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Validating a Masculinity Scale in a Non-College Sample

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Dedication

In memory of Dr. Oney D. Fitzpatrick Jr.

VALIDATING A MASCULINITY SCALE IN A NON-COLLEGE SAMPLE

by

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THESIS

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Abstract

Sexual assault in the United States is prevalent. One out of every six American women has been the victim of an attempted rape or complete rape. Previous research demonstrates that hypermasculine attitudes are positively predictive of sexual aggression toward women. In these studies, researchers have continued to utilize outdated and inappropriate measures like the Hypermasculinity Inventory (1984) to assess hypermasculinity. Measures that assess hypermasculinity have only been validated on college samples. A modern measure of masculinity is the Auburn Differential Masculinity Inventory-23 (Burk, Burkhart, & Sikorski, 2004), which has been validated in college samples. The present research evaluated the psychometric properties of the Auburn Differential Masculinity Inventory (ADMI-23) with a non-college student sample using Prolific, an online platform for independent contractors to complete surveys. Participants were 377 individuals who self-identified as heterosexual males that were not enrolled in a college or university institution. Results showed that the four-factor model that underlies that ADMI-23 provided a good description of how the ADMI-23 items relate to each other. The non-college sample reported low levels of masculinity. Additionally, the observed scores from the ADMI-23 and its subscales demonstrated convergent and discriminant validity.

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Chapter 1: Introduction

According to the Rape, Abuse & Incest National Network [RAINN], (2018), every 98 seconds an American is sexually assaulted. One out of five women will be raped at some point in their lives (National Sexual Violence Resource Center, 2018) and one out of every six American women has been the victim of an attempted rape or complete rape (RAINN, 2018). Sexual assault can occur in many locations such as at or near the person's home (55% of the time), in a public place (15% of the time), at or near a relative's home (12% of the time), in an enclosed but public place (10% of the time), and/or on school property (8% of the time) (RAINN, 2018). Furthermore, only 310 out of every 1,000 sexual assaults are reported to the police which is the most under-reported crime in the United States. Moreover, for every 1000 rapes, 994 perpetrators will not go to jail or prison (RAINN, 2018).

It is also important to note that anyone can be a sexual assault perpetrator; however, the focus of this introduction and this present study is centered around the sexual violence against women from male sexual assault perpetrators.

Sexual assault survivors experience psychological and emotional issues, physical pain, and distress. Survivors of sexual assault are more likely to experience post-traumatic stress disorder (PTSD) (Peter-Hangene & Ullman, 2014 & Peter-Hangne & Ullman, 2016), depression (Hakimi, Bryant-Davis, & Ullman, 2018; Krahe & Berger, 2017), substance use (Rhew, Stapppenbeck Bedard-Gilligan, Hughes, 2017;Krkner, Relyea, & Ullman, 2018 ; McFarlane et al., 2005), low self-esteem (Krahe & Berger, 2017), suicide ideation (Bryan, McNaughton-Cassill, Osman, Hernandez, & 2013; Chang et al., 2014), suicide attempts (Bryan, McNaughton-Cassill, Osman, Hernandez, & 2013; Chang et al., 2014; McFarlane et al., 2005), and anxiety (Ramos, Carlson & McNutt, 2007). In addition, survivors of sexual assault may be infected with sexually transmitted infections (Koss, Heise & Russo, 1994 & Goodman, Koss & Russo, 1993), become pregnant from

the perpetrator (Koss, Heise & Russo, 1994 & Goodman, Koss & Russo, 1993), develop eating disorders (Ackard & Neumark-Sztainer, 2002), and may not seek proper health care (Plichita & Falik, 2001).

Given the prevalence of sexual assault against women and the detrimental effects of sexual assault it has on survivors, it is important to further understand the traits that are associated with male sexual assault perpetrators, such as lack of empathy, hostile masculinity, macho/aggressive, dominant and controlling personalities, impulsivity, emotional constriction, and underlying anger and power issues with women (Sexual Assault Prevention and Awareness Center [SAPAC], 2017). A discussion on masculinity and hypermasculinity follows.

Chapter 2: Literature Review

MASCULINITY AND HYPERMASCULINITY

It is important to note that femininity and masculinity are traits that anyone can possess and act on; however, the manner in which males and females are socialized and the traits each group is expected to possess makes for inequitable living.

In recent years, researchers have focused on two constructs, masculinity and hypermasculinity, to understand the traits of male sexual assault perpetrators. Masculinity can be defined as a belief that men should be tough, independent, serve as a protector and provider, and the opposition of being feminine. It is a social construct that is perpetuated by gender socialization which dictates that males should be strong, aggressive, in control of their emotions, and possess sexual potency (Beesley & McGuire, 2009).

Murmen (2015) stated that "masculinity is not conceptualized as something one has, but something one does." According to Feminist theories, violence against women stems from an attempt to resolve a masculinity threat, where males attempt to assert their dominance through female subordination (Murmen, 2015). Previous researchers have found that males engage in violence to ensure they maintain their masculinity (Lopez & Emmer, 2002; Reilly, Muldoon, & Byrne, 2004). Societal and cultural beliefs and systems perpetuate the widely accepted idea that males, more specifically masculinity, is more superior and competent (Ridgegay, 1997).

Hypermasculinity on the other hand, occurs when the masculine traits as described above are exaggerated and adhered to (Corprew & Mitchel, 2014; Burk et al, 2004). Although not everyone who possesses hypermasculine traits is aggressive towards women, it has been predictive of sexual and physical aggression against women (Murnen, 2015; Corprew & Mitchel, 2014; Burk, Burkhart & Sikorski, 2004; Casey, Masters, Beadnll, Wells & Morrison, 2016;

Rapaport & Burkhart, 1994). Hypermasculinity is the exaggerated stereotype of what it means to be a man, such as the super evaluation of competition, devaluation of cooperation and care taking activities (Burk, et al, 2004). It is the emphasis and exaggeration of physical strength, aggression, and sexuality.

Hypermasculinity is also an assertion of physical dominance over women, hostility, sexual prowess, and rejection of any feminine traits. It can also be described as having the desire to control and dominate women for the perpetrator's own gratification (Murnen, 2015). Previous studies have found that men who have higher levels of hypermasculinity are more likely to act in an aggressive and hostile manner after being exposed to violence on television compared to men who reported lower levels of hypermasculinity (Scharrer, 2001) and may perceive women who refuse any sexual advances as a threat to their masculinity which is a component of hypermasculinity (Guerro, 2009). These negative ideologies and beliefs encourage sexual assault (Murmen, Wright, &Kaluzy, 2002) and violence toward women (Locke & Mahalik, 2005).

Scheff (2006) argues that individuals who are high in hypermasculinity repress their vulnerable emotions which can lead to silence, withdrawal, or anger. Moreover, these feelings go unresolved and create the potential for violence. Several researchers have found hypermasculine attitudes to be predictive of sexual aggression toward women (Corprew & Mitchel, 2014; Burk, Burkhart & Sikorski, 2004; Casey, Masters, Beadnll, Wells & Morrison, 2016; Rapaport & Burkhart, 1994). More specifically, men who score high on hypermasculinity have also reported viewing women as sexual objects (Bogaert and Fisher, 1995, Burk, Burkhart, & Sikorksi, 2004), have misogynistic fantasies (Johnson and Knight, 2000), and engage in the most extreme forms of aggression (Hannan & Burkhart, 1993; Burk, Burkhart, & Sikorksi, 2004; Guerro, 2009).

Hypermasculinity in men is also associated with a lack of rape related empathy and a lack of overall empathy (Grothy, 1979; Norris et al., 1999; Guerro, 2009).

In one study, where men were guided to imagine themselves committing the crime of rape, men who reported higher levels of hypermasculinity were more likely to report using sexual force, drugs and alcohol, verbal manipulation, react angrily at the sexual rejection, and using threats as tactics to gain sexual access (Mosher & Anderson, 1996). In an additional study, researchers found that masculine sex-typed males were significantly more likely to disclose they would commit the depicted acquaintance rape and the depicted stranger rape than androgynous males (Quackenbush, 1986). Study findings also concluded that regardless of whether rape was committed by an acquaintance or stranger, masculine sex-typed males expressed less empathy toward the rape victim than the androgynous males. Overall, males in the study were more likely to blame the victim, were less likely to attribute any responsibility to the rapist, and viewed the acquaintance rape as less serious than the stranger rape vignette (Quackenbush, 1986). Quackenbush (1986) concluded that the lack of feminine qualities such as empathy is directly related to how masculine sex-typed males responded versus androgynous males. Androgynous males in the study were described as outgoing, mature, socialized, and concerned about others (Baucom, 1980 & Quackenbush, 1990). Additionally, previous research has found that feminine qualities include having the social skills to maintain healthy relationships with others and being able to regulate individual emotional needs (Quakenbush, 1990).

Another trait of hypermasculinity includes eliciting physical aggression (Mosher & Sirkin, 1984). Parrot and Zeicher (2003) found that men who were high in hypermasculinity had higher levels in physical aggression compared to men who were low in hypermasculinity. These researchers conducted a study where participants were placed in an experimental chamber in

which they had to compete against a female confederate in a task and administer shocks. This study found that men who scored higher in hypermasculinity administered more shocks, selected the highest intensity and longer durations compared to men who scored lower in hypermasculinity. Parrot and Zeicher (2003) also found that the male participants who administered these shocks also had engaged in physical partner violence at a higher rate compared to male participants who scored low on hypermasculinity.

More recently, Powell, Butterfield and Jiang (2018) conducted a study to understand the perceptions of the ideal president in the 2016 US presidential election in terms of gender stereotypes. Their study focused on the traits of femininity, masculinity, androgyny, and hypermasculinity. These authors argued that being higher in masculinity than femininity is ideal for a candidate. Their findings indicated that although Hillary Clinton was perceived as higher in masculinity than femininity, Donald Trump was perceived to be higher on hypermasculinity (according to 76 percent of Donald Trump supporters surveyed in the study) whereas only 30% of Hillary Clinton supporters perceived Donald Trump as such. These authors argue that this discrepancy on hypermasculinity may have helped contribute to Donald Trump's winning of the Electoral College in 2016. The next section that follows will discuss the theory of hegemony as it relates to hypermasculinity.

