

Toward a Fuller Conception of Machismo: Development of a Traditional Machismo and Caballerismo Scale

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Machismo is an important concept describing men's behavior in Mexican culture, yet it is not well-defined. Most conceptions of machismo focus on a restricted, negative view of hypermasculinity. The authors posit that a fuller conception consists of 2 parts: traditional machismo and caballerismo, which is a focus on emotional connectedness. The authors developed a scale to measure these dimensions and found support for these 2 independent factors in 2 separate studies of Mexican American men. Traditional Machismo was related to aggression and antisocial behavior, greater levels of alexithymia, and more wishful thinking as a coping mechanism. Caballerismo was positively associated with affiliation, ethnic identity, and problem-solving coping. Traditional Machismo was also associated with less education, whereas there were no differences across education level on Caballerismo scores. These results support the more complete, two-dimensional representation of machismo.

Keywords: machismo, male gender roles, Mexican American

Although machismo is a term that has been bandied about in popular culture and has been the subject of many academic and literary articles, it has continued to defy a clear definitional description. Machismo vaguely refers to a standard of behavior exhibited by men in Mexican culture. Some definitions are "The masculine force, which to one degree or another drives all masculine behavior" (Andrade, 1992, p. 34), "An ethos comprised of behaviors prized and expected of men in Latin American countries" (Panitz, McConchie, Sauber, & Fonseca, 1983, p. 32), and "Mexican men's manifestation of perceived male characteristics, both positive and negative" (Arciniega, Tovar-Gamero, & Sand, 2004).

In the majority of the popular literature, the term has continued to be associated with the negative characteristics of sexism, chauvinism, and hypermasculinity (Anders, 1993; Ingoldsby, 1991; Mosher & Tompkins, 1988). Writers, such as Imhof (1979), described macho men as violent, rude, womanizing, and prone to alcoholism. Anders (1993) cited authors from various disciplines who typified macho men as incompetent, as domineering through intimidation, and as seducing and controlling women.

Psychological literature, with few exceptions, has also endorsed the concept of machismo as having only negative characteristics, such as violent, aggressive, and sexualized behaviors (Beaver,

Gold, & Prisco, 1992; Mosher & Sirkin, 1984), or as being associated with violence and heavy drinking (Alaniz, 1996; Neff, Prihoda, & Hoppe, 1991). Mayo and Resnick (1996) pointed out that machismo among Latino men typically involves the domination of women, who are viewed as responsible for raising children and serving men. Researchers who have looked at machismo as a psychological construct almost uniformly characterized machismo as something aggressive and hypermasculine. Indeed, research on machismo is frequently tautological; a common occurrence in research is to assume machismo is violent and aggressive and to create a measure that measures machismo as defined by aggressive acts or beliefs.

However, some scholars have argued against this negative conception of machismo as being too restrictive (e.g., Casas, Wagenheim, Banchemo, & Mendoza-Romero, 1994; Felix-Ortiz, Abreu, Briano, & Bowen, 2001; Mirandé, 1988, 1997; Penalosa, 1968; Ramos, 1979; Rodriguez, 1996). In a survey of Latino men, Mirandé (1988) found that 52% described machismo as a largely negative construct, 12% described it as a neutral concept, and 35% described it as a source of pride and honor. The results of this study point out that the positive aspects of male behavior are frequently neglected, and thus, an inadequate picture of Mexican American male behavior is generated.

Mirandé (1997) noted that the problems of past research were the focus on only negative aspects of machismo. Mirandé (1988) began looking at machismo qualitatively by reviewing stories, myths, and organized interviews. Mirandé (1997) used focus groups and historical examination of the evolution of machismo in Mexico to develop his Mirandé's Sex Role Inventory (Mirandé, 1997). Mirandé's Sex Role Inventory used both positive and negative statements in an attempt to capture the diverse meanings attributed to machismo. Mirandé (1997) assumed that there were

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multiple masculinities being composed of positive and negative elements (e.g., traditionalism, toughness, and sensitivity). Mirandé's view of machismo is one that is more encompassing than earlier work on machismo because this view includes more than just negative aspects of hypermasculinity.

Within the field of psychology and sociology, the growing trend is toward a more bidimensional assessment of machismo. To varying degrees, machismo in the Mexican and the Mexican American community is being defined as a construct that is both positive and negative (Casas et al., 1994; Mirandé, 1997; Neff, 2001). Various researchers concerned with the balanced representation of machismo within Mexican and Mexican American cultures have often pointed out the positive characteristics consistent with machismo: nurturance, protection of the family and its honor, dignity, wisdom, hard work, responsibility, spirituality, and emotional connectedness (Casas et al., 1994; Mirandé, 1988, 1997; Ramos, 1979).

Positive descriptors of machismo appear to resemble qualities associated with the word *caballerismo*. Caballerismo originates in the Spanish word for horse and horseman—*caballo* and *caballero*, respectively (Caballero, 2003). Caballerismo refers to a code of masculine chivalry, an English term that also stems from the original Latin root *caballus*. Like the English chivalric code, caballerismo developed out of a medieval sociohistorical class system in which people of wealth and status owned horses for transportation and other forms of horsepower. Thus, *caballero* referred to a land-owning Spanish gentleman of high station who was master of estates and/or ranches (i.e., *haciendas*). Comparable English terms are *cavalier* and *knight*. Over time and centuries of usage on both sides of the Atlantic, *caballero* evolved to signify a Spanish gentleman with proper, respectful manners, living by an ethical code of chivalry (i.e., caballerismo; C. Candelaria, personal communication, July 13, 2007).

Moreover, if we look back to the origins of the folklore of caballerismo, we would have to go back to the 16th century Spanish romances of chivalry, such as Miguel de Cervantes and his novel *Don Quixote*. The character of Don Quixote is depicted as a caballero who is a noble and humble hero, righting the wrongs and seeking justice for the people. It is believed that Cervantes, through his masterpiece *Don Quixote*, revived the concept of true chivalry (Eisenberg, 1991). In many ways, this description is similar to positive qualities associated with machismo.

Purpose

The purpose of the present examination was to construct a measure that better represents the construct of machismo and to understand its relation with psychological functioning. Inclusion of both positive and negative elements was an important step toward a less biased representation of machismo. However, we thought that a more complete representation of the construct of machismo required more than just having positive aspects to balance the negative.

We hypothesized that there are really two separate constructs underlying machismo, one positive construct and one negative construct. The negative aspects of machismo focus strongly on hypermasculinity. The other side of machismo, the positive side, refers to a connection to family and chivalry (Gonzalez, 1996). We viewed these two constructs as separate aspects of male sex role

behavior in Mexican and Mexican American (i.e., American citizens of Mexican descent) men. We made a distinction between traditional machismo, which focuses on individual power and hypermasculinity and which is perceived as negative, and caballerismo, which focuses on social responsibility and emotional connectedness and which is perceived as positive. We use the term *machismo* to refer to the broad concept and the terms *traditional machismo* and *caballerismo* to refer to our specific underlying constructs that make up machismo.

As such, our aim was to determine whether machismo was best represented by the two separate dimensions of traditional machismo and caballerismo. To assess this, we needed a full, representative sample of Mexican American male behaviors. By developing a broader item pool, we enabled a better determination of the structure of machismo. We anticipated that factor analysis would yield support for a two-dimensional representation of machismo: that of traditional machismo (negative side of machismo) and caballerismo (positive side of machismo).

If it was valid to represent traditional machismo and caballerismo as separate aspects of male Mexican American behavior, it was then imperative to understand how these two separate constructs manifested themselves. Examinations of their convergent and discriminant validity were needed to establish their construct validity. Study 1 describes the development of a machismo measure and the construct validity of this measure as it related to several aspects of psychological functioning (e.g., emotional connectedness, antisocial behaviors, and psychological well-being). Study 1 resulted in a shorter version of the Machismo Measure and the identification of the two subscales as Traditional Machismo and Caballerismo. In Study 2, we used the Machismo Measure from Study 1 and focused on ethnic identity, alexithymia, coping styles, and well-being. If machismo could be viewed with the two constructs of Traditional Machismo and Caballerismo, each of these subscales should be differentially related in predictable ways to these external psychological functioning variables.

Psychological Functioning Variables in Study 1

At first glance, the Traditional Machismo–Caballerismo distinction appeared similar to the interpersonal dimensions of dominance and affiliation (Wiggins, 1991). Traditional Machismo incorporated many aspects of dominance in its hypermasculinity and would thus be expected to be related to dominance. Caballerismo, with its emotional connection and social responsibility, should be related to affiliation. However, we proposed that it was more than just another form of the interpersonal dimensions of dominance and affiliation. Traditional Machismo and Caballerismo encompass values and behaviors expected in the Mexican culture, and we believed that these two constructs are not captured completely in dominance and affiliation. As such, we hypothesized that Traditional Machismo should be positively related to dominance and not to affiliation, that Caballerismo should be positively related to affiliation and not dominance, but that the magnitude of these relations should be moderate at best.

