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Traditional Gender Roles and the Stress–Alcohol Relationship Among Latina/o College Students

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Abstract

Background—Latina/o college students have been shown to engage in more high risk drinking behavior than students from other ethnic minority groups, and are more likely to experience certain negative alcohol related consequences as a result of drinking. Previous research links stress to drinking among college students and indicates drinking occurs within a gendered context. Although this suggests an effect of gender role socialization, studies exploring these relationships among Latina/os are lacking.

Objectives—To explore potential relationships of stress, gender role prescriptions of the heritage culture, and drinking among Latina/o college students. Specifically, to explore potential interactions between stress and multiple dimensions of machismo and marianismo as related to alcohol use.

Method—Latina/o undergraduates (N = 248) completed a questionnaire. Self-reported stress, quantity of alcohol consumption, and frequency of binge drinking were recorded for all participants. Gender role prescriptions were assessed via endorsement of two dimensions of machismo (men) or two dimensions of marianismo (women).

Results—Stress was positively related to general quantity for women. Each dimension of machismo was distinctly related to binge drinking for men. Significant interactions emerged between both machismo and marianismo and stress as related to both alcohol use outcomes. For women, the moderating pattern between marianismo and stress varied according to type of alcohol use.

Conclusions/Importance—Gender role beliefs influence the relationship between stress and alcohol use among Latina/o college students. Future research should account for the intersection of gender and culture when considering the stress-alcohol relationship.

Keywords

Alcohol; college; gender role; Hispanic; Latino/Latina; machismo; marianismo; stress

Declaration of interest

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Research links alcohol use in college to many adverse consequences (e.g., missing class, dropping out, increased STIs, assault; NIAAA, 2015). National data indicate Latina/os engage in heavier drinking than individuals from other ethnic minority groups (e.g., among adults, Cook & Caetano, 2014; among adolescents, Johnston, O'Malley, Miech, Bachman, & Schulenberg, 2017), and most studies on college students suggest similar trends (e.g., Glassman, Dodd, Sheu, Rienzo, & Wagenaar, 2010; Safer & Piane, 2007). Furthermore, Latina/os endorse more severe alcohol problems than non-Latina/o whites (e.g., Mulia, Ye, Greenfield, & Zemore, 2009), rendering examinations of mechanisms underlying drinking behavior in this group highly important.

For many students, college represents a transitional period with numerous stressors (e.g., changes in responsibilities, Ross, Niebling, & Heckert, 1999). Latina/o students may experience acculturative stress, minority stress, and perceived discrimination (Corona et al., 2017) in addition to stressors faced by other students. Research suggests reducing tension associated with stress is one reason people use alcohol (Greeley & Oei, 1999; Park, Armeli, & Tennen, 2004), and that this relationship may differ by gender (e.g., Nolen-Hoeksema, 2004). Similar patterns have been found for certain stressors among Latina/os (e.g., Golbach, Cardoso, Cervantes, & Duan, 2015), with suggestion of distinct patterns for each gender (Vaeth, Caetano, & Mills, 2016). However, research examining the cumulative effects of general university stressors with others highly relevant to Latina/o college students (i.e., global stress) in relation to alcohol use is lacking.

When examining alcohol use among Latina/os, it is useful to consider the underlying sociocultural context. In light of gender differences in alcohol use, for the current study we chose to focus on gendered cultural expectations. Gender schema theory, which asserts people are socialized to adopt behaviors they perceive as gender congruent (Bem, 1981), is implicated in research suggesting that Latino men are encouraged to engage in alcohol use while Latina women are discouraged from the same (Fiorentino, Berger, & Ramirez, 2007). Researchers posit Latino men are socialized to endorse the gender role *machismo*, which is typically characterized by two independent dimensions. The first, traditional machismo, promotes dominance and displays of toughness, and is often associated with risk taking. The second, caballerismo, promotes chivalry and respect (Arciniega, Anderson, Tovar-Blank, & Tracey, 2008), and is characterized by positive qualities such as nurturance and restraint. To people high in traditional machismo, drinking may be a way to display toughness. In contrast, those high in *caballerismo* may see general alcohol use as acceptable but see binging as a failure of restraint. Some research shows a positive link between traditional machismo and alcohol use (Arciniega et al., 2008), while other research indicates neither traditional machismo nor caballerismo are related to alcohol use (Kissinger et al., 2013).

