

The Development and Validation of the Meanings of Adolescent Masculinity Scale

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Although conformity with traditional male gender role norms has been linked to psychological and social adjustment in adolescent boys, most studies have relied on either qualitative research or measures of male role norms developed for adults. This study sought to develop and conduct preliminary validation of a multidimensional scale assessing endorsement of male role norms among adolescent boys. The content validity, clarity, and format of scale items for the Meanings of Adolescent Masculinity Scale (MAMS) were generated from interview data and through focus group discussions with adolescent boys. The resulting questionnaire, along with convergent validity scales, was completed by a diverse group of 193 7th- through 10th-grade boys. Factor analysis supported a 4-factor model: Constant Effort, Emotional Restriction, Heterosexism, and Social Teasing. Subscales derived from this analysis yielded good internal reliability. Convergent validity was supported by significant correlations between MAMS subscales and existing measures of male role norms and psychological adjustment.

Keywords: masculinity, adolescence, assessment, gender roles, male role

A recent spate of writing on the lives and well-being of adolescent boys has begun to link adherence to traditional male gender role norms with poor psychological adjustment (Kimmel & Mahler, 2003; Kindlon & Thompson, 1999; Pollack, 1998). This research, which is grounded in a social constructionist framework, understands the male gender role as stemming not from biologically fixed or enduring traits, but as resulting from the internalization of culturally defined gender role norms and ideologies (Levant, 1996; Pleck, 1995; Pleck, Sonenstein, & Ku, 1993, 1994). Past research on both adult men and adolescent boys has defined gender role norms as social norms, rules, or expectations that dictate what is considered acceptable masculine and feminine behaviors and attitudes within particular historical and social contexts (Levant, 1996; Mahalik et al., 2003). Gender role norms exert influence over behavior when individuals have internalized, rejected, chosen, or been taught to act in accordance with

them (Bussey & Bandura, 1999; Connell, 2000; Eder, Evans, & Parker, 1995; Levant, 1996; Mahalik et al., 2003; Pollack, 1998; Thorne, 1993; West & Zimmerman, 1987). For instance, in a culture that equates masculine behavior with emotional stoicism, men and boys may come to adopt or reject such a norm. Their resulting views may then shape behaviors related to emotional expression and their evaluations of others' emotional practices (Mahalik et al., 2003).

Traditional Adolescent Male Role Norms

Although male role norms may vary according to cultural, historical, and local contexts, theorists and researchers have argued that a common constellation of norms comprise "traditional" or "hegemonic" male role norms in contemporary societies (Connell, 2000; Levant, 1996; Pleck, 1995). Subsequently, a number of investigators have sought to uncover and define the content of adolescent males' gender role norms. For example, there is growing evidence that emotional restriction and stoicism are key components of adolescent boys' gender role norms in contemporary U.S. society (Cunningham & Meunier, 2004; Kindlon & Thompson, 1999; Pollack, 1998, 2000). A number of writ-

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ers have observed that boys are socialized to give up their emotional and interdependent selves in exchange for a veneer of stoicism and emotional restraint (Eder et al., 1995; Kindlon & Thompson, 1999; Pollack, 1998, 2006). Indeed, research shows that adolescent boys experience their friendships with other boys to be emotionally disengaged and lacking intimacy and affection (Lempers & Clark-Lempers, 1993; Rose, 2002; Rose & Rudolph, 2006; Way, 1997, 2004). Similarly, research from the gender role conflict paradigm has demonstrated that for both adult men and adolescent boys core components of gender role conflict include restricted emotionality and restricted affection between males (Blazina, Pisecco, & O'Neil, 2005; O'Neil, 1981; O'Neil, Helms, Gable, David, & Wrightsman, 1986).

Furthermore, Pollack (1998, 2000, 2006), who wrote extensively about gender role norms among adolescent boys, argued that boys face overwhelming pressure to maintain strong, tough, and confident personas. He wrote that a strict "Boy Code" (Pollack, 1998, p. 7) required boys to expend significant effort living up to standards of traditional masculine behavior; a boy's momentary failure to do so could mark him as unmasculine and leave him open to ridicule or to a loss in social standing (Pollack, 1998). Others have similarly noted boys' feelings that they must constantly maintain a strong and impenetrable front to meet both culturally defined and peer group gender role norms (Eder et al., 1995; Kimmel & Mahler, 2003; Kindlon & Thompson, 1999; Phillips, 2007).

Research has also indicated that dominance and aggression are salient components of masculine gender role norms in adolescent boys' social groups (Eder et al., 1995; Kimmel & Mahler, 2003; Kindlon & Thompson, 1999; Klein, 2006; Phillips, 2007; Poynting & Donaldson, 2005; Stoudt, 2005). In interview studies, boys have claimed that this dominance is often asserted through teasing, taunting, and ridiculing behavior (Kindlon & Thompson, 1999; Phillips, 2007; Stoudt, 2005). Furthermore, high status, "popular" boys are rated by their peers as being significantly more dominant, aggressive, and socially manipulative than the average boy (LaFontana & Cillessen, 2002; Parkhurst & Hopmeyer, 1998; Rodkin, Farmer, Pearl, & Van Acker, 2004). Other researchers have suggested that the drive for muscularity,

which appears to be salient among adolescent boys, is linked to conceptions of traditional male role norms (Cafri, van den Berg, & Thompson, 2006; McCreary & Sasse, 2000; McCreary, Sasse, Saucier, & Dorsch, 2004; Smolak, Murnen, & Thompson, 2005). Last, an often observed component of boys' male role norms is the negation and avoidance of femininity and homosexuality. It is commonly noted that boys distance themselves from and devalue behaviors deemed "gay" or "girly" to appear masculine (Fine, Addleston, & Marusza, 1997; Kimmel, 1994; Kimmel & Mahler, 2003; Nayak & Kehily, 1996; Phoenix, Frosh, & Pattman, 2003). In his discursive analysis of adolescent boys' conversations, Korobov (2004) found that even boys who attempt to appear tolerant of homosexuality are simultaneously, yet subtly, complicit with standards of masculinity that require a personal distancing from homosexuality.

