment survey. Participants leave the assessment center after a debriefing with the center director. The participants also receive a copy of their WAVE results with an oral and written guide for interpretation. Those assessed are later contacted by one of the assessors and provided with a full report on their performance during the assessment.

The assessors involved in evaluating each participant have been trained in observing, recording, and compiling ratings for each of the eight measured competencies. The assessors consist of a combination of business professionals and graduate student volunteers. Assessors rate each participant in teams of two or three resulting in a consensus regarding the appropriate score for each exercise although initial ratings and notes are done individually. At the end of the day the assessors participate in an integration session in which all ratings are compared and an overall score for each competency is established for every participant.

The assessor ratings are used to produce feedback for each participant as well as recommendations on how to improve. This feedback is presented to the participant approximately ten days after the assessment, and is conveyed by a graduate student assessor. The assessor reviews the participant's strengths and weaknesses with them, as well as answers any questions. The feedback is supplemented by the overall assessor ratings as well as the WAVE

development report. Lastly, the graduate student helps to create a personalized development plan for the participant to follow on their own. This plan will hopefully promote further growth for the participant and guide them on their way to future workplace and leadership success.

Measures

The measures for this study are based on the Great Eight Competencies and are used by both assessors and assessees. The Great Eight Competencies are rated on a 1 to 7 scale with 1 being highly ineffective and 7 being highly effective. Participants were given an overall score (1 - 7) for each competency by the assessor team at the conclusion of the program.

The pre- and post-self-assessment scores were also recorded on the same 1 to 7 scale, and were identical in composition. These ratings were recorded by the participants, and consisted of questions regarding their performance of the Great Eight Competencies through each type of exercise. The survey is formatted in a way that requires a rating to be produced for each competency that was measured in every exercise. For this reason there were multiple ratings for each competency, the number depending on how many exercises contained that particular competency. In order to get a single rating to represent each competency, the ratings for each specific competency were averaged across all ratings for the competency. The pre-assessment scores of 1-7 were then recorded for each competency, and the same process was then performed to the post-assessment surveys. Accuracy was the primary measure for this study, and was created by subtracting assessor rating for a competency from the self-rating of that competency and then composited over all competencies. This value was then averaged to reflect a score

where a positive number reflected “overrating” and a negative number “underrating.” Average scores around zero were reflective of high degrees of rating accuracy

Chapter 4

Results

Hypothesis 1

Hypothesis 1 was supported with the large variation occurring in the accuracy scores. These scores were created by subtracting assessor ratings from self-assessment ratings and compositing the differences across the eight competencies. The accuracy scores from all academic majors ranged from .36 (very accurate) to 5.16 (high levels of overrating). The mean score indicated slight overrating was common among participants ($M=1.46$, $sd = .79$).

Hypothesis 2

Students from three academic majors participated in this study representing Engineering ($n=29$), Business ($n= 36$) and Liberal Arts ($n=42$). Their difference scores were subjected to a one-way ANOVA. Results indicated a significant difference by major ($F=3.20$, $p=.045$). The self-assessment scores of engineer participants were consistently and significantly overrated in comparison to the assessor scores ($M=1.76$) and thus were the least accurate of the three majors. The self-ratings for liberal arts majors were second in accuracy ($M=1.45$) while business majors were the most accurate ($M=1.24$), however these scores did not represent a statistically significant difference from one another.

Hypothesis 3

The Hypothesis that males would be more over confident than females was not supported. Both males ($M=1.45$) and females ($M=1.37$) were slightly over confident in their self-ratings, but the difference between males and females did not reach statistical significance. It was found that females had less variability in their self-assessments ($SD=.598$) and so were more consistent than the male participants ($SD=.788$).

Business Major Benefits

The results of this study support that business major students were the most accurate in terms of their self-assessment ratings. Business majors have the unique benefit of having a knowledge base of managerial techniques and business etiquette that other majors may not have. This could easily make their self-assessment scores more accurate because they have witnessed their success in similar areas and are perhaps more aware of what their strengths and weaknesses are when it comes to the rated competencies. Liberal arts and engineering majors would not have had this previous experience to base their self-assessment scores on and so have higher chances of under or over-rating their abilities. This advantage of being a business major shows great promise for the potential businessmen and women that this university is creating.