For Latina women, the traditional gender role is often referred to as *marianismo* (see Castillo, Perez, Castillo, & Ghosheh, 2010). Different aspects of *marianismo* encourage purity, chastity, being a source of familial and spiritual strength, and subservience. Conforming to some of these aspects of *marianismo* might discourage alcohol use (e.g., purity) while others could increase alcohol use (e.g., subservience may lead to drinking when others do so). To date, no studies examine TGRB and alcohol use among Latinas using multi-dimensional *marianismo* conceptualization; this study will address this research gap.

Previous research indicates there may be merit in assessing the understudied influence of Latina/o TGRB on the stress-alcohol relationship. Some research shows men are more likely than women to drink to cope with distress (see Nolen-Hoeksema, 2004), suggesting the decision to engage in alcohol use when distressed is a function of another, gendered variable. However, research on the extent that one of these variables may be overarching gender role prescriptions is lacking. The present study aims to bridge this gap in the research through a gender-differentiated analysis of TGRB on the stress-alcohol relationship. Specifically, we investigate the individual and combined influence of stress and TGRB among Latina/o college students.

Method

Participants and procedures

Participants were 248 Latina/o undergraduates ($M_{age} = 19.02, 51.2\%$ female, 69% Mexican-American) at a Hispanic-serving southwest university. All participants received course credit toward introductory psychology for participation. The questionnaire was provided via an online research platform (Qualtrics), took approximately 30–45 minutes, and assessed variables related to traditional Latina/o culture, and alcohol/substance use.

Measures

Potential controls—Age, socio-economic status (measured by parental education; Ensminger & Fothergill, 2003), Spanish language media preference (SLMP; items from Marín & Gamba, 1996), and ethnic identity (Phinney, 1992) were tested as potential covariates. The latter two did not significantly predict either alcohol outcome, and were thus not included in the final models.

Stress—The 10 itemversion of the Perceived Stress Scale (PSS-10; Cohen, Kamarck, & Mermelstein, 1983) measured stress. The PSS measures experienced stress (e.g., "How often in the past month have you felt 'nervous' or 'stressed'") rather than potential stressors. Items were rated on a 9-point scale and summed. The PSS-10 has been validated with, and is often used in college samples (e.g., May & Casazza, 2012; Murphy, Denis, Ward, & Tartar, 2010; Roberti, Harrington, & Storch, 2006).

TGRB—Both *traditional machismo* and *caballerismo* were measured using the 20 item Traditional Machismo and Caballerismo Scale (TMCS), which was developed using a heterogeneous Latino adult male sample (Arciniega et al., 2008). *Traditional machismo* (10 items, e.g., "It is necessary to fight when challenged") and *caballerismo* (10 items, e.g., "Men must exhibit fairness in all situations") scores were calculated by summing 7-point Likert responses within each subscale.

Marianismo was assessed using the Marianismo Beliefs Scale (MBS), which was developed in a heterogeneous Latina college sample (Castillo et al., 2010). Rated on a 4-point scale, items were summed to create the original subscales: *Family Pillar*, (5 items, e.g., "A Latina must keep the family unified"), *Virtuous and Chaste* (5 items, e.g., "A Latina must be pure"), *Subordinate to Others* (5 items, e.g., "A Latina must avoid saying no to people"), *Silencing*

Self to Maintain Harmony (6 items, e.g., "A Latina must not express her needs to her partner"), and Spiritual Pillar (3 items, e.g., "A Latina is the spiritual leader of the family"). Following previous research (Piña-Watson, Lorenzo-Blanco, Dornhecker, Martinez, & Nagoshi, 2016), after summing within dimension, the five dimensions were condensed to two. The first (positive marianismo) was computed as the mean of Family Pillar, Virtuous and Chaste, and Spiritual Pillar. The second (negative marianismo) was computed as the mean of Subordinate to Others and Silencing Self to Maintain Harmony.

Alcohol use—Participants self-reported how many alcoholic beverages they consumed within the past 90 days (general quantity), as well as how many times they consumed 5 or more alcoholic beverages in a single episode within the past 90 days (frequency of binge drinking) using open-ended responses.

Results

Analytic strategy/preliminary analyses

For descriptive statistics, see Table 1. Responses on the alcohol use outcome variables were best approximated by a negative binomial distribution, and were therefore analyzed using negative binomial regression. Change in likelihood ratio tests (G^2) were used because they provide more accurate inference in smaller samples than Wald chi-square tests (Hauch & Donner, 1977). All continuous predictors were z-scored before primary analyses.