Endorsement of Male Role Norms and Psychological Adjustment

As referenced above, researchers and theorists have suggested that boys who adopted traditional male role norms may be at higher risk for a broad swath of adjustment problems. In particular, it has been suggested that boys' emotional stoicism leaves them unable to recognize their own and others' emotions, putting them at risk for developing psychological distress and empty interpersonal lives (Kindlon & Thompson, 1999; Pollack, 1998, 2006). In addition, research from the gender role conflict paradigm has demonstrated that restricted emotionality is associated with both psychological distress and maladaptive coping styles among adolescent boys (Blazina et al., 2005; Wester, Kuo, & Vogel, 2006). In college-aged men, restricted emotionality has been shown to correlate with anxiety, depression, and low self-esteem (Cournoyer & Mahalik, 1995) and with general indicators of psychological distress (Good et al., 1995). Furthermore, information emerging primarily from qualitative research and clinical extrapolation has suggested that boys who adhered to traditional male role norms in general were at increased risk for violence, aggression, and delinquency (Feder, Levant, & Dean, 2007; Kimmel & Mahler, 2003; Klein, 2006; Lopez & Emmer, 2002; Poynting & Donaldson, 2005),

bullying and hazing (Phillips, 2007; Stoudt, 2005), homophobic attitudes (Frosh, Phoenix, & Pattman, 2001; Nayak & Kehily, 1996), not seeking medical care (Marcell, Ford, Pleck, & Sonenstein, 2007), risky sexual behaviors (Pleck et al., 1993), low self-esteem (Chu, Porche, & Tolman, 2005), and masked and untreated psychological dysfunction and distress (Pollack, 1998, 2006).

Although these findings are instrumental in uncovering the complex nature of and boys' own perspectives on male role norms, there has been a dearth of quantitative research on the hypothesized negative sequelae of adolescents' endorsement of traditional male role norms. Furthermore, just as research has demonstrated that the same overarching construct can promote or impede adolescent social development (Rose, 2002; Rose & Rudolph, 2006), research should illuminate both the maladaptive and adaptive qualities of endorsing traditional male role norms. Drawing generalizable connections between components of male role norms and psychological adjustment requires a reliable and multifactorial measure of traditional male role norms among adolescent boys. To begin to help fill this gap, this research drew on themes emerging from qualitative interviews with adolescent boys to construct and validate a multifactorial scale measuring adolescent boys' endorsement of traditional male role norms.

Measuring Male Role Norms

To assess individuals' conformity to male role norms, researchers working within the social constructivist framework have developed scales comprised of statements reflecting distinct components of traditional male role norms, with which individuals can agree or disagree. A number of such scales have been developed for use with adult men. For example, the Brannon Masculinity Scale (Brannon & Juni, 1984) contains seven factors organized along four primary dimensions: the avoidance of femininity and emotions ("No Sissy Stuff"), success and respect ("The Big Wheel"), toughness and confidence ("The Sturdy Oak"), and violence and adventure ("Give 'Em Hell"). Through factor analyzing the short form of the Brannon Masculinity Scale, Thompson and Pleck (1986) developed the Male Role Norms Scale (MRNS),

which divides masculine role norms into three factors: Status, Toughness, and Antifemininity. Levant et al. (2007) developed a revised version of the Male Role Norms Inventory (MRNI-R), which contains seven factors, including Avoidance of Femininity, Fear and Hatred of Homosexuals, Extreme Self-Reliance, Aggression, Dominance, Non-Relational Sexuality, and Restrictive Emotionality. These scales, among others, have been useful in exploring the correlates and consequences of adopting traditional male role norms.

However, no multidimensional scales exist to assess adherence to or endorsement of male role norms among adolescent boys. Using seven modified items from the adult-based MRNS and adding one additional item, Pleck et al. (1993) created the unidimensional Male Role Attitude Scale (MRAS), which they used to assess endorsement of male role norms among adolescent boys. However, the internal consistency of the MRAS was less than adequate ($\alpha = .54$) and its unidimensional nature did not allow for the examination between distinct components of male role norms and adjustment outcomes. Similarly, Chu et al.'s (2005) 12-item Adolescent Masculinity in Relationship Scale (AMIRS), which was also designed to assess adolescent boys' endorsement of traditional male role norms, is limited by its unidimensional structure. Last, although Blazina et al.'s (2005) Gender Role Conflict Scale-Adolescent Version (GRCS-A) is a useful multifactorial instrument, it focuses more specifically on the conflict and stress associated with conformity to male roles rather than on assessing the degree to which one endorses or rejects traditional male roles. As suggested by Mahalik et al. (2003), a scale that examines endorsement of distinct components of male role norms may be more useful in identifying both the adaptive and maladaptive components of traditional male roles. The goal of this research was to create such a scale.

Study Objectives

The purpose of this research was to develop and evaluate the validity of a multidimensional scale to assess endorsement of adolescent male gender role norms. In doing so, we aimed to ground scale constructs and items in boys' lived reality and in the extant research on male role norms among adolescent boys, as reviewed

above. As such, we drew initial scale items from Oransky and Marecek's (2007) qualitative data on boys' conceptions of male role norms. This interview sample was comprised of 23 boys who ranged in age from 14 to 16, mean age was 15.2. Seventeen of the boys self-identified as White, 3 as East Asian, 2 as African American, and 1 identified as Latino; all but 3 came from middle-class families. We developed initial item groupings based on four constructs derived from Oransky and Marecek's content analysis of their interview data and from the existing literature. The first construct, emotional restriction, reflects the assumption that to be masculine, boys must be emotionally stoic and refrain from sharing their feelings with others. The second construct, heterosexism, reflects the norm that masculinity is defined in opposition to homosexuality and femininity, and that one must distance oneself from behaviors and attitudes traditionally thought of as "girly" or "gay." The third construct, social teasing, represents the assumption that to be masculine, one must be able to both dole out and stand up to teasing and taunting in the peer context. The fourth construct, constant effort, reflects the belief that to be masculine, one must constantly, and without interruption, maintain one's tough, confident, and strong public persona.