THEORY OF HEGEMONY

Masculinity and hypermasculinity can be better understood in the context of theory of hegemony. The theory of hegemony posits that power is not equally distributed in society (Gramsci, 1971). There are two groups: those who hold power, consisting mostly of white, upper class, heterosexual men, and those who are subordinated, including marginalized men and women (Vokey, 2008). Power and dominance are held via the dominant group's popular beliefs

that benefit their group. Given that the dominant group hold power over several institutions, these messages of dominance and subordination of others are further perpetuated. (Vokey, 2008; Kimmel & Davis, 2011). Simultaneously, those subordinated internalize the messages and view themselves as less powerful and less valuable in society. This is one of the core components of hegemony. In other words, hegemony is a continual, active process that delivers messages to the subordinated group that the norms/rules set by those in power are normal and valued. These systems of beliefs are imbedded in societal and cultural systems (Zernerchel & Perry, 2017) that involve persuasion of the population, which in turn allows for the group to sustain dominance. It is important to note however that dominance does not lead to the other groups being eradicated, but it does mean that ascendancy is achieved via the unbalanced power that leaves other groups subordinated. Additionally, hegemony is a process in which individuals learn to hold the beliefs and practices of the dominant group while supporting that same group. This process is "natural", normal, and subtle.

From the theory of hegemony, Connell (1987) developed the theory of hegemonic masculinity. Hegemonic masculinity can be best described as the societal and cultural practice that perpetuates male dominance. At its core, hegemonic masculinity is the most accepted form of masculinity (Zernerchel & Perry, 2017) which encompasses heterosexuality, homophobia, and men's sexual objectification of women (Drummond, 1995). Overall, hegemonic masculinity is based on the idea that men can never be unfeminine enough. It is based on sustaining power, the men that support those systems, and is in relation to the subordinated forms of masculinity (Drummond, 1995). It is important to note that while not all men engage in hegemonic masculinity, all men do benefit from hegemonic masculinity. For example, there are symbols, models, and messages in the media that spread the normative idea of hegemonic masculinity

(Zernechel & Perry, 2017). This ideal of hegemonic masculinity is further perpetuated by individuals who monitor other men if and when they engage in non-hegemonic masculinity (Connell & Messerschmidt, 2005)

Hegemonic masculinity is not static; it is constantly changing. Therefore, men who have once been subordinated may go up through the ranks and attain status and power. While some subordinated men can attain status, hegemonic masculinity argues that women cannot make these transitions (Drummond, 1995). As such, there is a hierarchy of the different types of masculinities, including gay men, men who are lower in social economic status, and racially/ethnically minoritized men. These different subordinated groups therefore may not have access to power, resources, and control (Vokey, 2008).

Simply stated, hegemony and hegemonic masculinity are structures in place that foster and perpetuate masculinity and hypermasculinity. Understanding masculinity and hypermasculinity in these contexts is essential to address the relationship between hypermasculinity and sexual assault. Therefore, it is imperative that future researchers continue to conduct studies to further understand the construct of hypermasculinity, which will allow for interventions and preventions programs to educate boys and men about gender socialization and challenge what it means to be masculine (Falghberg & Pepper, 2016).

LITERATURE GAP

Measures assessing hypermasculinity have long been understudied and warrant further research (Powell, Butterfield, & Jiang, 2018). In the past 35 years, a small handful of validated measures have been developed to assess hypermasculinity. Those include the Hypermasculinity Inventory (HMI, Mosher & Sirkins, 1984) and the Extended Hypermasculinity scale (EHMI, Mosher, 1991). The measures described below have only been validated among college samples

and continue to be utilized in present research. To our knowledge, hypermasculinity measures have not been validated on non-college samples. Additionally, Hanel and Vione (2016) found that researchers should not generalize their research findings from the college sample to the general public since researchers still do not understand the predictors for these group differences. Therefore, it is critically important to assess whether these measures can be used in non-college samples.

According to Jeffrey Jensen Arnett (2019), emerging adulthood occurs roughly between the ages of 18-25. Emerging adulthood is the transitional period after adolescence and right before young adulthood in which individuals are waiting at a later age for marriage and parenthood and are attaining their higher education for a longer period. This is an international phenomenon observed in developed countries and increasingly in developing countries (Arnett, 2019). Arnett (2019) found that during this time, there were a few factors identified by emerging adults that consisted of adulthood such as "accepting responsibility for one's actions, making independent decisions, and becoming financially independent." Arnett (2019) found this to be true regardless of emerging adults attaining a college degree. Similarly, Lyman (1987) found that college men described the college experience as a time in which they could experiment as college men who were no longer living at home and did not have to balance issues of work and family. More importantly, these college men felt that any wrongdoings occurring during college would result in less than severe consequences (Lyman, 1987).

Given that the typical college age takes place during this transition period, it is important to study hypermasculinity in individuals who are outside of this transition period. Although the focus of the present study is in a non-college sample, it is essential to understand how and why

the college experience perpetuates masculinity and hypermasculinity, as it is in a setting like college that hypermasculine behaviors are further reinforced.

As mentioned briefly above, the college environment fosters beliefs that men are not supposed to be feminine Davis, 2002 & Messner, 1987). College men feel the pressure to practice traditional masculinity. In the college setting, men have been socialized to engage in alcohol use to prove their masculinity (Caprarro, 2004 & Edwards, 2007). Subcultures within the college setting such as athletics and fraternities further perpetuate these expectations of masculinity and hypermasculinity (Edwards, 2007; Zernechel & Perry, 2017). These systems further develop hegemonic masculinity by valuing behaviors such as exploiting women, hazing in group members, engaging in alcohol and drug use, homophobia, rejecting feminine traits, suppressing emotions, and valuing high status membership (Zernechel & Perry, 2017).

Previous researchers have highlighted how hypermasculinity contributes to college men's sexual assault perpetration (Kilmartin, 2001; Zernechel & Perry, 2017); however, there is a lack of research on hypermasculinity outside of the college setting (Zaitchik & Mosher, 1993). As mentioned above, masculinity is constantly changing and the characteristics of emerging adults are different from those outsides of the age range of 18-25 (Arnett, 2019 ; Connell & Messerschmidt, 2005).

Given the limited research on hypermasculinity and non-college settings and the fact that college students are not the only samples of men who are hypermasculine, it is important to validate these measures among non-college samples (Zaitchick & Mosher, 1993). Furthermore, Burk, Burkhart, and Sikorski (2004) recommend validation of the ADMI in a "broader sample of the male population," such as in older men and men in the community to truly consider ADMI to

be a broad measure of hypermasculinity. A description of these measures of hypermasculinity follows.

HYPERMASCULINITY INVENTORY (HMI) AND THE EXTENDED HYPERMASCULINITY INVENTORY (EHMI).

The HMI (Mosher and Sirkins, 1984) was initially developed to measure hypermasculinity and consisted of 30 forced choice items which served as indicators of three factors. These factors were named: (a) calloused sex attitudes toward women, (b) violence as manly, and (c) danger as exciting items. Authors frequently referred to this inventory as measuring the "macho personality/constellation." The "macho constellation" is intended to be a composite of the three factors mentioned above, though they mention the factors could be used independently.

Mosher and Sirkins (1984) define the "macho constellation" as a trait that has been imbedded during developmental years by how parents have socialized boys to discourage and shame boys for expressing fear and pain. It has been hypothesized that this process of socialization is a contributing factor in developing an exaggerated masculine style. Moreover, the belief of masculinity as heroism is in conjunction with viewing women as submissive and as a sexual object to conquer (Shafer, Ortiz, Thompson, and Huemmer, 2018; Tatum and Foubert, 2009; Mosher and Sirkin, 1984). This belief system and culture, attitudes about themselves, other individuals and their environment lead hypermasculine males to engage in hypermasculine actions (Burk, Burkhart, and Sikorski, 2004; Mosher and Sirkin, 1984).

It is important to understand how previous researchers have defined factors in hypermasculinity measures. Mosher and Sirkin (1984) describe their first factor, calloused sex attitudes toward women, as a male who sexually dominates females without any regard. The

second factor, conception of violence as manly, is described as someone who believes that demonstrating aggression is acceptable and preferable in relation to other men. The third factor, a view of danger as exciting, is described as engaging in dangerous behaviors to exert masculinity. Mosher and Sirkin (1984) posit that when an individual's masculinity is threatened/challenged by a situation, person, or system, it causes individuals to engage in these behaviors mentioned above.

According to Mosher and Sirkin (1984), the Hypermasculinity Inventory score is meant to generate a general score for the macho constellation rather than using separate subscales as individual predictive variables. These authors found that the higher scores on the macho constellation was associated with higher frequent alcohol use and illicit drugs such as, stimulants, depressants, marijuana, and hashish (Mosher and Sirkin, 1984). More specifically, the "danger as exciting" factor was highly correlated with use of opium, codeine, and hallucinogens (Mosher and Sirkin, 1984). While scores on the "Violence as manly" factor were not as highly correlated with drug use, they did correlate highly with fighting and aggression items (Mosher and Sirkin, 1984).

These authors were also interested in understanding how the macho constellation correlated with personality patterns, as measured by the Jackson Personality Research form (Jackson, 1974). According to Mosher and Sirkin (1984), the macho personality constellation was positively correlated with play, impulsivity, exhibition, and aggression. The "Danger as exciting" facet was correlated with play (r = .52), harm avoidance (r = -.47), impulsivity exhibition, (r = .41), cognitive structure (r = -.38), and autonomy (r = .29). The "Violence as manly" facet of the constellation was correlated with aggression (r = .29) and dominance (r = .26). The calloused sex attitudes scale was also correlated with aggression (r = .29) and

negatively correlated with nurturance (r = -.25) and social desirability (r = -.23). Overall, the macho personality was negatively associated with understanding (r = -.47), harm avoidance (r = -.36), and cognitive structure (r = -.30) (Mosher and Sirkin, 1984). In addition, these authors also report that the test score reliability (as indexed by coefficient α) of the HMI is 0.89. Test score reliability of the three scales (as indexed by coefficient α) were as follows: Violence: $\alpha = 0.79$; Danger: $\alpha = 0.71$ and Calloused Sex: $\alpha = 0.79$.

