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# MASCULINE AND FEMININE PERSONALITY PROFILES AND THEIR RELATIONSHIP WITH ATHLETIC IDENTITY

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**Abstract**

Athletes represent a unique population of people with unique personality traits. It has been well documented the trait differences between males and females and how these manifest. There has been substantial work done on the personality of athletes and the sex differences that exist therein. This study aims to examine the athletic identity of college students and their personality traits to determine if the sex differences classically defined as masculine and feminine by the five-factor model (FFM) manifest in people who simply identify as athletes.

*Keywords:* athlete, personality, identity

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ATHELTIC IDENTITY AND PERSONALITY

## Chapter I: INTRODUCTION

Dostoevsky (1821-1881) famously said, “I can see the sun, but even if I cannot see the sun, I know that it exists.” This quote, though not about personality, reflects how scholars assess personality. We cannot always see personality, yet we know it exists because we see the manifestation of it through our behaviors and interactions. Though we cannot see the individual traits of personality, we can see those traits coalesce to form a person who has thoughts, feelings, strengths, and weaknesses. Those traits, though invisible, are what make us human. Additionally, personality traits may affect the likelihood of engaging in various types of vocational and avocational activities. Specifically, personality traits might lead someone to engage in athletic activities. This paper examines the relationship between personality, athletic identity, and sex, and explores how masculine/feminine personality traits are associated with athletic identity.

## Review of Literature

### Personality conceptualized as the “Big Five”

Personality has been broadly defined as the combination of characteristics that come together to form one’s character. The modern conceptualization of personality favored by academics is known as the “Big Five” theory. Originating in Cattell’s methods (Cattell, 1943), which were themselves built upon the work done by Allport and Odbert (Allport & Odbert, 1936), the five factor model (FFM) took 4,500 stable traits they claimed to have identified through lexical analysis and produced a list of 35 clusters (Cattell, 1943; see also Fiske, 1949). When further analyzed, these 35 clusters were pared down to five replicable factors (Digman & Takemoto-Chock, 1981). In a similar line of research, Tupes and Christal (1961) used a measure designed to predict effectiveness in the military and found similar results: five unique factors. These five factors have been commonly labeled as Extraversion, Agreeableness,

Conscientiousness, Neuroticism, and Culture (Goldberg, 1990). Culture has been subsequently defined as intellect by some researchers (e.g., Peabody & Goldberg, 1989), and openness by others (e.g., McCrae & Costa, 1987).

Further evidence of the robustness of the five-factor model was provided by McCrae and Costa (1987), who set out to show that the five factors were convergent but also discrete from one another across multiple observers and instruments. Perhaps more importantly, they showed the strength of each factor through factor analysis. McCrae and Costa's research also showed how each factor is significant with respect to the source of a given rating (for example, peer-rated or self-report). Research in this area also showed that the means by which the information was obtained mattered little in the overall trait profile of the individual. For example, the personality traits observed by the person themselves through self-report, a peer, a coworker, or parent all lead to similar results (Digman & Takemoto-Chock, 1981).

In recent decades, the five-factor model has garnered widespread acceptance: when searching Google Scholar, the primary literature for the five-factor model has been cited over 6,000 times. This is a simple indication of not only how robust this measure is but also how influential and prominent. To gain a broader understanding of the dimensions and their origins, I will describe each in turn.

**The Five Factors**

**Openness.** Openness is probably one of the more widely debated factors in the FFM. DeYoung, Peterson, and Higgins (2005) note that openness is often associated with intellect. Further, they define its characteristics as "motivated cognitive flexibility". DeYoung et al. note that on the one hand, this dimension has aspects of intelligence and intellect, and on the other hand, it contains aspects of imagination and creativity. McCrae and Costa (1987) provide further

context to the definition of openness. They do not explicitly tie intellect to the definition but instead argue that the various aspects of openness reflect the presence of intellect. They define some aspects as being curious, original, politically liberal, and daring. Their analysis shows that these aspects map onto openness and constitute the vast majority of the variance in the dimension.

**Conscientiousness.** McCrae and John (1992) defined conscientiousness as a dimension rooted in order, efficiency, vigilance, and being deliberate. This dimension is one of the more highly studied and evaluated dimensions as it is closely aligned with agreeableness in terms of being related to strength of mind. Those who score more highly on conscientiousness and lower on agreeableness tend to be labelled as more strong-minded, while those who score highly on agreeableness tend to be labeled as weak-minded. Another view of this dimension comes from Hogan (1986), who views conscientiousness as an inhibitory control mechanism. That is, the more conscientious one is, the more they will be able to control their behavior.

**Extraversion.** Extraversion is a very broad dimension that can encompass several different aspects of personality. Some literature shows it involves warmth and gregariousness (McCrae & Costa, 1987), while other definitions show aspects of energy, ambition, and venturesomeness (McCrae & John, 1986). Depue and Collins (1999) see extraversion as having two main components: interpersonal engagement and impulsivity. Interpersonal engagement breaks down into affiliation (having to do with relationships and the need to have social bonds) and agency (being socially dominant).

**Agreeableness.** Agreeableness, as described by Graziano and Eisenberg (1997), is the opposite of antagonism, which is a form of Type A personality. That is, people who score highly in Type A domains are typically perfectionists, sometimes narcissistic, and sometimes vindictive.

Agreeable people, on the other hand are usually overly concerned with pleasing other people and generally want to be drawn in close to others (McCrae & Costa, 1987). Some scholars (e.g., Graziano & Eisenberg, 1997) posit that agreeableness evolved out of a group's need to determine fitness and value of each group member. As a result, agreeableness is associated with conformity, and those who do not conform are seen as deviant to the group and not useful. This is evident with several social psychological studies showing that conformity helps groups sustain themselves (Festinger, 1950).

**Neuroticism.** Neuroticism leads to two different traits: instability and personal security (Judge, Higgins, Thoresen, Barrick, 1999). Those who score highly on neuroticism are likely to endorse symptoms of negative mood and somatic symptoms. As the authors point out, individuals endorsing higher rates of neuroticism are likely to be less satisfied with their job than those who do not score highly on this dimension. Neuroticism is also associated with an increased risk of developing pathologies related to anxiety and mood disorders (Haas, Omura, Constable, & Canli, 2007).

