

Conforming to Masculine Norms: Evidence for Validity among Adult Men and Women

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Abstract Assessment of masculinity as an ideological belief system (MI) has become increasingly popular. Validation of MI measures and subsequent research has relied heavily on undergraduate samples. In the present study, convergent and divergent validity of the Conformity to Masculine Norms Inventory (Mahalik et al., *Psychology of Men and Masculinity*, 4: 3–25, 2003) were examined among a convenience sample of 688 male and female adults who were divided into four groups (undergraduates, younger adults, middle-aged adults, older adults). Across groups, convergent validity was suggested by consistent relations with sexism, and divergent validity was suggested by consistent nonsignificant relations with masculine attributes. Results suggest that generalizations among male groups can be made with caution and that generalizations to women may be appropriate when the focal constructs are unrelated to women or femininity.

Keywords Masculinity ideology · gender · sex differences · sexism · femininity

Gender has been recognized as an organizing construct of individual lives, social practices, and institutions (Bohan, 1997; Hare-Mustin & Marecek, 1990; Unger, 1990). As a result of gender's organizational primacy, men and women are expected to demonstrate the attitudes, behaviors, and traits that befit their sex. For men, these expectations include being non-feminine, being agentic, and being a breadwinner; for women the expectations include being

emotionally expressive, being interested in others, and assuming primary responsibility for childrearing (Bem, 1974; Connell, 1995; David & Brannon, 1976; Pleck, 1995; Spence, 1993). Some theorists have posited that the normative dictates of masculinity form an ideological belief system that is part of the larger system of gender relations.

Accordingly, Masculinity Ideology (MI) focuses on beliefs that men *should* or *should not* perform certain behaviors, such as men should be independent and men should not cry (David & Brannon, 1976; Mahalik et al., 2003; see overview by Smiler, 2004). In contrast to other measures that address the relative positions of men and women such as the Attitudes toward Women Scale (Galambos, Petersen, & Richards, 1985), MI measures do not directly compare the sexes (Thompson & Pleck, 1995). Further, they may be written to assess beliefs about men in general (e.g., Levant et al., 1992; Thompson & Pleck, 1986) or to assess the extent to which individuals conform to MI (e.g., Mahalik et al., 2003). Researchers have demonstrated that MI is an effective statistical “predictor” of many outcomes and concluded that it is empirically valid. For example, greater support for MI is related to greater levels of sexism (Villemez & Touhey, 1977; Wade & Brittan-Powell, 2001), emotional non-expression across cultures (Levant et al., 2003), and hostile and aggressive behaviors in a variety of contexts (Jakupcak, Lisak, & Roemer, 2002; Mahalik et al., 2003; Parrott & Zeichner, 2003). Results that focus on a single MI component have also been reported. For example, greater endorsement of non-femininity has been related to higher levels of both social dominance and aggression (as “Power over Women;” Mahalik et al., 2003), as well as greater opposition to the equal rights amendment and stronger preference for a virgin wife (as “Antifemininity”; Thompson & Pleck, 1986). In general, results appear to be consistent whether the focus is on men in general or the (male) participants in particular.

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Although this research has been useful for increasing our understanding of how MI affects the lives of both men and women, the results provided in the previous paragraph relied exclusively on undergraduate samples. Indeed, a cursory review of the journal *Psychology of Men and Masculinity* over the last 2 years (2002–2003, volumes 3–4), published by Division 51 (Psychological Study of Men and Masculinity) of the American Psychological Association, revealed that 15 of the 23 empirical articles that generalized about “men” relied solely on undergraduates, and two of the remaining eight articles included some undergraduate participants. Authors have repeatedly noted that the reliance on undergraduates as the basis for generalizations is fraught with risk (Graham, 1992; Sue, 1999). If MI researchers wish to generalize to all men, then replication with non-undergraduate samples is necessary.

The present study was designed to examine the validity of one MI measure, the Conformity to Masculine Norms Inventory (CMNI; Mahalik et al., 2003), which was developed and validated with an undergraduate sample. The CMNI assesses the extent to which men’s affective, behavioral, and cognitive functioning adheres to the dictates of the currently dominant (or “hegemonic”) form of masculinity (Mahalik et al., 2003). In the present study, convergent and divergent validity were examined among adults and a comparison group of undergraduates.