These four components of male role norms demonstrate considerable conceptual overlap with previous research on adolescent male role norms as reviewed above. The identification of emotional restriction and heterosexism as major components of adolescent male role norms resonates strongly with the research on both adult and adolescent male role norms reviewed above (e.g., Kimmel, 1996; Kindlon & Thompson, 1999; O'Neil et al., 1986; Thompson & Pleck, 1986). Similarly, although it has been observed to a lesser extent, the social teasing construct is also reflective of qualitative research on male role norms in adolescent boys' peer groups (e.g., Phillips, 2007; Stoudt, 2005). Finally, the constant effort construct is theoretically and conceptually consistent with the writings of seminal researchers, who, as reviewed above, have documented boys' feelings that they must constantly maintain a strong and impenetrable front to be considered masculine by others (e.g., Pollack, 1998).

Specific Hypotheses

Scale construction and psychometric assessment was guided by several assumptions. First, we anticipated that items would load on a four-factor model representing four distinct components of adolescent male role norms: emotional restriction, heterosexism, social teasing, and constant effort, as outlined above. Second, we predicted that subscales derived from these factors would be significantly associated with existing measures tapping related constructs and negatively related to measures tapping dissimilar constructs. More specifically, we hypothesized that emotional restriction would be negatively related to intimate exchange between friends; heterosexism would be positively related to antifemininity; social teasing would be positively related to beliefs that aggression is normal; and constant effort would be positively related to drive for peer popularity. In addition, we predicted that each of the four subscales would be positively related to the AMIRS, a unidimensional measure of adolescent male role norms.

Third, consistent with research linking mutuality and interpersonal support to self-esteem in adolescence (Berndt & Savin-Williams, 1993), and research linking restricted emotionality with psychological distress in adolescent boys (Blazina et al., 2005; Wester et al., 2006) and college-aged young adult men (Good et al., 1995), we predicted that endorsement of emotional restriction would be negatively related to self-esteem. Because antigay and antifeminine attitudes still permeate mainstream adolescent culture in the United States (Gay, Lesbian, Straight Education Network, 2005), we predicted that endorsement of heterosexism would be positively related to self-esteem and negatively related to anxiety by providing a sense of belonging to the perceived "normative" group. In light of qualitative research documenting the normative role of peer teasing in adolescent boys' peer groups (Kindlon & Thompson, 1999; Oransky & Marecek, 2007; Phillips, 2007; Stoudt, 2005), we hypothesized that endorsement of social teasing would be negatively associated with anxiety and positively related to self-esteem. As a consequence of the continuous self-monitoring and social comparison involved in the constant effort construct, we

predicted that subscale scores representing this factor would be negatively related to self-esteem and positively related to anxiety.

Method

Item Construction and Selection

The initial set of items were based on a qualitative analysis of boys' conceptions of what it means to be masculine in today's society (Oransky & Marecek, 2007). Using boys' actual words, a total of 60 items were generated to represent four components of masculinity suggested by boys themselves and found in the existing literature: emotional restriction, heterosexism, social teasing, and constant effort. Evaluation and modification of scale items was conducted in a reiterative fashion. Scale items were presented to three successive focus groups of adolescent boys. Because the initial interview sample was relatively homogenous, focus groups were purposely designed to be representative of racial minorities whose definitions of masculinity could differ from the original sample. A total of 15 adolescent males (13 to 15 years old) recruited through a community-based youth organization participated (five in each group): 30% self-identified as African American, 30% as Latino, 30% as Asian American, and 10% as White. In each group, boys were given the name and definition of the four components of masculinity described above. Boys then sorted the items by putting each item into one of the four categories. Scale items that were put into the same category by 80% of the boys were retained for use in subsequent focus groups. After sorting, each group discussed the four proposed components of adolescent masculinity, the items they found difficult to categorize, and exemplars of masculinity that the scale items left uncovered. The investigator (M. O.) was careful to ask each group of boys: What part of "being a man" in today's society have we left out? Items not reaching the 80% criteria were modified or removed following each discussion group.

This process resulted in a final set of 34 items comprising the Meanings of Adolescent Masculinity Scale (MAMS). The Emotional Restriction subscale was comprised of eight items (e.g., "It is hard to respect a guy who shows his feelings"); the Heterosexism subscale was com-

prised of nine items (e.g., "There is something wrong if a guy wants to do activities usually done by girls"); the Social Teasing subscale was comprised of eight items (e.g., "A guy should be able to take teasing from his friends"); and the Constant Effort subscale was comprised of nine items (e.g., "A guy should always seem as manly as other guys that he knows"). Participants responded to each item on a 4-point Likert-type scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). A separate page for demographics was attached to the front of the questionnaire package and asked questions about birth date, grade in school, type of school, race/ethnicity, country of origin, and parent education and occupation.

Scale Validation

Participants

The 34-item MAMS and measures for validation were administered to 193 seventh to tenth-grade boys recruited through east-coast private schools and community organizations. Participants self-identified as: 51% White, 22% African American, 11% Latino, 10% Asian American, and 6% other. Of the total participants, 31% were in the 7th grade, 28% in the 8th grade, 20% in the 9th grade, and 21% in the 10th grade. Twenty-three of the 193 participants reported being born outside of the United States. A wide variety of parental education (ranging from elementary school to graduate degree) and occupation (ranging from restaurant server to professional) was reported.

Validation Measures

Peer popularity. The Popularity Scale (Santor, Messervey, & Kusumakar, 2000) measures the degree to which an individual designs their behavior around the goal of being viewed as popular. The measure was developed on a sample of 150 high school students and was shown to be distinct from peer pressure and measures of general conformity. The scale consists of 12 items (e.g., "I have done things to make me more popular, even when it meant doing something I would not usually do") that individuals answer on a 6-point Likert scale ranging from 1 (*totally disagree*) to 6 (*totally agree*). Internal consistency was high in the

present study sample ($\alpha = .90$) and in the original validation sample ($\alpha = .81$, Santor et al., 2000).