There are a number of well-established measures of personality based off the five-factor model. Costa and McCrae (1976) examined the 16PF and found three large groupings. These three groupings looked like those found by Eysenck in 1967 (neuroticism and extraversion), with an additional cluster of openness. Costa and McCrae (1985) developed these three clustered models further and created the NEO Personality Inventory (NEO-PI). The NEO-PI has been able to isolate the five factors from several available personality inventories. The discovery of these dimensions from the already developed inventories shows the strength of the definitions of the dimensions and their ability to encompass the breadth of personality traits (Costa & McCrae, 1985). The IPIP-NEO is another example of a measure of personality that is based off the

original NEO-PI. It is a brief measure of the five factors while still yielding a strong alpha (at least .79 on all subscales).

**Sex Differences in Personality**

One longstanding question is how personality differs between men and women. Despite the utility and widespread acceptance of the FFM, most research involving sex typology uses the Bem Sex Role Inventory (BSRI) as a means of identifying what Bem (1974) referred to as masculine and feminine traits. However, scholars have criticized the BSRI as lacking a theoretical basis and containing a number of items that are not widely viewed as masculine or feminine by respondents (Pedhazur & Tetenbaum, 1979). A recent meta-analysis concluded that responses on the BSRI have remained steady since the 1990s, but that once feminine traits are less likely to be endorsed by females today (Donnelly & Twenge, 2017). This analysis also explained that the trend in female responses on the BSRI appear to be moving in a direction more closely associated with men than with traditional views of women (2017). In fact, the only criterion used by Bem was that the items reflect some degree of social desirability. Additionally, the sex roles that were postulated and discovered in the 1970s may today be weakening or nonexistent (Holt & Ellis, 1998).

In addition to employing a traditional approach and measuring masculinity and femininity using the BSRI, the present study will use a more robust measure for detecting masculine and feminine traits - one based on the five-factor model of personality. In using this model, a more robust measure of personality can be obtained, examined, and compared to existing literature on personality and sex differences. Personality differences between men and women detectable through a five-factor approach are substantial: effect sizes on neuroticism appear with a Cohen's d = .52 in literature (Chapman, Duberstein, Sorenson, & Lyness, 2008).

Agreeableness appears at d = .59 in other literature (Costa, Terraciano, & McCrae., 2001). These are the two traits most commonly associated with feminine profiles (Costa et al., 2001).

Bem's work (1974) on sex difference shows that her definition of masculinity coincides with measures of dominance. Given this relationship, it can be inferred that dominance is a masculine trait. Likewise, we see that Bem's definition of femininity is strongly associated with love and compassion. (Wiggins & Broughton, 1985). Therefore, we can infer that love and compassion are feminine traits. Others have argued that the concept of love and compassion fall into the factor of Agreeableness while the concept of dominance falls into Extraversion (McCrae & Costa, 1989). It stands to reason, then, that women would score higher on agreeableness than men would.

Maccoby and Jacklin (1974) showed that men were more assertive and less anxious than women and concluded that men were more aggressive than women. Feingold (1994) expanded on Maccoby and Jacklin's findings and aimed to replicate the results and determine if there was any bias related to what type of measure was used to rate their traits. Feingold found that the original design by Maccoby and Jacklin held up to replication and analysis. They found males to be more assertive and less anxious than females. This suggests that the foundational research done on sex differences is robust and provides context to how sex differences appear with respect to the five-factor model. Specifically, those who are more anxious score more highly on neuroticism and those who score higher on aggressiveness were less agreeable. Eagley and Steffen (1986) conducted a meta-analysis on aggression and found that men and women differ in both magnitude and type of aggression. Their results suggest that men are overall more aggressive, and this aggression is physical. Women are less aggressive than men, but their aggression (when present) is more psychological in nature. Neuroticism is one of the five factors

in the Big Five and is related to negative emotionality, anxiety, depression, etc. Feingold (1994) found that women scored higher on traits relating to anxiety and other research has shown that women score higher on traits relating to depression. When we examine the relevant statistics on psychopathology it is clear that these differences are seen in the rates of such disorders as generalized anxiety and major depressive disorders (Costa, Terracciano, & McCrae, 2001). Budaev (1999) showed this to be the case in his analysis of the five-factor model. He showed that women scored higher on traits of agreeableness, and posited that the differences reflect adaptation among human beings with respect to dominance.

With respect to extraversion, the literature is more abstract. Extraversion is a combination of dominance and nurturance (Costa & McCrae, 2001). Therefore, the differences we see among men and women should vary based on what specific aspect of extraversion we are looking at. As such, Costa and McCrae (2001) find that men are higher in assertiveness and excitement seeking and women higher in warmth and positive emotions.

**Personality Differences Applied to Avocations**

Sex differences exist with respect to personality are apparent, but do those differences in personality push some people in one direction or another with respect to their profession or their interests? Do people who enjoy the same types of activities exhibit similar personality profiles? More specifically, how does the five-factor model map onto a variety of interests? That is, what interests, hobbies, or activities do people gravitate towards based on their personality profile?

A detailed review regarding specific personality traits is instructive. For example, Schinka, Dye, and Curtiss (1997) find that men who score lower in trait conscientiousness and extraversion tend to gravitate towards activities that are asocial in nature. They also find that women who score highly on trait openness and extraversion are attracted to activities that allow

them to be persuasive and ambitious (Schinka, et al., 1997). Wolfradt and Pretz (2001) find that those who score low on trait conscientiousness tend to gravitate away from creative hobbies and interests, such as painting. However, those who scored highly on trait openness were more creative. This suggests that their hobbies and interests lie in the realm of art and music and less in more concrete ventures.