To examine convergent validity, which assesses the extent to which two measures assess similar constructs, relations with sexist beliefs were examined because descriptions of masculinity typically include domination of women (e.g., David & Brannon, 1976). Researchers have demonstrated positive correlations between these constructs over successive generations of undergraduates and various measures (Thompson & Pleck, 1986; Villemez & Touhey, 1977; for meta-analysis, see Murnen, Wright, & Kaluzny, 2002). Although convergent relations with the CMNI total were expected, validity was also examined at the subcomponent level. Consistent with prior subcomponent research (Mahalik et al., 2003; Thompson & Pleck, 1986), power over women was expected to demonstrate convergent validity through strong relations with sexism, whereas self-reliance and competition were expected to be unrelated to sexist beliefs and thus indicate divergent validity.

To further explore divergent validity, which assesses independence among constructs, relations with gender-typical traits¹ were examined because some theorists have

noted that beliefs (e.g., ideology) and traits are distinct dimensions (Spence, 1993) or distinct constructs (Levant, 1996; Thompson & Pleck, 1995). The latter claim has been interpreted as an argument for empirical distinctness (i.e., $r \sim 0$) between ideology and traits and has led some researchers to argue that non-significant relations are evidence of divergent validity for ideology measures (Chu, Porche, & Tolman, 2005; Mahalik et al., 2005). Analyses with the Male Role Norms Scale (Thompson & Pleck, 1986) have supported (McCreary, Newcomb, & Sadava, 1998) and challenged (Sinn, 1997) the distinctiveness claim.

Relations between masculinity ideology and feminine attributes have been largely unaddressed, but if ideology and attributes are orthogonal constructs (e.g., Levant, 1996), then the measures should be statistically unrelated. In what may be the only assessment of this relationship, an inverse relationship was documented (Sinn, 1997). These relations were also explored here.

In summary, the purpose of the present study was to explore the validity of the CMNI by examining results across several groups. Exploration of convergent validity focused on relations with sexism, and exploration of divergent validity focused on relations with gender-typical traits. Relations with feminine traits were also explored. Consistent results across groups would also provide evidence for generalizability across samples.

Materials and Methods

Participants

As part of a larger study on masculinity, data were provided by a convenience sample of 688 adults (mean age=31.16, $sd=15.07$), 340 of whom were male. The overwhelming majority (96.0%) were American citizens, most of whom identified themselves as being at least partially of European descent. Native-Americans (2.7%) and Hispanic-Americans (2.4%) were the largest ethnic minority groups. Most participants (95.1%) described themselves as heterosexual. Data were collected in two segments. The first segment focused on recruitment of university undergraduates ($n=257$), who received course credit for their time. These undergraduates also received the opportunity to obtain additional credit in return for providing the name and mailing address of a parent or grandparent. Of the 108 adults who were recruited in this manner, 101 (94%) returned completed surveys. The second segment focused on recruitment of adults outside the university setting. To obtain this sample, student researchers in the author’s Developmental Psychology course collected data from 295 community dwelling adults, 214 of whom were not under-

¹ The term “traits” is used to refer to measures such as the BSRI (Bem, 1974) and PAQ (Spence & Helmreich, 1978). These measures have been recognized as being limited to narrow, positive conceptions of masculinity (i.e., instrumentality) and femininity (i.e., expressiveness; Spence & Helmreich, 1980). They have also been referred to as measures of gender role orientation (Thompson & Pleck, 1995).

Table 1 Demographic characteristics by group.

	Undergrad.	Young	Middle	Older	Post hoc
Men					
<i>n</i>	142	65	60	70	
Age					
Range	18–23	18–29	30–49	50–81	
Mean ^a	20.18	23.74	42.38	56.34	U<Y<M<O
Percent ever married ^b	2.8	18.5	86.7	98.6	U<Y<M<O
Percent of Parents ^b	0.7	9.2	73.3	90.0	U<Y<M, O
Mean educ. (years)					
Self ^a	13.21	14.25	15.24	15.68	U<M, O
Mother ^a	15.18	14.66	13.10	12.15	U, Y>M, O
Father ^a	15.71	15.49	13.05	12.74	U>M, O
Women					
<i>n</i>	203	21	61	60	
Age					
Range	17–23	18–29	30–49	50–83	
Mean ^a	19.43	23.14	44.59	53.85	U<Y<M<O
Percent ever married ^b	2.5	23.8	95.1	100.0	U<Y<M, O
Parents of Parents ^b	0.0	14.3	96.7	91.7	U<Y<M, O
Mean educ. (years)					
Self ^a	12.75	13.75	14.80	15.32	U<Y, M, O; Y<O
Mother ^a	14.63	14.42	12.33	12.00	U, Y>M, O
Father ^a	14.98	14.21	12.83	12.48	U>M, O

^a Post hoc comparisons were performed using Dunnett's C because variances were heterogeneous and cell sizes were unequal.