Despite the findings outlined above, there are some notable limitations of the Mosher and Sirkin (1984) study. First, their study was conducted in a small Northeast suburb where students were predominantly Catholic and from middle class families. Second, the study was advertised as an experiment on "Sexual Attitudes." This type of advertisement may have led to the recruitment of individuals that are more liberal with sex and sexual attitudes to participate in this study. Third, the participants were informed of study details in small groups rather than individually. This process may have impacted the informed consent process in a variety of ways. For example, individuals higher on hypermasculinity could more readily assert their dominance over other participants with such a consenting process. Finally, the forced choice items are also a limitation in that it forces participants to either endorse the item or not, which also does not allow for the individual to express varying degrees of hypermasculinity.

In an attempt to capture another dimension of the macho constellation, Mosher (1991) developed the Extended Hypermasculinity Inventory (EHMI), which was an extension to the Hypermasculinity Inventory (HMI). The EHMI was tested on college males and it included a fourth factor, toughness as self-control. This factor aimed to measure a man's desire for power over oneself had a test score reliability (as indexed by coefficient α) of 0.74 for the limited comparison format items and a test score reliability of 0.67 for the forced-choice format items

(Mosher, 1991). These reliabilities were low compared to the other factors of the EHMI (which ranged from .81-.84). Like the HMI, the EHMI measure also adopts a forced choice format which forces participants to choose between binary options rather than varying gradations on a Likert scale. Similarly, the EHMI has limitations with the wording of the items. First, there is a lack of culturally appropriate wording for the items for the EHMI. Moreover, several item stems are offensive and have outdated terms such as "pick-ups" to refer to women. There are other items that have wording that are more offensive as well. Having items that are offensive to participants may lead to participants not responding to the items at all (Burk, Burkhart, and Sikorski, 2004). Despite these limitations, this measure is still used in the literature. A Google Scholar search on November 5, 2018 indicates that this paper has been cited in peer reviewed manuscripts, book chapters and other student works 65 times since 2017.

Auburn Differential Masculinity Inventory.

Since the development of the Hypermasculinity Inventory (Mosher and Sirkin, 1984) and the Extended Hypermasculinity Inventory (1991), limited research has been conducted to revise and improve the construct of masculinity and hypermasculinity and to distinguish the two constructs. As such, Burk, Burkhart, and Sikorski (2004) developed the Auburn Differential Masculinity Inventory (ADMI, 2004) to address the limitations of the two previously mentioned scales**.**

Burk et al., (2004) agreed with Mosher and Sirkin (1991) in that hypermasculine traits are developed through the socialization of gender roles perpetuated in society. Moreover, Burk et al., (2004) updated the construct hypermasculinity to describe men who display exaggerated traditional male gender roles, such as competitiveness, aggression, and devalue cooperation and care taking. Given the limitations and the operationally defined construct of hypermasculinity,

researchers aimed to develop a measure to reflect items that assessed dominance, hostility toward women, limited affect, and the devaluation of cooperation and interpersonal activities (Burk, Burkhart, and Sirkorski, 2004).

Burk and colleagues (2004) assessed face validity of the ADMI with graduate students and faculty with the initial development of 180 items. Based on the hypermasculinity literature, graduate students and faculty constructed 180 face-valid items. Face validity refers to the process in which individuals develop items that appear to measure the construct they are referencing to (Nevo, 1985). After face validity was established, researchers conducted content validity. Content validity refers to the process in which an individual rates each item to determine how well each item fits within the construct definition (Polit and Beck, 2006). As such, Burk and colleagues (2004) had 27 psychology doctoral students rate the 180 items to determine how well each item fit within the given construct definition. Each item was rated on a 3-point Likert scale, (very good, good, and indifferent). The items that received an overall rating of very good or good were retained, resulting in the retention of 100 items.

Next, researchers assessed discriminant and convergent validity of the remaining items. Discriminant validity is best described as when the construct does not correlate with dissimilar constructs (Bagozzi, Yourjae, & Phillips, 1991). Conversely, convergent validity is demonstrated when the construct does correlate with other similar constructs (Bagozzi, Yourjae, & Phillips, 1991). The measures that were utilized to establish convergent validity were the Antisocial Practices Scale (APS) (Lilienfeld, 1996), Hostility Towards Women Scale (HTW) (Check, 1985), the Sensation Seeking Scale (SSS) (Zuckerman, 1994), and the Hypermasculinity Inventory (HMI). Measures that were selected to establish discriminant validity included the

Rosenberg Self-Esteem Scale (RSES), Marlow-Crowne Social Desirability Scale (MCSDS), and the Balance Emotional Empathy Scale (BEES).

Burk and colleagues (2004) then recruited male undergraduate students (N = 157) students to participate in their survey, which included the 100 potential items and the scales mentioned above to test for convergent and discriminate validity. Results indicated that the test scores resulting from the 100 potential items were significantly correlated with the APS scores (r = .49, p = .01), the HTW scores (r = .48, p = .01), the SSS scores (r = .48, p = .01), and with the HMI scores (r = .70, p = .01), which indicates convergent validity (Burk et al., 2004). Results from the survey also indicated as expected, significant negative correlation between scores resulting from the summation of 100 items and the MCSDS (r = -.32, p = .01) (Burk et al., 2004). Moreover, the sum of the 100 item scores did not statistically correlate with the RSES (r = -.14) and the BEES (r = -.11) (Burk et al., 2004).

The researchers then conducted a frequency analysis in which items that were too similar in response (either strongly positive or strongly negative) were determined to not be considered discriminative, resulting in the retention of 60 items. These 60 items resulted in the development of the ADMI-60. The process of convergent and discriminant validity was performed again and established with the ADMI-60. These researchers reported an appropriate estimate of test score reliability (indexed by coefficient alpha) for the 60 items, α = .83 for study 1 and α = .85 for Study 2 (Burk, Burkhart, and Sirkorski (2004).

With the ADMI-60, researchers proceeded to conduct a series of exploratory factor analyses. Participants included 347 male undergraduate students in a psychology class at Auburn University. The survey consisted of the ADMI-60, demographic items, and the HMI. The first exploratory factor analysis was conducted on the ADMI-60 to determine the structure of the

scale and to determine how well those factors were relevant to the authors' definition of the construct. The second exploratory factor analysis was conducted on the HMI to understand the structure of the scale. Burk and colleagues (2004) expected to find three factors: sensation seeking, callous sexual attitudes and a positive attitude toward interpersonal violence based on the Mosher and colleagues (1998) definition. A third exploratory factor analysis was conducted by combining the ADMI-60 and the HMI to detect any patterns in which the items overlapped between the two measures. As such, items from the ADMI-60 or the HMI or a combination that clustered with each other and not the other scale indicated uniqueness.

In the first exploratory factor analysis, Burk and colleagues conducted a principal axis factor analysis on the items making up of the ADMI-60. The five factors that emerged included, hypermasculinity (explaining 8.4% variance), sexual identity (explaining 7.9% variance), dominance and aggression (explaining 7.4% variance), conservative masculinity (explaining 7.2% variance), and devaluation of emotion (explaining 3.9% variance). These five factors explained 34.8% of the total variance.

Researchers also noted that factor 3 (dominance and aggression) and factor 4 (conservative masculinity) may not replicate well in the future given they overlapped. The first factor, hypermasculinity reflected the essential of what hypermasculinity is, which consists of the exaggerated masculine trait and the devaluation of feminine traits. The second factor, sexual identity, reflected items where sex is a method of have power and aggression while devaluating intimacy. The third factor, dominance and aggression, mirrored items that use aggression to exert dominance and control over others. Similar to hypermasculinity, conservative masculinity (the fourth factor) consisted of items which consist of exaggerated masculine traits; however, conservative masculinity does have a sense of interpersonal intimacy. The fifth factor,

devaluation of emotion, consisted of items that perceives emotional expression as a weakness, fear, or sadness.

Estimates of reliability were also conducted on scales that consisted of items that loaded at least 0.40 on their corresponding factors. These reliability estimates ranged from 0.73 - 0.85. Factor 1, Hypermasculinity had a reliability estimate of 0.85, Factor 2, Sexual Identity had a reliability estimate of 0.78, Factor 3, Dominance and Aggression had a reliability estimate of 0.79, Factor 4, Conservative Masculinity had a reliability estimate of 0.83, and Factor 5, Devaluation of Emotion had a reliability estimate of 0.73.

The principle-axis factor analysis conducted on the HMI also indicated that five factors emerged. The first factor (explaining 8.4% of the variance) consisted of items reflecting physical aggression and threats toward others. The second factor (explaining 7.7% of the variance) consisted of items reflecting aggressive, dominating, and sexual style. From the HMI, were two items about lesbianism loaded on the third factor (explaining 6.2% of the variance). The fourth factor (4.9% variance) consisted of items engaging in risky and dangerous behavior. The last factor (explaining 2.7% of the variance) consisted of two items for alcohol use. Authors notes that 6 items did not load on any of the 5 factors or had a factor loading above .30.

As stated earlier, the third step in understanding how the ADMI and the HMI overlap consisted of conducting an exploratory factor analyses involving items from both the ADMI and HMI. After the principal-axis factor analysis, researchers reported that five factors also emerged. The items from the ADMI-60 and the HMI were similar in content and resulted in the five factors below. The first factor consisted of 22 items (10 HMI items and 12 ADMI items) and reflected heterosexual entitlement and promiscuous sexual behavior (explaining 7.6% of the variance). The second factor consisted of 18 items (2 HMI items and 16 ADMI items) and

reflected sexual violence and misogyny (explaining 7.2% of the variance). Factor three consisted of 20 items (7 HMI items and 13 ADMI items) which reflected physical aggression against other males, aggression, and anger (explaining 6.8% of the variance). Factor four consisted of 12 items (0 HMI items and 12 ADMI items) in which the items reflected superiority and dominance over others (explaining 4.8% of the variance). According to these authors, the last factor only consisted of 1 ADMI item related to avoiding physical conflict. The 17 items that did not load on any of the factors or did not have a factor loading of .30 or higher consisted of 11 HMI items and 6 ADMI items.