Other dimensions are more directly linked with physical activity. Extraversion is strongly linked with exercise habits (Courneya, Friedenreich, Sela, Quinney, & Rhodes, 2002) which would indicate that those people who participate in sports or athletic activities would score highly on trait extraversion. As one might expect, neuroticism is negatively correlated with physical activity (Courneya & Hellsten, 1998). The latter study also shows that people with high trait conscientiousness are more likely to work out and participate in physical exercise. Similarly, Raynor and Levine (2009) find that among college students, trait conscientiousness is strongly correlated with exercise and other behaviors that are linked with health and well-being. While it was previously shown that people who score highly on trait agreeableness are more prone to be interested in social cooperation (De Fruyt, Van De Wiele, & Van Heeringen, 2000), Raynor and Levine found that agreeableness does not map onto any indicator of physical activity or health related behaviors. This could be a possible relationship between this trait and physical activity in that it is dependent on group dynamics whether or not an agreeable person exercises or participates in physical activity.

Piedmont, Hill, and Blanco (1999) theorized that trait conscientiousness is useful in predicting success among athletes. Specifically, they found that female soccer players who displayed high levels of conscientiousness were more likely to be successful than those who displayed lower levels of conscientiousness. Their research supplies information regarding

agreeableness and how it relates to interests and athletes. They explain that low agreeableness need not be looked at as a measure of antagonism, rather it should be looked at as goal driven. These findings would indicate that people who score low in agreeableness may be goal oriented individuals who derive pleasure from completing tasks and finishing projects.

Kane (1964) suggested that those who exhibit high scores on trait extraversion are better suited to perform in front of people in athletic competition - a finding consistent with other research on extraversion. On the contrary, Coleman (1980) found that low trait extraversion improves one's ability to compete in front of an audience. This relationship may have its roots in history: for centuries, people have been competing in arenas to throngs of spectators. As such, there is a performative aspect to athleticism.

O'Sullivan, Zuckerman, and Kraft (1998) found that athletes scored lower on neuroticism-anxiety scales than the general population. This coincides with other research (Piedmont, et al, 1999) that shows trait neuroticism is a poor indicator of success and emotional coping. This idea of emotional coping is something that is vital to an athlete's performance. Goma-i-Freixanet (1991) found that athletes are more likely to be sensation seekers than non-athletes. This finding is not surprising given the risky nature of athletics. If we were to examine this finding in terms of the five-factor model it would be reasonable to conclude that sensation seeking falls under extraversion. Therefore, athletes tend to be more extraverted than the general population.

## Hypotheses

Research on female athletes has been scant, with most work being dedicated to male athletes (Wann & Hamlet, 1995). However, there is research that compares female athletes to

female non-athletes. Freedson and colleagues (1983) find that female athletes tend to be less neurotic than female non-athletes (Freedson, Mihevic, Loucks, & Girandola, 1983). Based on previously discussed literature, this shows a trend toward a profile that is more masculine. For example, Balasz (1975) found that among female Olympians, the athletes tended to be more conscientiousness. Once again, this shows a trend toward a more masculine profile (Balasz, 1975). What both of these studies shows is that among female athletes, they have traits that would be described as more masculine in nature. Both studies use athletes as their population of interest.

The current study will employ a twofold approach to investigating masculine/feminine personality profiles and their impact on athletic identity. Athletic identity, as defined by Brewer,van Raalte, and Linder (1993), is the "degree to which a person identifies with the athlete role" (Brewer, et al., 1993). First, it will utilize the Bem Sex Role Inventory (BSRI) to differentiate the masculine and feminine profiles. Prior work has shown that masculine profiles, through use of the BSRI, show significantly different results than feminine profiles among bodybuilders (Carroll, 1989). This supports prior claims laid out in this paper that provide evidence for a masculine and feminine profile. This also utilizes that body of research to point to athletes exhibiting these same qualities.

The second approach will utilize the five-factor model of personality to examine the profiles of athletes and assess their specific personality traits. As has been described, the five-factor model provides a robust model for examination of personality and sex differences (Costa & McCrae, 2001). Moreover, the five-factor model is valid across cultures (Goldberg, 1981) and will be affected less by shifting cultural norms and sex roles as the BSRI would.

H1: Both males and females will exhibit a more masculine personality profile as indicated by the five-factor model trait of agreeableness and neuroticism compared to those low in athletic identity. Specifically, individuals high in athletic identity will exhibit lower levels of neuroticism and agreeableness than females low in athletic identity.

H2: In a single model, the five-factor model of personality will account for a significant amount of variance in athletic identity, over and above that of the BSRI, as indicated by a significant $\Delta R^2$ when all five factors are entered into the model.

H3: There will exist an interaction between sex and trait agreeableness and between sex and trait neuroticism on athletic identity.

# Chapter II: METHOD

## Participants

A power analysis indicated that a minimum of 91 participants would be needed to detect an effect size of f2 = .15 with 80% power and an alpha of .05. The present study had 120 participants (100 females, 19 males, and 1 participant who did not indicate their sex). The average age of the participants was 19.2 years. Participants were predominantly white (85.8%) followed by black/African American (9%), Asian (3.3%), and Native American/Pacific Islander (.83%). Participants were recruited using SONA from the undergraduate population of a regional university campus. Participants were provided an informed consent document prior to completing the survey. This document ensured their confidentiality and provided information about what would be collected through the survey. Online data collection was conducted through Lyceum Survey, an online survey platform used for social research. Participants received class credit in return for their participation.

## Assessments and Measures

***Demographic Questionnaire***. The demographic questionnaire consists of six questions examining particular demographics of the respondents. These demographics include age, race, sex, education level, sexual orientation, and ethnicity.

***Athletic Identity Measurement Scale*** (AIMS, Brewer & Cornelius, 2001). AIMS consists of seven Likert scale items designed to determine athletic identity. The items are arranged where a score of 1 indicates strong disagreement and a score of 7 indicates strong agreement. The seven items are then summed to create a composite score of athletic identity. An example of an item on this questionnaire includes, “I consider myself an athlete”. This seven-item measure is an abbreviated version of the original ten item questionnaire (Brewer, Van Raalte, & Linder, 1993).

Internal reliability of the abbreviated form is .81. This measure was chosen due to it being considered a reliable and valid measure of athletic identity and due to its brevity.