^b Post hoc comparisons performed using X^2 with $\alpha=0.0125$.

graduates. Student researchers received course credit for their efforts to recruit participants and administer surveys. All data were collapsed into a single data set.²

Participants were separated into four groups. In order to provide a reference group to be used in comparison with other studies, “prototypical” undergraduates (18–23 years old and full-time college students) were identified as a distinct group. A “younger” adult group consisted of participants aged 18–29 years who were not (or were no longer) undergraduates, because this group is often “forgotten” in both research and public policy (William T. Grant Commission on Work, Families, and Children, 1988). The younger female group is regrettably small ($n=21$). The remaining adults were split into two groups of approximately equal size (within sex) and labeled “middle” (age 30–49) and “older” (age 50–83).

Descriptive data, by group, are provided in Table 1, and they reveal significant age differences across groups. Undergraduates were less likely to be married or to be

parents than younger adults, who in turn were less likely to have experienced these events than middle and older adults of either sex. Undergraduates had received fewer years of formal education than other groups, and their parents tended to be more educated than parents of other groups.

Procedure

Each participant received a survey packet that included two copies of the informed consent (one to keep, one to sign and return). Participants were directed to complete the survey at a comfortable pace, were directed to respond only to the questions they were comfortable answering, and were reminded of their confidentiality. Segment 1 undergraduates completed surveys in a university classroom that was reserved for this purpose, and it typically required 30–40 min for them to do so. All other participants completed the survey in a place of their choosing (presumably their homes).

Measures

Masculinity ideology The Conformity to Male Norms Index (CMNI; Mahalik et al., 2003) was used because it assesses an individual's attempts to adhere to the dictates of masculinity ideology. The 94 item CMNI provides examination of 11 distinct components of masculinity: Dominance; Emotional Control; Disdain for Homosexuals; Playboy (i.e., promiscuity); Power over Women; Pursuit

² All non-undergraduate survey participants returned their surveys to the researcher in signed, sealed, postage-paid envelope to ensure confidentiality. To assess the possibility of fabricated surveys, data from the two waves of data collection were compared separately in a sex (2) by undergraduate student status (2) matrix. Mean differences were significant for 6/60 comparisons, twice the desired rate of $\alpha=0.05$, but no scale differed for more than one group. Across all measures, scale reliabilities were virtually identical when examined as a function of sex and student status.

of Status; Risk Taking; Self-Reliance; Violence; Winning (i.e., competition); and Work Primacy. Participants indicated the degree to which they agreed or disagreed with each statement using a 4-point scale anchored by “strongly disagree” (1) and “strongly agree” (4). CMNI items are written in the first person (e.g., “I prefer to stay unemotional,” “I work hard to win”), and therefore are readily usable by individuals of both sexes. Means were computed for each subscale and the CMNI total, and higher scores reflected greater norm conformity. In the present study, all CMNI scales were reliable (α s=0.70–

0.92), except for the Pursuit of Status subscale (α =0.64). The total score was reliable (α =0.94).

Gender traits Gender-typical personality traits were assessed with the short form of the Personal Attributes Questionnaire (PAQ; Spence & Helmreich, 1978). The PAQ consists of 24 paired traits that represent endpoints of a continuum (e.g., “not at all aggressive” and “very aggressive”). Participants used a 5-point scale to indicate at what point they fell on each continuum. Mean scores for femininity and masculinity were computed, and the scales

Table 2 Means and standard deviations for masculinity ideology by group.