Researchers also conducted a MANOVA on the total scores for the ADMI-60 and the HMI using demographic variables such as marital status, fraternity status, and categories of age. Differences were found for marital status for the ADMI-60, such that those who were in a committed relationship and were not a member of a fraternity reported lower levels on the ADMI-60 total score. Furthermore, differences were found among older participants, individuals who had been enrolled in college longer, and had either been married or were currently married reported lower total scores on the HMI.

Burk, Burkhart, and Sikorski (2004) concluded that the ADMI-60 provided additional information on hypermasculinity than the HMI, including facets as hostile sexuality, interpersonal control, and devaluation of emotional expression. Additionally, Burk and colleagues (2004) argue that the HMI did not reflect the definition of hypermasculinity but rather assessed specific attitudes and behaviors, such as lesbianism and alcohol use. Moreover, authors argue that the HMI did not encapsulate the primary underlying pinning of hypermasculinity such as hostile or violent sexuality and interpersonal dominance (Burk, Burkhart, and Sirkorski, 2004). Given the findings from Burk, Burkhart and Sikorski (2004), Corprew, Matthews, and

Mitchell (2014) aimed to further evaluate the structure of the ADMI-60 to establish a multidimensional hypermasculinity scale.

The refinement of the ADMI: The ADMI-23.

Corprew, Matthews, and Mitchell (2014) argued that hypermasculinity scales require individuals to either highly endorse items or fail to endorse items. These items do not provide the opportunity for individuals to lie on a spectrum of masculinity. These authors argue that this is one of the issues with the current hypermasculinity scales and that there exist different types of masculinities. As such, researchers aimed to understand and differentiate the different types of masculinity. To better understand the construct of hypermasculinity as measured by the ADMI-60, Corprew, Matthews and Mitchell (2014) conducted a series of analyses on the ADMI-60. First, Corprew et al., (2014) conducted a principal component analyses (PCA) on the ADMI-60 from 328 heterosexual college males from three universities in the southern United States. Using the results of the PCA and theoretical items, these authors reduced items from the sixty-item measure to a twenty-three-item measure and created the ADMI-23. On that same data set, these authors conducted a confirmatory factor analysis to determine how well the revised model fit the remaining 23 items. These authors then conducted a cluster analysis on the remaining 23 items to classify these 328 men on a variety of clusters.

Where Burk and colleagues (2004) revealed five factors in the ADMI-60, Corprew, Matthews and Mitchell (2014) analysis of the ADMI-60 revealed a four-factor solution of the 23 remaining items. The four-factor model had good model fit; as the comparative fit index (CFI) equaled 0.90 and root mean square approximation (RMSEA) equaled 0.069 (90% CI: .062-.076). The four factors that emerged included, dominance and aggression (α = .77), sexual identity (α = .76), anti-feminine (α = .87), and devaluation of emotion (α = .92). Corprew et al., (2014) argued

that an anti-feminine factor emerged and replaced the hypermasculine and conservative masculinity dimensions that had previously overlapped (Corprew, Matthews, and Mitchell, 2004). To see how the revised 4 factor solution of the ADMI please see below (Table 1).

Table 1: Revised Four Factor Solution of the ADMI

Dominance & Aggression	Sexual Identity	Anti-Feminine Attitudes	Devaluation of Emotion
Item 1: If another man made a pass at my girlfriend/wife, I would tell him off.	Item 15: My attitude regarding casual sex is "the more the better.""	Item 18: I think men should be generally aggressive in their behavior. **(Dominance & Aggression)**	Item 25: I think men who show their emotions frequently are sissies
Item 2: I believe sometimes you've got to fight or people will walk all over you.	Item 18: I like to tell stories of my sexual experiences to my male friends."	Item 19: I know feminists want to be like men because men are better than women. **(Hypermasculinity)**	Item 26: I think men who show they are afraid are weak.
Item 52: I like to be the boss.	Item 41: I like to brag about my sexual conquests to my friends. **(Conservative Masculinity)**	Item 20: Women need men to help them make up their minds. **(Conservative Masculinity)**	Item 27: I think men who cry are weak.
Item 55: If another man made a pass at my girlfriend/wife I would want to beat him up.	Item 19: I think it's okay for men to be a little rough during sex **(Hypermasculinity)**	Item 21: I consider men superior to women in intellect. **(Hypermasculinity)**	Item 28: Even if I was afraid, I would never admit it.
Item 44: I don't mind using physical violence to defend what I have.	Item 17: There are two kinds of women; the kind I date and the kind I marry."	Item 22: I value power over people. **(Hypermasculinity)**	
Item 46: I would initiate a fight if		Item 23: I think women who say they are feminists are just trying	

someone threatened me.		to be like men. (Hypermasculinity) Item 24: Women, generally, are not as smart as men. **(Hypermasculinity)**	
Dominance & Aggression	Sexual Identity	Anti-Feminine Attitudes	Devaluation of Emotion
		Item 11: I think women who are too independent need to be knocked down a peg or two. **(Hypermasculinity)**	
α = .77	α = .76	α = .87	α = .92

The new Anti-Feminine Attitudes subscale included 7 items that were originally from the Hypermasculinity subscale and 1 item that previously loaded on the Dominance and Aggression subscale, "I think men should be generally aggressive in their behavior." The Conservative Masculinity subscale was also replaced by the new Anti-Feminine Attitudes subscale. Two items from the Conservative Masculinity were retained. One item, "If another man made a pass at my girlfriend/wife I would want to beat him up" now loaded on the Dominance and Aggression subscale. The second item, "I like to brag about my sexual conquests to my friends" now loaded on the Sexual Identity subscale. The remainder of the items loaded as they had previously loaded, or they were deleted. According to Corprew and colleagues (2014), the dominance and aggression and the sexual identity factors reflect behavioral attitudes. More specifically, the dominance and aggression reflect power, control and the use of physical violence to achieve their goals. Similarly, the sexual identity factor reflects callous sex attitudes. The other two factors are more in line with ideological attitudes. The anti-feminine factor reflects male's strict views on

gender roles. The devaluation of emotion reflects items that get at exhibiting behavior such as crying or admitting fear as a sign of weakness.

Additionally, Corprew and colleagues (2014) assessed the construct validity of the ADMI-23. Their findings indicated that there were positive correlations (r = .24-.40) with hostility toward women across all four factors of hypermasculinity. Additionally, individuals who were not fraternity members had a negative correlation with two factors, dominance and aggression and sexual identity (Corprew, Matthews, Mitchell, 2014).

Study Aims

Although the researchers refined the ADMI-60 to the ADMI-23, limitations were still present that I wish to extend for this project. First, the same sample of participants was used on the ADMI-23 for the analyses involving the principal components analysis, PCA, and the confirmatory factor analysis. Such an approach capitalizes on chance characteristics of the data set. For example, a subsequent CFA on a separate sample of undergraduate would be needed to confirm the results of the PCA. This is a serious limitation that warrants the confirmation of the ADMI-23.

Second, the validation of the ADMI-60 of these samples was assessed with college student samples. College students are not the only samples of men who are hypermasculine, so it is of importance to validate these measures among non-college samples. Testing the psychometric properties of the ADMI-23 is critical given several studies still continue to use the rather outdated Hypermasculinity Inventory (Beesley and McGuire, 2009; Guerrero, 2009; Peters, Nason, and Turner, 2007; Parrot and Zeichner, 2003; Spencer, Fegley, Harpalani, and Seaton, 2004; Tatum and Foubert, 2009; & Wells, Graham, Tremblay, and Magyar, 2011, Corprew and Mitchell, 2014). As such, the present research aims to test the psychometric

properties of the four-structure approach to the ADMI-23 among non-college samples and inform the literature on sexual assault perpetrators and further understand the relationship between hypermasculinity and sexual violence (Burk, Burkhart, and Sikorski, 2004).

Purpose of the MA Thesis

The purpose of the present study was to evaluate the psychometric properties of the ADMI-23 with a non-college student sample. The research questions for the present study were as follows:

Research question 1: What is the factor structure that best describes the associations among the ADMI-23 items in a non-college sample?

Research question 2: Will the ADMI-23 demonstrate appropriate convergent validity in a non-college sample?

Research question 3: Will the ADMI-23 demonstrate appropriate discriminant validity in a non-college sample?

The hypotheses that we want to test are as follows:

Hypothesis 1: The refined-4-factor structure of the ADMI-23 in a sample of non-college males will provide a good description of the model. The literature on factor analysis (Brown, 2015, MacCallum et al., 2003) argues that while all models are inherently wrong, showing a model which provides an adequate description of the data can be important. Moreover, when validating models through confirmatory factor analysis, it is important to have competing models that can be tested against one another. We will test a series of theoretically plausible models to determine which model provides the best fit. One model will assume all 23 items load on one general factor. The second model will refer back to the original conceptualization of the ADMI-23 and will argue that the remaining 23 items serve as indicators of the 4 factor model. Finally,

the hypothesized model will also be tested. Should none of these models provide an adequate description to the data (as indicating by popular fit indices like RMSEA, CFI and SRMR), an exploratory factor analysis will be conducted to assess the dimensionality of the ADMI-23 among non-college samples.

Hypothesis 2: Assessment of the convergent validity of the ADMI-23. The ADMI-23 will demonstrate adequate convergent validity in a sample of non-college males. The Hostility Toward Women Scale (Check, 1994), the Updated Illinois Rape Myth Acceptance Scale (Payne, Lonsway & Fitzgerald, 1999; McMahon & Farmer, 2011), Pressure to Conform to Masculine Stereotypes scale (Epstein, 2009), and the Sensation Seeking/Disinhibition Scale (Zukerman, 1994) will be utilized to demonstrate convergent validity. It is hypothesized that scores on the ADMI-23 will positively correlate with the Hostility Toward Women Scale (Check, 1984), negatively correlate with the Updated Illinois Rape Myth Acceptance Scale (Payne, Lonsway & Fitzgerald, 1999; McMahon & Farmer, 2011), positively correlate with the Pressure to Conform to Masculine Stereotypes scale (Epstein, 2009), and positively correlate with the Sensation Seeking/Disinhibition Scale (Zukerman, 1994). Additionally, based on previous research findings (Corprew, Matthews, Mitchell, 2014), we also expect that single males who were previously in a fraternity, younger, and men who score higher on social dominance orientation will have higher scores on the ADMI-23 subscales.