***IPIP NEO-50*** (NEO-50). The NEO-50 is a free version of the original NEO-PI (Costa & McCrae, 1985) that consists of 50 items that measure the five factors of personality: extraversion (alpha = .87), agreeableness (alpha = .82), conscientiousness (alpha =.79), emotional stability (neuroticism) (alpha = .86), intellect (openness) (alpha = .84). Each factor consists of ten items for the total of 50. The extraversion factor includes items like, “am the life of the party” which is scaled on a 5-point Likert scale. The agreeableness factor consists of items such as, “have a soft heart”. The conscientiousness factor consists of items such as, “am always prepared”. Neuroticism factor will contain items like, “seldom feel blue”. Openness factor contains items like, “have a rich vocabulary”. This measure was selected due to being a reliable and valid measure of personality.

***Bem Sex-Role Inventory*** (BSRI; Bem, 1974). The BSRI consists of two, 20-item scales measuring gender expression in terms of masculinity and femininity. The scales also consist of a third scale that is wholly made up of neutral items. Masculinity scaled items include, “act as a leader”. Feminine scaled items include, “affectionate”. Neutral items include, “conceited”. Each of these items is scored on a 7-point Likert scale ranging from “never to almost never true” to “always or almost always true” (1974). Alphas for the masculine and feminine constructs are .86 and .80, respectively. This measure is a reliable and valid measure of sex role and will be used to better identify masculine and feminine traits.

## Chapter III: ANALYSES

H1 was addressed using a simple Pearson's correlation. H2 and H3 were analyzed using multiple linear regressions where each of the five factors predicted athletic identity. Sex was controlled for in all models. Individual regression coefficients for agreeableness and neuroticism were examined to determine if they were commensurate with H1. An additional multiple regression was used to compare the predictive validity of the BSRI with the IPIP-NEO: the BSRI and participant sex was entered in the first block of the model, and all five factors from the IPIP-NEO were entered into the second block. $\Delta R^2$ was used to determine whether the IPIP-NEO scores accounted for additional variance in athletic identity.

## Chapter IV: RESULTS

Table 1 provides the descriptive data of the participants as well as each individual factor and measure. Of specific note are the factor traits of agreeableness and neuroticism. For males, agreeableness $M = 3.56$, $SD = .62$ and for females $M = 3.8$, $SD = .51$. With respect to neuroticism, males showed $M = 3.15$, $SD = .75$ and females $M = 2.79$, $SD = .68$. The neuroticism values are inconsistent with available research (Maccoby & Jacklin, 1974; Feingold, 1994) that shows females as typically showing higher values of neuroticism than males. Table 3 also provides group means differentiated by sex for all domains measured.

Table 1 also provides correlational data for athletic identity and both agreeableness and neuroticism. As is shown in the table, agreeableness, $r(118) = -.03$, $p = .70$, exhibited no significant correlation. Neuroticism, $r(118) = .30$, $p < .001$, on the other hand, proved to have a significant correlation, but the direction was positive rather than the hypothesized negative direction.

Table 2 provides data on the predictive validity of the five-factor model compared to the Bem Sex Role Inventory. As is shown in the table, the FFM, $R^2 = .16$, $F(6, 112) = 3.73$, $p = .002$ accounts for more variance than the BSRI, $R^2 = .12$, $F(4, 114) = 3.90$, $p = .005$. Broken down, we see that neuroticism is driving this effect, $b = .469$, $t(112) = 2.03$, $p = .04$. When these two models are compared, we see that adding the BSRI resulted in accounting for a marginal amount of variance in athletic identity, $\Delta R^2 = .04$, $F(3, 109) = 1.61$, $p = .19$. Taken together, these findings indicate that the FFM – and neuroticism in particular – is a better predictor of athletic identity than the BSRI.

Finally, two separate regression analyses were conducted to determine (a) if there is an interaction between sex and trait neuroticism, and (b) if there is an interaction between sex and

trait agreeableness (both predicting athletic identity). The data show that neither interaction is present as the interaction terms for both agreeableness, $b = .27$, $t(115) = .39$, $p = .70$, and neuroticism $b = .75$, $t(115) = 1.40$, $p = .17$ were both nonsignificant.

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Table 1

*Descriptive statistics and intercorrelations between all variables*

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | *M* (*SD*) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Openness | ___ | .240 | .107 | .380 | -.180 | -.043 | .321 | .252 | .287 | 3.62 (.57) |
| 2. Conscientiousness | | ___ | .101 | .335 | .247 | .164 | .280 | .296 | .110 | 3.56 (.54) |
| 3. Extraversion | | | ___ | .162 | .260 | .199 | .445 | -.044 | .234 | 2.99 (.84) |
| 4. Agreeableness | | | | ___ | -.024 | -.034 | .150 | .678 | .297 | 3.76 (.54) |
| 5. Neuroticism | | | | | ___ | .308*** | .112 | -.045 | -.196 | 2.85 (.70) |
| 6. Athletic Identity | | | | | | ___ | .262 | .041 | .130 | 3.4 (1.67) |
| 7. BSRI (M) | | | | | | | ___ | .212 | .590 | 4.69 (.78) |
| 8. BSRI (F) | | | | | | | | ___ | .601 | 4.82 (.72) |
| 9. BSRI (N) | | | | | | | | | ___ | 4.5 (.49) |

Table 2.

*Multiple Regression Demonstrating Predictive Validity of FFM for athletic identity*

| Variable | *Multiple R2* | *Adj R2* | *F* | *b* | *Std. Error* | *p* |
|---|---|---|---|---|---|---|
| Sex | | | | .887 | .416 | .035 |
| FFM | .166 | .122 | 3.73 | | | .002 |
| Openness | | | | -.096 | .285 | .74 |
| Conscientiousness | | | | .412 | .296 | .17 |
| Extraversion | | | | .231 | .231 | .21 |
| Agreeableness | | | | -.139 | -.139 | .65 |
| Neuroticism | | | | -.959 | .47 | .04 |
| BSRI | .12 | .089 | 3.90 | | | .005 |
| Masculine | | | | .491 | .243 | .046 |
| Feminine | | | | .161 | .266 | .55 |
| Neutral | | | | -.162 | .463 | .73 |
| Full Model | .201 | .136 | 3.06 | | | .002 |