	Undergraduates	Young	Middle	Older	Group diff. <i>F</i>
Men					
Dominance	1.47 (0.44)	1.49 (0.50)	1.49 (0.47)	1.38 (0.50)	0.82
Emotional control	1.30 (0.54)	1.43 (0.48)	1.62 (0.42)	1.52 (0.45)	7.09**; U<M, O
Disdain for homosexuals	1.67 (0.58)	1.79 (0.67)	1.74 (0.45)	1.80 (0.47)	1.25
Playboy	1.09 (0.48)	1.14 (0.52)	1.07 (0.51)	1.00 (0.45)	0.97
Power women	1.03 (0.46)	1.09 (0.42)	1.07 (0.39)	1.07 (0.40)	0.37
Risk taking	1.73 (0.41)	1.71 (0.38)	1.49 (0.30)	1.45 (0.37)	12.02**; U, Y>M, O
Self-reliance	1.22 (0.50)	1.24 (0.42)	1.22 (0.46)	1.21 (0.41)	0.06
Pursue status	1.87 (0.33)	1.83 (0.35)	1.71 (0.36)	1.69 (0.30)	6.20**; U>M, O
Violence	1.68 (0.44)	1.60 (0.45)	1.44 (0.42)	1.42 (0.44)	7.56**; U>M, O
Winning	1.62 (0.48)	1.50 (0.47)	1.47 (0.41)	1.39 (0.35)	4.66**; U>O
Work primacy	1.16 (0.41)	1.15 (0.45)	1.32 (0.37)	1.23 (0.38)	2.62
Total	1.42 (0.25)	1.44 (0.27)	1.42 (0.23)	1.37 (0.25)	0.99
Women					
Dominance	1.35 (0.45)	1.40 (0.50)	1.20 (0.41)	1.21 (0.49)	2.67
Emotional control	1.05 (0.50)	1.04 (0.52)	1.04 (0.31)	1.19 (0.44)	1.73
Disdain for homosexuals	1.38 (0.47)	1.33 (0.74)	1.45 (0.60)	1.46 (0.49)	0.68
Playboy	0.72 (0.46)	0.84 (0.60)	0.57 (0.39)	0.59 (0.41)	3.20
Power women	0.71 (0.35)	0.62 (0.34)	0.79 (0.31)	0.80 (0.33)	2.33
Risk taking	1.53 (0.34)	1.43 (0.45)	1.26 (0.31)	1.17 (0.36)	21.43**; U>M, O
Self-reliance	1.03 (0.57)	1.05 (0.46)	0.99 (0.38)	1.09 (0.40)	0.45
Pursue status	1.92 (0.33)	1.75 (0.32)	1.69 (0.26)	1.57 (0.37)	22.12**; U>M, O
Violence	1.29 (0.49)	1.39 (0.49)	1.03 (0.41)	0.99 (0.48)	10.26**; U, Y>M, O
Winning	1.29 (0.42)	1.22 (0.37)	1.12 (0.32)	1.06 (0.34)	7.04**; U>M, O
Work primacy	1.14 (0.38)	1.10 (0.52)	1.05 (0.30)	1.18 (0.34)	1.26
Total	1.18 (0.21)	1.17 (0.25)	1.07 (0.16)	1.09 (0.16)	7.06**; U>M, O
Sex difference <i>t</i>-values					
Dominance	2.55*	0.71	3.59**	1.95	
Emotional control	4.53**	3.16*	8.56**	4.21**	
Disdain for homosexuals	5.07**	2.63*	3.02*	3.93**	
Playboy	7.29**	2.19*	6.02**	5.27**	
Power women	6.96**	4.49**	4.47**	4.17**	
Risk taking	4.86**	2.73*	4.22**	4.37**	
Self-reliance	3.15*	1.74	3.04*	1.66	
Pursue status	-1.48	0.88	0.36	1.97	
Violence	7.62**	1.77	5.44**	5.32**	
Winning	6.78**	2.39*	5.22**	5.60**	
Work primacy	0.36	0.44	4.26**	0.82	
Total	9.42**	4.09**	9.70**	7.89**	

Bold typeface indicates significant sex differences within group (i.e., columns).

* $p < 0.01$, ** $p < 0.001$; For this analysis, significant results are only indicated for $p \leq 0.004$.

were reliable ($\alpha_F=0.81$; $\alpha_M=0.73$). Higher scores indicated the possession of more feminine and masculine traits, separately.