Over-Confident Engineering

The most significant result of this study is that engineering majors were the least accurate in terms of their self-assessment ratings, in addition to being the most over-confident. This finding may be supported by the fact that engineering majors do not often practice skills in self-evaluation or personal analysis. Important engineering qualities such as thinking logically, actively problem solving, and attaining a high technical knowledge are all non-personal skills that do not support a greater knowledge of one's own abilities.

Based on results from this study, engineering majors should be encouraged to practice self-evaluation techniques, so that their skills may be more accurate in the future. Supporting better self- insight is an ability that not only can increase the accuracy of assessment exercises, but will encourage better overall performance and the identification of areas in need of improvement.

Liberal Arts Accuracy

Even though our hypothesis of liberal arts majors being the most accurate in their self-assessment was not supported, the results did show them being the second most accurate and not significantly less accurate than students from Business. The liberal arts major's ability to analyze problems in multiple ways and adjust their behaviors accordingly provides a strong basis in which they can successfully undertake the tasks assigned in the assessment center and thus more accurately self-report their abilities. Liberal arts majors have a strong understanding of cognitive processing as well as social situations giving them an advantage in certain business tasks. However, the liberal arts major's lack of previous business experience may be responsible for the underperformance that was found in self-assessment. Clearly we have only scratched the surface in understanding these differences and more study is necessary.

Research Question

The research question proposed for this study was to find if certain personality traits correlated with greater accuracy in self-assessment. While the WAVE report provided sufficient data on 12 major personality styles, there were no significant trends that indicated a personality type that may be more included to be more self-aware. These findings suggest that the human

personality is so variable that it is hard to define what parts of it are responsible for accurate self-awareness. While there were no significant correlations found in the current study, future research on the topic should be encouraged.

Chapter 5

Discussion

The goal of this study was to find trends between personal characteristics and accuracy in self-assessment. While not all proposed hypotheses were supported, this study has multiple contributions to make in self-assessment accuracy research. Specifically these contributions consist of a more refined view of how academic major may impact accuracy levels as well as a proposed research question on how personality might be further investigated to better understand relationships with self-assessments.

The most significant result of this study was that engineering majors were the least accurate in terms of their self-assessment ratings and the most over-confident. This finding may be supported by the fact that engineering majors do not often practice skills in self-evaluation or personal analysis. Important engineering qualities such as thinking logically, active problem solving, and attaining high levels of technical knowledge are all critical for success but may be at the expense of greater knowledge of one's own abilities. In comparison, business and liberal arts majors are often prompted to think about human interactions and motives, as well as analyze their own abilities in terms of different situations and on different competencies. Engineering students largely focus on related science and technology fields and so do not have the experience in adjusting their abilities to compliment different types of working environments. Just because an engineer may be an excellent communicator while presenting technical information, does not mean they are an excellent communicator in consoling angry customers or in dealing with conflict in the workplace.

In addition to engineering majors being lower in accuracy, it was interesting to find that business majors were the most accurate with their self-assessments. Although liberal arts majors may have the most experience in dealing with subjective scenarios and interpersonal problem solving, business majors have had the advantage of being surrounded by experiences similar to those played out in the assessment center. Business majors have the unique benefit of having a knowledge base of managerial techniques and business etiquette that other majors may not have. This could easily make their self-assessment scores on the competencies rated during the assessment center more accurate because they have witnessed their success in similar areas before and are more aware of their strengths and weaknesses. Liberal arts and engineering majors would not have had this previous experience to base their self-assessment scores on and so have higher chances of under or over-rating their abilities.

Our hypothesis of liberal arts majors being the most accurate was not supported, but it was found that they are only slightly less accurate than business majors. The liberal arts major's ability to analyze problems in multiple ways and adjust their behaviors accordingly provides a strong basis in which they can successfully undertake the tasks assigned in the assessment center, and thus more accurately self-report their abilities. Liberal arts majors have a strong understanding of cognitive processes as well as social interactions giving them an advantage in certain business tasks. However, the liberal arts major's lack of previous business experience may be responsible for the under-performance that was found in self-assessment. Clearly further research is needed to fully understand how major area of study impacts accuracy.