Further, Caballerismo should be associated with greater levels of belonging and emotional connection than should Traditional Machismo, given the assumed social responsibility roles. In past research, it has been found that Traditional Machismo is associated with several antisocial characteristics, including violence and

drinking (Alaniz, 1996; Neff, Prihoda, & Hoppe, 1991). If Caballerismo is a distinct aspect of machismo, then Caballerismo should not demonstrate any covariation with these more antisocial aspects. Also, Caballerismo should not be related to other measures of machismo (i.e., Lara-Cantú, 1989) that generally focus on negative aspects.

Finally, the relation of overall psychological well-being was examined as it varied with machismo. Casas et al. (1994) reviewed the literature on machismo and demonstrated that there have been several findings of machismo related to psychological well-being, repression and denial of the affective realm, and dysfunctional coping approaches. We anticipated that Caballerismo would have a positive relation with satisfaction with life because of the focus on emotional connectedness, but we did not think that there would be a relation between Traditional Machismo and satisfaction with life.

Psychological Functioning Variables in Study 2

Given that machismo appears to be an important aspect of Mexican American male behavior, it is plausible that it should be related to ethnic identity. K. F. Levant (1996) emphasized the social construction of masculinity and stated that the “ideals of manhood may differ for men of different social classes, races, ethnic groups, sexual orientations, life stages, and historical eras” (p. 261). Indeed, Mirandé (1988) postulated this relation in noting the connection between machismo attitudes and/or behaviors and endorsement of one’s own culture; only by embracing the Mexican culture could one manifest machismo.

Abreu, Goodyear, Campos, and Newcomb (2000) found that ethnic identity was related to male role endorsement in Latino men. The more that men identified themselves as Mexican, the higher they were expected to score on both Caballerismo and Traditional Machismo subscales because both subscales capture aspects of Mexican culture. Another aspect related to ethnic identity is other group orientation, which focuses on tolerance of and acceptance of other groups (Phinney, 1992). We expected that those individuals high in Traditional Machismo would be less accepting of other groups, whereas we expected caballerismo to be positively related to other group orientation, given the focus of Caballerismo on connection and social responsibility.

Much of the literature has depicted machismo as associated with a hypermasculine and restricted affective range (Anders, 1993; Ingoldsby, 1991). This restricted affective range has been called *alexithymia*, the awareness one has of one’s own and other’s emotions. We hypothesized that Traditional Machismo should be related to higher alexithymia scores (indicative of being unable to understand feelings or be aware of them) given past research in this area (e.g., Casas et al., 1994). Alternatively, Caballerismo should be related to lower alexithymia scores given the focus on emotional connection.

Hepner (1981) suggested that men with traditional male gender identities avoid situations in which they perceive themselves as helpless or weak, particularly help-seeking situations. In other words, these men may seek out ways of coping that facilitate avoidance. For example, the characteristics of Traditional Machismo (e.g., hypermasculinity) may manifest as exaggerated bravado and feelings of superiority (possibly even feelings of inferiority) that may point toward avoidance of reality. Indeed, Casas et

al. (1994) indicated that machismo is related to poorer coping styles. Folkman and Lazarus (1985) posited a model for coping that discriminates between problem-focused and emotion-focused coping. Problem-focused coping (e.g., problem solving) involves an examination of the specific problem and the active ways that one can solve it. Emotion-focused coping (e.g., wishful thinking) centers on efforts aimed at ameliorating the discomfort caused by the problem rather than the problem itself. Traditional Machismo was anticipated to be more related to the less productive coping, wishful thinking, because of the past research tying machismo to poor coping (Casas et al., 1994). Alternatively, we anticipated Caballerismo would be more related to practical problem solving and less related to wishful thinking; in essence, Caballerismo would be a healthier functioning style than Traditional Machismo. In addition, this hypothesis is related to satisfaction with life being associated with high levels of gregariousness and sociability (Diener, Emmons, Larsen, & Griffin, 1985; Herringer, 1998), which we associated more with Caballerismo.

It is necessary to acknowledge that for this particular article, the focus on machismo within the Latino culture was not from the belief that machismo only applies to Latinos. Indeed, Casas et al. (1994) emphasized that “the perspective [of] machismo is not new and may never have been solely an Hispanic phenomenon” (p. 318). This perspective is reinforced with Gilmore’s (1990) landmark cross-cultural study of masculinity highlighting the similarity of several concepts of manhood to Latino machismo. We acknowledge that there are certain characteristics of Latino machismo that are salient and/or observable in other cultures of men. However, we feel the term *machismo* means something specific to traditional, cultural beliefs and behaviors in Mexican American men.

Study 1

Method

Participants and Procedures

The sample was collected from an educationally and socioeconomically diverse group of 154 men who self-identified as having a Mexican heritage. The average age of the sample was 32.3 years, with a standard deviation of 14.5 (range 18–74). Educational attainment varied, with 29 having high school or less, 85 having some college, 19 having a bachelor’s degree, and 21 having some graduate training. Most of the sample attended schools primarily in the United States (76%), with 17% primarily in Mexico. Most of the sample were born in the United States (73% in the United States versus 20% in Mexico); however, there was an equal split between where their parents were born (44% of mothers were born in the United States versus 50% in Mexico, and 45% of the fathers were born in the United States versus 47% in Mexico). Most of the sample learned Spanish first (56% learning Spanish first versus 39% learning English first). Of those in the sample, 55% preferred to speak English, 20% preferred Spanish, and 21% preferred both. There were a few participants who chose to speak different languages at home due to marriages outside of a culture that spoke English or Spanish; thus, percentages add up to less than 100%.

Male participants were solicited from four sources in a southwestern U.S. urban area: a Latino business organization, several university classes, several classes at two community colleges, and

a predominantly Mexican American Catholic church. In each setting, a brief presentation of the purpose of the research was made and volunteers were solicited. Participants were given a brief description of the study and were assured that their participation was voluntary, that all results were anonymous, and that they were free to withdraw from the study at any time. If individuals agreed to continue, they were given the questionnaire parcel to complete. All questionnaire materials were in English. Prior to analysis, the data were examined for outliers; multivariate outliers were sought with Mahalanobis distances. There were no outliers found, so all data were included. In addition, we used the data screening methods of Tabachnick and Fidell (2001) and found support for the distributional properties of the data.

Measures

The Machismo Measure was developed for this study and consisted of statements designed to assess behavioral or cognitive aspects of machismo. Although an explicit deductive scale construction strategy was adopted (Burisch, 1984), in which items were generated to represent the negative and the positive aspects of machismo, we wanted to ensure that there was enough breadth in the construct coverage. As such, we sought to include as wide a pool of items as could even be remotely associated with these constructs. We used a variety of methods to generate items. First, we generated items from the literature dealing with machismo, traditional stories, and folklore. Second, we interviewed seven Mexican American men about traditional roles and values for Mexican American men to generate a larger pool of items. The interviewees were selected from male students in Chicano Studies classes, Mexican grocery store patrons who were Mexican and/or Mexican American men, Mexican male Catholic church members, and selected male professors from the Chicana and Chicano faculty staff association at a university located in the southwest. The demographics of the interview participants were Mexican and/or Mexican American men, ages 20 years to 55 years, from the Southwest region of the United States; their educational level ranged from having completed middle school to having doctoral degrees; approximately 40% of the sample were married. Multiple formats and variations of questions were experimented with until a preliminary version of the Machismo Measure was constructed. In particular, various response formats were experimented with to capture the participant's belief about what other groups (e.g., "What women believe," "Your father would believe," and "Society in general believes") think about machismo among Mexican American men. Additionally, a preliminary version of the Machismo Measure was given in a pilot study to 20 participants to collect data as well as to get feedback on the instrument and the items. The demographics of the pilot study participants were the following: Mexican American men, ages 20 years to 55 years; approximately 50% of the sample were married; 2 participants had no high school education, 3 participants had some college, 2 had a bachelor's degree, and the remaining participants had advanced degrees.

These two-item generation procedures resulted in a pool of items that were highly similar. The lists were combined, and redundant items were removed. A preliminary version of the measure containing 84 items was given in a pilot study to 20 Mexican American men to obtain feedback regarding item content.

As a result, several items were deleted and clarified. The resulting items were then subjected to a rater analysis to assess items' face validity at capturing the desired construct. Four Mexican American men, whom we labeled as expert because they were familiar with the culture as well as the construct of machismo, were asked to independently rate the extent to which each item reflected the construct of traditional machismo, using a 7-point scale (1 = *not at all* to 7 = *very much so*). Five items did not represent at least moderate levels (i.e., ratings of 4 or more) of machismo and were deleted. The experts were also asked to rate each item for caballerismo, and these ratings were used later. A final pool of 71 items was used in the Machismo Measure, and participants were asked to indicate the extent of their agreement, using a 7-point Likert scale (1 = *very strongly disagree* to 7 = *very strongly agree*).

Emotional connectedness. Emotional connectedness was assessed with the single item, "I feel emotionally connected to many people." This item was responded to on the same 7-point Likert scale used above.