Table 3

*Mean and standard deviation data for all variables measured*

| Variable | Male | Female | Cohen's d | *t* |
|---|---|---|---|---|
| Openness | 3.61 (.59) | 3.62 (.57) | .017 | -.07 |
| Conscientiousness | 3.52 (.55) | 3.57 (.54) | .091 | -.32 |
| Extraversion | 3.24 (.88) | 2.94 (.83) | .350 | 1.35 |
| Agreeableness | 3.56 (.62) | 3.8 (.51) | .422 | -1.58 |
| Neuroticism | 3.15 (.75) | 2.79 (.68) | .502 | 1.93 |
| BSRI_M | 5.05 (.73) | 4.63 (.77) | .559 | 2.28* |
| BSRI_F | 4.49 (.52) | 4.89 (.74) | .625 | -2.84** |
| BSRI_X | 4.5 (.44) | 4.5 (.5) | 0.00 | .007 |
| Athletic Identity | 4.39 (1.22) | 3.21 (1.69) | .800 | 3.62*** |

*Note: BSRI is Bem Sex Role Inventory. BSRI_M is for masculine domain, BSRI_F is feminine, and BSRI_X is neutral.*

## Chapter V: DISCUSSION

The present study examined the connection between the personality traits associated with masculinity and femininity and the construct of athletic identity. In doing so, this study also compared the predictive validity of the FFM to that of the BSRI.

The first hypothesis determined that there was no significant correlation between athletic identity and agreeableness. This is interesting considering the existing literature on trait agreeableness and female personality profiles (Costa, Terraciano, McCrae, 2001). It is certainly possible that these examined in the current study are not representative of the general population. As stated previously, low agreeableness should be thought of as goal oriented rather than antagonistic (Piedmont, Hill, & Blanco, 1999), which, when applied to college students, may limit the effect. That is, college students are likely more goal oriented than the general population (Hsieh, Sullivan, & Guerra, 2007) and therefore would exhibit low agreeableness regardless of athletic identity. If the sample is already low in trait agreeableness, the effect will be minimized in comparison to athletic identity.

As it relates to neuroticism, while the correlation was significant, the direction of this correlation was positive – the opposite of what was predicted. This runs counter to existing literature on neuroticism and sex (Chapman, Duberstein, Sorenson, & Lyness, 2008), which suggests that neuroticism is negatively associated with athletic identity. Neuroticism is also typically higher among females than in males (Maccoby & Jacklin, 1974; Feingold, 1994) – a finding inconsistent with the present data. Taken together, these findings may explain the unexpected positive correlation between neuroticism and athletic identity: if males are showing more neuroticism than females and also showing higher levels of athletic identity, this might be the cause of the unexpected correlation.

The composition of the present sample likely played a role in the results not supporting the first hypothesis. With a sample that was predominantly female, any differences regarding masculinity and femininity would be more difficult to detect. That is, had the sample been more evenly distributed it would have been more likely to show a sex-based differences if one existed. That is, because men were underrepresented, it stands to reason that the effect was not as profound than it might have been had the sample been more representative. Moreover, it appears that within the sample, the raw data was counter to conventional wisdom and existing literature (Lantz & Schroeder, 1999).

The second hypothesis tested the predictive validity of the FFM over and above the BSRI. With respect to this hypothesis, the current study found evidence supporting the utility of the FFM over the BSRI. This is consistent with existing literature (McCrae & Costa, 1987; Digman & Takemoto-Chock, 1981) and also supports the existing criticisms of the BSRI (Pedhazur & Tetenbaum, 1979; Holt & Ellis, 1998). Specifically, the existing literature had shown that the FFM was better equipped to demonstrate sex differences as compared to the BSRI. Moreover, the FFM may be better suited to demonstrate sex differences across time periods. What was once considered masculine may no longer be considered masculine and the same can be said for feminine and neutral items as well. The BSRI has long been considered a standard measure of sex differences and has been widely used (Bem, 1974; Wiggins & Broughton, 1985), but the results of this study indicate that the FFM may be better suited to detect differences (at least in athletic ability) and stand the test of time, as well as perform well across cultures. Because of this, it may be that existing research be reexamined using a more applicable tool than the previously used BSRI.

The final hypothesis sought to determine if an interaction existed between traits agreeableness and neuroticism and sex on athletic identity. The results showed that no interaction existed between these elements which was counter to the hypothesis. It was believed that because those traits showed significant associations to sex there would exist an interaction between them. As is the case with other hypotheses, this could simply be an issue with sample: because it is predominantly female, findings may be skewed as a result.

**Limitations**

There exist a few limitations to the present study. As discussed previously, the sample was exclusively college aged and they were predominantly female. The sample is not representative of the general population and results should be interpreted with that in mind. These results might not be indicative of populations of older adults or those from different demographic backgrounds. Thus, the underrepresentation of one demographic group can cause diminished returns from that group. Because of that it is difficult to make generalized statements about the results and findings. Had a more representative sample been used, the results may have been different, and the generalizability of the data would have been positively affected. This is important because we do not live in a homogenous society and making broad generalizations about society based on results that are unrepresentative leads to negative outcomes. While it has been discussed at length that the measures used are culturally stable, the fact remains that the current sample underrepresents certain demographic groups. These groups bring with them certain traits that are unique to them. If those are not represented within the FFM or the AIMS, then we are missing a critical piece to the puzzle that allows for the full effect of demographic groups to be seen.

It is also important to note that there were no attention checks placed within the survey. It cannot be determined that the participants maintained attention throughout and provided accurate and honest responses. It is possible that participants simply answered questions without fully reading or understanding what was being asked of them.

Further, the sample was largely Caucasian (75%) and the average age of the sample was 19. These characteristics are comparable to the existing literature done on college student populations using the AIMS (Ciselak, 2004). The demographics, however, can shape the results if the measures have not been tested cross-culturally. To this end, as has been shown previously, the models used in the present study are robust cross culturally (Goldberg, 1981).

Another potential limitation has to do with the five-factor model itself. Because the FFM was derived from a larger set of factors (Cattell, 1943), critics have claimed that the five-factor model is not a valid measure of personality (Waller & Ben-Porath, 1987). These critics argue that the model is not generalizable. To this end, Lewis Goldberg (1990) demonstrated that, across multiple experiments, not only were the five factors the only factors that stood the rigors of factor analysis, but that when controlled for with peer groups and self-report measures the five factors remained robust. This indicates that when the reporter was taken out of the equation, the results remained consistent. It mattered little who was reporting on the traits as the results were robust. The robust nature of the FFM ensures that the personality traits examined remain true to their original intent and design. Previous literature has shown that the effect size on neuroticism has been .52 (Chapman, Duberstein, Sorenson, & Lyness, 2008). The current study found a Cohen's d of .50 which is consistent with previous findings. This would indicate that, overall, the FFM performed in a way that is expected.