Because TGRB prescribe different behaviors to each gender, we analyzed each gender separately. Because TGRB may influence general alcohol consumption differently than binge drinking, we conducted analyses separately for each outcome (i.e., 4 separate analyses in total). For each analysis, stress, the relevant dimensions of TGRB, and their interactions were entered into the model statement. Participants scoring more than 3.29 deviations above or below the mean for either drinking variable were removed from the analysis for that variable (3 for general quantity, 9 for binge drinking; Tabachnik, & Fidell, 2007).

Primary analyses

Stress, TGRB, and alcohol use for males—Full analyses are in Table 2. For men, there was an interaction effect between *traditional machismo* and stress (Figure 1) in relation to general quantity. Higher levels of *traditional machismo* were related to greater quantities of consumption when stress levels were lower but the direction of the difference reversed when stress was higher. For binge drinking, main effects were found for both *traditional machismo* and *caballerismo* but not for stress. Frequency of binge drinking increased with endorsement of *traditional machismo*, while the converse was true for *caballerismo*. The interaction of each with stress was also significant (Figure 2). As with general quantity, for *traditional machismo*, the sign of the relation changed as stress increased. For *caballerismo* the magnitude of the relationship shrank as stress increased but the sign did not change.

Stress, TGRB, and alcohol use for females—For women, higher stress was associated with increased general quantity. This was qualified by a significant interaction with *positive marianismo*, such that consumption increased with stress more when *positive*

marianismo was higher (Figure 3). For frequency of binge drinking, a significant interaction between positive *marianismo* and stress also emerged such that binging decreased with *positive marianismo* at low but not high stress levels (Figure 4).

Discussion

We found that stress was related to higher quantities of alcohol use for women, but not men. Although none of the TGRB in this study exhibited a main effect on general quantity, endorsing traditional machismo was associated with greater binge drinking. On the other hand, endorsing *caballerismo* was related to a reduction in binge drinking. While the former supports previous discussions indicating Latino men are socialized to engage in risky behavior (e.g., Fiorentino et al., 2007), the latter brings attention to the need to empirically consider the complexity of the TGRB gender role script for men as well as the need to distinguish between different types of alcohol use. The interactions between stress and TGRB are particularly interesting, and may suggest the role of TGRB is influenced by opportunities to engage in different kinds of alcohol use. For example, recent research shows that college students who participate in heavy drinking are socially motivated to do so (White, Anderson, Ray, & Mun, 2016). Whether students who attend social gatherings where binge drinking is taking place partake in binge drinking likely depends in part on their adherence to certain TGRB dimensions. Specifically, those endorsing dimensions of TGRB that encourage risky behavior (e.g., traditional machismo among men) likely binge drink given this opportunity whereas those endorsing TGRB characterized by restraint and nurturance (e.g., caballerismo among men, and positive marianismo among women) likely refrain. However, high stress may reduce interest in these sorts of social contexts (LaBrie, Hummer, & Pedersen, 2007), thus reducing opportunity for TGRB to impact alcohol use.

The pattern we observed for females may suggest a similar explanation for the relation between binge drinking and TGRB in women. However, the pattern for general alcohol consumption was somewhat different. Rather than positive *marianismo* being associated with lower total consumption, it was associated with greater consumption as stress increased. Given the lack of a corresponding effect for binge drinking, the pattern suggests an increase in frequency of light alcohol use. It is possible that women who endorse characteristics of positive *marianismo* may cope with stress using socializing and leisure time (de Leon Arabit, 2008), and that light alcohol use is part of that. Clarification may be offered to these findings in future research by assessing the relationship of different dimensions of Latina/o TGRB and motives for drinking. A small body of research considers drinking motives in relation to gender roles (e.g., Fugitt, Ham, & Bridges, 2017; Uy, Massoth, & Gottdiener, 2014), however this is an underdeveloped area of research among Latina/os.

Limitations

Because this study was cross-sectional, we cannot conclude that stress and TGRB are risk or protective factors for alcohol use, or if the causal direction is reversed. Future studies should incorporate these variables within a longitudinal design. Also, we assessed only global perceptions of stress; research would benefit by including stressor measures tailored to

college students' experiences (Feldt, 2008). Finally, our sample was primarily Mexican-American, and reported relatively few occurrences of binge drinking during the past three months (see Table 1), and may therefore not reflect college students from other ethnic groups at other universities. Future research should analyze Latina/o subgroups from a variety of universities to improve generalizability of the findings.