Hypothesis 3: The assessment of the discriminant validity of the ADMI-23. The ADMI-23 will also demonstrate adequate discriminant validity in a sample of non-college males. Measures utilized to demonstrate discriminant validity will include the Rosenberg Self Esteem scale (Rosenberg, 1965) and a measure of social desirability (Marlow & Crowne, 1960). It is

hypothesized that scores on the ADMI-23 subscales will not correlate with the measures of social desirability and the self-esteem measure. See Table 2 for predicted associations.

Table 2: Predicted Association of Convergence and Discriminant Validity

	Convergent				Discriminant	
	HTW	Rape Myth	PCMS	SEEK	RSE	SDS
ADMI-23	+	-	+	+	-	-
Dominance & Aggression	+	-	+	+	-	-
Sexual Identity	+	-	+	+	-	-
Anti-Feminine Attitudes	+	-	+	+	-	-
Devaluation of Emotion	+	-	+	+	-	-

Note: The associations are for the composite score of the ADMI-23 and the subscales of the ADMI-23. HTW=Hostility Toward Women Scale. Rape Myth=Updated Illinois Rape Myth Acceptance Scale, PCMS=Pressure to Conform to Masculinity Scale, SEEK=Sensation/Seeking Inhibition Scale, RSE=Rosenberg Self-Esteem Scale, SDS=Social Desirability Scale

Chapter 3: Method

PARTICIPANTS

Participants were 377 (M_{age} = 37.65 years, SD = 10.89, range: 25-79 years) non-college males who completed the anonymous online survey. The title of the survey was "Men and Health." The survey was posted on Prolific. Prolific is a web-based platform that recruits participants to complete surveys and online experiments and in exchange participants receive monetary compensation. Prolific was founded in 2014 by two scientists at Oxford and Sheffield Universities. Since the startup, Prolific has worked with over 1,300 researchers and more than 300 academic institutions, including Cambridge University, London School of Economics, Yale, and Stanford.

The Institutional Review Board approved of the present study in July 2019. Data collection took place during November 9, 2019 to November 13, 2019. Inclusion criteria were: individuals who self-identified as male, self-identified as heterosexual, who were not enrolled in a college or university institution (participants who have attended college/university but are not currently enrolled were eligible to participate in the study), were at least 25 years of age and above, and were currently residing in the United States. Exclusion criteria were as follows: individuals who did not self-identify as male, who did not self-identify as heterosexual, who reported being enrolled in a college or university, and who did not live in the United States. 391 participants initially entered the survey on Prolific however, 13 were either "timed out" or "returned," and one was excluded due to ineligibility criteria. "Timed out" and "returned" are terms that Prolific uses. Participants are "returned" due to technical issues, because they withdrew consent, or because they decided they no longer wanted to participate in the study. Participants are "timed out" if the submission/participant becomes inactive. Prolific's default

maximum time for completion is not too close to the estimated time of completion. This ensures that participants who may take a little longer are still included in the survey. Eligible participants completed an anonymous online survey. Participants were compensated $4.75 for their participation. This is the standard compensation for a survey that is approximately 30 minutes long to complete.

The present study focused on self-identifying heterosexual males for a couple of reasons. One, the items of the measures that were utilized in the present study have been developed to assess male heterosexual thoughts, beliefs, and attitudes toward women. Two, the theory of hegemony in which the present study is founded on posits power is not equally distributed in society (Gramsci, 1971). As such, there are two groups, one which holds power and one which is subordinated. The one in power consists of white, upper class, heterosexual men (Vokey, 2008). Though the focus of the study is not specific to white, upper class, heterosexual men, it is important to take into account and understand power differentials that exist in society and to understand how hegemonic masculinity, masculinity, and hypermasculinity are perpetuated and reinforced.

Although research participants on Prolific completed an initial demographic questionnaire prior to participating in any surveys, the present researcher asked participants for demographic information. Of the 377 participants who completed the survey, 2 participants (.5%) self-reported as bisexual and straight for sexual orientation and 1 participant (.3%) self-identified as same gender loving, the remainder self-reported as straight/heterosexual (n = 374, 99.2%). For the sexual orientation item, participants were allowed to select all that applied to them. Given Prolific users had completed a prescreening survey prior to taking the present survey and had screened into the study, the present researcher kept these 3 participants in the

analyses. Additionally, an item on gender identity was asked and all 377 participants (100%) self-identified as a man. Additional demographics included, race/ethnicity, education, relationship status, income, and previous voting history. 299 participants (79.3%) self-reported as white, with 175 (46.4%) participants reported being currently single and never married, followed by 166 (44%) participants reporting being married. When asked about their estimated household yearly income, 93 participants (24.7%) reported a yearly household income of $50,000-$74,999, followed by 15.1% (n = 57) of the participants who reported $75,000-$99,999 of a yearly household income, and 14.9% (n = 56) of the participants reported a yearly household income of $150,000-$149,000. Additionally, when participants were asked about their 2016 voting history almost half (42.7%) of the participants reported voting for the Democratic Party (Hilary Clinton/Tim Kaine), with 27.9% (n = 105) of the participants reporting voting for the Republican Party (Donald Trump/Mike Pence).

Table 3: Sample Demographics

Categorical Variables	**n**	**%**
Gender		
Man	377	100
Sexual Orientation		
Straight (heterosexual)	374	99.2
Bisexual & Straight (heterosexual)	2	0.5
Same gender loving	1	0.3
Highest Level of Education		
Categorical Variables	**n**	**%**
Did not finish High School	1	0.3
High School Diploma or GED	54	14.3
Associates Degree (2-year degree)	22	5.8
Vocational Degree	5	1.3
Some College	59	15.6
Bachelor's Degree (4-year degree)	159	42.2
Graduate Degree (Masters, Ph.D, JD, MD, etc)	77	20.4
Fraternity		
No	300	79.6
Yes	35	9.3

Did not respond	42	11.1
Race/Ethnicity		
White	299	79.3
Black or African American	14	3.7
Hispanic/Latino (any race)	16	4.2
Asian or Pacific Islander	29	7.7
Mixed Race	1	0.3
White, Asian or Pacific Islander	2	0.5
White, Asian or Pacific Islander, Mixed Race	1	0.3
White ,Black or African American, Hispanic/Latino (any race)	1	0.3
White, Black or African American, Mixed Race	1	0.3
White, Hispanic/Latino (any race)	10	2.7
White, Native American	2	0.5
White, Prefer not to answer	1	0.3
Relationship		
Divorced	20	5.3
Engaged	11	2.9
Married	166	44
Separated	1	0.3
Single, never married	175	46.4
Widowed	4	1.1
Income		
Less than $10,000	23	6.1
$10,000 to $14,999	17	4.5
$15,000 to $24,999	23	6.1
$25,000 to $34,999	31	8.2
$35,000 to $49,999	48	12.7
$50,000 to $74,999	93	24.7
$75,000 to $99,999	57	15.1
$100,000 to $149,999	56	14.9
$150,000 to $199,999	21	5.6
$200,000 or more	8	2.1
Categorical Variables	**n**	**%**
2016 Voting		
Democrat (Hilary Clinton/ Tim Kaine)	161	42.7
Republic (Donald Trump/Mike Pence)	105	27.9
Libertarian (Gary Johnson/ Bill Weld)	15	4
Green (Jill Stein/ Ajamu Baraka)	15	4
Did not vote	81	21.5

Note: For sexual orientation participants were able to select all that applied. For fraternity involvement participants had the opportunity to select “not applicable.” For race/ethnicity participants were able to select all that apply.

POWER ANALYSES

A power analyses for the present study was conducted to determine the minimum number of participants needed for appropriate statistical power to test the Corprew et al., (2014) model. Using Quantpsy.org (Preacher & Coffman, 2006), the minimum sample size using RMSEA for a confirmatory factor analysis of the four-factor ADMI-23 to test a model of "not close fit" with a null RMSEA = .05 against an alternative model with RMSEA = .01 was 190 (power = .95, α = .01, and *df* = 224). The present research aimed to over recruit by 20%, which will include an additional 38 participants for a total of 228 participants. The present study consisted of 377 participants in total.

MEASURES

Demographics. Participants were asked various demographic questions such as age, gender, prior fraternity involvement, educational attainment, SES, and sexual identity. According to the Institute of Medicine Report (2011, The Health of LGBT People), it is recommended that gender identity and sexual orientation be asked when conducting research. This practice is the recommendation to standardize data on gender and identity and sexual orientation. This will provide a fuller picture of the individuals. It was considered common knowledge that there was a direct association between gender identity and sexual orientation (Rees-Turyn, Doyle, Holland & Root, 2008). Recently, researchers have challenged that notion and have supported the idea that they are not related (Jacobson and Joel, 2018). In a recent study, researchers found that the relationship between sexual orientation and gender identity is weak. This supports the notion gender identity and sexual orientation questions need be asked in research to accurately capture how individuals identify. As such the present research asked participants about their gender identity and sexual orientation.

Auburn Differential Masculinity Inventory (ADMI-23, Burk, Burkhart, and Sikorski, 2004). The ADMI-23consists of 23 items (α = .85) and is based on a 5-point-Likert scale. The scale ranges from "*very much like me"* to "*not at all like me."* The total scores and factors scores consists of aggregating the item scores for each of the questions. The ADMI-23 consists of four factors, dominance and aggression, sexual identity, anti-femininity, and devaluation of emotion. Example items of the ADMI-23 include, "If another man made a pass at my girlfriend/wife. I would tell him off" and "There ae two kinds of women: the kinds I date and the kind I would marry." Previous researchers (Burk, Burkhart, and Sikorski, 2004) found that older males who were in college longer were or had been married reported lower levels of the HMI. As such the researcher expects similar findings with non-college males to report lower levels on the ADMI-23.

Assessment of Discriminant Validity

The measures below were utilized to assess discriminant validity, as per previous studies (Burk et al, 2004). The researcher expects for the ADMI-23 to not be correlated with the Marlowe-Crowne Social Desirability Scale and the Rosenberg Self-Esteem scales.

The Marlowe-Crowne Social Desirability Scale (M-C-SDS, Crowne and Marlowe, 1960). The M-C-SDS (α = .72-.96) consists of 33 true/false items. The correct responses to the items include 18 true items and 15 false items. The correctly selected true items are aggregated. Example items include, "I have never intensely disliked anyone" and "I am always courteous even to people who are disagreeable." Scores between 0 and 8 are considered low scores and answered in a socially undesirable manner. Scores between 9-19 are considered average scores and demonstrate an average degree of concern for responding in a socially desirable manner.

