Construction and Preliminary Validation of the Auburn Differential Masculinity Inventory

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Hypermasculinity has been defined as exaggerated masculinity, including callous attitudes toward women and sex, and the perception of violence as manly and danger as exciting (D. L. Mosher & S. S. Tomkins, 1988). Hypermasculinity is correlated with sexual assault, poor relationships, and poor interpersonal coping. Criticisms of existing measures include biased or objectionable language, outdated phrasing, and forced-choice items. To address these problems, rational and empirically based procedures, including factor analysis, were used to develop the Auburn Differential Masculinity Inventory (ADMI). This 60-item inventory provides a total score plus 5 provisional scales reflecting hypermasculinity, sexual identity, dominance and aggression, conservative masculinity, and devaluation of emotion. The ADMI-60 has demonstrated adequate reliability and validity. Subscale development is ongoing. As such, scale scores should be interpreted cautiously.

Culturally normative masculine traits have been linked to various negative outcomes, including increased life stress and poor coping skills (Eisler & Blalock, 1991), elevated distress in response to life challenges (Snell, Belk, & Hawkins, 1986), restriction of emotion and affection (Norris, 1996; Snell, 1986), and negative affective states such as anger and anxiety (Aube, Norcliffe, Craig, & Koestner, 1995). Moreover, high incidences of exaggerated masculine attitudes have been observed in incarcerated adolescent and adult males (Weaver & Wootton, 1992). Further, men who endorse high levels of hypermasculine attitudes and behaviors are more likely to respond in hostile and aggressive ways after exposure to television violence compared with those who endorse comparatively low levels of hypermasculine behaviors (Scharrer, 2001).

Hypermasculinity also has been linked to more extreme negative qualities, including the perpetration of physical and sexual violence (Rapaport & Burkhart, 1984); the most hypermasculine offenders engage in the most extreme forms of aggression (Hannan & Burkhart, 1993). In addition, hypermasculinity has been linked to increased sexual arousal and fewer guilt feelings about and more positive attitudes toward sexual aggression against women after guided imagery, audio, and visual depictions of rape (Beaver, Gold, & Prisco, 1992; Lohr, Adams, & Davis, 1997; Mosher & Anderson, 1986; Quackenbush, 1989; Szymanski, Devlin, Chrisler, & Vyse, 1993). These observations indicate that significant negative emotional, interpersonal, and social consequences are associated with the stereotypical masculine role in general and with hypermasculinity in particular.

Mosher et al. (Mosher & Sirkin, 1984; Mosher & Tomkins, 1988), in the development of a measure of hypermasculinity, defined the construct of hypermasculinity as the exaggeration of the traditional male gender stereotype, including callous attitudes toward women and sexual behavior, perceiving violence as manly and danger as exciting. Mosher and Tomkins (1988) hypothesized that these hypermasculine attitudes are acquired through enculturation, the same process through which normative masculine attitudes are acquired. Individuals are informed by society and culture that they are part of particular groups and thus adopt masculine identities consistent with their group identification (Imms, 2000; Martino, 2000; Toerien & Durrheim, 2001). It has been argued that many traits traditionally paired with masculinity, such as violence and aggression, have more to do with social construction than biological fact (George, 1997), and it is likely that additional social, familial, and developmental experiences are required to transform normative masculine identity into hypermasculinity.

The hypermasculine role has been hypothesized to constrict which emotions and thoughts are acceptable for a man to express. In one sample, men who strongly endorsed the hypermasculine role appeared to rely on a few hypertrophied affects such as fear and anger and to avoid the expression of most other positive and negative emotions (Norris, 1996). Men who adopt this role likely experience emotions and
thoughts inconsistent with their expectations but are unable or choose not to express them because of their hypermasculine identification. Alternately, relying on a limited number of affects for explanation and expression in interpersonal situations may lead to less flexible patterns of interpersonal response and poor coping in relationships.

Continuing research has thus related the construct of hypermasculinity to the qualities of emotional constriction, sexual violence, and more conservative or traditional male attitudes. The construct of hypermasculinity defined here attempts to include the behaviors and attitudes historically associated with hypermasculinity (sensation seeking, physical aggression, sexual entitlement) as well as information about interpersonal dominance, hostility toward women, and emotional experience. Hypermasculinity, in our definition, is a construct describing men who exhibit an exaggeration of the traditional male gender role, including characteristics such as a supervaluation of competitive, aggressive activities and devaluation of cooperative, care-taking activities. Status and self-reliance are highly valued. Interpersonal violence, dominance of others, and sensation-seeking behavior are perceived as necessary to maleness, and women are seen predominantly as sexual objects or conquests.

If a hypermasculine gender role potentiates the perpetration of physical and sexual violence and profoundly restricts the behavioral repertoire of a man so defined, then being able to measure and examine the construct is of critical importance. Conducting such an examination requires a reliable, well-constructed instrument. Problems with existing measures of hypermasculinity (e.g., Mosher & Sirkin’s, 1984, Hypermasculinity Inventory [HMI] and Mosher’s, 1991, Extended Hypermasculinity Inventory [EHMI]) fall into three general categories: conceptual, methodological, and lexical.

