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Cultural socialization and alcohol use: The mediating role of alcohol expectancies among racial/ethnic minority youth

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ABSTRACT

Introduction: Cultural socialization is associated with reduced risk for several health outcomes among racial/ethnic minority youth. However, to date, less is known about its effect on substance use or the mechanisms through which this process may operate. The current study aimed to examine the effect of cultural socialization on alcohol use through alcohol expectancies among racial/ethnic minority youth.

Methods: 113 minority adolescents (69.9% African American; 13.3% Hispanic; 10.6% Multiracial; 2.7% American Indian/Alaskan Native) between ages 12 and 18 (mean age 15) were recruited from community-based after school centers. Participants completed measures on cultural socialization, four alcohol expectancy domains (i.e., positive social, wild and crazy, negative arousal, and sedation), and past year alcohol use.

Results: A significant indirect pathway between cultural socialization, alcohol expectancies and alcohol use was found for negative arousal expectancies (b = −0.160, Boot CI [95] = −0.413, −0.021). Indirect paths were non-significant for the other three alcohol expectancies.

Conclusions: Our findings suggest that cultural socialization can help reduce alcohol use among racial/ethnic minority adolescents, in part though influencing negative arousal expectancies. Given evidence that alcohol expectancies play an important and long-lasting role in alcohol use across development, incorporating cultural socialization into intervention programming for racial/ethnic minority youth may prove beneficial to reduce risk for alcohol use.

1. Introduction

Ethnic-racial socialization is conceptualized as the process by which youth, particularly racial and ethnic minority youth, gain information concerning their race or ethnicity in order to prepare the youth to successfully navigate their social environments (Hughes et al., 2006; Priest et al., 2014). This information is most often delivered by a youth's parent or primary guardians (Derlan & Umaña-Taylor, 2015; Eccles, Wong, & Peck, 2006; Priest et al., 2014). Although the terminology used in reference to ethnic-racial socialization varies across studies, with racial socialization primarily used in reference to practices among African American youth and ethnic socialization used for Latino and Asian youth (Hughes et al., 2006), scholars have noted that the socialization experienced regardless of race/ethnicity typically falls under one or more of four themes: cultural socialization, preparation for bias, promotion of mistrust, and egalitarianism (Hughes et al., 2006; Priest et al., 2014).

Of the four themes, cultural socialization, which is characterized by teaching youth about their racial or ethnic heritage and history, promoting cultural customs and traditions, and promoting racial or ethnic pride, has been noted to be one of the more salient components of ethnic-racial socialization (Hughes et al., 2006; Priest et al., 2014). Cultural socialization is also generally viewed as adaptive, as it is associated with better health and psychological outcomes among minority youth (Beach et al., 2016; Neblett Jr, Terzian, & Harriott, 2010), including decreased risk for depressive and anxiety symptoms (Bannon Jr, McKay, Chacko, Rodriguez, & Cavaleri Jr, 2009; Neblett et al., 2008), and increased self-esteem (Davis & Stevenson, 2006; Hughes, Hagelskamp, Way, & Foust, 2009) and racial identity (Neblett, Smalls, Ford, Nguyen, & Sellers, 2009). For example, Davis and Stevenson (2006) found that adolescents who received “high doses” of cultural socialization (operationalized as knowledge and pride related to one's history and culture) reported higher self-esteem. In another study, researchers also found that for African American adolescents, a high quantity of messages about cultural socialization (operationalized as messages about positive attributes and contributions of one's racial group) buffered the negative relationship between perceived racial discrimination and self-esteem (Harris-Britt, Valrie, Kurtz-Costes, &

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Rowley, 2007).