Scores between 20-33 are considered high scores and demonstrate that respondents are highly concerted with social desirability.

Rosenberg Self Esteem (SES, Rosenberg, 1965). The SES consists of 10 items (α = .77 to.88) with a 4-point Likert scale. The scale ranges from "strongly agree" to "strongly disagree." Items 2,5,6,8, and 9 are reversed scored. The total score is the sum of the 10 items. The higher the total score, the higher the self-esteem. Example items of the SES include, "I am able to do things as well as most other people" and "I feel that I'm a person of worth, at least on an equal plane with others."

Assessment of Convergent Validity

Hostility Toward Women Scale (Check, 1984). The Hostility Toward Women Scale consists of 30 statements (α = .80). The statements are about women that reflect, resentment, suspicion of women, guilt, and miscellaneous forms of indirect hostility. The total score ranges from 0 to 30. Half of the items are keyed true and the other half are keyed false. The higher the score, the greater hostility toward women. An example item includes, "I feel that many times women flirt with men just to tease them or hurt them" and "I feel upset even by slight criticism by a woman."

This measure has previously been utilized in previous research and has demonstrated a strong association with masculinity. The researcher expects for the ADMI-23 to be positively correlated with the two ideological components, Anti-Feminine Attitudes, and the Devaluation of Emotion. The researcher also expects there to be a positive correlation (not as strong as the ideological subscales) with the behavioral subscales, Dominance & Aggression, and Sexual Identity.

Updated Illinois Rape Myth Acceptance Scale (Payne, Lonsway & Fitzgerald, 1999). The Updated Illinois Rape Myth Acceptance Scale (α = .93.) consists of 22 items with a 5-point Likert Scale, ranging from “strongly agree” to “strongly disagree.” The Updated Illinois Rape Myth Acceptance Scale consists of four subscales, “she asked for it,” “he didn’t mean to,” “it wasn’t really rape,” and “she lied.” Items are totaled for a sum score. Higher scores indicate a greater rejection of rape myths. Example items include, “A lot of times, girls who say they were raped often led the guy on and then had regrets” and “If a girl is raped while she is drunk, she is at least somewhat responsible for letting things get out of hand.”

As mentioned earlier, males who accept rape myths were more likely to have disclosed their likelihood that they would commit rape if no one was to find out (Mosher & Anderson, 1996) and those who had higher levels of hypermasculinity were more like to accept rape myths (Quakenbush, 1986). Rape myth endorsement has consistently been correlated with sexually aggressive behavior (Lonsway & Fitzgerald).

The researcher expects the Updated Illinois Rape Myth Acceptance scale to be negatively correlated with two subscales of the ADMI, sexual identity and the anti-feminine attitudes. The sexual identity scale reflects using sex as a method of power and aggression such as, "I think it’s okay for men to be a little rough during sex." Anti-feminine attitudes reflect male's strict views on gender roles, such as" "I think women who are too independent need to be knocked down a peg or two." The researcher expects the other subscales of the ADMI, Dominance & Aggression, and Devaluation of Emotion to also be negatively associated with the Updated Illinois Rape Myth Acceptance Scale; however, given the nature of these two subscales, the researcher expects a weaker correlation compared to the Sexual Identity and Anti-Feminine Attitudes scales with the Updated Illinois Rape Myth Acceptance scale. More specifically the Dominance &

Aggression, and Devaluation of Emotion subscales reflect more of the power and control over others and the perceiving emotional expression such as crying and admitting fear as a weakness, respectively.

Pressure to Conform to Masculine Stereotypes (PCMS, Epstein, 2009). The PCMS scale consists of 22 items (α = .92) with a 5-point Likert scale, ranging from "I do not feel any pressure to" to "I feel a lot of pressure." Items are totaled for a sum score. Higher scores indicate greater pressure to conform to masculine stereotypes. Example items include, "Act like I want sex all the time" and "Avoid doing anything that is girly."

The researcher expects the Pressure to Conform to Masculine Stereotypes to be positively correlated with the subscales of the ADMI-23, the Dominance & Aggression, Devaluation of Emotion, and Sexual Identity. The researcher expects these associations since the Pressure to Conform to Masculine Stereotypes scale reflects the societal pressures to act in a way to use power and control to gain success regardless of considering others (Dominance & Aggression), act in a more traditional masculine manner, such as hiding their emotions (Devaluation of Emotion), and devaluing intimacy and having sexual prowess as a critical characteristics of being masculine (Sexual Identity) The researcher expects the other subscale of the ADMI-23, the Anti-Feminine subscale to be positively associated, however not as strong of a correlation as compared to the other three subscales since the Anti-Feminine subscale reflects more of the outward derogative ideological views of women compared to men. This is not really reflected in the Pressure to Conform to Masculine Stereotype scale

Sensation Seeking/Disinhibition (SSS, Zukerman, 1994). The SSS scale consists of 40 item (α = .80) that measure individuals' differences in optimal levels of stimulation and arousal. There are four subscales which include, thrill and adventure seeking, experience seeking,

disinhibition, and boredom susceptibility. For each item there are two statements, where respondents select the statement that best describes their likes or the way they feel. The SSS is scored by adding 1 point for each "high" sensation seeking behavior. The higher the score the more likely they are to seek out novel and intense sensations. An example item includes, "Skiing down a mountain slope is a good way to end up on crutches" and "I think I would enjoy the sensations of skiing very fast down a high mountain slope."

As mentioned above, engaging in high risk behaviors such as alcohol and substance use has been associated with hypermasculinity. As such, the researcher expects for the Sensation Seeking/Disinhibition to be positively correlated with overall aggregate score of the ADM-23 and its subscales.

The measures below will be utilized to assess tactics or strategies and prior perpetration of sexual aggression and/or coercion.

Sexual Strategies Scale (SSS, Strang et al., 2013). The SSS assess tactics or strategies used to obtain sex, without regard to the outcome. The scale consists of 22 items ($\alpha = .79$), where respondents can select the checkboxes to the items they have engaged in. Items are totaled for a sum score. Example items include, "Continuing to touch and kiss her in the hopes that she will give in to sex" and "Asking her repeatedly to have sex."

This measure will be utilized to assess the "subtleties" of sexual perpetration. The researcher expects the Sexual Strategies Scale to be positively correlated with two subscales of the ADMI-23, the Dominance & Aggression, and Sexual Identity. These two subscales asses the power and aggression exerted over others and their sexual prowess. More importantly, they both assess the behavioral component of masculinity. The researcher expects the remaining subscales of the ADMI-23, Anti-Feminine Attitudes, and Devaluation of Emotion to also be associated

with the Sexual Strategies Scale; however, they may not be as strong at the other subscales since these are the ideological components of masculinity.

Modified Sexual Experiences Survey (MSES, Davis, Scharaufnagel, George & Norris, 2008). The MSES consist of 15 items ($\alpha = .89$) that asses prior perpetration of sexual aggression and/or coercion. It is based on a 3-point Likert scale, including, 0 times, 1 time, or more than 2 times. An example item includes, "Tried unsuccessfully to force someone to perform oral sex on you (mouth/tongue to penis) even though they indicated they did not want to?

Similar to the expected associations mentioned above between the Sexual Strategies Scale and the ADMI-23, the researcher expects the Modified Sexual Experiences Survey to be strongly positively correlated with the two behavioral subscales of the ADMI-23, Dominance and Aggression, and Sexual Identity. The researcher expects a positive correlation between the Modified Sexual Experiences Survey and the two ideological components of the ADMI-23, Anti-Feminine and the Devaluation of Emotion.

PROCEDURES

Eligible participants completed an anonymous online survey through Prolific. A digital consent form was presented to participants in which they either consented or not to take the survey. No identifying information was linked to their data. Participants were reminded on the survey that their responses are anonymous, could skip items, and could exit the survey at any time. Upon completion, the researcher compensated the participants. Participants were first presented with demographics, the Social Desirability scale, the Rosenberg Self-Esteem scale, and the Pressure to Conform to Masculine Stereotypes to build rapport with the participants. Next, the participants were presented with the ADMI-23, followed by the Updated Illinois Rape Myth Acceptance Scale, and the Hostility toward Women scale. The survey concluded with the

Modified Sexual Experiences Survey, The Sensation/Seeking Inhibition Scale, and the Sexual Strategies Scale.

Chapter 4: Analyses

The present data was analyzed using SPSS-22 and Mplus 7.11 (Muthén & Muthén, 1998–2013). The analyses presented below are in order of the previously stated hypothesis.

CONFIRMATORY FACTOR ANALYSIS

A confirmatory factor analysis (CFA) was used to examine the model fit for the 4 four-factor structure of the ADMI-23 previously demonstrated by Corprew, Matthews, and Mitchell (2004). The CFA was conducted using Mplus 7.11 (Muthén & Muthén, 1998–2013). The determination of the model fit was based on the fit indices recommended by Hu and Bentler (1999): CFI ≥ .95, RMSEA ≤ .06, and SRMR ≤ .08. The alternative model was tested and the fit indices were assessed as well. The first model was a four-factor model in which Dominance and Aggression, Sexual Identity, Anti-Feminine Attitudes, and Devaluation of Emotion were indicators of the ADMI-23 (See Table 4 for latent factor intercorrelations) The four factor model is consistent with how previous researchers have used the ADMI-23 (Corprew et al., 2004). The second model assumed all 23 items loaded on one general factor. Initially, the four factor model provided some adequate fit indices (x^2 = 797.804, *df* = 224, $p < .001$; CFI = .868, RMSEA = .082; 90% CI [.076 - .089] SRMR = .09). The alternative model did not provide good fit (x^2 = 4600.960, *df* = 253, $p<.001$; CFI = .634, RMSEA, .135, SRMR = .156). As such, the researcher proceed with the four factor model. To further assess the overall fit of the model, modification indices were included.