Conceptual issues of note include the need to incorporate new evidence and ideas regarding hypermasculine men into the construct definition. Past definitions of the construct of hypermasculinity have included three key concepts: entitlement to callous sex, the perception of violence as manly, and the perception of danger as exciting (Mosher & Sirkin, 1984; Mosher & Tomkins, 1988). Our construct definition seeks to introduce a broader valuation of personal power and recognize the association of fear and anger with interpersonal violence. In addition, studies concerning masculinity in general have suggested that the consideration of multiple masculinities yields more interesting and useful data (Imms, 2000; Martino, 2000; Toerien & Durrheim, 2001). We contend that the same approach should be applied to the construct of hypermasculinity, a challenge to the previous, more unitary construct. Because current hypermasculinity inventories are used in studies of both physical and sexual aggression, it seems that these instruments should differentiate among men who are physically aggressive, those who are sexually aggressive, and those who endorse certain hypermasculine attitudes but are unlikely to commit a crime. In our previous studies (e.g., Burk & Burkhart, 2003), high hypermasculinity (as measured by the HMI) is an imperfect predictor of violent and sexually aggressive behavior. Hypermasculinity (as measured by the HMI) in combination with other qualities such as hostility toward women, interpersonal avoidance, and relational anxiety proved much more useful in discerning hypermasculine men with a history of aggression from those without. Adopting a multifaceted approach and including these qualities within a single hypermasculinity inventory may make it easier to accomplish this goal.

The major methodological problem with current measures of hypermasculinity is item presentation. The HMI and EHMI present opposite-statement pairs in a forced-choice format, thus creating an all-or-nothing scenario. For example, the item “It’s natural for men to get into fights” is paired with “Physical violence never solves an issue,” setting up “good” and “bad” extremes and most likely influencing the endorsement of the perceived good items. Instructions have been developed that allow for a Likert-style administration of the EHMI (Mosher, 1991); however, items are still presented in matched-opposite pairs.

Lexical difficulties include the use of dated words and phrases, which are not easily understood by today’s young men. For example, the phrase “Pick-ups should expect to put out” has caused participants in our research to wonder what their truck has to do with sex. Additionally, some statements have been perceived as offensive to participants completing the questionnaire (e.g., “Get a woman drunk, high, or hot and she’ll let you do whatever you want”; “The only thing a lesbian needs is a good, stiff cock”). Such language appears to have a class bias as well because participants have remarked that the language reflects the speech of “rednecks” or “trailer trash” and, therefore, does not adequately describe their behavior or attitudes. Language not easily understood and unclear statements are of concern because they may generate widely divergent item interpretation, random responding, or lack of responding and thus reduce the validity of the instrument. Obvious or offensive language may cause some men to temper...
their responses, a supposition supported by observations that male college students are less likely to express overt sexism than in the past (Spence & Hahn, 1997), and that men alter their presentation of gender attitudes according to the situation (Gough, 1998, 2001). In a climate of political correctness, blatant language may do much to obscure participants’ true attitudes and behaviors.

With these considerations in mind, the current measure of hypermasculinity was written to include items reflecting interpersonal dominance, hostility toward women, emotional constriction, and devaluation of cooperative interpersonal activities. The primary purpose of Study 1 was to generate a large set of items reflecting the authors’ definition of hypermasculinity and then to choose the strongest items using several item analysis techniques (e.g., ratings by an advanced research group, analysis of response frequency). Items were written without the use of slang or profanity. Item appropriateness and validity were then tested through a series of empirical processes to ensure greater objectivity during scale construction. The purpose of Study 2 was to gather additional data about the distilled item set with a sufficiently large number of participants to conduct a factor analysis. Factor analytically derived scales are desirable and tend to indicate stronger relationships between items than simple rationally constructed groupings. It was hoped that the factor analysis would support the ADMI items as an accurate portrayal of the construct of hypermasculinity.

**Study 1**

**Method**

A sex roles and sexual aggression research group composed of graduate students and faculty rationally constructed 180 face-valid items. These items were based on current theory regarding the behavioral and attitudinal components of hypermasculinity. A second, independent group of 27 doctoral students in psychology was provided with the hypermasculine construct definition (see Appendix A) and the 180 potential items. Items were rated as to fit with the construct definition using a 3-point scale (very good, good, indifferent). One hundred items that received more than 50% very good or good ratings were retained. This procedure provided a check for content validity by ensuring that items were strongly related to the hypermasculine construct definition according to advanced observers.

The remaining 100 items were administered to a sample of male undergraduate students (N = 157) who were offered extra credit points for introductory-level psychology courses in exchange for their participation. Data were collected anonymously in multiple sessions. Participants received a standardized questionnaire packet containing the potential ADMI items as well as a number of existing measures selected with the demonstration of convergent and discriminant validity in mind. The Antisocial Practices Scale (APS), Hostility Towards Women Scale (HTW), and Sensation Seeking Scale (SSS) were chosen for their historically positive relationship with the construct of hypermasculinity and with the most widely used measure of hypermasculinity, the HMI. The Rosenberg Self-Esteem Scale (RSES), Marlowe-Crowne Social Desirability Scale (MCSDS), and Balanced Emotional Empathy Scale (BEES) were chosen because they represent traits that are not conceptually related to the construct of hypermasculinity. Demographic data also were collected. Items were consecutively numbered within the questionnaire packet to facilitate data collection using a computer-scanned response form.

**Demographic questionnaire (DQ).** Questions were presented to assess age, year in college, marital status, and fraternity membership.

**Auburn Differential Masculinity Inventory-100 Items (ADMI-100).** One hundred randomly arranged items were included in the initial administration. Items were rated on a 5-point Likert-type scale ranging from strongly agree to strongly disagree. The total score for the ADMI-100 was derived by summing the participant ratings.