Although examined to a lesser extent than internalizing outcomes, cultural socialization has also been shown to buffer against externalizing outcomes. For instance, cultural socialization has been associated with decreased risk for aggressive or antisocial behaviors, including criminal offending (Burt, Simons, & Gibbons, 2012; Henry, Lambert, & Smith Bynum, 2015; Hughes, Witherspoon, Rivas-Drake, & West-Bey, 2009) and incarceration (Bennett Jr, 2007). However, one behavioral outcome that has received limited attention is substance use. Further, among the available literature regarding substance use, findings are mixed. For example, Grindal and Nieri (2016) found among a sample of 9th graders that higher levels of cultural socialization were associated with lower rates of cigarette, alcohol, and marijuana use. Yet, Thompson, Goodman, and Kwate (2016) found among a sample of African American adults a non-significant effect of childhood racial socialization from parents, peers, and other adults on tobacco and alcohol use. However, these different findings between the Grindal and Nieri (2016) study and the Thompson et al. (2016) study may due to several factors, including the age range of the sample and how cultural socialization was measured. Within the Grindal and Nieri (2016) study, only items related to cultural socialization were included in the measurement. Whereas, within the Thompson et al. (2016) study items assessing both cultural socialization and other facets of racial socialization, including preparation for bias and egalitarian socialization, were included in the measurement. Given evidence for variation in outcomes between preparation for bias and cultural socialization (Daga & Raval, 2018; Hughes, Witherspoon, et al., 2009; Liu & Lau, 2013), this may explain the mixed findings presented above.

In addition to limited research on the direct effect of cultural socialization on behavioral health outcomes, as noted by Priest et al. (2014), there is also a gap in the literature in understanding the mechanisms through which socialization might operate. To our knowledge, only two studies have been conducted specifically examining mechanisms between cultural socialization and substance use among minority youth populations. The first was conducted by Grindal and Nieri (2016) who examined the mediating role of social learning. The researchers found that peer social learning played an indirect role in the relationship between cultural socialization and substance use among a sample of primarily Latino high school students (Grindal & Nieri, 2016). The second study was conducted by Grindal (2017), who found a significant indirect effect of social bonding on the relationship between cultural socialization received by a diverse sample of college students during their youth and substance use during early adulthood. Thus, these studies provide support for social networks as significant mediator. However, less is known about individual level factors, such as expectancies, that may mediate the pathway between cultural socialization and substance use.

Substance use expectancies are most often examined in reference to a specific substance. For example, alcohol expectancies are defined as beliefs about the effects of alcohol use and are often understood on the valance of positive or negative beliefs. Positive alcohol expectancies include beliefs that drinking will enhance social experiences or emotions, and have been found to predict alcohol use (Fromme & D'Amico, 2000; Settles, Zapolski, & Smith, 2014). Negative alcohol expectancies on the other hand, which include beliefs that drinking will result in negative outcomes and produce sedative effects, have been found to protect against drinking among adolescents (Bekman et al., 2011; Fromme & D'Amico, 2000; Maggs, Staff, Patrick, Wray-Lake, & Schulenberg, 2015). The influence of alcohol expectancies on drinking outcomes have also been observed based on race/ethnicity, although most of the research has been conducted exclusively among positive expectancies. Among recently immigrated Hispanic youth, Oshri et al. (2014) found a positive association between tension reduction expectancies and frequency of being drunk. The authors believe this suggests that youth may engage in alcohol use due to the belief that alcohol will reduce stress. Among African American youth there is also evidence of an association between positive expectancies and drinking frequency, such that higher positive expectancies are predictive of greater use (Chartier, Hesselbrock, & Hesselbrock, 2009; Meier, Slutske, Arndt, & Cadoret, 2007), whereas lower positive expectancies are related to decreased use (Antin, Lipperman-Kreda, Paschall, Marzell, & Battle, 2014). However, there are others who have observed a null effect for both the relationship between positive alcohol expectancies and alcohol use (Banks & Zapolski, 2017) and negative alcohol expectancies and alcohol use (Antin et al., 2014).

Based on the social cognitive learning theory (Bandura, 1986), it has been posited that youth acquire their beliefs regarding alcohol through their social networks, particularly their peers and parents (Petraitis, Flay, & Miller, 1995). Thus, it is plausible that alcohol expectancies may be a mechanism through which cultural socialization influences substance use risk for minority adolescents. Given the call for more studies specifying mechanisms that link ethnic-racial socialization and behavioral outcomes (Grindal & Nieri, 2016; Priest et al., 2014; Rodriguez, Umana-Taylor, Smith, & Johnson, 2009), the current study will examine the indirect pathway between cultural socialization, alcohol expectancies, and alcohol use outcomes among a sample of racial/ethnic minority adolescents. Given the lack of previous literature documenting the effect of cultural socialization on alcohol expectancies, it is unknown whether a significant indirect effect will be found for either positive or negative alcohol expectancies on alcohol use behaviors among our sample of adolescents.