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Figure 1.

The interaction between stress and traditional machismo on general alcohol quantity. For illustration purposes, categorical predictors were created using mean scores from the upper and lower 30% of cumulative scores for each independent variable.



Figure 2.

The interaction of stress with each traditional machismo and caballerismo on frequency of binge drinking. For illustration purposes, categorical predictors were created using mean scores from the upper and lower 30% of cumulative scores for each independent variable.



Figure 3.

The interaction between stress and positive marianismo on general alcohol quantity. For illustration purposes, categorical predictors were created using mean scores from the upper and lower 30% of cumulative scores for each independent variable.



Figure 4.

The interaction between stress and positive marianismo on frequency of binge drinking. For illustration purposes, categorical predictors were created using mean scores from the upper and lower 30% of cumulative scores for each independent variable.

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Descriptives and correlations among study's variables.

	4)								
		Mean(SD)	1	2	3	4	5	9	7	8	6
-	Age	19.02(2.55)		18*	.01	08	19*	01	07	08	.04
7	SES	4.02(1.53)	05		26**	19*	.06	.16	.12	.03	06
З	SLP	8.77(4.85)	05	24 **	.87	.31 ***	90.	.12	.03	03	.07
4	Ethnic Identity	3.13(.68)	.14	.01	.30**	68.	16	$.16^{\circ}$.01	04	.10
5	Perceived Stress	49.91(13.19)	26 **	06	.15	11	.86	03	.06	.08	05
9	Caballerismo	56.91(6.26)	07	-00	.12	.18	06	.72	.30**	.15	.52 ***
Г	Tr. Machismo	29.20(10.15)	11	13	60.	.05	.28**	.19*	.82	.45 ***	.51 ***
×	Neg. Marianismo	1.79(.48)	.06	15	.34 ***	.30 **	$.16^{\uparrow}$.34 ***	.46***	.83	.47 ***
6	Pos. Marianismo	2.86(.55)	07	05	.13	.01	.20	60.	.46 ***	`.50 ^{***}	.87
	Alcohol Quantity	15.25(21.02)									
	Binge Drinking	3.16(6.82)									
Note	. Correlations for men	n are reported oi	n bottom o	f diagonal	and correl	ations for	women ai	re reportec	l on top of	the diagon	al.
$p^*_{<}$.05;										
**	. 01										

p < .01;*** p < .001;

 $^{\dagger}p$ < .10;

Reliabilities for the entire sample are reported bold on the diagonal where appropriate; SLP = Spanish language preference (range 3–21) and SES = socioeconomic status (range: 1–7).

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Negative binomial regression analyses.

	Gene	al quanti.	ty.	DIII	ge arinku	-0 -0
Results for men Variable	B Exp(B)	62	В	Exp(B)	62	
Intercept	1.51	.22	1.30	-5.89	<01	11.02
Age	.20**	1.22	10.04	.32**	1.38	11.39
SES	.12†	1.23	3.26	$.16^{\dagger}$	1.17	3.45
Stress	05	.95	.16	.06	1.06	.17
Caballerismo (CAB)	$.16^{\dagger}$.85	2.73	26*	<i>TT</i> .	4.39
Tr. Machismo (TM)	.12	1.13	1.19	.33*	1.39	5.92
Stress*CAB	.07	1.07	.51	.25*	1.29	3.96
Stress*TM	35**	.70	10.44	45**	.64	11.21
	Gene	ral quantity	y	Bin	ige drinkin,	50
Results for women Variable	В	Exp(B)	G2	В	Exp(B)	62
Intercept	1.81	6.13	2.43	96	.38	.23
Age	.03	1.03	.37	60.	1.10	.80
SES	.06	1.06	.81	01	66.	.02
Stress	.25*	1.29	5.11	.19	1.21	2.06
Neg. Marian. (NM)	<01	1.00	00.	.15	1.17	1.02
Pos. Marian. (PM)	<:01	1.00	00.	17	.84	2.11
Stress*NM	25†	.78	3.24	–.32†	.73	3.33
Stress*PM	.28*	1.33	6.30	.28*	1.32	3.86