Sexism The 5-item Old Fashioned Sexism (OFS) and 8-item Modern Sexism (MS) scales (Swim, Aikin, Hall, & Hunter, 1995) were also administered. For each item, participants indicated the extent to which they agreed or disagreed with each item on a 4-point scale anchored by “strongly disagree” (1) and “strongly agree” (4) (e.g., “Women are generally not as smart as men,” OFS; “It is rare to see women treated in a sexist manner on television,” MS); higher mean scale scores reflected more sexist beliefs. The MS was reliable ($\alpha=0.78$), and the OFS was marginal ($\alpha=0.69$), although the latter compares favorably with the original scale publication ($\alpha=0.66$; Swim et al., 1995).

Demographics Participants were asked to report their age, their sex, whether or not they were an American citizen,

and, if so, to indicate their ethnicity by circling all labels that applied (African American, Asian American, European American, Hispanic or Latino/a, Native American or Alaskan Native). They also reported the highest grade level that they, their mother, and their father had completed, provided information regarding their current marital status and their marital history, and indicated the number and age of their children.

Results

Preliminary Analyses

Group differences Group differences in conformity to MI (subscales and total) were examined through MANOVA. Results indicated significant group differences among men, $F(12,319)=1,363.54$, $p<.001$, and women, $F(12,327)=1,059.44$, $p<.001$. To clarify these differences,

Table 3 Correlations between masculinity ideology and sexism.

	Old-fashioned				Modern			
	U	Y	M	O	U	Y	M	O
Men								
Dominance	0.32***	0.04	0.33	0.22	0.09	0.12	0.35	0.23
Emotional control	0.25**	0.43**	0.32	0.18	0.25**	0.16	0.26	0.13
Disdain for homosexuals	0.34***	0.13	0.32	0.47***	0.20	0.35	0.27	0.40**
Playboy	0.36***	0.42**	0.27	0.27	0.25**	-0.001	0.11	0.12
Power over women	0.60***	0.51***	0.70***	0.75***	0.40***	0.36	0.48***	0.56***
Risk taking	0.04	0.11	-0.21	-0.07	-0.07	0.20	0.05	-0.13
Self-reliance	0.19	0.34	0.30	0.27	0.03	0.11	0.25	0.15
Pursuit of status	-0.12	-0.33	0.08	0.22	-0.06	0.10	0.08	0.18
Violence	0.19	0.17	0.10	0.05	0.13	0.20	0.10	0.09
Winning	0.28**	0.17	0.23	0.27	0.13	0.26	0.41**	0.23
Work primacy	0.14	0.29	0.24	0.27	0.20	0.12	0.20	0.19
Total	0.49***	0.42**	0.47***	0.46***	0.31***	0.34	0.43**	0.33
<i>n</i>	148 ^a	60	58	69 ^a	148 ^a	60	58	69 ^a
Women								
Dominance	0.03	0.30	0.08	-0.02	0.03	0.26	-0.02	-0.10
Emotional control	0.10	0.19	0.06	0.03	0.09	0.19	0.14	0.01
Disdain for homosexuals	0.07	0.02	0.03	0.14	0.28**	0.30	0.24	0.25
Playboy	0.22*	0.56	-0.05	0.06	0.12	-0.02	0.01	0.03
Power over women	0.39**	0.23	0.32	0.14	0.48**	-0.20	0.46**	0.29
Risk taking	0.12	0.20	0.16	-0.16	0.10	-0.23	-0.02	-0.15
Self-reliance	0.10	0.49	-0.10	-0.05	-0.02	-0.001	0.05	0.04
Pursuit of status	0.04	0.31	0.13	0.16	-0.03	-0.23	-0.04	-0.03
Violence	-0.001	0.02	0.10	0.02	0.10	-0.16	0.01	-0.06
Winning	0.08	0.49	0.20	0.03	0.09	0.21	-0.07	0.05
Work primacy	0.05	0.17	-0.21	-0.11	0.03	-0.08	-0.01	0.17
Total	0.24*	0.56	0.13	0.07	0.26**	0.08	0.21	0.12
<i>n</i>	203	19	60	60 ^a	203	19	60	60 ^a

U Undergraduates (18–23 years); *Y* younger adults (18–29 years); *M* middle-aged adults (30–49 years); *O* older adults (50–83 years).

^aOne participant skipped all CMNI items regarding Disdain for Homosexuality; ns were adjusted accordingly.