Some criticism has been laid at the feet of the AIMS and whether the model is a valid measure of what it purports to examine (Visek, Hurst, Maxwell, & Watson II, 2008). To this end, these researchers examined the cross-cultural effect of this measure and found that for contact sports in both American and English-speaking populations in China, the measure performed as expected (2008). The current study examined those people who are not compensated for their athletic prowess and simply identify as athletes. Could it be, then, that the AIMS fails to accurately represent athletes? To this end, Thomas Ciselak (2004) examined the AIMS with college students and found the measure to perform just as well as in any other context (Ciselak, 2004). The results of the current investigation, therefore, are consistent with existing literature on the AIMS and the populations used to norm and study athletic identity.

The correlation that was shown between neuroticism and athletic identity is particularly interesting because it deviates from the existing literature in a significant way. One possible explanation for this is that the sample that was used merely identified as athletes rather than being athletes. Literature has shown that younger people tend to overestimate their athletic abilities (Ciselak, 2004). The age of this sample was 19 which likely played a role in the overall athletic identity.

The changing definitions of sex and what constitutes masculine and feminine likely have more to do with the results than anything related to the individual measures. While it is true that the FFM was not created as a measure to differentiate the sexes, it is true that sex differences became apparent as a result. Much the same way the BSRI faced criticism for shifting cultural definitions, it is possible the shifting definitions are causing changes in the way the results of the FFM evolve. That is, in 1995, what we might expect to see is a male score high on conscientiousness and low on agreeableness and neuroticism. That was not because the measure

looked for that specifically but because that was the way society had defined masculine and shaped the male personality. In 2019, it may be that a male scores higher on neuroticism, not because the FFM is looking to define that, but because the shift in the way society views and shapes behavior and personality has shifted. It appears that the BSRI sought to define masculine and feminine sex roles and was passed by time and shifting cultural definitions that outdated the model. In the case of the FFM model it may be that the model remains solid, but the shifting cultural norms are causing the once stable definitions and findings to shift.

**Future Directions**

Future directions of this study could seek to examine athletes rather than the more abstract construct of athletic identification. While some of this work has been done previously (O'Sullivan, Zuckerman, & Kraft, 1998; Goma-i-Freixanet, 1991), it would be beneficial to utilize the FFM as part of the new research on sex differences between athletes and non-athletes. For example, there may be distinct differences between those who are paid or scholarship athletes and those who identify as athletes, so examining those differences would be worthy of exploration. Another avenue of possible research would be to take athletic identity and personality and examine clinical pathologies. Since some criticism can be made from neuroticism and what is contained within that factor, examining closer the relationship between athletic identity and personality and clinical pathologies. Part of the AIMS is in relation to feeling depressed about injury preventing participation in sport (question 7). What association can be had between someone who identifies strongly with that statement and their personality and could that have some implications to the clinical world? A person who scores higher on trait neuroticism may also score higher on depression about injury related to sport. This could be an avenue to exploring pathologies and their relationships to athletic identity. Since a link does exist

between neuroticism and clinical pathology (Costa, Terracciano, & McCrae, 2001), the intersection of that link and athletic identity may be important to look at, especially among those who participate in collegiate athletics.

## References

Allport, G. W., & Odbert, H. S. (1936). Trait-names: A psycho-lexical study. *Psychological Monographs*, *47*, i-171.

Balasz, E. V. (1975). Psycho-social study of outstanding female athletes. *Research Quarterly, 46*, 267-273.

Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, *42*, 155-162.

Brewer, B. W., & Cornelius, A. E. (2001). Norms and factorial invariance of the Athletic Identity Measurement Scale. *Academic Athletic Journal*, *15*, 103-113.

Brewer, B. W., Van Raalte, J. L., & Linder, D. E. (1993). Athletic identity: Hercules' muscles or Achilles heel?. *International Journal of Sport Psychology, 24*, 237-254.

Brokken, F. B. (1978). *The language of personality*. Unpublished doctoral dissertation. University of Groningen. the Netherlands.

Budaev, S. V. (1999). Sex differences in the Big Five personality factors: Testing an evolutionary hypothesis. *Personality and Individual Differences*, *26*, 801-813.

Buss, D. M. (1995). Evolutionary psychology - A new paradigm for psychological science. *Psychological Inquiry, 6*, 1–30.

Carroll, L. (1989). A comparative study of narcissism, gender, and sex-role orientation among bodybuilders, athletes, and psychology students. *Psychological Reports*, *64*, 999-1006.

Cattell, R. B. (1943). The description of personality: Basic traits resolved into clusters. *The Journal of Abnormal and Social Psychology*, *38*, 476-506.

Chapman, B. P., Duberstein, P. R., Sorenson, S., & Lyness, J. M. (2008). Gender differences in five factor model personality traits in an elderly cohort: Extension of robust and

surprising findings to an older generation. *Personality and Individual Differences, 43,* 1594-1603.

Ciselak, T.J. (2004). *Describing and measuring the athletic identity construct: Scale development and validation* Unpublished doctoral dissertation, Ohio State University, Columbus.

Coleman, J. A. (1980). Personality and stress in the shooting sports. *Journal of Psychosomatic Research*, *24*, 287-296.

Costa, P. T., & McCrae, R. R. (1976). Age differences in personality structure: A cluster analytic approach. *Journal of Gerontology, 31*, 564-570.

Costa, P. T., & McCrae, R. R. (1985). *The NEO Personality Inventory*. Odessa, FL: Psychological Assessment Resources.

Costa, P. T., & McCrae, R. R. (2001). A theoretical context for adult temperament. In T.D. Wachs & G.A. Kohnstamm (Eds.). *Temperament in Context*. Hillsdale, NJ: Erlbaum.