The result of this study was not conclusive in determining if men are less accurate and over-confident in their self-ratings or if there are certain personality characteristics that promote self-evaluation accuracy. While previous research has been successful in showing men as over-

confident in self-assessment, we did not replicate the finding in this study. Additionally, while the WAVE report provided reliable and valid data on 12 major personality styles, there were no significant trends that offered a personality type that may be inclined to be more self-aware. These findings suggest that personality may be so variable that it is hard to define what parts of it are responsible for accurate self-awareness. Alternatively, it may be that a variety of personality types are accurate. While there were no significant correlations between accuracy and personality found in the current study, future research on the topic is encouraged.

Limitations

Although this study makes contributions to research on self-assessment accuracy, there are important limitations that should be taken into consideration. First, this study was conducted using a participant pool of undergraduate students between the ages of 18 and 25 years old. For this reason, the generalizability of these findings cannot extend to the larger population of working adults. In order to have a more accurate representation of working adults, a study should be run in which the participant age is more varied.

In addition, this study was limited by the information collected over the entire span of the assessment. Even though the assessment center has been running for multiple years, the information collected throughout the program has varied. For this reason a lack of data in post-assessment scores as well as participant majors has occurred. While there was a sufficient amount of data to run the current study, an increase in data of post-assessment scores and participant major would have led to greater validity of the study.

Lastly, the final major limitation of the study is that each participant has a different background of business and leadership experiences that are not accounted for in terms of their self-assessment accuracy. While this study has found trends in accuracy among majors, we do not know if this is because of their natural skills or extensive previous experiences. In order to correct for this limitation, a study should be conducted in which all participants provide a more detailed accounting of their experiences and interests.

Implications for Future Research

In order to further develop the current study, future research should look to expand upon the research question of personality traits and self-evaluation accuracy. This may be done through more detailed personality analysis and a larger, more varied sample. Gaining a greater understanding on what personality characteristics are related to more accurate self-evaluation skills will have a definite impact on the assessment and business communities. A further study of pre- versus post-assessment accuracy should also be considered. Information gained from the continuation of this research could offer an additional view of self-assessment accuracy and a more thorough calculation of what qualities really predict accurate self-evaluation. Lastly, a study expanding the majors of focus should be conducted to see if the results of this study continue to be supported, and if there are other majors that are more highly accurate than business, liberal arts, or engineering majors.

Conclusion

Self-evaluation is a skill that is largely overlooked and yet crucial in the analysis of an individual's leadership and personal success. Those who are better skilled at self-assessment are often more talented on the proficiency being measured in general, and will thus use those skills to better their organizations. This study has concluded that there are indeed certain people that possess greater self-evaluation accuracy, and these people should be highly sought after. While research on self-assessment may not be highly developed at this point in time, it is an area of study that can greatly impact business, academic, and personal success. The current findings within academic major self-assessment accuracy are just the beginning of what could possibly promote a higher valuation of self-insight capabilities and increase the use of such methods in varying situations.

Table 1: ANOVA Results

	<i>Sum of Squares</i>	<i>DF</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
<i>Pre-Assessment</i>	3.869	2	1.935	3.17	.045

Table 1: ANOVA results show significance in pre-assessment variance between engineering majors, liberal arts majors, and business majors.

Table 2: Academic Major Comparisons

		N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Pre- Assessment	1	29	1.7364	.9581	.1779	.5833	4.0000
	2	36	1.2457	.5094	.0849	.3571	2.9285
	3	42	1.4588	.8284	.1278	.5000	5.1666
	Total	107	1.4623	.7938	.0767	.3571	5.1666

Participant Major Codes: 1=Engineering, 2=Business, 3=Liberal Arts

Table 2: Academic Major Comparisons depict the significance between engineering, business and liberal arts majors in their self-evaluation accuracy.

Table 3: Gender Comparison

<i>Gender</i>		<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Std. Error Mean</i>
<i>Pre-</i>	<i>.0</i>	127	1.3724	.5983	.0530
<i>Assessment</i>	<i>1.0</i>	97	1.4523	.7887	.0800

Gender: 0=Female, 1=Male

Table 3: Gender Comparison on accuracy of self-evaluation results

Figure 1: Johari Window

	Known to Self	Not Known to Self
Known to Others	Area of Free Activity	Blind Area
Not Known to Others	Avoided/Hidden Area	Area of Unknown Activity

Figure 1: The Johari Window (Luft & Ingrahm, 1955) depicts the four domains of knowledge and their availability to either the self or others.