Upon review, two sets of items had high modification indices, Item 2 ("*If another man made a pass at my girlfriend/wife, I would want to beat him up.")* and Item 22 (*"If another man made a pass at my girlfriend/wife, I would tell him off.").* Additionally, Item 19 (*"I like to brag about my sexual conquests to my friends.")* and Item 20 (*"I like to tell stories of my sexual*

experiences to my male friends.") also had high modification indices. Given the overlapping nature of the respective items, the item unique variances were correlated for each pairing to improve the model. As expected, this provided a better fit (x^2 = 602.456, *df* = 222, p<.001; CFI = .912, RMSEA: .067, 90% CI [.061-.074] SRMR = .057) than the initial four factor model. See Table 5 for standardized factor loadings (standard errors) and Item Descriptives for the 4 factor model.

Table 4: ADMI-23 Standardized (Standard Errors) Factor Inter Correlations

ADMI-23 Subscales	1	2	3	4
1. Dominance & Aggression	-			
2. Sexual Identity	.477 (.064)	-		
3. Anti-Feminine Attitudes	.457 (.457)	.662 (.048)	-	
4. Devaluation of Emotion	.394 (.056)	.574 (.054)	.738 (.029)	-

Table 5: Standardized factor loadings, standard errors, item descriptives, and alpha coefficients for the four factor model

Item	*Λ* (SE)	M (SD)	α
Dominance & Aggression			.728
Item 1 I like to be the boss	.234 (.056)	2.21 (1.212)	
Item 2 If another man made a pass at my girlfriend/wife I would want to beat him up	.480 (.048)	2.10 (1.186)	
Item 5 I believe sometimes you've got to fight or people will walk all over you	.642 (.041)	2.25 (1.149)	
Item 6 I would initiate a fight if someone threatened me	.737 (.037)	1.65 (1.109)	
Item 8 I don't mind using physical violence to defend what I have	.648 (.040)	1.90 (1.225)	
Item 22 If another man made a pass at my girlfriend/wife I would tell him off	.466 (.050)	2.24 (1.190)	
Sexual Identity			.724
Item 7 There are two kinds of women; the kind I date and the kind I marry.	.609 (.045)	1.40 (1.262)	
Item 10 I think it's okay for men to be a little rough during sex	.534 (.049)	1.85 (1.136)	

Item	*Λ* (SE)	M (SD)	α
Item 11 My attitude regarding casual sex is "the more the better"	.555 (.050)	1.50 (1.188)	
Item 19 I like to brag about my sexual conquests to my friends	.517 (.050)	.69 (.970	
Item 20 I like to tell stories of my sexual experiences to my male friends.	.533 (.049)	.74 (1.015)	
Anti-Feminine Attitudes			.899
Item 3 I think women who say they are feminists are just trying to be like men	.626 (.033)	1.23 (1.175)	
Item 4 I think men should be generally aggressive in their behavior	.646 (.032)	1.14 (.999)	
Item 14 I consider men superior to women in intellect	.878 (.014)	.94 (1.178)	
Item 15 I know feminists want to be like men because men are better than women	.843 (.017)	.71 (1.008)	
Item 16 Women, generally, are not as smart as men	.853 (.017)	.73 (1.087)	
Item 17 Women need men to help them make up their minds	.809 (.020)	.93 (1.182)	
Item 18 I think women who are too independent need to be knocked down a peg or two	.756 (.024)	.59 (.952)	
Item 21 I value power over people	.587 (.036)	1.02 (1.070)	
Devaluation of Emotion			.837
Item 9 I think men who cry are weak	.839 (.020)	.95 (1.047)	
Item 12 Even if I was afraid, I would never admit it	.512 (.042)	1.65 (1.189)	
Item 13 I think men who show their emotions frequently are sissies	.854 (.019)	.98 (1.105)	
Item 23 I think men who show they are afraid are weak	.841 (.021)	1.04 (1.046)	

Note: *Λ*=standardized factor loading, SE= standard error, M= mean, SD= standard deviation. Responses are scored such that scores range from 0 to 4. For the overall ADMI-23, α = .906

DISCRIMINANT VALIDITY

Discriminant validity was assessed by computing Pearson product-moment correlation between the ADMI-23 and its subscales with the Social Desirability Scale (SDS) and the Rosenberg Self-Esteem scale (RSE). As expected, the ADMI-23 was not correlated with either the SDS (r = -.08, p = .12) or the RSE (r = 0, p = .097). Unexpectedly, the Dominance and Aggression subscale yielded a significant but small negative association with the Social Desirability Scale (See Table 6 for the correlation matrix).

Table 6: Discriminant Validity

Variable	1	2	3	4	5	6	7
1. ADMI-23	-						
2. Dominance & Aggression	.67**	-					
3. Sexual Identity	.73**	.33**	-				
4. Anti-Feminine Attitudes	.89**	.40**	.54**	-			
5. Devaluation of Emotion	.77**	.34**	.44**	.66**	-		
6. Social Desirability	-.08	-.12*	-.02	-.05	-.06	-	
7. Rosenberg Self-Esteem	0	.04	.02	-.03	-.01	.31**	-

Note: SDS= Social Desirability Scale, RSE= Rosenberg Self-Esteem.

** p<.01. *p<.05.

CONVERGENT VALIDITY

Convergent validity was assessed by computing Pearson product-moment correlation between the ADMI-23 and its subscales with the following measures: Hostility Toward Women Scale, The Updated Illinois Rape Myth Acceptance Scale, the Pressure to Conform to Masculine Stereotypes Scale, and the Sensation Seeking/Disinhibition Scale.

As expected, the ADMI-23 total score demonstrated a statistical positive association with the Hostility Toward Women (HTW) scale (r = .56, p<.001). More specifically, the subscales, Anti-Feminine Attitudes (r = .61, p<.001) and the Devaluation of Emotion (r = .40, p<.001) yielded a stronger statistical positive association with the HTW scale compared to the behavioral subscales, Dominance and Aggression (r = .30, p<.001) and Sexual Identity (r = .33, p<.01).

The ADMI-23 and its subscales significantly negatively correlated with the Updated Illinois Rape Myth Acceptance Scale. The Updated Illinois Rape Myth Acceptance Scale is scored in such a manner that a higher score indicates a greater rejection of rape myths. Again, the two ideological subscales of the ADMI-23, Anti-Feminine Attitudes (r = -.71, p<.001), and the Devaluation of Emotion (r = -.58, p<.001) yielded a stronger negative correlation compared to the behavioral subscales.

The Pressure to Conform to Masculine Stereotypes (PCMS) Scale provides an overall score for pressure to conform to masculinity by the father or male relative figure and an overall score for pressure to conform to masculinity by male peers. As such, the PCMS by the father or male relative figure (r = .36, p<.001) and male peers (r =.33, p<.001) were statistically positively associated with the ADMI-23. Similar correlations were found for the subscales of the ADMI-23 (see Table 4). The researcher expected the Anti-Feminine subscale to provide the weakest correlation; however, the subscale Dominance and Aggression provided the weaker association with the PCMS scale. More specifically, the association between the PCMS by father or male relative figure and dominance and aggression was r = .19, p<.001 and the association between the PCMS by male peers and the dominance and aggression subscale was r = .20, p<.001.

As expected, the Sensation Seeking Disinhibition Scale was found to be statistically positively correlated with the ADMI-23 (r = .16, p<.001); however, one of the subscales of the

Sensation Seeking Disinhibition were unexpectedly statistically negatively correlated with the Anti-Feminine Attitudes (r = -.21, p<.001) and the Devaluation of Emotion (r = -.22, p<.01). Further, the Anti-Feminine Attitudes subscale was not correlated with the overall Sensation Seeking Scale (r = .05, p = .33), the thrill and adventure seeking subscale (r = .06, p = .25) nor with the disinhibition subscale (r = .03, p = .54). Similarly, the Devaluation of Emotion was not correlated with the overall Sensation Seeking Scale (r = .05, p = .36), the thrill and seeking subscale (r = .07, p = .17), or with the disinhibition scale (r = .06, p = .26).

The Sexual Strategies Scale (SSS) and the Modified Sexual Experiences Survey (SES) were both significantly positively correlated with the ADMI-23. Unexpectedly, the Dominance & Aggression subscale of the ADMI-23 was not significantly correlated with the SES (r = .09, p = .10), however, the remaining subscales were. Further, the researcher expected the behavioral subscales of the ADMI-23 to be more strongly positively associated (compared to the two ideological subscales) with the SSS; however, only the Sexual Identity subscale (r = .40, p<.001) was more strongly associated. See Table 7 for correlation matrix.

Table 7: Convergent Validity

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1.ADMI-23	-																						
2. Dominance & Aggression	.67**	-																					
3. Sexual Identity	.73**	.33**	-																				
4. Anti-Feminine Attitudes	.89**	.40**	.54**	-																			
5. Devaluation of Emotion	.77**	.34**	.44**	.66**	-																		
6. Hostility Toward Women	.56**	.30**	.33**	.61**	.40**	-																	
7. Rape Myth Acceptance scale	-.71**	-.39**	-.45**	-.71**	-.58**	-.54**	-																
8. "she asked for it"	-.64**	-.34**	-.36**	-.66**	-.54**	-.49**	.90**	-															
9. "he didn't mean to"	-.55**	-.30**	-.41**	-.53**	-.43**	-.46**	.83**	.65**	-														
10. "not really rape"	-.63**	-.29**	-.42**	-.66**	-.49**	-.42**	.81**	.69**	.59**	-													
11. "she lied"	-.63**	-.39**	-.36**	-.60**	-.54**	-.48**	.87**	.73**	.61**	.60**	-												
12. PCMS by father or male relative figure	.36**	.19**	.36**	.32**	.23**	.39**	-.31**	-.23**	-.35**	-.25**	-.24**	-											
13. PCMS by male peers	.33**	.20**	.34**	.26**	.23**	.33**	-.25**	-.18**	-.28**	-.18**	-.21**	.81**	-										
14. Sensation Seeking/Inhibition	.16**	.13*	.34**	0.05	0.05	0.03	0	0.07	-0.04	-0.06	0.01	.12*	.14**	-									
15. "thrill and adventure seeking"	.15**	.15**	.23**	0.06	0.07	0.03	-0.07	-0.02	-.11*	-0.07	-0.04	0.1	.12*	.77**	-								
16. "experience seeking"	-.15**	-0.06	0.07	-.21**	-.22**	-.16**	.24**	.29**	.15**	.14**	.21**	0.03	0.02	.72**	.37**	-							
17. "disinhibition"	.17**	.10*	.40**	0.03	0.06	0.01	0.01	0.08	-0.02	-0.08	0.02	.11*	.15**	.81**	.44**	.53**	-						
18. "boredom susceptibility"	.33**	.18**	.28**	.30**	.25**	.22**	-.18**	-.14**	-.12*	-.19**	-.19**	.11*	.12*	.54**	.22**	.19**	.35**	-					
19. Sexual Strategies Scale	.40**	.20*	.40**	.35**	.24**	.19*	-.39**	-.32**	-.30**	-.47**	-.28**	.22*	.23**	0.17	0.06	0.12	.19*	0.14	-				
20. Sexual Experiences Survey	.32**	0.09	.31**	.29**	.29**	.23**	-.32**	-.27**	-.28**	-.37**	-.21**	.20**	.17**	.17**	0.06	0.07	.19**	.20**	.48**	-			
21. “sex fondling”	.29**	0.05	.28**	.29**	.27**	.24**	-.28**	-.24**	-.27**	-.32**	-.17**	.20**	.16**	.16**	0.05	0.05	.20**	.20**	.41**	.92**	-		
22. “oral sex”	.28**	0.1	.29**	.24**	.25**	.18**	-.27**	-.23**	-.22**	-.35**	-.19**	.17**	.15**	.15**	0.06	0.06	.17**	.17**	.44**	.92**	.74**	-	
23. “penile/vaginal intercourse & penile/anal intercourse”	.32**	0.09	.30**	.30**	.30**	.22**	-.35**	-.30**	-.30**	-.39**	-.23**	.19**	.16**	.16**	0.06	0.07	.16**	.19**	.49**	.94**	.83**	.84**	-