Antisocial behavior. Single items were used to examine more specific aspects of problematic behavior. Specifically, we included items concerning arrests, fighting, and alcohol consumption because these have been noted repeatedly in past research as being associated with machismo. The three items were responded to on a 7-point frequency scale (0, 1, 2, 3, 4, 5, 6 or more): "I have been arrested ___ times in the past 5 years" (arrests), "I have been in ___ fights in the past 5 years" (fights), and "I usually have ___ alcoholic beverages in one week" (alcohol use). The distribution of responses to the arrest and fighting items were very skewed; therefore, to better approximate a normal distribution, these items were converted to log scores. Alcohol responses did not demonstrate any deviations from normal and were not transformed. It was originally desired that these three items form a composite antisocial scale, but internal consistency estimates were low ($\alpha = .32$), calling the combination procedure into question. So, the items were treated as separate indicators of antisocial behavior (i.e., log of the number of arrests, log of the number of fights, and alcohol consumption).

Masculine-Feminine Personality Traits Scale. Based on the Bem Sex Role Inventory (Bem, 1974), the Masculine-Feminine Personality Traits Scale (Lara-Cantú, 1989) is a self-report measure with 60 items and consists of four scales: Assertive Masculine (AsM), Affective Feminine (AF), Aggressive Masculine (AgM), and Submissive Feminine (SF). Each scale has 15 adjectives that capture positive and negative dimensions of the two gender roles. Lara-Cantú (1989) hypothesized that the AgM scale represents machismo, and this was the scale used in the study. The 15 adjectives of the AgM scale were responded to on a 5-point scale (0 = *not at all like me* to 5 = *extremely like me*). An example of an AgM item is "I am forceful." Items were averaged to yield a score, and higher scores represented greater amounts of male aggression. In past research, the scale has been found to be internally consistent and to have good convergent and discriminant validity (Lara-Cantú & Navarro-Arias, 1986). The internal consistency estimate for this sample was $\alpha = .74$.

Battery of Interpersonal Capabilities—Short Version (BIC). The BIC was used to assess the extent to which an individual generally acted in an interpersonally dominant and affiliative manner (Paulhus & Martin, 1987). The BIC inventory is a 16-item self-report measure that was originally used to assess multiple

interpersonal capabilities. An example of a dominant item is “self-assured.” An example of an affiliative item is “warm.” For the purposes of this study, the response scale of the BIC was modified so that individuals were asked to rate the extent to which they engage in each behavior on a 7-point scale (1 = *not at all* to 7 = *extremely*) rather than the extent to which they are capable of performing the behavior. Hofstede and Tracey (2005) provided validity support for this revision, in that it agrees very highly with other circumplex measures of interpersonal traits (e.g., the Interpersonal Adjective Scale, Wiggins, 1995). As such, it yields scores on the independent dimensions of dominance and affiliation. The responses to the items were weighted with Wiggins’ geometric weighting scheme into the scales scores for dominance and affiliation. For the present sample, an internal consistency estimate of $\alpha = .81$ was obtained for dominance, and $\alpha = .84$ was obtained for affiliation.

Satisfaction With Life Scale (SWL). The SWL is an extremely popular five-item scale that assesses the satisfaction component of subjective well-being (Diener et al., 1985). A sample item is “I am satisfied with my life.” Items are responded to on a 7-point Likert-type scale (1 = *strongly disagree* to 7 = *strongly agree*), and the responses are averaged to yield a score. Higher scores indicate greater satisfaction. There is extensive reliability and validity support for the scale (Diener et al., 1985). The internal consistency estimate obtained on the current sample is $\alpha = .82$.

Results

The dimensionality of the Machismo Measure was examined with principal axis factor analysis. We hypothesized a two-factor structure, which was supported by our data. The scree plot clearly indicated a two-factor solution (eigenvalues were 13.4, 6.3, 2.7, 2.5, and 2.1 for the first 5 factors). With the use of 1000 samples of randomly drawn data, a separate parallel analysis also supported the two-factor solution. The eigenvalues from the first two factors exceeded the mean eigenvalues from the 1000 randomly generated data sets for only the first two factors. Although the sample size for this procedure may be considered low, Guadagnoli and Velcier (1988) demonstrated that such a sample size is appropriate given the two factors expected and found in these data. We made no assumption that the two factors would be independent; therefore, we conducted oblique rotation. However, the oblique rotation (oblimin) resulted in a correlation of only .11 between the factors. Given this low correlation, we also conducted an orthogonal rotation (varimax) to examine the data further. The results of the oblimin and varimax solutions were highly similar (i.e., few differences in the factor loadings), so we elected to follow the principle of parsimony and use the results from the varimax rotation.

There were 33 items with structure coefficients greater than $|\lambda| \geq .30$ on Factor 1 alone, 18 items with structure coefficients greater than $|\lambda| \geq .30$ on Factor 2 alone, 12 items with coefficients above $|\lambda| \geq .30$ on both factors, and 8 items with coefficients below $|\lambda| \geq .30$ on both factors. So, most of the items clearly loaded on either Factor 1 or Factor 2. High loading items on Factor 1 seemed to represent a dimension of interpersonal dominance, control, and clearly differentiated gender roles. Items that loaded heavily on Factor 2 seemed to address interpersonal connection, code of ethics, and importance of family involvement. To examine validity of the factor structure,

we correlated the item factor loadings with the item ratings obtained from the four Mexican American men described previously. The men rated each item for the extent to which it represented Traditional Machismo and Caballerismo. Factor 1 loadings had a correlation of $r = .88$ with the ratings of Traditional Machismo, and Factor 2 loadings had a correlation of $r = .84$ with Caballerismo expert ratings. The resulting factor analysis highly resembled the expert item sorting, supporting the construct validity of the factors.

For a simpler, shorter measure, the best 10 items for each factor with empirical characteristics were retained. Items were selected with the two criteria of (a) highest loading items on each factor and (b) greater loading than $|\lambda| \geq .30$ on only one factor. The resulting 20 items were subjected to an identical exploratory principal axis factor analysis. The eigenvalues for the first 5 factors extracted were 4.3, 3.1, 0.77, 0.61, and 0.54, again clearly supporting the presence of two factors, as expected. Separate parallel analysis of 1000 random data sets confirmed that the eigenvalues of the first two factors exceeded the mean of the eigenvalues obtained from the random sets. These factors were rotated again with both the varimax and the oblimin criteria. As with the original factor analysis, the factors were not highly correlated in the oblique rotation ($r = .09$), the pattern matrices were not dissimilar, and the orthogonal rotation was easier to interpret. So, we chose the orthogonal rotation for our purposes. The structure coefficients of the orthogonal rotation are presented in Table 1. Factor 1 accounted for 20% of the variance. Factor 1 was labeled Traditional Machismo, as it tapped power and aggressive attitudes typically associated with the construct of machismo. This fits with our conception of Traditional Machismo consisting of hypermasculinity and power. Factor 2 accounted for 16% of the variance. Factor 2 was labeled Caballerismo, as it tapped focus on emotional connectedness, honor, and nurturance, as we hypothesized. The internal consistency estimate for Traditional Machismo was $\alpha = .85$, whereas internal consistency for Caballerismo was $\alpha = .80$. The shortened scales correlated highly with the scales derived from the original factor analysis, Traditional Machismo ($r = .94$) and Caballerismo ($r = .93$), and they also correlated highly with the expert ratings of Traditional Machismo ($r = .83$) and Caballerismo ($r = .79$), further supporting the construct validity of the shortened scale.

Convergent and discriminant validity were examined by correlating the machismo subscales with the other scales assessed (see Table 2). There are many correlations presented in Table 2, and statistical evaluation of all of these would result in an appreciable Type I error rate. However, we were also concerned about the issue of power; given the initial nature of this research, we did not want the power to get too low. As a result, we chose to limit the statistical evaluation to only those terms involving Traditional Machismo and Caballerismo.