Costa, P. T., Terracciano, A., & McCrae, R. R. (2001). Gender differences in personality traits across cultures: Robust and surprising findings. *Journal of Personality and Social Psychology, 81*, 322-331.

Courneya, K. S., Friedenreich, C. M., Sela, R. A., Quinney, H. A., & Rhodes, R. E. (2002). Correlates of adherence and contamination in a randomized controlled trial of exercise in cancer survivors: An application of the theory of planned behavior and the five factor model of personality. *Annals of Behavioral Medicine, 24*, 257-268.

Courneya, K. S., & Hellsten, L. A. M. (1998). Personality correlates of exercise behavior, motives, barriers and preferences: An application of the five-factor model. *Personality and Individual Differences, 24*, 625-633.

De Fruyt, F., Van De Wiele, L., & Van Heeringen, C. (2000). Cloninger's psychobiological model of temperament and character and the five-factor model of personality. *Personality and Individual Differences*, *29*, 441-452.

Depue, R. A., & Collins, P. F. (1999). Neurobiology of the structure of personality: Dopamine, facilitation of incentive motivation, and extraversion. *Behavioral and Brain Sciences*, *22*, 491-517.

DeYoung, C. G., Peterson, J. B., & Higgins, D. M. (2005). Sources of openness/intellect: Cognitive and neuropsychological correlates of the fifth factor of personality. *Journal of Personality*, *73*, 825-858.

Digman, J. M., & Takemoto-Chock, N. K. (1981). Factors in the natural language of personality: Re-analysis, comparison, and interpretation of six major studies. *Multivariate Behavioral Research*, *16*, 149-170.

Donnelly, K., Twenge, J.M. (2017). Masculine and feminine traits on the Bem Sex Role Inventory, 1993-2012: a cross-temporal meta analysis. *Sex Roles, 76,* 556-565.

Dostoyevsky, Fyodor, 1821-1881. (1950). *The brothers Karamazov*. New York: Vintage Books

Eagley, A. H., & Steffen, V. J. (1986). Gender and aggressive behavior: A meta-analytic review of the social psychological literature. *Psychological Bulletin*, *100*, 309–330.

Eagley, A. H. (1987). *Sex differences in social behavior: A social-role interpretation.* Hillsdale, NJ: Erlbaum.

Eysenck, H. J. (1967). Intelligence assessment: A theoretical and experimental approach. *British Journal of Educational Psychology*, *37*, 81-98.

Feingold, A. (1994). Gender differences in personality: A meta-analysis. *Psychological Bulletin*, *116*, 429-456.

Festinger, L. (1950). Informal social communication. *Psychological Review, 57,* 271-282.

Fiske, D. W. (1949). Consistency of the factorial structures of personality ratings from different sources. *The Journal of Abnormal and Social Psychology*, *44*, 329-344.

Freedson, P. S., Mihevic, P. M., Loucks, A. B., & Girandola, R. N. (1983). Physique, body composition, and psychological characteristics of competitive female bodybuilders. *The Physician and Sportsmedicine*, *11*, 85-93.

Goldberg, L. R. (1990). An alternative" description of personality": The big-five factor structure. *Journal of Personality and Social Psychology*, *59*, 1216-1229.

Goldberg, L. R. (1981). Language and individual differences: The search for universals in personality lexicons. *Review of Personality and Social Psychology*, *2*, 141-165.

Gomà-i-Freixanet, M. (2001). Prosocial and antisocial aspects of personality in women: A replication study. *Personality and Individual Differences, 30,* 1401-1411.

Graziano, W. G., & Eisenberg, N. (1997). Agreeableness: A dimension of personality. In R. Hogan, J. Johnson, & S. Briggs (Eds.), *Handbook of Personality Psychology* (pp. 795-824). San Diego, CA: Academic Press.

Haas, B. W., Omura, K., Constable, R. T., & Canli, T. (2007). Emotional conflict and neuroticism: Personality-dependent activation in the amygdala and subgenual anterior cingulate. *Behavioral Neuroscience*, *121*, 249-256.

Hogan, R.T. (1986). *Manual for the Hogan Personality Inventory*. Minneapolis: National Computer Systems.

Holt, C. L., & Ellis, J. B. (1998). Assessing the current validity of the Bem Sex-Role Inventory. *Sex Roles*, *39*, 929-941.

Hsieh, P., Sullivan, J. R., Guerra, N. S. (2007). A closer look at college students: Self-efficacy and goal orientation. *Journal of Advanced Academics, 18,* 454-476.

Judge, T. A., Higgins, C. A., Thoresen, C. J., & Barrick, M. R. (1999). The big five personality traits, general mental ability, and career success across the life span. *Personnel Psychology, 52,* 621-652.

Kane, J.E., (1964). Psychological correlates of physique and physical abilities. In F. Jokl, & B. Simmons (Eds.), *International Research in Sports and Education* (pp. 85-94). Springfield, IL: Thomas.

Lantz, C.D., Schroeder, P.J. (1999). Endorsement of masculine and feminine gender roles: Differences between participation in and identification with the athletic role. *Journal of Sport Behavior, 22,* 545-557.

Maccoby, E. E., & Jacklin, C. N. (1974). Myth, reality and shades of gray-what we know and don't know about sex differences. *Psychology Today, 8,* 109-112.

McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 52,* 81-90.

McCrae, R. R., & Costa, P. T. (1989). The structure of interpersonal traits: Wiggins's circumplex and the five-factor model. *Journal of Personality and Social Psychology, 56,* 586-595.

McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality, 60,* 175-215.

O'Sullivan, D. M., Zuckerman, M., & Kraft, M. (1998). Personality characteristics of male and female participants in team sports. *Personality and Individual Differences, 25,* 119-128.

Peabody, D., & Goldberg, L. R. (1989). Some determinants of factor structures from personality-trait descriptors. *Journal of Personality and Social Psychology, 57,* 552-567.

Pedhazur, E. J., & Tetenbaum, T. J. (1979). Bem Sex Role Inventory: A theoretical and methodological critique. *Journal of Personality and Social psychology, 37,* 996-1016.

Piedmont, R. L., Hill, D. C., & Blanco, S. (1999). Predicting athletic performance using the five-factor model of personality. *Personality and Individual Differences, 27,* 769-777.