Intimate exchange. The Intimate Exchange subscale of the Friendship Quality Questionnaire (Parker & Asher, 1993) is a 5-item measure of the degree of emotional disclosure and intimacy in an individual's friendships. Individuals answer each of six items in regard to a specific friend (e.g., "Talk about the things that make us sad"). Participants respond on a 5-point Likert scale ranging from 1 (*not at all true*) to 5 (*really true*). Parker and Asher reported good reliability in a middle-school sample of boys and girls ($\alpha = .86$), while reliability was adequate in the present sample ($\alpha = .84$).

Antifemininity. The Antifemininity subscale of the MRNS (Thompson & Pleck, 1986) was designed to measure disdain for traditionally feminine behaviors in adult men. The scale consists of seven items (e.g., "If I heard about a man who was a hairdresser and a gourmet cook, I might wonder how masculine he was") that respondents rate on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Thompson and Pleck reported internal consistency for the Antifemininity subscale as $\alpha = .76$ in a sample of college-age men. Reliability in the present study was $\alpha = .73$.

Normative beliefs about aggression. An 8-item portion of Huesmann, Guerra, Miller, and Zelli's (1989) Normative Beliefs About Aggression Scale (NOBAGS) measures the degree to which an individual thinks it is normal to act aggressively. Statements on the NOBAGS (e.g., "It is generally wrong to get into physical fights with others") focus on overt physical and verbal aggression. The NOBAGS is answered on a 5-point Likert scale ranging from 1 (*it's really wrong*) to 5 (*it's perfectly okay*). In studies on adolescent males, Slaby and Guerra (1988) found adequate reliability ($\alpha = .86$), and, in the present study, reliability was found to be $\alpha = .87$.

Paschall and Flewelling's (1997) NOBAGS is a modification of Huesmann et al.'s (1989) NOBAGS that was specifically designed for use with a sample of African American male adolescents participating in a violence prevention program. Although this version of the NOBAGS has a lower reported internal consistency ($\alpha = .66$) than Huesmann et al.'s scale, the fact that it was specifically designed for use

with African American youth could provide further insight into the validity of the MAMS with our ethnically diverse sample. For the present sample, internal consistency for this measure was found to be $\alpha = .61$. The scale contains six items (e.g., "It makes you feel big and tough when you push someone around") that individuals rate on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*).

AMIRS. Chu et al.'s (2005) AMIRS is a 12-item unidimensional scale that was designed to measure adolescent boys' endorsement of traditional male role norms as they exist within relational contexts (e.g., "It is embarrassing for a guy when he needs to ask for help"). Scale items were derived from interview and observational research with adolescent boys. Individuals respond to items on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). The AMIRS has been shown to correlate with another unidimensional measure tapping adolescent male role norms (Chu et al., 2005). Although the internal consistency of the AMIRS in a diverse sample of young adolescent boys was reported to be .70 (Chu et al., 2005), it was found to be lower in the present study ($\alpha = .54$).

Self-esteem. The Rosenberg Self-Esteem Scale (Rosenberg, 1965) is a frequently used measure of self-worth and value. The scale consists of 10 items (e.g., "I feel that I have a number of good qualities") that respondents rate on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Connor, Poyrazli, Ferrer-Wreder, and Grahame (2004) reported adequate internal consistency when using the scale with a diverse sample of adolescents ($\alpha = .83$). Internal consistency was found to be .71 in the present study.

Anxiety. The State section of the State-Trait Anxiety Scale for Children (Spielberger, 1973) was used to assess current feelings of consciously perceived anxiety, nervousness, and tension. Respondents rate the frequency with which they experience items reflecting symptoms of anxiety and nervousness (e.g., "I worry about making mistakes"). The scale consists of 20 items to which respondents answer *hardly ever*, *sometimes*, or *often*. Research with adolescent populations has reported adequate internal consistency ($\alpha = .89$; Kirisci & Clark, 1996). A similar internal consistency statistic was found in this sample ($\alpha = .86$).

Procedure

After receiving Institutional Review Board approval, researchers, teachers, and youth program workers described the project to students during classes, assemblies, afterschool programming, and community group meetings. For both the focus group and survey phases of the study, the parents of interested students signed permission forms and those students signed assent forms. During the validation phase, the scales were administered to students in groups of 10 to 20 peers. For both the survey and focus group phases, students received a coupon for a free movie ticket in appreciation of their participation.

Analytic Plan

We used a multistep process to analyze the psychometric properties of the MAMS. First, we conducted a factor analysis to examine whether items grouped into conceptually and statistically distinct subscales. The factor analysis supported the four-factor model and subscales for each factor were assessed for internal consistency. We then evaluated the convergent validity of each subscale through correlational analyses between subscales and existing unidimensional measures of masculinity and closely related constructs. Next, using correlational analyses, we evaluated the hypothesized associations between the four subscales and scores on the anxiety and self-esteem measures. Last, we conducted supplementary multiple-regression analyses to determine whether associations found between specific MAMS subscales and anxiety and self-esteem remained significant once the shared variance among the MAMS subscales was accounted for.

Results

Factor Analysis and Internal Consistency of Resultant Subscales

The primary objective of this study was to develop and validate a theoretically grounded, participant-generated, multifactor scale of adolescent male endorsement of traditional male role norms. To this end, we conducted an exploratory factor analysis us-

ing principle component analysis with varimax rotation and mean replacements for missing data. Items were maintained if they yielded a factor loading of at least .40, did not score to this criterion on any other factor, and loaded by at least .10 less on any other factor. Maintained items, their loading values, means and standard deviations, percentage of participants agreeing with the item, and alpha-if-item-deleted are provided in Table 1. Seven items did not meet the criteria listed above and, therefore, were not included on the final scale.

As hypothesized, factor analysis on MAMS items produced a four-factor solution (Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .845; Bartlett's Test of Sphericity = 1970, $df = 561$, $p < .000$). Total variance explained was 42.1%, with Factor 1 accounting for 22.5%, Factor 2 accounting for 7.5%, and Factors 3 and 4 accounting for 6.4%, and 5.6%, respectively. Factor 1 was labeled Constant Effort. The seven items loading on this factor reflect the idea that boys must constantly maintain a strong and confident persona in order to appear manly to others. The second factor, labeled Emotional Restriction, contained seven items reflecting the norm that being masculine involves hiding emotions and remaining emotionally invulnerable. Factor 3, labeled Heterosexism, contained eight items reflecting the norm that being masculine is defined in opposition to attitudes and behaviors traditionally considered feminine or "gay." Last, Factor 4, labeled Social Teasing, contained five items expressing the norm that to be masculine boys must be able to tease and poke fun of their friends, and be able to stand up to such teasing when it is directed at them.