As hypothesized, Traditional Machismo was significantly correlated with the number of arrests ($r = .21$) and the number of fights ($r = .37$), whereas Caballerismo was not ($r_s = -.05$ and $.13$, respectively). Although the pattern of significant departures of these correlations from zero supported the hypothesized pattern, being different from zero is not the same as being different from each other. To be able to state that the relation of Traditional Machismo with the number of arrests is different from the relation of Caballerismo with the number of arrests, the difference between

Table 1
Structure Coefficients and Community Estimates from the Exploratory Principal Axis Analysis of the Reduced Machismo Scale Item Set for Study 1

Item	Factor 1	Factor 2	h ²
Men are superior to women.	.66	.00	.45
In a family, a father's wish is law.	.72	.00	.51
The birth of a male child is more important than a female child.	.53	-.14	.30
It is important not to be the weakest man in a group.	.45	.00	.20
Real men never let down their guard.	.69	.14	.50
It would be shameful for a man to cry in front of his children.	.61	.00	.37
A man should be in control of his wife.	.65	.14	.44
It is necessary to fight when challenged.	.60	.18	.39
It is important for women to be beautiful.	.57	.00	.33
The bills (electric, phone, etc.) should be in the man's name.	.59	.00	.35
Men must display good manners in public.	.00	.66	.45
Men should be affectionate with their children.	-.21	.55	.35
Men should respect their elders.	.00	.65	.43
A woman is expected to be loyal to her husband.	.18	.73	.56
Men must exhibit fairness in all situations.	.00	.55	.30
Men should be willing to fight to defend their family.	.22	.41	.21
The family is more important than the individual.	.14	.52	.29
Men hold their mothers in high regard.	.25	.36	.19
A real man does not brag about sex.	-.13	.38	.16
Men want their children to have better lives than themselves.	.13	.58	.36
Eigenvalue	4.0	3.2	
Variance accounted for	19.8	15.8	

these two correlations must be evaluated. However, the common Fisher's test of the difference between correlations is inappropriate because these correlations are not independent, in that they involve common variables and are drawn from the same correlation matrix (Steiger, 1980). Given this dependence, we used Steiger's (1980) modified z statistic, as operationalized in the DEPCOR program (Silver, Hittner, & May, 2006). To increase the power of these tests, we conducted them in a one-tailed manner, according to our hypotheses. These modified z statistics of the differences between the relations of the Traditional Machismo subscale and the Caballerismo subscales with each of the external criteria are reported on the bottom of Table 2. The correlations of Traditional Machismo

and of Caballerismo with the number of arrests and the number of fights were different, supporting the hypothesized differences. There were, however, no significant differences in their relations with alcohol consumption (with Traditional Machismo, $r = .14$; with Caballerismo $r = .12$; $ps > .05$, and their difference of $z = 0.19$ is also not significant).

Traditional Machismo was significantly related to the AgM scale ($r = .35$, $p < .001$), and Caballerismo was not ($r = -.04$, $p > .05$). The difference between these two correlations was significant ($z = 3.87$, $p < .001$). Further, Traditional Machismo was not correlated with SWL ($r = -.11$, $p > .05$) whereas Caballerismo was ($r = .25$, $p < .05$), and the two correlations were

Table 2
Correlations of Traditional Machismo and Caballerismo with Validity Measures for Study 1 ($N = 157$) and Test of Differences in Traditional Machismo and Caballerismo Correlations with External Variables using Steiger's (1980) z

Scale	1	2	3	4	5	6	7	8	9	10
1. Satisfaction With Life	—									
2. Aggressive (AgM)	-.05	—								
3. Emotional connection	.21	.09	—							
4. Dominance	.26	.30	.11	—						
5. Affiliation	.11	-.44	.32	.03	—					
6. Arrests (log)	.03	.08	.03	-.01	-.04	—				
7. Fights (log)	-.11	.25	-.11	-.09	-.03	.39	—			
8. Alcohol use	-.08	.11	-.15	.10	-.10	.08	.02	—		
9. Traditional Machismo	-.11	.35**	-.05	-.05	-.05	.21*	.37**	.14	—	
10. Caballerismo	.25*	-.04	.35*	.14	.23*	-.05	.13	.12	.13	—
Mean	5.1	3.4	5.5	5.9	9.7	0.8	0.2	2.7	3.2	6.1
Standard deviation	1.2	0.8	0.8	7.0	6.8	0.2	0.2	2.0	1.2	0.8
Steiger's z	3.44**	3.87**	3.95**	0.00 ^a	2.67**	2.28**	3.30**	0.19		

Note. Only correlations involving Traditional Machismo and Caballerismo are evaluated for significance. AgM = Aggressive Masculine scale.

^aTest is a one-tail test, and the direction of the difference in this case was in the wrong tail.

* $p < .05$. ** $p < .001$.

significantly different ($z = 3.44, p < .001$). Emotional connection to others was positively correlated with Caballerismo ($r = .35, p < .001$) but not with Traditional Machismo ($r = -.05, p > .05$), and the two correlations were significantly different ($z = 3.95, p < .01$). These patterns with AgM, SWL, and emotional connection were as hypothesized.

Neither the correlation of dominance with Traditional Machismo ($r = -.05, p > .05$) nor the correlation of dominance with Caballerismo ($r = .14, p > .05$) was significant; also, they were not significantly different from each other. The z test of the difference in the correlations appeared significant ($z = 1.80$), but this was a one-tailed test given our hypotheses, and the tail was in the opposite direction. We concluded that there was not a positive relation of dominance with either Traditional Machismo or Caballerismo. Affiliation, on the other hand, was related to our Machismo Measure in the hypothesized manner. It was significantly related to Caballerismo ($r = .23, p < .05$) but not to Traditional Machismo ($r = -.05, p > .05$); these correlations were significantly different from each other ($z = 2.67, p < .001$). As hypothesized, the magnitude of the relation of Caballerismo with affiliation was modest. Finally, the two subscales had a nonsignificant correlation of $r = .13$, indicating the two subscales were independent. Overall, the pattern of correlations was virtually identical for the factors generated from the original factor analysis.

Study 2

Method

Participants

The sample was collected from an educationally and socioeconomically diverse group of 477 American men who self-identified as being of Latino origin: 403 Mexican Americans and 74 Latino non-Mexican Americans (i.e., Central or South American, Puerto Rican, or Cuban origin). The Mexican American sample had a mean age of 31 years ($SD = 12$, and range was 17 to 66). Most were single (60%), with 30% married, 5% divorced, and 5% living with a partner. Of the sample, 84% were born in the United States, and 15% were born in Mexico. There was a more even split regarding birthplace of the parents; 48% of the mothers were born in Mexico versus 51% who were born in the United States, and 47% of the fathers were born in Mexico versus 51% who were born in the United States. Most (88%) had most of their schooling in the United States. As for highest degree completion, 2% had grade school, 33% had high school, 12% had an associate's degree, 24% had a bachelor's degree, 19% had a master's degree, and 10% had higher degrees. Of the sample, 45% first learned English, and 54% first learned Spanish. The language of choice was English for 71%, Spanish for 16%, and both for 10%.

For the 74 Latino non-Mexican Americans, 29% self-identified as Puerto Rican, 22% self-identified as Cuban, 27% self-identified as Central American, and 23% self-identified as South American. The mean age was 32 ($SD = 12$, with a range of 19 to 65). Most were single (54%), with 35% married, 4% divorced, and 7% living with a partner. Of the sample, 54% were born in the United States, and 72% did most of their schooling here; 18% completed high school, 6% completed an associate's degree, 27% completed a bachelor's degree, 23% completed a master's degree, and 26%

completed a professional degree; 54% were born in the United States (compared with 20% of their mothers and 25% of their fathers). Most learned Spanish as their first language (60%); however, most preferred to speak English (66%), whereas 26% preferred Spanish, and 7% preferred both.

Measures

The Machismo Measure was the reduced 20-item scale generated in Study 1. Internal consistency estimates for the current sample of Mexican American men was $\alpha = .84$ for Traditional Machismo and $\alpha = .71$ for Caballerismo.

Antisocial behavior items were the same three items used in Study 1 (arrests, fights, and drinking). The arrest and fighting items were transformed with a log transformation to better approximate a normal distribution, as was done in Study 1.

SWL (Diener et al., 1985) was again used as described in Study 1. The internal consistency estimate obtained on this sample was $\alpha = .80$.

Multigroup Ethnic Identity Measure (Phinney, 1992) is a 20-item measure yielding scores on two subscales: Ethnic Identity (14 items) and Other Group Orientation (6 items). An example of an Ethnic Identity item is "I have a clear sense of my ethnic background and what it means for me," and an example of an Other Group Orientation item is "I like meeting and getting to know people from ethnic groups other than my own." Items are responded to on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*), and the items are averaged to yield subscale scores. High scores indicate a greater ethnic identity or other group orientation, depending on the scale. Phinney reported internal consistency estimates of $\alpha = .81$ and $.90$ for high school and college samples, respectively, on the Ethnic Identity scale. For the Other Group Orientation scale, an $\alpha = .71$ for the high school sample and an $\alpha = .74$ for the college sample was found (Phinney, 1992). On the current sample of Mexican American men, internal consistency estimates of $\alpha = .86$ for the Ethnic Identity scale and $\alpha = .73$ for the Other Group Orientation scale were found.

Toronto Alexithymia Scale (Bagby, Parker, & Taylor, 1994) is a 20-item scale assessing the extent to which one is aware of and responsive to affect in one's self and in others. An example of an item is "I am often confused about what emotion I am feeling." Items are responded to on a 5-point agreement scale (1 = *strongly disagree* to 5 = *strongly agree*), and the responses are summed to yield one total score. High scores are indicative of being less aware of feelings and/or not understanding them. Bagby et al. (1994) presented impressive support for the scale across several samples and for its relation to indicators of psychological functioning. An internal reliability estimate of $\alpha = .81$ and test-retest reliability of $\alpha = .77$ after 3 weeks was reported by Bagby et al. On the current sample, an $\alpha = .85$ was obtained.