**RSES.** This is a 10-item self-report instrument designed to measure participants’ level of self-esteem (Rosenberg, 1965, 1979). Participants rated each item on a 5-point Likert-type scale ranging from strongly agree to strongly disagree. In previous research, alpha reliability estimates have generally ranged from .72 to .88 (Byrne & Shavelson, 1986; Dobson, Goudy, Keith, & Powers, 1979; Fleming & Courtney, 1983; Orme, Reis, & Herz, 1986; Schmitt & Bedeian, 1982; Ward, 1977; Wylie, 1989). Test–retest coefficients have been reported for 1-week (.82) and 7-month (.67) intervals (Byrne, 1983; Silber & Tippett, 1965).

**APS.** This is a 30-item self-report instrument designed to measure participants’ past antisocial behavior (Gynther, Burkhart, & Hovanitz, 1979). Participants responded to items by choosing one of four possible answers: very often, several times, once or twice, or not at all. A total score was generated by summing the point values assigned to each response. Coefficient alpha for the nonconformity scale was .83 (.85 for males, .75 for females). Split-half reliability was .86 (.87 for males, .79 for females). Two-week
Auburn Differential Masculinity Scale

This is a 33-item measure of social desirability and has been widely used in psychological research since its initial development (Crowne & Marlowe, 1960). Participants are asked to rate each item as true or false as it pertains to them personally. A total score is derived by assigning 1 point to each item rated in a socially desirable direction. Scores range from 0 to 33. The scale has demonstrated adequate internal consistency (.88), test-retest reliability (.89), and convergent validity (.35) as reported by the authors. Scale norms are available (Crowne & Marlowe, 1967).

HMI. This self-report instrument consisting of 30 item pairs is designed to measure participants’ endorsement of hypermasculine attitudes and beliefs (Mosher & Sirkin, 1984). Each item pair contains one item reflecting hypermasculine attitudes and one matched item reflecting a non-hypermasculine attitude. Participants choose one option from each item pair. A total score is generated by summing all of the hypermasculine items chosen. The authors reported a coefficient alpha of .89 for the 30-item scale, a mean t-score of 11.03, and a standard deviation of 6.79. Factor analysis performed by the authors indicated a unidimensional structure of “macho personality.” In support of external validity, the HMI demonstrated a significant correlation to substance use (.27), fighting (.47), sexual experience (.36), general delinquency (.38), and general aggression (.47) (Mosher & Sirkin, 1984).

SSS. This 40-item self-report instrument is designed to measure “individual differences in optimal levels of stimulation and arousal” (Zuckerman, 1976). The SSS yields a total score and four 10-item subscale scores: (a) Thrill and Adventure Seeking (desire to engage in activities involving physical danger); (b) Experience Seeking (desire to seek new experiences by living a nonconforming lifestyle); (c) Disinhibition (the need to disinhibit social behavior through the use of alcohol and promiscuity); (d) Boredom Susceptibility (indicates an aversion to repetitive experiences). Participants choose one option from sets of items representing sensation-seeking and non-sensation-seeking behaviors. Scores are derived by summing the participants’ choices in each category. Adequate reliability, convergent, and discriminant validity have been demonstrated (Zuckerman & Link, 1964).

HTW. This 30-item self-report instrument is designed to measure participants’ trait hostility directed toward women. Participants responded true or false to each item. A total score was derived by summing up the number of items endorsed in a hostile direction. Higher scores indicate greater hostility toward women. Check (1984) reported reliability as K-R 20 = .87. Higher scores on the HTW have been related to a lack of empathy for victims by male rapists (Marshall & Moulden, 2001).

BEES. This 30-item self-report instrument is designed to measure emotional empathy, which describes “individual differences in the tendency to feel and vicariously experience the emotional experiences of others” (Mehrabian, 1996). Participants rate items on a 5-point Likert-type scale ranging from very much like me to not at all like me. The central point is neutral: neither like nor dislike me. A total score is derived by adding the ratings for positively and negatively worded items and subtracting the negative total from the positive total. The author reported a mean normative score for male respondents of 29 (SD = 28). A z-score calculation procedure allows for the comparison of scores to a standard percentile and interpretation table. Adequate reliability, convergent, and discriminant validity have been demonstrated (Mehrabian, 1996; Mehrabian & Epstein, 1972).

Results

One hundred fifty-seven men completed the questionnaire packets. Of these, 43 were dropped because of incomplete responses, leaving a total sample of 114. It is thought that response fatigue, attributable to the high volume of questions, likely accounts for participants’ failure to complete the packet. The average age of participants was 20.6 years (SD = 1.32); average year in school was 1.8 years (SD = 1.12); 98.2% of participants were single and never married, 0.9% were engaged, 0.9% were married; 71.9% of participants were not a member or pledge in a fraternity. Detailed information regarding racial or ethnic characteristics of participants is not available because this information was inadvertently excluded from the questionnaire packets. Anecdotally, participants’ race appeared to reflect that of the general university population, roughly 85% Caucasian and 15% African American.

A multivariate analysis of variance (MANOVA) was conducted on the total scores for the ADMI-100, ADMI-60, HMI, APS, HTW, SSS, RSES, MCSDS, and BEES using the demographic variables of age, year in school, marital status, and fraternity membership. No significant differences were observed across the demographic variables for the ADMI-100, ADMI-60, HMI, APS, HTW, SSS, RSES, and MCSDS, and BEES. An effect of modest significance was observed between participant age and the RSES, F(3, 110) = 3.83, p = .01. Inspection of the data revealed 1 participant who made up the entire 27-year age...
group, with a very low score on the RSES. Exclusion of this individual removed the effect. No significant interaction terms were observed.