Internal Consistency and Intersubscale Correlations

Based on the subscales derived from the factor analysis, interitem analyses were performed. Internal consistency for the Constant Effort, Emotional Restriction, and Heterosexism were good, yielding internal consistency scores of .79, .80, and .80, respectively. The Social Teasing scale yielded a lower internal consistency score of .61. Correlations among the four MAMS subscales ranged from .16 ($p < .05$) to

Table 1

Factor Loadings, and Interitem Subscale Reliabilities, Item and Subscale Means and Standard Deviations, Percentage Agreement, and Alpha If Item Deleted for Meanings of Adolescent Masculinity Scale

	Factor loading	M	SD	% agree	Alpha if item deleted
Constant Effort ($\alpha = .79$)					
A guy should always seem as manly as other guys that he knows.	.72	2.30	.69	34	.72
A guy should never back down from a challenge in public.	.65	2.27	.73	33	.74
Acting manly should be the most important goal for guys.	.61	1.91	.74	15	.74
A guy must always appear confident even if he isn't.	.60	2.55	.77	50	.75
No matter what happens, a guy should seem strong to others.	.56	2.48	.74	49	.74
Getting made fun of helps guys become tough.	.53	2.25	.75	38	.78
Guys should try to appear manly in almost all situations.	.48	2.35	.75	38	.76
Emotional Restriction ($\alpha = .80$)					
It is not important for guys to listen to each other's problems.	.66	2.07	.65	19	.76
It is weird for a guy to talk about his feelings with other guys.	.65	2.36	.81	40	.77
Guys should not talk about their worries with each other.	.65	1.95	.69	19	.78
It is not a guy's job to comfort a friend who is upset.	.64	1.88	.65	13	.77
When a guy has a fear, he should keep it to himself.	.60	2.18	.76	32	.76
It is hard to respect a guy who shows his feelings.	.57	1.91	.65	15	.78
If a guy is upset about something, he should hold it in.	.52	2.09	.71	24	.78
Heterosexism ($\alpha = .80$)					
A guy who wears nail polish is hard to take seriously.	.70	2.98	.89	70	.77
It is embarrassing to have a lot of gay friends.	.70	2.70	.84	63	.77
Being thought of as gay makes a guy seem like less of a man.	.69	2.45	.94	46	.76
It would be embarrassing for a guy to admit he is interested in being a hair dresser.	.63	2.63	.87	57	.78
A good way to seem manly is to avoid acting gay.	.61	2.86	.84	68	.77
A guy should be embarrassed to "run like a girl."	.59	2.66	.80	56	.78
There is something wrong if a guy wants to do activities usually done by girls.	.45	2.30	.72	37	.79
"Real" guys never act like a girl.	.43	2.56	.91	53	.79
Social Teasing ($\alpha = .61$)					
A guy should be able to take teasing from his friends.	.65	2.89	.65	76	.56
There is nothing wrong with a guy who picks on his friends.	.61	2.49	.84	54	.51
It is normal for guys to make fun of their friends.	.55	3.07	.71	85	.54
In order to fit in, guys must be able to tease other guys.	.52	2.07	.70	24	.52
Guys do not pick on each other to be mean.	.44	2.67	.80	60	.59

Note. Items were scored on a 4-point Likert-type scale ranging from 1 (*strongly disagree*), 2 (*disagree*), 3 (*agree*), to 4 (*strongly agree*) with percentage agreement calculated for responses of Numbers 3 or 4.

.50 ($p < .001$), demonstrating the overlapping but distinct conceptual properties of the subscale (see Table 2).

Convergent Validity

Convergent validity was first assessed by examining predicted relationships between the MAMS subscales and scales measuring similar constructs. As illustrated by the significant Pearson r correlations presented in Table 2 these hypothesized associations were supported: (a) Scores on the Emotional Restriction subscale of the MAMS were significantly and negatively associated with the

measure of Intimate Exchange among friends; (b) the Heterosexism subscale was positively and significantly correlated with the measure of Antifemininity; (c) Social Teasing was positively related to the scales tapping Normative Beliefs of Aggression; and (d) a significant positive relationship existed between Constant Effort and Peer Popularity. Furthermore, because the MAMS subscales measure distinct but overlapping constructs, we were not surprised to find that each convergent validity scale had significant correlations with multiple MAMS subscales. Last, as expected, all MAMS subscales correlated significantly with the AMIRS (Chu et al., 2005).

Table 2
Correlations Among MAMS Subscales and Between MAMS Subscales and Scales Tapping Masculinity-Related Constructs and Indicators of Psychological Adjustment.

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Constant Effort	1	0.43 ^{****}	0.38 ^{****}	0.16*	0.50 ^{****}	-0.10	0.36 ^{****}	0.26 ^{****}	0.33 ^{****}	0.40 ^{****}	-0.25 ^{****}	0.20 ^{**}
2. Emotional Restriction		1	0.47 ^{****}	0.27 ^{**}	0.41 ^{****}	-0.44 ^{****}	0.53 ^{****}	0.28 ^{****}	0.35 ^{****}	0.51 ^{****}	-0.22 ^{****}	0.08
3. Heterosexism			1	0.20 ^{**}	0.33 ^{****}	-0.26 ^{****}	0.66 ^{****}	0.19 ^{****}	0.35 ^{****}	0.44 ^{****}	-0.05 ^{****}	0.10
4. Social Teasing				1	0.05	-0.06	0.30 ^{****}	0.30 ^{****}	0.25 ^{****}	0.22 ^{****}	0.05 ^{****}	-0.15 [*]
5. Peer Popularity					1	-0.15*	0.37 ^{****}	0.36 ^{****}	0.33 ^{****}	0.32 ^{****}	-0.19*	0.29 ^{****}
6. Intimate Exchange						1	-0.31 ^{****}	0.00	-0.06	-0.32 ^{****}	0.22 ^{****}	0.03
7. Antifeminity							1	0.27 ^{****}	0.38 ^{****}	0.47 ^{****}	-0.10	0.03
8. NOBAGS 1								1	0.46 ^{****}	0.31 ^{****}	-0.17 [*]	0.08
9. NOBAGS 2									1	0.42 ^{****}	-0.08 ^{****}	0.14
10. AMIRS										1	-0.27 ^{****}	0.09
11. Self-esteem											1	-0.30 ^{****}
12. Anxiety												1

Note. MAMS = Meanings of Adolescent Masculinity Scale; NOBAGS 1 = Normative Beliefs About Aggression (Huesmann, Guerra, Miller, & Zelli, 1989); NOBAGS 2 = Normative Beliefs About Aggression (Paschall & Flewelling, 1997).