Shortened Ways of Coping Questionnaire (Hatton & Emerson, 1995) is a shortened version of the Ways of Coping scale (Folkman & Lazarus, 1985). It comprises 14 items assessing coping responses to stress. Items are responded to on a 4-point frequency scale (1 = *not used* to 4 = *used a great deal*). Items are averaged to yield two subscale scores of 7 items each: Practical Problem Solving (problem-focused coping) and Wishful Thinking (emotion-focused coping). An example of a Practical Problem Solving item is "I try to come out of experiences better than when

I went in.” An example of a Wishful Thinking item is “I daydream or imagine a better time or place than the one I am in.” Higher scores represent greater presence of the subscale construct. The average internal reliability for Practical Problem Solving was 0.76, and for Wishful Thinking, $\alpha = .65$ (Hatton & Emerson, 1995). Test-retest reliability over a 16 month period indicated an $\alpha = .88$ for Practical Problem Solving and an $\alpha = .81$ for Wishful Thinking (Hatton & Emerson). For the current sample, $\alpha = .79$ was obtained for Practical Problem Solving and $\alpha = .78$ was obtained for Wishful Thinking. Hatton and Emerson (1995) demonstrated that the instrument had a sound two-factor structure and that the subscales were differentially related to indexes of psychological functioning in hypothesized manners.

Procedures

The sample for this study was drawn approximately 1 year after the sample for Study 1. Participants were drawn from four sources: Latino businesses, university classes, community colleges, and Latino professional Listserv groups. Male participants were solicited from two Latino business organizations, using a personal presentation by G. Miguel Arciniega. Students enrolled in several university classes in a large southwestern state university were asked to cooperate via class presentations of the project. Some of the classes carried research credit for participating, but most did not. Individuals from non-Mexican Latino and Mexican groups at two community colleges and from several Latino general and professional Listserv groups were contacted by e-mail. All materials were in English. Participants completed either a paper-and-pencil survey or an online survey. Of the Mexican American sample, 42% completed the paper-and-pencil version and 58% completed the web version. For the Latino, non-Mexican American sample, all completed the web-based version. The majority of men sampled lived in the southwestern United States.

Participants were given a brief description of the study and were assured that their participation was voluntary, that all results were anonymous, and that they were free to withdraw at any time. A total of 627 individuals completed the questionnaire. Of these, 118 were women and 32 were men who were non-Mexican, non-Latino, or not American citizens and were thus excluded. The final sample consisted of 403 Mexican American and 74 Latino, non-Mexican American men.

There were no technological constraints to prevent any individual from responding multiple times to the web version; however, all responses came from different IP addresses, indicating that no one completed the questionnaire more than once from the same site. The questionnaire was rather lengthy, and it would take a good deal of effort to make multiple submissions if someone was motivated to do so. As a check on any random response submissions, we screened the data using the recommended methods of Tabachnick and Fidell (2001). We also conducted an examination for the presence of multivariate outliers using Mahalanobis distances, and we found that there were 3 outlier cases. These individuals were deleted from the sample, and the numbers above reflect the sample after deleting these individuals. As a check on the relation of the response format to variable scores, the means of the machismo subscales and the external scales (i.e., alexithymia, Satisfaction With Life, Practical Problem Solving, Wishful Thinking, Ethnic Identity, Other Group Orientation, log of arrests, log of

fight, and alcohol consumption) for the Mexican American sample were compared across the two formats, paper-and-pencil version versus web-based version, with a multivariate analysis of variance. There was no mean difference found between the two versions, $F(11, 391) = 2.22, p > .05$, indicating that the scores did not vary across scoring format.

Results

The factor structure of the Machismo Measure was examined on the sample of Mexican American men ($n = 403$) by principal axis analysis. The eigenvalues for the first six factors were: 4.38, 2.35, 1.31, 1.10, 1.10, and 0.96. The scree criterion clearly supported the presence of two factors, as did a parallel analysis with 1000 random samples. The two factors were rotated with both varimax and oblimin procedures, and the results were very similar, so the orthogonal rotation was used for the interpretation. All loadings on the rotated solution matched the hypothesized structure. All items that were hypothesized to be Traditional Machismo items loaded greater than .40 solely on this factor, and all items that were hypothesized to be Caballerismo items loaded greater than .30 solely on this factor. The first factor accounted for 19% of the variance and the second, for 12%. The correlation between the two factors was $-.11$ indicating relatively independent factors.

To obtain a more exact validation of the scale, we conducted a confirmatory factor analysis (CFA) on the responses from the Mexican American sample. However, an examination of the distributional properties of the items revealed major deviation from normality, calling into question CFA applications at this item level. Marsh, Hau, and Wen (2004) have noted that it is often not possible to model adequately at the item level given common deviations from normality and problems resulting from unreliability. Given this, we adopted the common item parceling approach whereby three parcels of items were created for each subscale with the item combination procedures outlined in Bentler and Wu (1995), in which the items with the highest and lowest loadings from the CFA were put in the first-item parcel, the items with the next highest and next lowest loadings were placed in the second-item parcel, and the items with the third highest and lowest loadings were placed in the third-item parcel. This procedure was followed until all appropriate items were assigned to an item parcel. These resulting six parcels (three for Traditional Machismo and three for Caballerismo) served as the indicator variables in the CFA. The internal consistency estimates for the parcels ranged from α s of .61 to α s of .86, with a median value of .71.

Because the results of the CFA can vary as a function of the items included in each item parcel, we also conducted three other series of analysis using random arrangements of items into the parcels, and the results are very similar to those described below. The normalized estimate of Mardia's (1970) test of multivariate normality was significant ($z = 2.12, p < .05$), indicating that the data could not be characterized as multivariate normal. However, Finch and West (1997) noted that this test is very likely to detect very minor deviations from normality and that examinations of univariate distributions can help in making decisions. None of the univariate distributions had skewness estimates greater than 1.3 or kurtosis estimates greater than 1.0. Given these values and the relative robustness of maximum likelihood estimation with minor deviations from normality (McDonald & Ho, 2002), we elected to

use maximum likelihood estimation. This approach was implemented with the covariance matrix and LISREL (Jöreskog & Sörbom, 2001).

A model of each parcel loading only on its theoretically specified factor and the two factors being correlated was examined first. This model yielded a significant chi square, $\chi^2(8, N = 403) = 26.99, p < .001$, although this was expected given the sample size. The root-mean-square error of approximation (RMSEA) was .077 (with a 90% band of 0.017–0.096), and this value is indicative of a good fit (Browne & Cudeck, 1993; MacCallum, Browne, & Sugawara, 1996). The CFI index was .97, which is greater than the .95 cutoff proposed by Hu and Bentler (1998) as indicative of good fit. Finally, the standardized mean square residual was 0.47, which is well below common recommended thresholds (e.g., Quintana & Maxwell, 1999). All individual parameter estimates were significant, with the sole exception of the covariation between the two factors. Therefore, the two-factor model with no covariation between the factors appears to be a good representation of the data. The correlations of the machismo subscales with the external variable scales are presented in Table 3 for the Mexican American sample ($n = 403$).

These relations of the external criteria with the Traditional Machismo and Caballerismo subscales are attenuated due to unreliability and also involve only a focus on bivariate relations. To enable a better examination of the relations as a set, we used a structural equation modeling procedure for the Mexican American male sample. The same item parcels for Traditional Machismo and Caballerismo used in the CFA above were used. In addition, sets of three parcels were created for each multi-item scale (i.e., SWL, Ethnic Identity, Other Group Orientation, Problem Solving, Wishful Thinking, and alexithymia). This procedure of using at least three-item parcels results in estimates of the latent variables and disattenuated relations. The procedure of item parcel assignment was the same as used above. (As an added check on assignment of items to specific parcels, we conducted the analysis three different times using different arrangements of items within parcels to see whether the specific parcels affected the results; results were highly similar across different parcel versions.) Because arrests,

fight, and alcohol consumption were one-item scales, a latent variable approach could not be taken.

Prior to examining the data, the distributions of all the variables were examined. None of the variables demonstrated significant kurtosis and skewness, and the normalized estimate of Mardia's (1970) test of multivariate normality was not significant ($z = 1.89, p > .05$). As such, maximum likelihood estimation was used on the covariance matrix with LISREL (Jöreskog & Sörbom, 2001). The full measurement model, in which each item parcel loaded on the specific latent variables and in which there were free relations among all the variables (except that Traditional Machismo and Caballerismo were independent as demonstrated above), was examined. This measurement model was found to be a good fit to the data, $\chi^2(273, N = 403) = 640.09, p < .001, RMSEA = .052$ (90% confidence band 0.45-.058), CFI = .96, standardized root-mean-square residual = .050. All loadings on the latent variables were significant and had standardized estimates greater than .50. To test the relations between the external criteria and the Traditional Machismo and Caballerismo subscales, those paths that were not significant as indicated by z scores were deleted from the model, and the model was retested. The relations between Traditional Machismo, problem solving, and life satisfaction were deleted. For Caballerismo, the relations with arrests, fights, alcohol use, alexithymia, wishful thinking, and satisfaction with life were deleted. This model was also found to fit the data, $\chi^2(281, N = 403) = 652.52, p < .001, RMSEA = .051$ (90% confidence band 0.45-.057), CFI = .95, standardized root-mean-square residual = .055]. The likelihood ratio test comparing this model with the original measurement model was not significant, $\chi^2(8, N = 403) = 12.43, p > .05$, indicating that the two models were not different. The relations between Traditional Machismo and Caballerismo with the external criteria are depicted in Figure 1. (The external criteria are all assumed to covary freely with each other, but because we were only interested in the relations of Traditional Machismo and Caballerismo with the external variables, only these relations are depicted).