Complete scale score correlations are presented in Table 1. The ADMI-100 was significantly correlated with the HMI ($r = .70, p = .01$) and other measures consistent with the construct of hypermasculinity, specifically scales that measure antisocial tendencies ($r = .49, p = .01$), hostile attitudes toward women ($r = .48, p = .01$), and sensation seeking ($r = .22, p = .05$), thus demonstrating convergent validity.

The ADMI-100 had a significant negative correlation with the measure of social desirability ($r = -.32, p = .01$), not a surprising result considering the nature of some of the ADMI items. A similar result was observed with the HMI. Additionally, the ADMI-100 did not correlate with measures of self-esteem or empathy.

The individual item responses were then subjected to a frequency analysis. Items with identical participant response (either strongly positive or strongly negative) of more than 80% were judged to be inadequately discriminative and were eliminated. The item set was thus reduced to 60 items. Responses from these 60 remaining items were summed to yield a total score, the ADMI-60, which was then correlated with the other measures present in Table 1. Correlations between the ADMI-60 and conceptually related and unrelated measures were similar to those of the ADMI-100, confirming that the 60 items retained significant convergent and discriminant validity.

**Discussion**

This study demonstrated that the items of the ADMI-60 were easily understood by participants and appeared to have adequate convergent and discriminant validity compared with conceptually similar and conceptually unrelated measures. These initial positive findings indicated that further refinement of the ADMI-60 could be undertaken. Because factor analytically derived scales are desirable and tend to indicate stronger relationships between items than simple rationally constructed groupings, Study 2 was undertaken to provide a large enough sample to conduct a factor analysis of ADMI-60 item responses.

**Study 2**

**Method**

The ADMI-60, a demographic questionnaire, and the HMI described in Study 1 were included in the consecutively number questionnaire packet. Data were collected using a computer-scored response form. Three hundred fifty-seven male undergraduates recruited from psychology classes at Auburn University completed the questionnaire packets in exchange for extra credit. Data were collected anonymously in multiple sessions.

**Data Analyses**

Questionnaire total scores were correlated to determine the general relationships between the different measures. A MANOVA was conducted on the demographic variables and questionnaire total scores to determine whether scores varied among demographic groups. Factor analysis was performed on the ADMI-60 responses to reveal any underlying structure and to determine how well the generated factors related to the authors’ construct definition. Factor analysis was performed on the HMI to reveal any underlying structure. On the basis of the definition extended by Mosher et al. (Mosher & Sirkin, 1984; Mosher & Tomkins, 1988), we expected to observe three factors reflecting sensation seeking, callous sexual attitudes, and a positive attitude toward interpersonal violence. A third exploratory factor analysis was performed on the combined ADMI-60 and HMI response set to observe any patterns of overlap or commonality between these measures. ADMI-60 or HMI items, or a combination, that clustered only with each other and not to items of the other scale indicate unique qualities not represented by the opposing measure. Because of the expanded construct definition, the ADMI was expected to reflect aspects of hypermasculinity not captured by the HMI.

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**Table 1**

<table>
<thead>
<tr>
<th>Measure</th>
<th>ADMI-100</th>
<th>ADMI-60</th>
<th>HMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMI</td>
<td>.70</td>
<td>.70</td>
<td>—</td>
</tr>
<tr>
<td>Sensation seeking</td>
<td>.22**</td>
<td>.30**</td>
<td>.54**</td>
</tr>
<tr>
<td>Hostility toward women</td>
<td>.48**</td>
<td>.54**</td>
<td>.35**</td>
</tr>
<tr>
<td>Antisocial practices</td>
<td>.49**</td>
<td>.48**</td>
<td>.64**</td>
</tr>
<tr>
<td>Empathy</td>
<td>-.11</td>
<td>-.03</td>
<td>.00</td>
</tr>
<tr>
<td>Social desirability</td>
<td>-.32**</td>
<td>-.37**</td>
<td>-.36**</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>-.14</td>
<td>-.16</td>
<td>-.09</td>
</tr>
<tr>
<td>Reliability (alpha)</td>
<td>.93</td>
<td>.83</td>
<td>.80</td>
</tr>
</tbody>
</table>

*Note.* ADMI = Auburn Differential Masculinity Inventory; HMI = Hypermasculinity Inventory.  
*p = .05. **p = .01.
Results

Three hundred fifty-seven participants completed the questionnaire packets. Of these, 10 were dropped from the sample because of incomplete responses. The average age of the remaining 347 participants was 20.1 years ($SD = 1.3$); average number of years in college was 1.9 ($SD = 1.0$); 97.1% of participants were single and never married, 1.4% were engaged, 1.2% were married, and 0.3% were divorced. Nearly 74% of participants were not a member or pledge in a fraternity. Detailed information regarding racial or ethnic characteristics of participants is not available because it was inadvertently excluded from the questionnaire. Anecdotally, participants’ ethnicity reflected that of the general university population, roughly 85% Caucasian and 15% African American.

A MANOVA was conducted on the total scores for the ADMI-60 and HMI using the demographic variables of age, year in school, marital status, and fraternity membership. No significant differences in ADMI-60 scores were noted for the demographic variables of age or year in school. Differences in ADMI-60 scores were observed across the variables of marital status, $F(3, 343) = 3.06, p = .03$, and fraternity membership, $F(1, 345) = 5.85, p = .02$. In general, participants who were in committed relationships and who were not members of a fraternity obtained lower scores on the ADMI-60. No differences in HMI scores were observed for the variable of fraternity membership. Differences in HMI scores were observed across the demographic variables of age, $F(4, 342) = 4.65, p = .01$, year in school, $F(4, 342) = 2.28, p = .06$, and marital status, $F(3, 343) = 4.65, p = .01$. In general, older participants, those who had been in college longer, and those who were or had been married reported lower HMI scores. No significant interaction terms were observed.