Note: The Rape Myth Acceptance scale consists of the following subscales, “she asked for it”, “he didn’t mean to”, “not really rape”, and “she lied.” Further, this scale is scored such that higher scores indicate a greater rejection of rape myths. The Sensation Seeking Inhibition scale consists of the following subscales: “thrill and adventure seeking,” “experience seeing,” “disinhibition,” and “boredom susceptibility.” The Sexual Experiences Survey does not include subscales per say but some previous studies have utilized the scale by “severity” (sex fondling, oral sex, and penile/vaginal intercourse & penile/anal intercourse), as such the researcher has included in the correlation matrix. ** p<.01.

ADDITIONAL ANALYSES

Pearson correlations

Pearson product moment correlations were conducted to assess the relationship between age and the ADMI-23 and its subscales. As mentioned earlier, the researcher expected a significant negative association between age and the ADMI-23 and its subscales. According to the analyses, age was not significantly associated with the ADMI-23 (r = -.065, p = .208), the dominance and aggression subscale (r = .005, p = .922), the anti-feminine attitudes subscale (r = -.072, p = .163), or with the devaluation of emotion (r = .038, p = .464). However, the sexual identity subscale was significantly negatively associated with age (r = -.162, p<.01).

Regressions

Two regression analyses were also conducted to examine whether masculinity predicts tactics/strategies to obtain sex (using the Sexual Strategies Scale) and prior perpetration of sexual aggression and/or coercion (using the Modified Sexual Experiences Survey). The results of the first regression indicated that prior perpetration explained 13.5% of the variance (R^2 = .135, F (4,372) = 14.54, p<.001. More specifically, it was found that only two of the masculinity subscales significantly predicted prior perpetration of sexual aggression and/or coercion, the Sexual Identity (β = .127, p<.001) and Devaluation of Emotion (β = .099, p = .018).

The results of the second regression indicated that sexual strategies and tactics explained 19.3% of the variance (R^2 =.193, F (4,119) = 7.131, p<.001. Similarly, only the Sexual Identity (β = .186. p = .002) subscale significantly predicted previous sexual strategies and tactics to engage in sexual aggression and/or coercion.

Chapter 5: Discussion

The present study was the first study to the researchers' knowledge to validate the ADMI-23 scale in a non-college sample. The present researcher had three research questions: (1) what is the best factor structure of the ADMI-23 among a none college sample, (2) will the ADMI-23 demonstrated appropriate convergent validity, and (3) will the ADMI-23 demonstrate appropriate discriminant validity.

According to the findings, the four-factor model fits the data, however, two pairs of items (Items: 2 and 22, 19 and 20) had correlated unique variances due to similarity in the wording of the item stems. Future studies should be mindful of these items when utilizing the ADMI-23. Dropping one of two words from each pair of items may also be justified.

Additionally, when examining the factor loadings, item 1, "I like to be the boss" (dominance and aggression) had the lowest standardized factor loading (.234). Perhaps given the older population in the present study, this item may not be as relevant as many of the participants were at the age of being more "settled" and stable career wise and financially. Further, the overall subscale, Sexual Identity provided low factor loadings and the overall mean for items 19 and 20 were low. According to previous literature, the college age years are the time in which males have the most societal pressures to engage in masculine/hypermasculine behaviors, such as consuming high levels of alcohol and pressure to demonstrate masculinity via sexual prowess. The lower means of these two items provides some support to the idea that as males' age they do not have to demonstrate sexual prowess.

Another item that demonstrated a lower mean was item 18 (.59), "I think women who are too independent need to be knocked down a peg or two." Similarly, the low mean may indicate that the older male population does not have the need to try to knock down women but interestingly

enough endorsed the other Anti-Feminine Attitudes items higher. Perhaps, the wording of the item 18 is too antiquated ("knocked down a peg") and may have led to social desirability bias. Additionally, item 21 ("I value power over people") loaded the lowest on the anti-feminine attitudes. Upon further inspection, the wording for this item differs significantly from the others. The other items specifically states women, with one item inferring while item 21 is not as explicit in who the reference group is.

The second research question was related to demonstrating convergent validity of the ADMI-23 subscales. Although the subscales of the sensation seeking/inhibition scale were not of particular interest nor did the researcher have a priori expectations of the strength and direction of the association with the ADMI-23 subscales, they are interesting to note. The ideological components of the ADMI-23(Anti-Feminine Attitudes and the Devaluation of Emotion) did not demonstrate statistically significant associations with the overall Sensation Seeking/Inhibition scale and two of its subscales (thrill and adventure seeking and disinhibition). Additionally, the subscale, experience seeking was statistically and negatively associated with the overall ADMI-23, the devaluation of emotion, and the Anti-Feminine Attitudes subscale. One explanation may be the two subscales of the Sensation Seeking/Inhibition are focused on engaging in specific behaviors, whereas the two subscales of the ADMI-23 are ideological components and thus explains the negative association. It should be noted that previous studies (Burk et al., 2004) have reported fairly low correlations with this scale and the test score reliability (as indexed by coefficient alpha) for the Sensation Seeking/Inhibition scale were low.

The third research question was related to demonstrating discriminant validity, which the ADMI-23 demonstrated similar patterns of association to previous studies. As expected, the overall ADMI-23 scores did not correlate with Social Desirability Scale (SDS) nor with Rosenberg

Self-Esteem scale. However, the Dominance and Aggression subscale was significantly negatively associated with SDS. Overall, the ADMI-23 demonstrated discriminate validity.

Limitations

There were a few limitations in the present study, including social desirability bias and selection bias. Further, the majority of the participants reported relatively high yearly household incomes and level of education and were individuals who were computer literate. Additionally, Prolific's extensive prescreening survey (demographic information) for this study was not fully available to cross reference with the demographic information from the present survey.

Future Directions and Implications

Future studies should continue to conduct research in non-college settings and among diverse populations. Additionally, future studies should focus on specific sub-cultures such as, professional athletes, competitive weight lifters, competitive physique and body builders politicians, military personnel, and policer officers. As mentioned earlier in the text, these subcultures perpetuate the expectations of masculinity and hypermasculinity which further sustains hegemonic masculinity. Understanding these sub groups in which hegemonic masculinity thrives in is essential in understanding masculinity and hypermasculinity. Further, steps can be taken to address the adverse consequences of upholding and sustaining hegemonic masculinity.

The present study furthers the literature on masculinity, more specifically the need to utilize the more updated masculinity scale in a non-college sample. Many researchers have conducted studies among the college population, however, there is a great need to understand the complexity of masculinities given it is not static and it changes throughout the time. These findings are the initial steps in understanding masculinity in a non-college sample. As findings indicate the males in the present study reported low levels of masculinity, with the dominance and aggression

subscale having an overall mean of 2.05 (SD = .75), these results suggest that the sample did not score very high on the ADMI-23.

It would be interesting in future studies to conduct a longitudinal study to follow-up with males and measure their levels of masculinity at critical time points to understand how and when masculinity varies throughout time. For example, critical developmental stages may be elementary, middle school, high school, and college years. There has been a dearth of research as to what masculinity "looks like" after college or after the emerging adulthood time period; however, as males age they report lower levels of masculinity. It would be interesting to understand at what point or understand the predictive factors of these lower levels of masculinity. Perhaps the lower levels of masculinity may be due to their lived experiences and less societal pressures men face as they age. These findings may be useful in implementing prevention or intervention programs for sexual assault aimed at men (rather than women as historically done) at critical time points in males' developmental stages.

Additionally, there has been a dearth of qualitative studies. Future researchers need to conduct qualitative studies to provide a broader understanding of masculinities. Future researchers need to understand how we can leverage masculinity to provide healthier coping strategies for men and provide them with the opportunity and safety of expressing their masculinities with more flexibility, rather than the more socially acceptable rigid masculinity

Utilizing an intersectional approach in understanding masculinity has also been greatly underutilized and may provide researchers with a greater understanding of the complexities of masculinities for men who have minoritized identities.

Summary In conclusion, the ADMI-23 four factor model fit the data among a non-college population. The ADMI-23 significantly predicted sexual strategies/tactics and previous sexual

perpetration of and/or coercion, as previous studies have demonstrated. Convergent and discriminant validity was also demonstrated. Overall, there is great amount of research needed to understand masculinities. These research findings and future studies are relevant to the resocialization of boys and men, more specifically, the need to further understand hypermasculinity as one of the predictors of sexual assault against women. Future studies need to incorporate longitudinal, qualitative, or mixed methods in non-college settings to further this area of research.

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