Raynor, D. A., & Levine, H. (2009). Associations between the five-factor model of personality and health behaviors among college students. *Journal of American College Health, 58,* 73-82.

Schinka, J. A., Dye, D. A., & Curtiss, G. (1997). Correspondence between five-factor and RIASEC models of personality. *Journal of Personality Assessment, 68,* 355-368.

Tupes, E.C.,& Christal, R. E. (1961). *Recurrent personality factors based on trait ratings*. Technical Report ASD-TR.61-97. Lackland Air Force Base. TX: US Air Force.

Visek, A. J., Hurst, J. R., Maxwell, J. P., & Watson, J. C. (2008). A cross-cultural psychometric evaluation of the athletic identity measurement scale. *Journal of Applied Sport Psychology, 20,* 473-480.

Waller, N.G.,& Ben-Porath, Y. S. (1987). Is it time for clinical psychology to embrace the five-factor model of personality? *American Psychologist, 42,* 887-889

Wann, D. L., & Hamlet, M. A. (1995). Author and subject gender in sports research. *International Journal of Sport Psychology, 26,* 225-232.

Wiggins, J. S., & Broughton, R. (1985). The interpersonal circle: A structural model for the integration of personality research. *Perspectives in Personality, 1,* 1-47.

Williams, J. E., & Best, D. L. (1990). *Measuring sex stereotypes: A multination study.* Newbury Park, CA: Sage Publications, Inc.

Wolfradt, U., & Pretz, J. E. (2001). Individual differences in creativity: Personality, story writing, and hobbies. *European Journal of Personality, 15*, 297-310.

**Appendix I:** Demographic Questionnaire

1. What is your sex?
2. What is your race?
3. What is your current age (in years)?
4. What year of college are you currently in?

**Appendix II:** Athletic Identity Measurement Scale (AIMS, Brewer & Cornelius, 2001).

Measured on a 7 point Likert scale with 1 indicating strong disagreement and 7 indicating strong agreement.

1. I consider myself an athlete.
2. I have many goals related to sport.
3. Most of my friends are athletes.
4. Sport is the most important part of my life.
5. I spend more time thinking about sport than anything else.
6. I feel bad about myself when I do poorly in sport.
7. I would be very depressed if I were injured and could not compete in sport

**Appendix III:** IPIP NEO (NEO-50). Measured on a 5 point Likert scale.

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

23. Get chores done right away
24. Am not easily disturbed
25. Have excellent ideas
26. Have little to say
27. Have a soft heart
28. Often forget to put things back in their proper place
29. Get upset easily
30. Do not have a good imagination
31. Talk to a lot of different people at parties
32. Am not really interested in others
33. Like order
34. Change my mood a lot
35. Am quick to understand things
36. Don’t like to draw attention to myself
37. Take time out for others
38. Shirk my duties
39. Have frequent mood swings
40. Use difficult words
41. Don’t mind being the center of attention
42. Feel others’ emotions
43. Follow a schedule
44. Get irritated easily
45. Spend time reflecting on things

46. Am quiet around strangers

47. Make people feel at ease

48. Am exacting in my work

49. Often feel blue

50. Am full of ideas

**Appendix IV:** Bem Sex Role Inventory. (BSRI; Bem, 1974). Measured on a 7 point Likert scale ranging from “never or almost never true” to “always or almost always true”.

1. Self-reliant
2. Yielding
3. Helpful
4. Defends own beliefs
5. Cheerful
6. Moody
7. Independent
8. Shy
9. Conscientious
10. Athletic
11. Affectionate
12. Theatrical
13. Assertive
14. Not susceptible to flattery
15. Happy
16. Strong personality
17. Loyal
18. Unpredictable
19. Forceful
20. Feminine
21. Reliable

22. Analytical
23. Sympathetic
24. Jealous
25. Leadership ability
26. Sensitive to others' needs
27. Truthful
28. Willing to take risks
29. Understanding
30. Secretive
31. Makes decisions easily
32. Compassionate
33. Sincere
34. Self-sufficient
35. Eager to soothe hurt feelings
36. Conceited
37. Dominant
38. Soft-spoken
39. Likeable
40. Masculine
41. Warm
42. Solemn
43. Willing to take a stand
44. Tender

45. Friendly
46. Aggressive
47. Gullible
48. Inefficient
49. Acts as a leader
50. Childlike
51. Adaptive
52. Individualistic
53. Does not use harsh language
54. Unsystematic
55. Competitive
56. Loves children
57. Tactful
58. Ambitious
59. Gentle
60. Conventional

**Appendix IV:** IRB Approval

MURRAY STATE UNIVERSITY

**Institutional Review Board**

328 Wells Hall
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**TO:** Sean Rife, Psychology

**FROM:** Jonathan Baskin, IRB Coordinator

**DATE:** 3/4/2019

**RE:** Human Subjects Protocol I.D. – IRB # 19-108

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The IRB has completed its review of your student's Level 1 protocol entitled *Personality and Identity*. After review and consideration, the IRB has determined that the research, as described in the protocol form, will be conducted in compliance with Murray State University guidelines for the protection of human participants.

**The forms and materials that have been approved for use in this research study are attached to the email containing this letter. These are the forms and materials that must be presented to the subjects. Use of any process or forms other than those approved by the IRB will be considered misconduct in research as stated in the MSU IRB Procedures and Guidelines section 20.3.**

**Your stated data collection period is from 3/4/2019 to 3/3/2020.**

If data collection extends beyond this period, please submit an Amendment to an Approved Protocol form detailing the new data collection period and the reason for the change.

**This Level 1 approval is valid until 3/3/2020.**

If data collection and analysis extends beyond this date, the research project must be reviewed as a continuation project by the IRB prior to the end of the approval period, 3/3/2020. You must reapply for IRB approval by submitting a Project Update and Closure form (available at murraystate.edu/irb). You must allow ample time for IRB processing and decision prior to your expiration date, or your research must stop until such time that IRB approval is received. If the research project is completed by the end of the approval period, then a Project Update and Closure form must be submitted for IRB review so that your protocol may be closed. It is your responsibility to submit the appropriate paperwork in a timely manner.

The protocol is approved. You may begin data collection now.