* $p < .05$. ** $p < .01$. *** $p < .001$. **** $p < .0001$.

Relationships Between MAMS Subscales and Psychological Adjustment

As hypothesized, different components of adolescent male role norms demonstrated different relationships with measurements of psychological adjustment (see Table 2). For example, as predicted, Social Teasing was associated with decreased levels of anxiety and Constant Effort was associated with higher levels of anxiety. In addition, as hypothesized, Emotional Restriction and Constant Effort were both negatively correlated with self-esteem. Contrary to expectations, Heterosexism did not yield significant associations with either anxiety or self-esteem.

Multiple-Regression Analyses

Multiple-regression analyses were conducted to gain further insight on the extent to which the zero-order correlations between MAMS subscales and psychological adjustment would remain significant after controlling for the shared variance among the MAMS subscales. First, we ran a multiple regression with all four MAMS subscales simultaneously entered as explanatory variables and self-esteem as the outcome variable, $F(4, 193) = 4.63, p < .001, R^2 = .10$. Constant Effort and Emotional Restriction emerged as the two significant predictors of self-esteem, with Constant Effort having a stronger negative relationship with self-esteem ($\beta = -.22, p < .01$) than Emotional Restriction ($\beta = -.20, p < .05$; see Table 3). Next, we ran an analysis in which all four MAMS subscales were entered as simultaneous explanatory variables and anxiety was entered as the outcome variable, $F(4, 193) = 3.29, p < .01, R^2 = .08$. Constant Effort and Social Teasing emerged as the two significant predictors of anxiety, with Social Teasing having a negative relationship with anxiety ($\beta = -.21, p < .01$) and Constant Effort demonstrating a positive relationship with anxiety ($\beta = -.18, p < .05$; see Table 3). Collinearity statistics for both multiple-regression analyses indicate no significant collinearity problems (Table 3).

Discussion

The primary goal of this study was to develop a theoretically and empirically grounded multi-dimensional scale measuring adolescent boys'

Table 3
Multiple-Regression Analyses With Self-Esteem and Anxiety as the Outcome Variables and MAMS Subscales as Explanatory Variables

MAMS subscales	Self-Esteem					Anxiety				
	<i>B</i>	<i>SE B</i>	β	Collinearity statistics		<i>B</i>	<i>SE B</i>	β	Collinearity statistics	
				Tolerance	VIF				Tolerance	VIF
CE	-.25	.10	-.22**	.75	1.33	.29	.10	.18*	.74	1.35
ER	-.26	.12	.20*	.67	1.49	.10	.17	.06	.66	1.51
HS	.12	.09	.12	.74	1.34	.06	.13	.04	.73	1.37
ST	.17	.14	.09	.92	1.08	-.55	.21	-.21**	.92	1.09

Note. With self-esteem as the outcome variable, $F(4, 193) = 4.63, p < .001, R^2 = .10$. With anxiety as the outcome variable, $F(4, 193) = 3.29, p < .01, R^2 = .08$. MAMS = Meanings of Adolescent Masculinity Scale; VIF = Variance Inflation Factor; CE = Constant Effort; ER = Emotional Restriction; HS = Heterosexism; ST = Social Teasing.
 * $p < .05$. ** $p < .01$.

endorsement of traditional male role norms. This goal was met through the construction and validation of the MAMS, a scale measuring adolescent male endorsement of traditional male role norms consisting of items drawn from boy's own narratives and expert judgment of item content. The construct validity of the MAMS drew support from the emergence of four distinct theoretically driven subscales derived from factor analysis. Convergent validity was supported in statistically significant, theoretically predicted relationships between subscales and related measures of masculinity and psychological adjustment.

The first subscale to emerge from the factor analysis, Constant Effort, resonates with current scholarship documenting the continual effort boys dedicate to maintaining strong, confident, and impenetrable fronts in order to seem masculine to others (Kindlon & Thompson, 1999; Klein, 2006; Phillips, 2007; Pollack, 1998, 2000). Furthermore, the idea that male role norms require boys to constantly monitor how masculine they appear—especially in comparison to other boys—is consistent with both social-cognitive and social constructivist theoretical suppositions that gender is stabilized and held constant through social comparison, repetitive action, and constant self-monitoring (Bussey & Bandura, 1992, 1999; Connell, 2000; West & Zimmerman, 1987). Accordingly, items on this subscale reflect the social comparative nature of male gender roles, the constant self-monitoring involved in adhering to male gender roles, and the high priority many boys place on

maintaining a masculine image. Furthermore, the Constant Effort subscale has conceptual similarities to the Male Machine subscale of the Brannon Masculinity Scale, which is concerned with the importance of portraying a tough and confident image (Thompson, Pleck, & Ferrera, 1992). As expected, Constant Effort demonstrated positive relationships with convergent validity measures, including the drive for popularity and a unidimensional measure of endorsement of adolescent male role norms.