The ADMI-60 items were then subjected to an exploratory factor analysis. A principal-axis factor analysis (SPSS 11.0; SPSS, Inc., 2001) was performed on 347 cases of 60 variables. Five factors of practical significance emerged and were retained for further manipulation. A solution of varimax rotation with Kaiser normalization was chosen because it best preserved the simple structure of factors. Factors 1 through 5 accounted for 8.4%, 7.9%, 7.4%, 7.2%, and 3.9% of the variance, respectively.

The factors were then interpreted and named. Factor 1, Hypermasculinity, appeared to reflect the core hypermasculine definition, the exaggeration of male traits, as well as a devaluation of feminine traits. That this duality is present in the first factor is important because hypermasculinity is defined as much by what is antifeminine as by what is masculine. Factor 2, Sexual Identity, contained items reflecting sex as an instrumental act of power and aggression with a devaluation of intimacy. Factor 3, Dominance and Aggression, contained items reflecting the instrumental use of aggression to enforce dominance over and control of others. Factor 4, Conservative Masculinity, was composed of items expressing exaggerated male attitudes but seemed also to preserve a sense of interpersonal intimacy not present in Factor 1. Factors 3 and 4 have a certain amount of overlap and in future analyses may not replicate well. Factor 5, Devaluation of Emotion, contained items reflecting a negative outlook on emotional expression, particularly emotions that may be construed as indicative of weakness such as fear or sadness.

All items and their corresponding factor loadings are presented in Appendix B. Items with factor loadings of .40 or higher were retained for each corresponding scale. The ADMI is thus composed of a 60-item total score scale and five subscales using the highest loading 44 items identified by the factor analysis (see Appendixes C and D for administration and scoring information). Independent scale scores were then generated by summing item responses from Study 2 and then Study 1. These results, as well as scale correlations with the HMI and ADMI-60, are presented in Tables 2 and 3 and are in the expected direction. Reliability analyses were conducted using coefficient alpha for the factor analytically derived scales. For factor items that loaded at .40 or higher, alpha scale reliabilities were adequate, ranging from .85 to .73. Reliabilities were also calculated for all items loading on each factor and were generally acceptable. Only Factor 2 presented with unacceptable reliability when including items with lower factor loadings. See Tables 1 and 2 for complete reliability results.

In an effort to clarify the relationship between the ADMI and the HMI, two additional factor analyses were performed: one on the item responses for the HMI and another on the combined ADMI-60 and HMI data. Using the HMI data, a principle-axis factor analysis was performed on 347 cases of 30 variables. Five factors of practical significance emerged and were retained for further manipulation. A solution of varimax rotation with Kaiser normalization was chosen because it best preserved the simple structure of factors. Factors 1 through 5 accounted for 8.4%, 7.7%, 6.2%, 4.9%, and 2.7% of the variance, respectively. The factors were then interpreted. Factor 1 contained seven items reflecting physical aggression and threat toward others. Factor 2 contained seven items related to an aggressive, dominating sex-
<table>
<thead>
<tr>
<th>Measure</th>
<th>HMI</th>
<th>Devaluation of emotion</th>
<th>Conservative masculinity</th>
<th>Dominance &amp; aggression</th>
<th>Sexual identity</th>
<th>Hypermasculinity</th>
<th>ADMI-60</th>
</tr>
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<tbody>
<tr>
<td>ADMI-60</td>
<td>.47**</td>
<td>.60**</td>
<td>.31**</td>
<td>.75**</td>
<td>.21**</td>
<td>.73**</td>
<td>—</td>
</tr>
<tr>
<td>Hypermasculinity</td>
<td>.45**</td>
<td>.48**</td>
<td>−.13*</td>
<td>.54**</td>
<td>−.03</td>
<td>—</td>
<td>—</td>
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<tr>
<td>Sexual identity</td>
<td>−.35**</td>
<td>−.05</td>
<td>.12*</td>
<td>−.02</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Dominance &amp; aggression</td>
<td>.55**</td>
<td>.50**</td>
<td>−.15**</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Conservative masculinity</td>
<td>−.11*</td>
<td>−.07</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Devaluation of emotion</td>
<td>.49**</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<td>Reliability for items loading at ≥ .40 (α)</td>
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<td>.73 (n = 4)</td>
<td>.83 (n = 11)</td>
<td>.79 (n = 11)</td>
<td>.78 (n = 11)</td>
<td>.85 (n = 10)</td>
<td>—</td>
</tr>
<tr>
<td>Reliability for all items (α)</td>
<td>.81 (n = 30)</td>
<td>.73 (n = 5)</td>
<td>.78 (n = 14)</td>
<td>.65 (n = 18)</td>
<td>.19 (n = 14)</td>
<td>.88 (n = 17)</td>
<td>.85 (n = 60)</td>
</tr>
</tbody>
</table>

*Note.* ADMI = Auburn Differential Masculinity Inventory; HMI = Hypermasculinity Inventory.

*p = .05. **p = .01.
ual style. Factor 3 contained two items about lesbianism. Factor 4 contained six items expressing risk taking and dangerous behavior. Factor 5 contained two items related to alcohol use. Additionally, six items failed to load on any scale or failed to load above .30 for our sample.