2. Methods

2.1. Participants

For the current study youth ages 12–18 ($M = 15.27$, $SD = 1.81$) were recruited from six tuition-free after-school programs in an urban, mid-western city. An opt-out parental consent procedure, with active assent was used for all participants under the age of 18. Participants who were 18 provided their own consent. Research staff administered self-report measures of cultural socialization, alcohol expectancies and past year alcohol use to participants at their respective afterschool programs. The current study included 113 youth who identified as racial/ethnic minorities, a majority of whom were non-Hispanic African American ($n = 79$, 69.9%) followed by Hispanic ($n = 15$, 13.3%), Multiracial ($n = 12$, 10.6%), Other ($n = 4$, 3.5%), and American Indian/Alaskan Native ($n = 3$, 2.7%). The majority of participants were also male ($n = 74$, 65.6%). See Table 1 for details on descriptive statistics.

Table 1
Demographics and descriptive statistics for the sample.

Variable	N or Mean (% or SD)
Age	15.27 (1.81)
Gender	
Male	74 (65.5%)
Female	39 (34.5%)
Race/Ethnicity	
African American/Black	79 (69.9%)
American Indian/Alaskan Native	3 (2.7%)
Hispanic	15 (13.3%)
Multiracial	12 (10.6%)
Other	4 (3.5%)
Alcohol use	32 (28.3%)
Cultural socialization	3.06 (1.00)
Positive social expectancies	2.09 (0.50)
Wild and crazy expectancies	2.94 (0.53)
Negative arousal expectancies	2.53 (0.62)
Sedation expectancies	2.65 (0.63)

2.2. Measures

2.2.1. Demographics

Participants were asked to indicate their gender, age, and racial/ethnic background (i.e., African American, American Indian, Asian, White, Other, and Hispanic). For the current study, participants who indicated more than one racial background were categorized as Multiracial. All participants who identified as racial/ethnic minorities (i.e., any category other than White) were included in the study analysis.

The Familial Ethnic Socialization Measure (FESM; Umaña-Taylor & Fine, 2001) is a 12-item measure used to assess the degree to which participants perceive that their parents socialized them in respect to cultural background. FESM items include "My family teaches me about the values and beliefs of our ethnic/cultural background" and "My family talks about how important it is to know about my ethnic/cultural background." Participants provided responses on a 5-point scale from 1 (*not at all true*) to 5 (*very much*). Higher scores are indicative of higher levels of parent cultural socialization. For the current study, internal consistency was strong ($\alpha = 0.92$), which is consistent with findings from previous studies (Umaña-Taylor, Bhanot, & Shin, 2006).

The Memory-Model Based Expectancy Questionnaire (MMBEQ; Dunn & Goldman, 1996) was 39 items used to assess positive and negative alcohol expectancies in four domains: positive social (18 items), "wild and crazy" behaviors (7 items), negative arousal (7 items), and sedation/impairment (7 items). The scale begins with the stem, "Drinking alcohol makes people ___." Participants provided responses on a 4-point scale from 1 (*never*) to 4 (*always*). Examples of statements after the stem in each domain include: "friendly" and "fun" for positive social, "goofy" and "hyper" for wild/crazy, "mad" and "sad" for negative arousal, and "sleepy" and "stupid" for sedation. Consistent with the categorization of the four domains by the developers of the MMBEQ and other researchers (Dunn & Goldman, 1996; Settles et al., 2014), positive social and wild/crazy domains were considered positive alcohol expectancies and negative arousal and sedation domains were considered negative alcohol expectancies. Internal consistency estimates for each subscale were good (positive social: $\alpha = 0.86$, wild/crazy: $\alpha = 0.72$, negative arousal: $\alpha = 0.82$, sedation: $\alpha = 0.79$). Higher scores were indicative of greater alcohol expectancies.

2.2.2. Alcohol use

A one item question, "During the past year, have you had more than a few sips of beer, wine, or any drink containing alcohol?" was used to assess past year alcohol use. Participants who endorsed the item were coded as alcohol users.