Emotional restriction and stoicism have been considered foundational components of boys' so-called "gender straightjackets" (Pollack, 1998, pp. 7), as written about by prominent figures in the new psychology of masculinity (Kindlon & Thompson, 1999; Levant, 1996; Pollack, 1998, 2000). Items on the second MAMS subscale, Emotional Restriction, reflects this construct and its validity is supported by its inverse relationship to scores on a scale of intimacy within friendships. Furthermore, this subscale fits well with past research demonstrating that emotional restraint is a core component of male gender role norms among adult men. For example, measures of conformity to male gender role norms among adult men, such as Mahalik et al.'s (2003) Conformity to Masculinity Norms Inventory, the Brannon Masculinity Scale, and the revised version of the MRNI, all contain subscales related to emotional restriction and emotional control. In addition, this construct is consistent with Blazina et al.'s (2005) recently developed adolescent version of

the GRCS that includes restrictive emotionality as one of its four dimensions.

The third subscale to emerge from the factor analysis, Heterosexism, is consistent with theories of masculinity positing that an important gender role norm for adolescent males involves negating, distancing oneself from, and avoiding behavior viewed as feminine and/or "gay" (e.g., David & Brannon, 1976; Eder et al., 1995; Frosh et al., 2001; Kimmel, 1994; Kimmel & Mahler, 2003; Nayak & Kehily, 1996; O'Neil, 1981; O'Neil et al., 1986). The finding that items referencing homosexuality and femininity loaded on the same factor further suggests that, from the perspective of adolescent boys, femininity and homosexuality represent a monolithic category against which they construct their identities. The validity of the scale was further demonstrated through predicted associations between Heterosexism and both a scale measuring endorsement of traditional adolescent male role norms and a scale measuring disdain for stereotypically feminine behavior in adult men. The Heterosexism subscale fits well with extant measures of male gender role norms for adults, such as the MRNS, the Conformity to Masculinity Norms Inventory, and the revised MRNI that contain subscales representing conceptually similar constructs, such as avoidance of femininity and disdain for homosexuals.

The fourth subscale to emerge from the factor analysis, Social Teasing, supports arguments that adolescent boys perceive a component of masculinity as the ability to tease and poke fun at male peers and stand up to teasing when it is directed at them. This subscale is consistent with a growing number of findings asserting that teasing and taunting is considered not only normative behavior among adolescent boys, but also instrumental behavior in establishing a masculine persona (Eder et al., 1995; Kindlon & Thompson, 1999; Phillips, 2007; Stoudt, 2005). Further support for the premise that Social Teasing is a core component of adolescent perceptions of masculinity is the significant relationship between this subscale and a unidimensional measure of adolescent male role norms. Convergent validity for this subscale was also supported through significant relationships with measures assessing the belief that aggression is normative.

Meanings of Adolescent Masculinity and Psychological Adjustment

The utility of the four-factor MAMS model was further demonstrated through tests of its relationship with the psychological constructs self-esteem and anxiety. Developmental psychology in general and research on boys' masculinity in particular, has had a tendency to frame specific constructs or norms as being either negatively or positively related to healthy adjustment. Departing from this tradition, more recent research has focused on the adjustment tradeoffs of particular social norms or behaviors, an approach that is more true to the lived reality of developing adolescents (Rose & Rudolph, 2006). As demonstrated through the relationships between MAMS subscale scores and anxiety, the multidimensional nature of the MAMS is able to simultaneously account for both the positive and negative relationships that adherence to traditional male role norms can have with psychological adjustment and better pinpoint which components of male role norms are associated with measures of psychological adjustment.

For example, the Constant Effort subscale was associated with higher levels of anxiety and lower levels of self-esteem. Although we cannot draw conclusions about causality from our analyses, one plausible explanation is that the more a boy feels he must constantly live up to masculine norms, the more at risk he may be for poor psychological adjustment. These findings fit with assertions in the literature that the constant pressure boys feel to maintain tough, strong, and confident facades can have harmful psychological consequences (Pollack, 1998, 2000). Similarly, the findings are consistent with past research demonstrating an association between adolescents' desire to be popular and internalizing symptoms (Santor, Messervey, & Kusumakar, 2000). Further research testing the directionality of this association is warranted.

A negative relationship between Emotional Restriction and self-esteem was also found. This finding makes sense in light of past research linking restrictive emotionality with psychological distress among adolescent boys (Blazina et al., 2005; Wester et al., 2006) and research linking friendships high in mutuality and emotional support to higher levels of self-esteem in adolescents (Berndt & Savin-Williams, 1993). Although we cannot make conclusions about causality from our correlational analyses, the

MAMS can contribute to future research specifically exploring the extent to which male social norms enforcing emotional restriction negatively affect boys' sense of self-worth and value.

Contrary to expectations, we found no significant relationships between Heterosexism and anxiety and self-esteem. We speculate that the relationship between endorsement of heterosexist beliefs and psychological adjustment may be mediated or moderated by boys' feelings about their own sexuality and gender identity. Because our sample likely included boys with a range of sexual orientations and gender identities, we believe that these differential relationships between heterosexism and anxiety and self-esteem may have been obscured. Future research incorporating the MAMS can specifically test whether endorsement of Heterosexism is associated with higher self-esteem and lower anxiety in boys who strongly self-identify as heterosexual but with lower self-esteem and increased anxiety in boys who do not.

The negative relationship between Social Teasing and anxiety is also interesting. Beliefs such as "there is nothing wrong with a guy who picks on his friends" are not commonly thought of as being associated with positive developmental outcomes. However, the Social Teasing scale was negatively associated with anxiety among adolescent boys. Given that a number of researchers have documented the normative nature of teasing in boys' peer groups (Feder et al., 2007; Kindlon & Thompson, 1999; Pollack, 1998), a possible explanation for this association may be that a boy who believes that being teased is abnormal or is mean spirited may be more likely to feel anxious when being teased than a boy who believes being teased is normal. Furthermore, as researchers have documented, reacting to teasing as though it was hurtful can cause a boy to lose respect or become the target for even harsher ridicule (Eder et al., 1995; Oransky & Marecek, 2007; Phillips, 2007). Within such a peer climate, the belief that social teasing is normal may serve to reduce anxiety for many boys. Further research is necessary to understand the association between Social Teasing and anxiety, as the nature of our analyses does not permit us to imply causality.