A final exploratory factor analysis was performed on the combined ADMI-60 and HMI data in an effort to clarify the relationship between the two measures. Using the combined item response data, a principle-axis factor analysis was performed on 347 cases of 90 variables. Again, five factors of practical significance emerged and were retained for further manipulation. In addition, a solution of varimax rotation with Kaiser normalization was chosen because it best preserved the simple structure of factors. Factors 1 through 5 accounted for 7.6%, 7.2%, 6.8%, 4.8%, and 2.4% of the variance, respectively. The factors were then interpreted. Factor 1 contained 22 items (10 HMI, 12 ADMI) reflecting heterosexual entitlement and wild or promiscuous sexual behavior. Factor 2 contained 18 items (2 HMI, 16 ADMI) related to sexual violence and general misogyny. Factor 3 contained 20 items (7 HMI, 13 ADMI) about physical aggression against other men as well as items concerning aggression and anger. Factor 4 contained 12 items (0 HMI, 12 ADMI) expressing superiority and dominance over both men and women. Factor 5 contained 1 ADMI item related to the avoidance of physical conflict. Additionally, 17 items (11 HMI, 6 ADMI) failed to load on any scale or failed to load above .30 for our sample.

Discussion

These results indicate that the ADMI and its associated factor scales appear to have adequate convergent and discriminant validity as well as adequate reliability. The results of the exploratory analysis of HMI item data suggest that a number of items on the HMI were not related to core theoretical constructs (sexual entitlement, violence as manly, danger as exciting) but rather reflected specific qualities of question content (lesbianism, alcohol use) or were interpreted in a divergent fashion by participants in our sample. The results of the combined HMI – ADMI-60 factor analysis suggest that, although items on the HMI adequately captured feelings of sexual entitlement and physical aggression, they did less well at capturing attitudes of hostile or violent sexuality and interpersonal dominance, constructs that seem central to the hypermasculine role identity. It appears that the ADMI-60 does offer some additional information regarding hypermasculine behavior (hostile sexuality, interpersonal control, and devaluation of emotional expression) not contained in the HMI.

General Discussion

The ADMI was developed to address concerns regarding existing measures of hypermasculinity. Using a sequential, construct-oriented scale construction procedure, a large pool of rationally constructed items was subjected to a series of empirical steps to distill a final item set. Beginning with rational content rating and proceeding through factor analytic procedures, a 60-item inventory with five provisional factors was obtained. At this point, the ADMI-60 appears to have met the initial goal of providing a scale with high internal reliability, less objectionable and more contemporary item content, as well as good content and construct validity. Additionally, the ADMI-60 consists of randomly arranged items with a Likert-style rating system, thus reducing response bias inherent in the forced-choice/paired-opposites format. Scale reliability, as demonstrated

<table>
<thead>
<tr>
<th>Measure</th>
<th>HMI</th>
<th>Sensation seeking</th>
<th>Hostility toward women</th>
<th>Anti-social practices</th>
<th>Empathy</th>
<th>Social desirability</th>
<th>Self-esteem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypermasculinity</td>
<td>.49**</td>
<td>.15</td>
<td>.47**</td>
<td>.33**</td>
<td>-.15</td>
<td>-.29**</td>
<td>-.19*</td>
</tr>
<tr>
<td>Sexual identity</td>
<td>.36*</td>
<td>.19*</td>
<td>.41**</td>
<td>.41**</td>
<td>.09</td>
<td>-.27**</td>
<td>-.24**</td>
</tr>
<tr>
<td>Dominance &amp; aggression</td>
<td>.54**</td>
<td>.14</td>
<td>.35**</td>
<td>.25**</td>
<td>-.08</td>
<td>-.31**</td>
<td>-.09</td>
</tr>
<tr>
<td>Conservative masculinity</td>
<td>.41**</td>
<td>.35**</td>
<td>.37**</td>
<td>.43**</td>
<td>.04</td>
<td>-.17</td>
<td>-.06</td>
</tr>
<tr>
<td>Devaluation of emotion</td>
<td>.65**</td>
<td>.27**</td>
<td>.31**</td>
<td>.42**</td>
<td>-.04</td>
<td>-.23</td>
<td>-.04</td>
</tr>
</tbody>
</table>

Note. ADMI = Auburn Differential Masculinity Inventory; HMI = Hypermasculinity Inventory. *p = .05. **p = .01.
by coefficient alphas, were well within an acceptable range, indicating that the ADMI-60, developed through a rigorous empirical process, is psychometrically sound (ADMI-60, Study 1 $\alpha = .83$; ADMI-60, Study 2 $\alpha = .85$). The observed convergent and discriminant validity demonstrated by ADMI-60 scale correlations with existing measures support the ADMI-60 as a valid measure of the construct of hypermasculinity.

It should be noted that the correlation between the ADMI-60 and HMI is perhaps less strong than might be expected on initial inspection (Study 1 ADMI-100 and HMI, $r = .70, p < .01$; ADMI-60 and HMI, $r = .70, p < .01$; Study 2 ADMI-60 and HMI, $r = .47, p < .01$). It is our belief that this relationship is reflective of a methodological problem but rather of the change in the construct definition of hypermasculinity and additional item content. By adding additional qualities, such as emotional constriction, the HMI and ADMI-60 do have important differences.

The construct of hypermasculinity lends itself to the study of a number of important issues regarding the social and interpersonal behaviors of men, including the role of nature and nurture in the development of a hypergendered identity, the cause and expression of sexual violence, and the role of attachment issues and family development on the expression of hypermasculinity. By including the qualities of hostility toward women, interpersonal dominance, and constriction of emotional expression in the formulation of the ADMI-60, we hoped to include items that would allow for a more precise measure of how these constructs operate in the lives of the hypermasculine man.