As can be seen from Figure 1, the pattern of relations of Traditional Machismo and Caballerismo with the external criteria

Table 3

Correlations of Traditional Machismo and Caballerismo With Validity Measures for Study 2

Scale	1	2	3	4	5	6	7	8	9	10	11	<i>M</i>	<i>SD</i>	<i>z</i>
1. Satisfaction With Life	—	-.42	.18	.13	-.03	-.64	-.19	-.09	-.25	-.22	.08	5.16	1.21	1.75
2. Alexithymia (TAS)	-.29	—	-.28	-.51	-.32	.47	.14	.19	.21	.43**	-.25*	44.77	12.89	4.11**
3. Ethnic Identity	.17	-.26	—	.36	.31	-.05	.08	.08	-.11	-.20	.25*	3.30	0.63	2.64**
4. Other Group Orien.	.07	-.39	.37	—	.48	-.10	.02	-.10	-.05	-.34**	.45**	3.81	0.59	4.83**
5. Problem solving cope	.02	-.21	.19	.22	—	.10	.00	-.08	-.21	-.26*	.14	2.94	0.65	2.34**
6. Wishful thinking cope	-.37	.40	-.17	-.18	.19	—	.06	.12	.02	.17	-.06	2.05	0.61	1.33
7. Arrests (log)	-.16	.16	-.01	-.07	.06	.15	—	.27*	.11	.18	.09	0.07	0.11	0.52
8. Fights (log)	-.11	.18	-.05	-.09	.09	.13	.45	—	.03	.10	.24*	0.07	0.15	0.83
9. Alcohol use	-.10*	.09	.06	.05	.07	.04	.22	.22	—	.07	-.04	2.92	1.97	0.63
10. Traditional Machismo	-.05	.39	-.14	-.40	-.10	.28	.16	.22	.08	—	-.07	2.90	1.01	
11. Caballerismo	.07	-.15	.23	.24	.19	.02	-.05	-.07	-.01	.01	—	5.76	0.72	
<i>M</i>	5.18	44.58	3.37	3.74	3.11	2.10	0.63	0.12	3.00	3.15	6.02			
<i>SD</i>	1.14	12.50	0.51	0.51	0.56	0.62	0.16	0.23	2.26	1.16	0.61			

Note. Only correlations involving Traditional Machismo and Caballerismo scales for the non-Mexican Latino American men were evaluated for significance. Correlations for Mexican American men ($n = 403$) are below the main diagonal, and correlations for non-Mexican Latino American men ($n = 74$) are above the diagonal. TAS = Toronto Alexithymia Scale; Orien. = orientation.

* $p < .05$. ** $p < .001$.

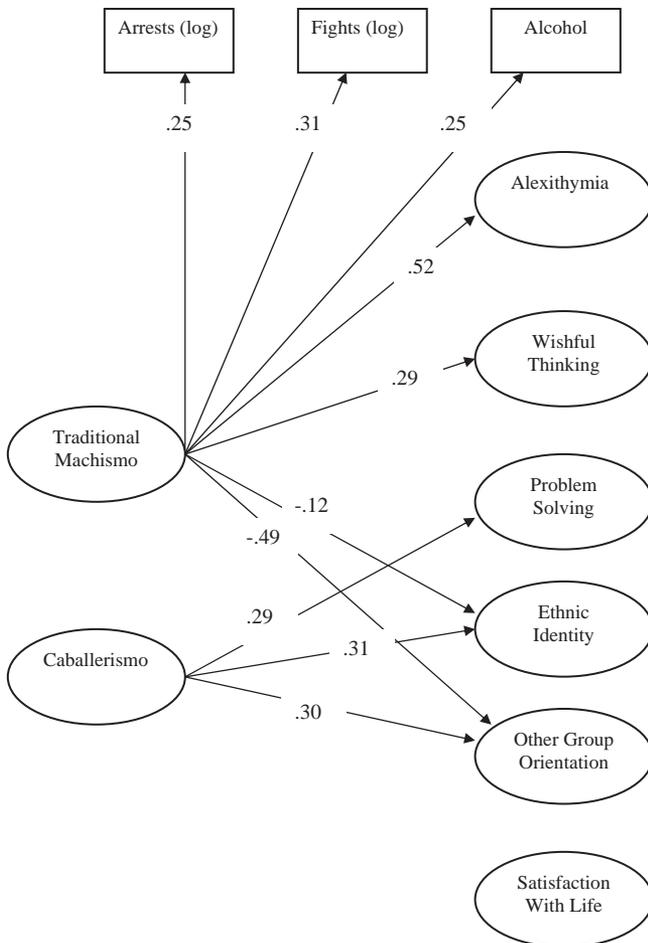


Figure 1. Structural model of the relation of Traditional Machismo and Caballerismo with several latent (represented by ovals) and manifest (represented by boxes) variables. All parameter estimates (shown on arrow lines) are standardized and are significantly different from zero. Relations among all endogenous variables (i.e., external criteria) were free to covary, and these estimates are not shown.

is very different. Higher Traditional Machismo was related to more arrests (.25), more fights (.31), more alcohol consumption (.25), greater alexithymia (.52), greater use of wishful thinking as a coping style (.29), less ethnic identity (–.12), and less other group orientation (–.49). Higher Caballerismo was associated with greater problem-solving coping styles (.29), greater ethnic identity (.31), and greater other group orientation (.30). Neither Traditional Machismo nor Caballerismo was associated with satisfaction with life. The only latent variables that both Traditional Machismo and Caballerismo were related to were ethnic identity and other group orientation. The equivalence of these paths was examined to determine whether a different pattern existed between these variables and Traditional Machismo and Caballerismo. First, the relation between Traditional Machismo and ethnic identity was constrained to be equal to the relation between Caballerismo and ethnic identity. The fit of this model was $\chi^2(282, N = 403) = 678.55, p < .001$. The likelihood ratio test was significant, $\chi^2(1, N = 403) = 26.03, p < .001$, indicating that constraining the two relations to be

equal resulted in a significantly poorer fit to the data. So, the two relations were significantly different. A similar procedure was done in constraining the relations with other group orientation. The fit of the constrained model was $\chi^2(282, N = 403) = 670.52, p < .001$. The likelihood ratio test of the effect of adding the constraint was $\chi^2(1, N = 403) = 18.00, p < .001$, indicating that the effect of constraining the relations with other group orientation resulted in a poorer fit to the data. So, Traditional Machismo and Caballerismo had significantly different relations with ethnic identity and other group orientation.

We were interested in examining how the Traditional Machismo and Caballerismo subscales varied with select demographic variables, such as country of birth, language spoken at home, language of choice, age, and educational level. We expected that those born in Mexico, those who speak Spanish, and those who prefer speaking Spanish would have higher scores on both Traditional Machismo and Caballerismo subscales because these are associated with Mexican culture. The results of these analyses of variance are reported in Table 4. There were differences in both subscales according to the language spoken at home, $F(2, 400) = 3.50, p < .05, \eta^2 = .017$, for Traditional Machismo; and $F(2, 400) = 4.47, p < .05, \eta^2 = .022$, for Caballerismo. Post hoc Scheffe's tests indicated Traditional Machismo scores were higher for the Spanish language group than for either the English only group or the both languages group. For Caballerismo, the Spanish and the both languages group had higher scores than the English only group. There were no differences in the language of choice on Traditional Machismo, $F(2, 389) = 1.82, p > .05, \eta^2 = .009$, and Caballerismo scores, $F(2, 389) = 1.70, p < .05, \eta^2 = .009$. There were also no differences across birth country on Traditional Machismo scores, $F(1, 377) = 0.62, p > .05, \eta^2 = .003$, but there were on Caballerismo scores, $F(1, 377) = 3.20, p < .05, \eta^2 = .016$. Those born in Mexico had higher scores on Caballerismo.

We expected that lower education levels would be associated with Traditional Machismo but not Caballerismo because we perceived that Traditional Machismo is less associated with higher socioeconomic status (SES) levels, whereas this was thought to be less so with Caballerismo. There were differences found across education level for Traditional Machismo, $F(3, 399) = 16.26, p < .001, \eta^2 = .109$, but not for Caballerismo, $F(3, 399) = 0.56, p > .05, \eta^2 = .004$. There was a linear trend in Traditional Machismo scores, with higher scores associated with lower educational attainment.

We also hypothesized differences across age, with older individuals having lower Traditional Machismo scores, as Traditional Machismo appears to be more associated with youth. We did not hypothesize any relations of Caballerismo with age. The examination of scores across age groups also revealed a similar pattern. Traditional Machismo scores were significantly different across age groups, $F(1, 401) = 41.16, p < .001, \eta^2 = .093$, with those under 30 years having higher scores than those over 30 years. There was not a difference on Caballerismo scores across age, $F(1, 401) = 0.38, p > .05, \eta^2 = .001$.