* $p<0.01$, ** $p<0.001$; For this analysis, significant results are only indicated for $p\leq 0.004$.

one way ANOVAs were performed with $\alpha=0.05/12=0.004$ to control for the number of tests. Dunnett's C was employed to identify differences among groups because cell sizes were unequal and several variances were heterogeneous (Kirk, 1995). Analysis of group means (Table 2) revealed no group differences in conformity to the dominance, disdain for homosexuals, promiscuity, power over women, or self-reliance norms. Among both men and women, undergraduates typically reported greater adherence to norms regarding pursuit of status, risk taking, violence, and winning than both middle and older adults. Differences were also present in men's adherence to the emotional control and risk-taking norms, as well as women's total conformity scores and their adherence to the violence norm. Overall, these results indicate that group similarities and differences were equally common within sex and were mostly similar across sex.

Sex differences To investigate the possibility that men and women conformed to masculinity ideology at different levels, sex differences were examined for each CMNI subscale and the total score within each group. Because sex differences were expected, discussion highlights those subscales for which no significant differences were found. Means, standard deviations, and one-tailed t values are provided in Table 2. Within groups, type I error was controlled at $\alpha=0.05/12=0.004$.

Reliable sex differences were present among all groups for a majority of MI components (emotional control, disdain for homosexuals, playboy, power over women, risk taking, winning) and total ideology. Adherence to the violence norm demonstrated sex differences for all groups except younger adults ($p=.08$). Results were mixed for the dominance and self-reliance scales, on which male and female undergraduates and middle adults differed, but

Table 4 Correlations between masculinity ideology and gender traits.

	Masculinity				Femininity			
	U	Y	M	O	U	Y	M	O
Male								
Dominance	0.30**	0.34	0.36	0.34	-0.31**	-0.24	-0.34	-0.36*
Emotional control	-0.11	0.01	0.12	-0.02	-0.64**	-0.53**	-0.48**	-0.59**
Disdain for homosexuals	0.13	0.31	0.07	0.00	-0.28*	-0.36	-0.07	-0.44**
Playboy	0.09	0.00	-0.05	-0.21	-0.53**	-0.39*	-0.17	-0.49**
Power over women	0.08	0.09	0.01	-0.15	-0.50**	-0.42*	-0.46**	-0.39*
Risk taking	0.46**	0.39*	0.49**	0.39*	-0.02	-0.26	0.07	-0.01
Self-reliance	-0.15	-0.07	-0.07	-0.02	-0.32**	-0.36	-0.37	-0.30
Pursuit of status	0.32**	0.36	0.39*	0.18	0.11	-0.15	0.01	-0.24
Violence	0.19	0.32	0.10	0.16	-0.17	-0.41*	-0.28	-0.29
Winning	0.38**	0.35	0.48**	0.35*	-0.15	-0.26	-0.17	-0.35*
Work primacy	0.19	0.13	0.12	0.01	-0.33**	-0.09	-0.09	-0.19
Total	0.28*	0.33	0.29	0.11	-0.60**	-0.57**	-0.48**	-0.60**
<i>n</i>	141 ^a	62	58	70 ^a	141 ^a	62	58	70 ^a
Female								
Dominance	0.24*	0.16	0.41*	0.54**	-0.31**	-0.52	-0.36	-0.24
Emotional control	-0.02	0.01	-0.14	0.09	-0.56**	-0.50	-0.22	-0.33
Disdain for homosexuals	-0.09	0.30	-0.10	-0.22	-0.05	-0.34	-0.19	0.28
Playboy	-0.09	0.26	0.03	-0.18	-0.35**	-0.26	-0.07	-0.35
Power over women	-0.16	-0.32	-0.10	-0.51**	-0.29**	-0.43	-0.03	-0.19
Risk taking	0.33**	0.48	0.30	0.32	-0.20*	0.18	-0.08	-0.19
Self-reliance	-0.02	-0.20	0.00	-0.07	-0.30**	-0.19	0.03	-0.27
Pursuit of status	0.31**	0.20	0.20	0.33	0.11	-0.08	-0.08	0.08
Violence	-0.02	0.12	0.11	-0.08	-0.29**	-0.34	-0.10	-0.34
Winning	0.38**	0.20	0.49**	0.38*	-0.30**	0.07	-0.25	-0.33
Work primacy	0.08	0.30	0.01	0.04	-0.17	0.23	0.05	-0.15
Total	0.12	0.38	0.16	0.07	-0.58**	-0.44	-0.25	-0.45**
<i>n</i>	203	19	60	60 ^a	203	19	60	60 ^a

U Undergraduates (18–23 years); *Y* younger adults (18–29 years); *M* middle-aged adults (30–49 years); *O* older adults (50–83 years).