Pending further study, the ADMI-60 appears poised to contribute to the relationship of hypermasculinity to sexual violence. Previous studies of sexual violence and hypermasculinity often have been complicated by the number of false-positive results (i.e., men with high endorsement of hypermasculinity and low endorsement of coercive or violent sexuality). Exploratory factor analysis in Study 2 indicates that, although the HMI adequately captured feelings of sexual entitlement and physical aggression, it did less well at capturing attitudes of misogyny and sexual violence, areas the ADMI-60 is able to represent. In the current studies, hypermasculine attitudes were observed to be less strong in older men and men who reported being in romantic relationships. This result could be interpreted in several ways: Hypermasculine men are not interested in or skilled at having a relationship; hypermasculinity is reduced as a young man is exposed to different models of masculinity through relationships; hypermasculinity is largely dependent on some factor related to age or maturation. In the future, what may prove more indicative of pathological relationships and violence may be the maintenance of strong hypermasculine attitudes in later life.

It must be remembered that the development of the ADMI-60 is ongoing. Therefore, there are several limitations to the current series of studies. Both studies were conducted with a university student population. Obviously, to be considered a broad measure of hypermasculinity, future validation of the ADMI-60 should focus on a broader sample of the male population (e.g., men in the community, older men, adjudicated men). The relationship between hypermasculinity and ethnic or racial identity also should be more carefully explored. Although the initial series of studies using the ADMI-60 have shown similar results with different samples, test–retest reliability has not been explicitly demonstrated. Additionally, replication of the ADMI-60 factor structure is necessary before these factors can be considered to reflect specific components of the hypermasculine identity. Factors 3 and 4 have overlapping items and thus were more difficult to interpret than the other factors. The scale reliabilities appear to be somewhat variable as well. As such, any use of the factor analytically derived subscales should be undertaken cautiously.

Future research should establish test–retest validity as well as continue to address issues of concurrent validity. We have plans to investigate the relationship of the ADMI-60 with normative and coercive sexual behavior, emotional expression, interpersonal violence, and attachment. Studies are underway that investigate the relationship of the ADMI-60 to objective measures of personality as well as attachment to parents and male victims’ perceptions of past sexual abuse.

Through empirical means of scale construction, these studies have generated an easy-to-administer 60-item self-report measure of hypermasculinity with adequate reliability, convergent, and discriminant validity. Additionally, five provisional factor analytically derived scales reflecting hypermasculinity, sexual identity, dominance and aggression, conservative masculinity, and devaluation of emotion are available. We expect that this new measure of hypermasculinity will be incorporated into research of men’s sexual and physical aggression, the male gender role, as well as men’s interpersonal behavior and relational attachments.

References


Byrne, B. M., & Shavelson, R. J. (1986). On the structure of attachment and*.


Appendix A

Construct Definition

Hypermasculinity is a construct that describes men who exhibit an exaggeration of the traditional male gender role, including characteristics such as a supervaluation of competitive, aggressive activities and a devaluation of cooperative, care-taking activities. In general, status and pride are highly valued, self-reliance or mistrust of others is evident, violence is perceived as necessary to maleness, women are predominantly seen as sexual objects or conquests, and sensation seeking is vital to life. Additionally, the expressed emotions of these individuals are likely constricted to displays of anger, disgust, and contempt, whereas the expression of emotions such as fear or love is perceived as weak.

Appendix B

Factor Scales From Rotated Factor Analysis

Factor 1: Hypermasculinity

14. Women, generally, are not as smart as men: .704
9. I consider men superior to women in intellect: .703
13. I know feminists want to be like men because men are better than women: .688
11. I think women who are too independent need to be knocked down a peg or two: .600
20. If a woman struggles while we are having sex, it makes me feel strong: .465
28. If a woman puts up a fight while we are having sex, it makes the sex more exciting: .458
29. I don’t mind using verbal or physical threats to get what I want: .457
25. Sometimes I have to threaten people to make them do what they should: .454
27. I value power over other people: .447
10. I think women who say they are feminists are just trying to be like men: .403
47. Women need men to help them make up their minds: .360

30. I think it is worse for a woman to be sexually unfaithful than for a man to be unfaithful: .357
59. I feel it is unfair for a woman to start something sexual but refuse to go through with it: .310
19. I think it’s okay for men to be a little rough during sex: .304
26. Many men are not as tough as me: .303
5. I think men who show they are afraid are weak: .302
48. If some guy tries to make me look like a fool, I’ll get him back: .293

Factor 2: Sexual Identity

15. My attitude regarding casual sex is “the more the better”: .776
31. I think it is okay for teenage boys to have sex: .691
24. I wouldn’t have sex with a woman who had been drinking: −.571
36. I notice women most for their physical characteristics like their breasts or body shape: −.533
30. I think it is worse for a woman to be sexually unfaithful than for a man to be unfaithful: .518
12. I don’t feel guilty for long when I cheat on my girlfriend/wife: .497
56. Sometimes I have to threaten people to make them do what I want: .464
19. I think it’s okay for men to be a little rough during sex: .445
18. I like to tell stories of my sexual experiences to my male friends: −.442
17. There are two kinds of women: the kind I date and the kind I would marry: −.433
57. I think it’s okay to have sex with a woman who is drunk: .402
21. I am my own master; no one tells me what to do: .389
48. If some guy tries to make me look like a fool, I’ll get him back: .291
42. When something bad happens to me I feel sad: −.307