Figure 2: WAVE Focus Styles/Great 8 Competencies

WAVE Focus Great 8	<i>Competency Potential</i> <i>Profile Dimensions</i>	<i>Focus Styles Facets -</i> <i>Psychometric Profile</i>
<i>Analyzing and Interpreting</i>	Examining Information Exploring Possibilities Interpreting Data	Information analysis Conceptual Data Oriented
<i>Creating and Conceptualizing</i>	Generating Ideas Developing Strategies Providing Insights	Creative Strategic Focused on Improvement
<i>Interacting and Presenting</i>	Articulating Information Interacting with People Impressing People	Presentation Oriented Lively Attention Seeking
<i>Leading and Deciding</i>	Directing People Empowering individuals Making Decisions	Leadership Oriented Motivating Responsibility Seeking
<i>Supporting and Cooperating</i>	Understanding People Team Working Establishing Rapport	Empathetic Team Oriented Rapport Focused
<i>Adapting and Coping</i>	Showing Composure Conveying Self-Confidence Thinking Positively	Relaxed at Events Self Confident Optimistic
<i>Organizing and Executing</i>	Checking Things Meeting Timescales Taking Action	Detail Focused Deadline Focused Action Oriented
<i>Enterprising and Performing</i>	Pursuing Goals Producing Output Seizing Opportunities	Results Oriented Quick Working Business Opportunity Oriented

Figure 2: Great 8 Competencies and WAVE data Interactions

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ACADEMIC VITA

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Education

2015 **Bachelor of Sciences**
Pennsylvania State University, State College, PA
Major: Psychology with a Business Option
Minor: Business in the Liberal Arts

Professional Experience

Summer 2014 **Mylan Technologies, Saint Albans, VT**
Human Resources Intern

- Created and analyzed mid-point intern evaluation surveys
- Created an employee social media training program for the company's website
- Organized and facilitated weekly intern meetings and events
- Analyzed termination data and communication surveys to create summary reports for upper management
- Facilitated phone screen interviews for Associate Operator positions
- Facilitated intern exit interviews

2014-Present **PNC Leadership Assessment Center, State College, PA**
Undergraduate Research Assistant

- Assist in preparation of assessee/assessor materials
- Assist in development of participant exercises and assessment methods (BARS)
- Helped ensure assessment center ran smoothly and efficiently on the day of assessment

Research Experience

2014-Present **Dr. Samuel Hunter's Leadership and Innovation Research Lab, Penn State University**
Undergraduate Research Assistant

- Participated in weekly meetings and development of research projects
- Coded qualitative data for creativity (quality, originality, elegance) and deviance
- Historiometric coding of leader biographies for lab project

2013 **Dr. Nicholas Rowland's Social Science Research Lab, Penn State Altoona**
Undergraduate Research Assistant

- Conducted various book reviews
- Managed data collection for research project on participant perceived awareness

Research Projects

- 2014-Present **Honors Thesis, Penn State University, Dr. Rick Jacobs**
- Utilization of PNC Leadership Assessment Center data to analyze relationships between self-assessment accuracy and personality characteristics

Conference Presentations

Jeffer, S. (2015) *A Study of Self-Assessment Accuracy and Personality*. Poster presented at the 2015 Pennsylvania State University Psi Chi Annual Research Conference, University Park

Leadership Roles

- 2013-Present **Phi Sigma Pi National Honor Fraternity, Penn State University**
Recruitment Chair (2014)
- 2014-Present **Applied Psychology Research Association, Penn State University**
President
- Ensured association was kept in good standing
 - Planned and organized annual Society for Industrial/Organizational Psychology (SIOP) trip

Honors and Awards

- 2013-Present **Schreyer Honors College, Penn State University**
Student Affiliate
- 2011-Present **Penn State University Deans List**
- 2011-2013 **Penn State Altoona Honors Program**
Student Affiliate
Honors Program Achievement Award (Fall 2012, Spring 2013)
- 2011-2013 **Alpha Lambda Delta Honors Society, Penn State Altoona**
Student Affiliate

Relevant Coursework

- Elementary Statistics
- Psychology as a Profession
- Industrial Organizational Psychology
- Ethical Leadership
- Work Attitudes and Motivation
- Statistical Concepts and Reasoning
- Research Methods in Psychology
- Leadership in the Workplace
- Survey of Management
- Assessment Centers for Selection and Development of Employees