^a 1 participant skipped all CMNI items regarding Disdain for Homosexuality; *ns* were adjusted accordingly.

* $p < 0.01$, ** $p < 0.001$; For this analysis, significant results are only indicated for $p \leq 0.004$.

younger and older adults did not differ. Sex differences in conformity to the work primacy norm were present for middle adults only, and no sex differences were found regarding the pursuit of status.

Focal Analyses

MI and sexism Examination of the relations between masculinity ideology and sexism focused on zero-order correlations with $\alpha=0.05/12=0.004$. Analyses revealed that greater total ideology scores, as well as greater endorsement of power over women, were consistently related to more sexist attitudes among men across groups (Table 3). Results were not replicated for women in general, although findings for undergraduate women revealed positive correlations for total ideology and power over women with sexism. Sexist beliefs were consistently unrelated to conformity to the risk taking, self-reliance, pursuit of status, violence, and work primacy norms among both men and women.

MI and masculine traits To assess the distinctiveness of masculinity ideology and masculine traits, correlations were computed within each group, and the error rate was controlled at $\alpha=0.004$. Among both men and women, more than one-half of the subscales (emotional control, disdain of homosexuals, playboy, self-reliance, violence, work primacy) were consistently not related to masculine traits (Table 4, left panel). Men's power over women scores and women's total ideology scores also demonstrated this pattern. Consistent correlations with masculine traits were found only for men's risk taking and women's dominance. For both sexes, greater enactment of competition was related to masculine traits for undergraduates, middle adults, and older adults. Collectively, these findings indicate that conformity to most MI components was unrelated to masculine traits.

MI and feminine traits To assess relations between MI and feminine traits, correlations were again computed within each group and the error rate was controlled at $\alpha=0.004$. Analysis of the men's data revealed that greater endorsement of emotional control and power over women, as well as greater total ideology, were consistently related to lower scores on the PAQ femininity scale across groups (Table 4, right panel). Only risk taking and pursuit of status were consistently not correlated with feminine traits. Analysis of the women's data revealed no consistent significant correlations across groups, although only disdain of homosexuals, pursuit of status, and work primacy were consistently not related to feminine traits. These findings indicate that conformity to a minority of male norms (and total ideology) is negatively related to the possession of feminine

traits among men but not women. At the same time, only a minority of norms were consistently not related to feminine traits. Combined with findings regarding masculine traits, these results indicate that traits and ideology are somewhat related, contrary to theoretical positionings of them as distinct.

Discussion

This article focused on the convergent and divergent validity of the CMNI across four groups of adults, including an undergraduate comparison group. Convergent validity was suggested by consistent relations between sexism and both total conformity and conformity to the power over women norm. Divergent validity was indicated by a general pattern of non-significant relations between MI conformity and endorsement of masculine traits across groups, as well as nonsignificant relations between most norms and sexist beliefs. Exploration of relations between MI conformity and endorsement of feminine traits indicated some consistent negative relations. These findings suggest that the CMNI measure, within certain limits, may be valid and moderately robust across groups.

More specifically, convergent validity was indicated by consistent positive relations between sexism and total MI conformity, as well as conformity to the power over women norm. These findings are logically consistent with prior findings of connections between these constructs across various generations of male undergraduates. This pattern of relations was demonstrated across male (but not female) groups, which suggests that the measure possesses construct validity and that results may be generalizable across (male) groups.

The data also suggested divergent validity among measures across groups. This conclusion was suggested by the general lack of correlations between MI conformity and endorsement of masculine traits, as predicted, across groups. The lack of correlations between MI conformity and sexism for most MI subcomponents (e.g., risk taking, self-reliance) also suggests divergent validity.