As an exploratory examination, the relations of these external criteria to the Traditional Machismo and Caballerismo subscales were examined in the small sample of non-Mexican Latino Americans. This sample of 74 consisted of men from a wide variety of non-Mexican, Latino backgrounds (i.e., Puerto Rican, Cuban, Central American, or South American). As such, it cannot be assumed

Table 4

Means, Standard Deviations, and Summary of the ANOVA Tests of Mean Differences Across Home Language, Choice Language, Birth Country, Education Level, and Age on Traditional Machismo and Caballerismo Scores for the Mexican American Sample in Study 2

Variable	Traditional Machismo						Caballerismo					
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>F</i>	η^2	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>F</i>	η^2
Home language				2, 400	3.50*	.017				2, 400	4.47*	.022
English	219	3.12 _a	1.08				219	5.94 _a	0.62			
Spanish	89	3.41 _b	1.37				89	6.10 _b	0.58			
Both	95	2.97 _a	1.10				95	6.13 _b	0.61			
Choice language				2, 389	1.82	.009				2, 389	1.70	.009
English	287	3.13	1.14				287	5.98	0.58			
Spanish	66	3.37	1.25				66	6.10	0.64			
Both	39	2.94	1.18				39	6.11	0.59			
Birth country				1, 377	0.62	.003				1, 377	3.20*	.016
United States	320	3.18	1.15				320	6.01	0.60			
Mexico	60	3.00	1.17				60	6.11	0.58			
Education level				3, 399	16.26**	.109				3, 399	0.56	.004
HS	141	3.52 _a	1.13				141	6.02	0.62			
AA	47	3.53 _a	1.59				47	6.06	0.76			
BA/BS	98	3.02 _b	1.06				98	6.06	0.59			
Grad/prof	117	2.64 _c	1.06				117	6.02	0.55			
Age				1, 401	41.16**	.093				1, 401	0.38	.001
<30 years	249	3.43	1.15				249	6.00	0.64			
30 years or more	154	2.70	1.03				154	6.04	0.57			

Note. Groups with same subscript letters indicate lack of significant differences according to pairwise Scheffe post hoc tests. ANOVA = analysis of variance; HS = high school; AA = associate's degree; BA/BS = bachelor of arts or bachelor of science degree; Grad/prof = graduate or professional degree.

* $p < .05$. ** $p < .001$.

that they were homogeneous, but it does provide an initial indication of the similarity of these subscales for non-Mexican Latinos. The correlations of the two machismo subscales with the different external criteria are presented above the main diagonal in Table 3. Again, to limit the number of tests conducted, only the relations of the variables with the Traditional Machismo and Caballerismo scales were statistically evaluated. In addition, differences between correlations on these two scales were evaluated with the Steiger (1980) modified z statistics, which are reported in the right column of Table 3.

The single prominent difference between the Latino sample and the Mexican American sample is the correlation on the number of fights item and its relation to Caballerismo, which was significant and positive in the non-Mexican sample ($r = .24$), whereas it was slightly negative in the Mexican sample ($r = -.08$). In general, however, the correlations in the two machismo subscales in the Latino sample mirrored those of the Mexican American sample. The two subscales were independent ($r = -.07$), and there were different patterns associated with alexithymia, ethnic identity, other group orientation, and problem-solving coping. There were somewhat similar results on the antisocial items, especially on fights.

The mean differences in Traditional Machismo and Caballerismo subscales scores between the Mexican American sample and the non-Mexican American Latino sample were examined with an analysis of variance, and the results demonstrated that there were no significant mean score differences on Traditional Machismo, $F(1, 468) = 3.07, p > .05, \eta^2 = .01$, whereas there were significant mean score differences on Caballerismo, $F(1, 468) = 11.18,$

$p < .001, \eta^2 = .02$. An examination of the means reported at the bottom of Table 3 reveals that the Mexican American sample had higher scores on Caballerismo than did the non-Mexican Latino sample.

Discussion

With the use of a sample of Mexican-American men, these two studies resulted in a more defined measure of machismo, integrating both positive and negative male characteristics. The factor analyses (both exploratory and confirmatory) indicated two independent dimensions of machismo, which were labeled as Traditional Machismo and Caballerismo. Traditional Machismo can be described as aggressive, sexist, chauvinistic, and hypermasculine, whereas Caballerismo can be described as nurturing, family centered, and chivalrous.

Both studies revealed differential patterns of relations with specific external variables, supporting the differences between the two constructs. The magnitude of relations of the subscales was moderate, indicating that there was a relation with these external variables but that there was a good deal of unique variance associated with each subscale. Thus, the variance accounted for in both subscales is unique and is related to external variables in hypothesized manners. Traditional Machismo is independent of Caballerismo, and both are tapping unique information that is not being highly captured by any of the external variables. It should be noted that it is possible to score high on Caballerismo and yet still have many traditional machismo characteristics as part of one's behavior and self-assessment. Conversely, individuals who score high on

Traditional Machismo may still manifest characteristics indicative of caballerismo.

Traditional Machismo was related to the more negative images associated with machismo, specifically the antisocial items of arrests and fighting as well as the AgM scale. It was surprising that the Traditional Machismo subscale was not related to interpersonal dominance. Clearly some of the items focused on dominance of men over women, but this did not covary with broader interpersonal dominance. Thus, Traditional Machismo is related more to sex-role dominance than dominance per se. The Caballerismo subscale was related to affiliation, emotional connectedness, and psychological well-being, and therefore appeared to capture more positive aspects of behavior.

We hypothesized that Caballerismo would be positively correlated with life satisfaction. Mexican American men who could be described as nurturing and protective caretakers would be more satisfied with their life. In Study 1, satisfaction with life was found to be positively correlated with Caballerismo. It is interesting to note there was no correlation with either Traditional Machismo or Caballerismo subscales in Study 2. Thus, it appeared that neither Traditional Machismo nor Caballerismo is related to global indicators of well-being. However, there are relations with more specific aspects of psychological functioning.

Alexithymia, the degree to which one is not aware of affect, has significant and opposite relations to the subscales of Traditional Machismo and Caballerismo. Mexican-American men whose alexithymia scores indicated that they did not have access to their feelings were more likely to exhibit traditional machismo characteristics, and those who appeared to have greater access to emotions were more likely to endorse caballerismo characteristics. Those individuals who scored higher on Traditional Machismo thus had more difficulty being aware of and understanding their own and the emotions of others. Such emotional processing could be associated with some of the impulsive, antisocial behaviors associated with Traditional Machismo that we found: number of fights and arrests. Additionally, Sutkin and Good (1987) indicated that men who have problems expressing their emotions may feel more comfortable seeking out medical services over mental health services. As such, Mexican American men who have difficulty being aware of their emotions may express their feelings in more behavioral and psychosomatic ways (i.e., complain of chest pain, stomach pain, headaches). On the other hand, the emotional connectedness aspects of Caballerismo tie in to this awareness of and concern about emotions, which can contribute to less discomfort in seeking out assistance.

There were similar differential relations of the machismo subscales with coping. Problem-solving coping, which is a more active and effective coping style, was found to be positively related to Caballerismo but negatively related to Traditional Machismo. Furthermore, a less productive coping style, that of wishful thinking, was related to Traditional Machismo. For Traditional Machismo, this tendency to adopt less effective coping, coupled with a lower awareness of affect, gives rise to some potential concern for individuals who score high on this subscale. Research has supported the association of increased use of emotion-focused coping strategies (i.e., wishful thinking, escape avoidance) with increased distressed levels and poor adjustment (Hatton & Emerson, 1995; Ramirez Hinojosa, 2005; Stanzione, 2005).

Whereas there was no significant relationship between Traditional Machismo and global well-being, the correlations with ineffective coping strategies and alexithymia present a picture of individuals who are less aware, less able to cope effectively, and more impulsive. Clinically, it might be important to work with these individuals in terms of helping them achieve more active coping. On the other hand, those scoring high on Caballerismo demonstrated more active coping styles (i.e., practical problem solving). Problem-focused coping appears to be associated with better psychological adjustment and less distress (Chang et al., 2007; Heppner, Cook, Wright, & Johnson, 1995). Specifically with Latino adults, Torres and Rollock (2007) indicated that an active problem-solving coping style was associated with healthier outcomes and decreased symptoms of depression.

The mean scores for the two machismo subscales were different in level. In both studies, the mean score for the Traditional Machismo subscale was 3.2 on a 7-point scale with 1 = *not at all* and 7 = *very much so*, indicating that most men in the sample did not see themselves as high on this subscale. On the other hand, the mean scores for the Caballerismo subscale of 6.1 and 6.0 demonstrated that these men viewed themselves much more in this manner. Certainly the differences between these means could be indicative of the general social desirability of the items. Men may be less likely to endorse the items associated with Traditional Machismo. This certainly fits with our conception of these constructs in part representing negative and positive aspects. However, what is important is that the scales demonstrated covariance with other scales in the expected manner supporting the two-factor model of machismo. Nevertheless, the difference in means does raise the issue of using relative interpretation of scores instead of absolute scores. Thus, it is important where one scores relative to other individuals, not where on the 7-point scale one falls.