Factor 3: Dominance & Aggression
2. I believe sometimes you’ve got to fight or people will walk all over you: .588
44. I don’t mind using physical violence to defend what I have: .555
45. I think men should be generally aggressive in their behavior: .506
26. Many men are not as tough as me: .464
55. If another man made a pass at my girlfriend/wife, I would want to beat him up: .454
60. I often get mad: .450
1. If another man made a pass at my girlfriend/wife, I would tell him off: .439
46. I would initiate a fight if someone threatened me: .430
49. I consider myself quite superior to most other men: .411
50. I get mad when something bad happens to me: .411
33. I prefer to watch contact sports like football or boxing: .403
23. If someone challenges me, I let him see my anger: .397
48. If some guy tries to make me look like a fool, I’ll get him back: .347
52. I like to be the boss: −.327
34. If I had a son I’d be sure to show him what a real man would do: −.328
54. I would fight to defend myself if the other person threw the first punch: −.364
22. I try to avoid physical contact: .294
23. I value power over other people: .290

Factor 4: Conservative Masculinity
47. Women need men to help them make up their minds: .352
55. If another man made a pass at my girlfriend/wife, I would want to beat him up: −.387
49. I consider myself quite superior to most other men: .343
35. If a woman thinks she’s better than me, I’ll show her: .707
41. I like to brag about my sexual conquests to my friends: .634
39. I think men who stay home to take care of their children are just as weak as women: .626
38. I sometimes feel afraid: .622
52. I like to be the boss: .554
53. I like to think about the men I’ve beaten in physical fights: .540
40. I’d rather stay home and watch a movie than go out to a bar: .525
34. If I had a son I’d be sure to show him what a real man should do: .495
42. When something bad happens to me I feel sad: .483
54. I would fight to defend myself if the other person threw the first punch: .477
43. I can date many women at the same time without commitment: −.432

Factor 5: Devaluation of Emotion
6. I think men who cry are weak: .672
5. I think men who show they are afraid are weak: .614
4. I think men who show their emotions frequently are sissies: .558
8. Even if I was afraid I would never admit it: .402
22. I try to avoid physical conflict: .294

(Appendixes continue)
Appendix C

Instructions for Administration and Scoring

Participant Instructions
The following statements describe certain beliefs. Please read each item carefully and decide how well it describes you. Rate each item on the following 5-point scale: A = very much like me, B = like me, C = a little like me, D = not much like me, E = not at all like me.

Scoring Instructions
Responses are assigned points in the following manner: E = 0, D = 1, C = 2, B = 3, A = 4. Questions 22, 24, 38, 40, and 42 are reversed-scored. Total scores and factor scores are generated by summing the assigned points for relevant questions.

Appendix D

ADMI-60 Items

1. If another man made a pass at my girlfriend/wife, I would tell him off.
2. I believe sometimes you’ve got to fight or people will walk all over you.
3. I think women should date one man.
4. I think men who show their emotions frequently are sissies.
5. I think men who show they are afraid are weak.
6. I think men who cry are weak.
7. I don’t get mad, I get even
8. Even if I was afraid, I would never admit it.
9. I consider men superior to women in intellect.
10. I think women who say they are feminists are just trying to be like men.
11. I think women who are too independent need to be knocked down a peg or two.
12. I don’t feel guilty for long when I cheat on my girlfriend/wife.
13. I know feminists want to be like men because men are better than women.
14. Women, generally, are not as smart as men.
15. My attitude regarding casual sex is “the more the better.”
16. I would never forgive my wife if she was unfaithful.
17. There are two kinds of women: the kind I date and the kind I would marry.
18. I like to tell stories of my sexual experiences to my male friends.
19. I think it’s okay for men to be a little rough during sex.
20. If a woman struggles while we are having sex, it makes me feel strong.
21. I am my own master; no one tells me what to do.
22. I try to avoid physical conflict.
23. If someone challenges me, I let him see my anger.
24. I wouldn’t have sex with a woman who had been drinking.
25. Sometimes I have to threaten people to make them do what they should.
26. Many men are not as tough as me.
27. I value power over other people.
28. If a woman puts up a fight while we are having sex, it makes the sex more exciting.
29. I don’t mind using verbal or physical threats to get what I want.
30. I think it is worse for a woman to be sexually unfaithful than for a man to be unfaithful.
31. I think it’s okay for teenage boys to have sex.
32. I like to be in control of social situations.
33. I prefer to watch contact sports like football or boxing.
34. If I had a son I’d be sure to show him what a real man should do.
35. If a woman thinks she’s better than me, I’ll show her.
36. I notice women most for their physical characteristics like their breasts or body shape.
37. I think it’s okay for men to date more than one woman.

38. I sometimes feel afraid.

39. I think men who stay home to take care of their children are just as weak as women.

40. I’d rather stay home and watch a movie than go out to a bar.

41. I like to brag about my sexual conquests to my friends.

42. When something bad happens to me I feel sad.

43. I can date many women at the same time without commitment.

44. I don’t mind using physical violence to defend what I have.

45. I think men should be generally aggressive in their behavior.

46. I would initiate a fight if someone threatened me.

47. Women need men to help them make up their minds.

48. If some guy tries to make me look like a fool, I’ll get him back.

49. I consider myself quite superior to most other men.

50. I get mad when something bad happens to me.

51. I want the woman I marry to be pure.

52. I like to be the boss.

53. I like to think about the men I’ve beaten in physical fights.

54. I would fight to defend myself if the other person threw the first punch.

55. If another man made a pass at my girlfriend/wife, I would want to beat him up.

56. Sometimes I have to threaten people to make them do what I want.

57. I think it’s okay to have sex with a woman who is drunk.

58. If I exercise, I play a real sport like football or weight lifting.

59. I feel it is unfair for a woman to start something sexual but refuse to go through with it.

60. I often get mad.