The primary challenge to this claim of divergent validity comes from relations between conformity to the winning norm and endorsement of masculine traits, as well as evidence that men's endorsement of the risk taking norm and women's endorsement of the dominance norm also possessed consistent relations with masculine traits. At a minimum, these findings suggest that the measures are not completely divergent. Alternately, it is possible that the possession of "instrumental" masculine traits may be particularly important for conforming to the winning, risk-taking, and dominance norms. This possibility suggests consistency across beliefs and traits (see Spence, 1993).

Claims of divergent and convergent validity were also challenged by the tendency to have greater numbers of significant correlations among the undergraduate subsamples (both men and women) than among the other subsamples. If this pattern was the result of the relatively larger undergraduate subsample and the consequent increase in power, then this concern might simply be an artifact of the sample. Alternately, these results might be developmental in nature and reflect sample differences in life stage and life experience (e.g., fatherhood, marital status) that are beyond the scope of this article. Because the magnitude of some of the correlations was very similar across male groups (e.g., for men's dominance and masculine traits, $0.30 < r < 0.36$), it is also possible that the significant correlations may be an "accurate" reflection of reality, and the nonsignificant correlations spurious, because the use of larger cell sizes or a more liberal error rate (e.g., $\alpha = 0.01$) would have produced a consistent pattern of significant relations. Until these possibilities are examined, claims of divergent validity are questionable for these subscales, and results may not be generalizable.

Consistent sex differences in the expected direction were evident for most CMNI subscales (emotional control, disdain for homosexuality, playboy, power over women, risk taking, winning) and the CMNI total, and this suggests face validity regarding the "masculine" status of these norms. Three scales (dominance, self-reliance, and violence) demonstrated inconsistent sex differences, and thus may not be robust. Two scales (pursuit of status, work primacy) did not demonstrate sex differences within any group, a finding that replicates and extends the original scale publication (Mahalik et al., 2003). It is unclear why some sex differences were present and others absent, nor how social class and support for egalitarianism might be related to MI conformity (cf. Hochschild & Machung, 2003).

Relations between MI conformity and endorsement of feminine traits also were explored. Among men, results indicated consistent negative correlations between feminine traits and total MI conformity, as well as conformity to the emotional control and power over women norms. Among women, no consistent relations between MI and feminine traits were present. It is possible that the consistent negative correlations reflect consistency in traits ("expressiveness") and beliefs (emotional control), but it is unclear why this pattern was present for only men. Clearer theoretical explanation of the relations between MI and stereotypically feminine traits is required.

The present study has several strengths that represent contributions to the broader MI literature. Perhaps the most important of these is the simultaneous assessment of MI across multiple age groups. Another strength was the inclusion of women. Theorists and researchers have long noted that women can be masculine (e.g., Spence &

Helmreich, 1978), but researchers have not yet begun to explore the implications of women's MI conformity. The present study represents an early step in that direction. The examination of two assumptions of the masculinity ideology approach (sex differences, relations between MI and trait approaches) is also an important contribution.

Still, the study is limited in several ways. First, the sample was relatively highly educated, and therefore results may only be generalizable to the approximately 25% of the US population that is college-educated (Bauman & Graf, 2003). Second, the sample was overwhelmingly European American and heterosexual. Definitions of masculinity and MI endorsement are known to vary across ethnic groups (Hammond & Mattis, 2005; Pleck, Sonenstein, & Ku, 1994), and MI endorsement by minority groups needs further study. However, it is also important to note that the construction of MI examined in this study is the ideology of European American, heterosexual men (Connell, 1995; David & Brannon, 1976), and thus the demonstration of consistent results within this ethnic group is particularly important for demonstrating the general stability of this ideology over generations.

Overall, these results indicate that the CMNI demonstrates a reasonable level of convergent and divergent validity among adult samples. In particular, the present study demonstrated that sex differences in conformity to many aspects of CMNI are robust across groups, that CMNI and masculine traits are mostly independent constructs, and that relations between CMNI and both feminine traits and sexism were mostly consistent across groups. These findings are tempered by some notable discrepancies at the subcomponent level, particularly the lack of sex differences in conformity to the pursuit of status and work primacy norms. Evidence also indicated consistencies between ideology and traits within specific domains (e.g., emotional expression). Mean conformity scores for some norms varied across groups within sex. Collectively, these findings suggest that limited generalization of CMNI results can be made across groups within each sex when results are not related to mean differences. Further, findings unrelated to women's place in society or femininity may be generalizable from men to women.

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