We expected there to be differences in the machismo subscales as a function of the language preference, birth country, and ethnic identity of the men. Indeed, we found differences in the subscale scores. Using Spanish at home was associated with higher scores on both Traditional Machismo and Caballerismo. Also being born in Mexico was associated with greater scores only on Caballerismo. These results indicate that those individuals who are born in Mexico and prefer to speak Spanish at home have greater scores on Traditional Machismo and Caballerismo. This result made sense given that these two constructs are cornerstones of Mexican culture. However, this result also needs to be viewed as tentative, because there were no differences in scores by language choice. If the men chose to speak Spanish, they did not score differently from those who chose English. It might be that those people who were born in Mexico were more in touch with a time-honored code of ethics and social responsibility and therefore manifested higher Caballerismo scores.

Another index of the relation of culture to our Machismo Measure, ethnic identity, demonstrated differential relations to each subscale. Ethnic identity was found to have a negative correlation with Traditional Machismo and a positive correlation with Caballerismo. This positive relation of ethnic identity with Caballerismo was expected. For example, Mirandé (1997) quoted a Spanish-speaking man as commenting, "Relative to our culture, it's a man that stands up for what he believes, physically, emotionally, and psychologically. Within every Mexican there is a certain sense of being *macho*" (p. 73). The more one identifies as Mexican, the

more one embraces the pride and honor associated with the ethical code that is indicative of Caballerismo.

The small negative correlation between Traditional Machismo and ethnic identity was unexpected and interesting. The more one identified as Mexican, the lower one scored on Traditional Machismo. As conceived by Phinney (1992), ethnic identity encompassed a commitment to and pride in one's own ethnic group. Greater ethnic pride and commitment to being Mexican American was slightly associated with less endorsement of Traditional Machismo. Perhaps, as a reaction to the mainstream negative stereotype of macho (i.e., hypermasculinity, chauvinism), participants in our sample may have been less likely to endorse Traditional Machismo as it is linked to ethnic identity. It is unclear whether this outcome is an accurate portrayal of negative relation of Traditional Machismo and ethnic identity or whether it is a stereotypical response; more work is needed in this area for additional clarification.

Moreover, the more one is accepting of other ethnic groups (i.e., Multigroup Ethnic Identity Measure Other Group Orientation), the lower the Traditional Machismo scores. The opposite relation was found for Caballerismo. According to Phinney (1992), one's attitude toward other ethnic groups is not part of one's ethnic identity yet may be a salient factor in one's identity in the larger society. In our case, it appears that Mexican American men who endorse the emotional connectedness aspects of Caballerismo are more accepting of other ethnic groups. Overall, Caballerismo is associated with being born in Mexico, speaking Spanish at home, greater ethnic identity, and greater acceptance of other ethnicities. Traditional Machismo has a less clear pattern; it is associated with speaking Spanish at home, lower ethnic identity, and greater intolerance of other groups.

As hypothesized, certain antisocial behaviors (i.e., fighting and arrests) were positively correlated with Traditional Machismo in both studies. Such antisocial behavior as the number of fights and arrests, linked to Traditional Machismo, seem to provide support for the nonempirical literature. For example, Eisler and Skidmore (1987) suggested that there is a relation between male gender role stress and propensity to engage in high-risk behaviors (e.g., use of drugs and/or alcohol, violence, promiscuous and unsafe sex) that can affect one's overall well-being. The machismo literature implies that alcohol use is linked to traditional machismo characteristics; it is interesting to note this was not found to be true in these studies.

There were differences in the machismo subscores across education and age groups. We hypothesized that individuals with a higher degree of education would have a positive correlation with Caballerismo and a negative correlation with Traditional Machismo. Likewise, age was hypothesized to play a role in differentiating Traditional Machismo and Caballerismo. These patterns were demonstrated only for Traditional Machismo not for Caballerismo. Overall, young Mexican-American men (under the age of 30 years) who are less educated endorsed higher levels of Traditional Machismo. Educational level and age did not appear to play a significant role in Caballerismo. Although *caballero* has upper-class connotations (i.e., higher education and SES), our finding seems contradictory to the assumption that older, more educated Mexican-American men would endorse more positive characteristics of Caballerismo. Perhaps a more representative sample of Mexican and Mexican American men that taps into a broader

range of SES and occupational fields may provide more information to clarify this assumption.

The results of this study appear to also apply to non-Mexican Latino men. The construct of machismo derives from Mexican culture, but what we found was that our scale applied in a similar manner to other Latinos. The relations of the two subscales were virtually identical to the other variables for the non-Mexican Latino group. Such results give support for the adoption of this scale and of the overall construct of machismo for other Latino individuals, not just Mexicans or Mexican Americans. However, this similarity needs further research as the non-Mexican Latino group was much smaller than the Mexican American group, and it was quite different in that it was much more highly educated (49% having master's and professional degrees).

In the introduction, we acknowledged that there are certain characteristics of Latino machismo that are observable in other cultures of men. There is some similarity of the two-construct conception of Mexican American masculinity presented here and of some of the constructs posited in the men's literature. As noted repeatedly in the men's literature, there is no one masculinity (Thompson & Pleck, 1986, 1995). There are both positive and negative aspects of traditional masculinity (Fischer & Good, 1997; R. F. Levant, 1992; K. F. Levant, 1996), which have some similarities to the distinction made here. Pollack (1995, 1998) discussed men's deficits in intimacy and empathy and that this can lead to a false bravado. Such a conception appears to resemble Traditional Machismo. It needs to be recognized that it could be argued that both subscales have a certain amount of sexism embedded in them. An examination of the items revealed that women are generally viewed as being subjugated to men. The specifics of how this is viewed were different in both subscales, yet the subjugation still exists. At least as viewed by the present samples, this sexism appears to be a part of the construct. Further work is warranted in examining the extent to which these scales are inherently sexist.

Clearly, care must be taken to not assume the dimensions are the same in these different ethnic groups. Levant et al. (2003) hypothesized that masculinity varies as a function of context, of which ethnic culture is a major aspect. They found prominent differences in masculine ideology and its relation to alexithymia across different contexts. We assert there is a need for a critical examination of how the machismo subscales apply to other cultures and/or relate to other indices of masculine ideology. Such examinations are important for future research and theory development, especially to help situate these scales into a larger model of masculinity.

As with all research, these studies have limitations. The sample, although large, was restricted with respect to SES as it was overrepresented at the more educated, professional levels. This makes generalization to the broader population difficult. More research is needed on a broader sample, in terms of SES and occupational fields. However, even with this reduced variance, there was both discriminant and convergent validity support for the scales. In addition, the non-Mexican Latino group was relatively small and not equivalent to the Mexican American group; thus, more work is needed to establish these machismo subscales in the broader Latino population. It remains to be seen how the scales generalize or not to other groups. Finally, these data are only

cross-sectional, and thus no causal links can be made; we only present relations.

As acknowledged above, future examinations of the Machismo Measure should include male samples from racial and ethnic groups beyond Mexican Americans to examine fully the concept of machismo. These studies did not obtain information related to sexual orientation because we felt it would bias the participants' responses. However, we do see the need for additional exploration of how these subscales covary with sexual identity and behavior. Future research should include specific measures of acculturation (e.g., Acculturation Rating Scale for Mexican Americans; Cuellar, Arnold, & Maldonado, 1995) and generational status. Although the Machismo Measure was in English, it would be important in future research to use a Spanish version of the measure to improve the examination of machismo. Additional research should include further exploration of social desirability and related dimensions of self-deception and impression management. We look forward to collecting data to establish test-retest reliability of the Machismo Measure.

From a clinical perspective, this measure could assist therapists in assessing aspects of Caballerismo and Traditional Machismo with Mexican American male clients. It could provide information as to how they perceive themselves on these two constructs. Clearly, the two independent dimensions do not indicate that one is either high in Traditional Machismo or high in Caballerismo. The subscales are independent, and individuals can score at any level of each. Having the two subscales provides more information on how Mexican Americans view themselves. In addition, the measure can be used as a clinical tool to process issues around masculinity. Administering the psychological functioning assessments would provide additional information for the therapist to get a more accurate picture of their clients' access to feelings, their coping strategies, and their identifying antisocial behavior. Most important, this measure contributes to the profession's cultural competency about this aspect of Latino culture and gender.

The construct of machismo has been a largely unexamined area in clinical practice for working with Mexican American men. The concept of what it means to be a man in the Latino worldview is an integral part of Mexican American male development. This manifests in their normative behavior, relationships, and child-rearing practices. Thus, Mexican American culture and its mediating variables dictate the expectations of male gender roles in the Mexican American family. The message that Mexican American men receive may vary, but they all carry the intent of being a good man. This belief is reflected in the Mexican proverb: *Un buen gallo en cualquier gallinero canta*. In other words, a good man will be a good man in whatever context he finds himself.

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