Limitations

This study strove to develop and conduct preliminary validation of a multidimensional scale of adolescent male role norms. Although the instrument validation sample was racially diverse and spanned a 4-year age range, the number of participants from some racial groups was small and these participants were unevenly distributed across the age range. Future research specifically designed to test differences in endorsement of traditional male role norms assessed by the MAMS along these demographic factors is important and necessary.

Furthermore, although we attempted to make up for the homogeneity of the original interview group by holding ethnically diverse focus groups, the scale may still be most reflective of male role norms as defined among middle-class White boys. Indeed, important work with young African American men has shown that experiences with societal oppression and marginalization can impact how gender norms are defined, adopted, and enacted. For example, Cassidy & Stevenson (2005) wrote that feelings of inner hypervulnerability as experienced due to societal oppression and living in high-risk urban environments may lead young African American men to adopt exaggerated male role norms associated with "hypermasculinity," such as anger, aggression, indifference, and callousness toward women. Similarly, in their seminal work, Majors and Billson (1992) described the "cool pose" that many young African American men may take as a strategy to cope with being marginalized in and made vulnerable by dominant U.S. society. This cool pose included repetitive and ritualized performances of strength, control, and pride (Majors & Billson, 1992). Scale items may not represent such distinct ethnocultural perspectives as this.

An additional concern is the strength of the Social Teasing subscale. Although the items on the Social Teasing subscale were derived from boys' narratives of their actual life experiences, it yielded the weakest correlations with other MAMS subscales and with the AMIRS, a unidimensional measure of endorsement of adolescent male role norms. Although it is possible that this pattern of relationships indicate that the Social Teasing subscale reflects a component of the adolescent male gender role not previously included in most measures of masculinity, it is

also possible that it is the least relevant to adolescent boys' gender role norms.

In addition, out of the four MAMS subscales, the Social Teasing subscale had the lowest reliability estimate ($\alpha = .61$). Because reliability estimates are sensitive to the number of items in a scale, the lower reliability estimate of this subscale may be, in part, due to the fact that it is comprised of only five items. Another possibility is that item terms such as "teasing," "picked on," and "make fun of," although generated from boys' narratives, may not be interchangeable or synonymous among more diverse samples of adolescent males. As a result, the scale may not have measured as cohesive a construct as originally planned. The fact that such potentially dissimilar words were used synonymously may also explain why three of the initial eight items originally intended for the subscale did not load above criteria. As the subscale is refined in future use, it may be beneficial to modify the wording so that it more accurately reflects a unified underlying construct.

With respect to the Emotional Restriction subscale, we found that the average percentage of agreement to items on this subscale was lower than the average percentage of agreement to items on the three other subscales. This was unexpected because emotional restriction is such a commonly cited male role norm in the literature on both adolescent boys and adult men. Future research may want to not only investigate the correlates and consequences of emotional restriction, but also document the extent to which boys and men endorse it.

Another limitation of this preliminary validation study is that there may be components of male role norms that are not included in the MAMS. For example, researchers documenting the drive for muscularity among adolescent boys have linked it to masculine norms (Cafri et al., 2006; McCreary & Sasse, 2000; McCreary et al., 2004; Smolak et al., 2005). Furthermore, a growing body of literature has indicated that physical aggression may be a component of male role norms among adolescent boys (Eder et al., 1995; Feder et al., 2007; Klein, 2006; Kindlin & Thompson, 1999). Future researchers using the MAMS may want to take into account that aspects of male role norms may be left out.

Directions for Future Research

Endorsement of and adherence to traditional male role norms among male adolescents has been linked through qualitative research and clinical observation to a host of negative developmental and psychological outcomes. For example, current movements aimed at bettering the psychological health of adolescent boys argued that efforts to constantly measure up as men may have deleterious effects on boys' well-being (e.g., Kindlon & Thompson, 1999; Pollack, 1998). Accordingly, the Constant Effort subscale of the MAMS, with its demonstrated relationship to increased anxiety and decreased self-esteem, suggests it could be a useful subscale for examining, among many things, the relationships between boys' beliefs that they must constantly portray a tough and manly exterior, individual differences in the desire for and perceived means of gaining popularity, and boys' tendencies to engage in high-risk behaviors such as drug and alcohol use or other delinquent behaviors.

Furthermore, little research has examined the relationship between heterosexist, antigay, and antifemale attitudes and various developmental, relational, or mental health outcomes. For example, how do such attitudes impact dating relationships between heterosexual adolescent boys and their female counterparts? How do they impact the likelihood that boys will bully boys struggling to come out as gay? Given the documented suicide risk in gay youth, it may be especially important to examine the relationship between internalized antigay and antifeminine attitudes and feelings of self-worth among adolescent males who identify as gay or who are uncertain about their sexual orientation.

Many schools of psychological thought take it for granted that the ability to engage in healthy and supportive emotional relationships is a necessary and important part of achieving successful relationships and functional interpersonal lives. Research using the Emotional Restriction subscale of the MAMS could investigate the relationship between boys' beliefs that "real men" do not show their emotions and the development of healthy interpersonal lives.

Last, a number of qualitative researchers have observed a relationship between adolescents' male role norms and bullying and victimizing behavior (Phillips, 2007; Poynting &

Donaldson, 2005; Stoudt, 2005). Through refinement of the Social Teasing scale, it may be possible to study hypothetical links between normative beliefs in the importance of social teasing and more extreme forms of bullying and peer victimization. Of particular interest may be the fact that the same set of beliefs that are associated with decreased anxiety may also be related, on a continuum, to bullying and peer-victimizing behavior. Future research examining the adjustment tradeoffs of Social Teasing among adolescent boys is warranted.

Conclusions

The MAMS scale adds to the study of adolescent male role norms, and to research examining the relationship between these norms and developmental, relational, and psychological adjustment. During adolescence, when social inclusion is a paramount developmental task, boys strive to live up to gender norms. The challenge and psychological effort required to do so will vary across individual differences in temperament, peer group, and local community norms. Because these expectations are often rigidly defined by the peer group and society at large, adhering to them can have far-reaching behavioral and psychological implications. Studying how endorsement of different components of male role norms both impedes and facilitates adaptive development and psychological well-being among adolescent males is necessary and important work, and the MAMS scale can contribute greatly to this endeavor.

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