2.3. Data analysis

All analyses were performed using SPSS 24.0. Univariate skewness and kurtosis were examined for the variables of interest and were all found to be within an acceptable range. Prior to running the main model, the relationship between the demographic covariates (i.e., gender and age), alcohol expectancies, and alcohol use were examined to determine which covariate(s) to include in the model. The PROCESS macro version 3.1 (Model 4: simple mediation, specified by Hayes, 2013) was used to examine the mediating role of positive and negative alcohol expectancies on the relationship between cultural socialization and alcohol use. The PROCESS macro estimates the total and direct effect of the independent variable on the dependent variable, the direct effect of the independent variable on the mediator, and the effect of the mediator on the dependent variable. The PROCESS macro used bootstrapping to generate bias-corrected confidence intervals for the indirect effect and various indices of effect size for the indirect effect (Hayes, 2013). For all mediation analyses in the current study, we used 5000 bootstrap samples.

Table 2
Correlation coefficient matrix.

	Age	Gender	CS	PS	WC	NA	Sed	Alcohol
Age	_	−0.06	0.00	0.25**	−0.13	−0.03	−0.15	0.28**
Gender		_	0.08	−0.01	0.13	0.03	0.02	0.16
CS			_	0.00	0.06	0.24*	0.18	0.03
PS				_	0.02	−0.08	−0.05	0.07
WC					_	0.58***	0.62***	−0.08
NA						_	0.74***	−0.25**
Sed							_	−0.21*
Alcohol								_

Notes: $N = 112$. Gender: male = 0, female = 1. CS = cultural socialization PS = positive social; WC = wild and crazy; NA = Negative Arousal; Sed = sedation; Alcohol = alcohol use.
* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

3. Results

3.1. Preliminary analysis

Means and standard deviations for the measures of interest are shown in Table 1. Of note, 28.3% of the sample had engaged in alcohol use over the past year. Initial bivariate and point-biseral correlations between all study variables are shown in Table 2. Correlation analyses revealed that age and gender were not correlated with most variables of interest. The only associations found pertained to age, with older age associated with past year alcohol use ($r = 0.28$, $p = 0.003$) and higher positive social expectancies ($r = 0.25$, $p = 0.008$). Thus, age was included as a covariate in subsequent analyses. Regarding the variables of interest, there was a significant positive correlation between cultural socialization and negative arousal expectancies ($r = 0.24$, $p = 0.011$). There was also a signficant negative correlation between negative arousal ($r = -0.25$, $p = 0.008$) and sedation ($r = -0.21$, $p = 0.023$) expectancies and alcohol use. No significant associations were found between the positive social and wild and crazy alcohol expectancies and either cultural socialization or alcohol use.

3.2. Cultural socialization, alcohol expectancies, and alcohol use

Indirect path models were run with each of the alcohol expectancies entered as the mediator variable. After controlling for age, cultural socialization was found to be positively associated with negative arousal expectancies (b = 0.15, $p = 0.012$). A non-significant effect was found for sedation expectancies (b = 0.12, $p = 0.053$), positive social expectancies (b = 0.002, $p = 0.964$), and wild and crazy expectancies (b = 0.030, $p = 0.560$). Moreover, only negative arousal (b = −1.08, $p = 0.007$) and sedation expectancies (b = −0.70, $p = 0.049$) were found to be significantly associated with alcohol use. When examining the indirect effect between cultural socialization, alcohol expectancies, and alcohol use, a significant pathway was observed for negative arousal expectancies (estimated indirect effect = −0.160, Boot CI [95] = −0.413, −0.021). A non-significant effect was found for the other three alcohol expectancies (sedation: estimated indirect effect = −0.080, Boot CI [95] = −0.269, 0.004; positive social: estimated indirect effect = 0.000, Boot CI [95] = −0.049, 0.050; wild and crazy: estimated indirect effect = −0.007, Boot CI [95] = −0.123, 0.022). See Fig. 1 for path coefficients.

4. Discussion

Based on social cognitive learning theory (Bandura, 1986), the current study aimed to examine whether cultural socialization would be associated with reduced risk for alcohol use indirectly through alcohol expectancies among a sample of racial/ethnic minority youth. This

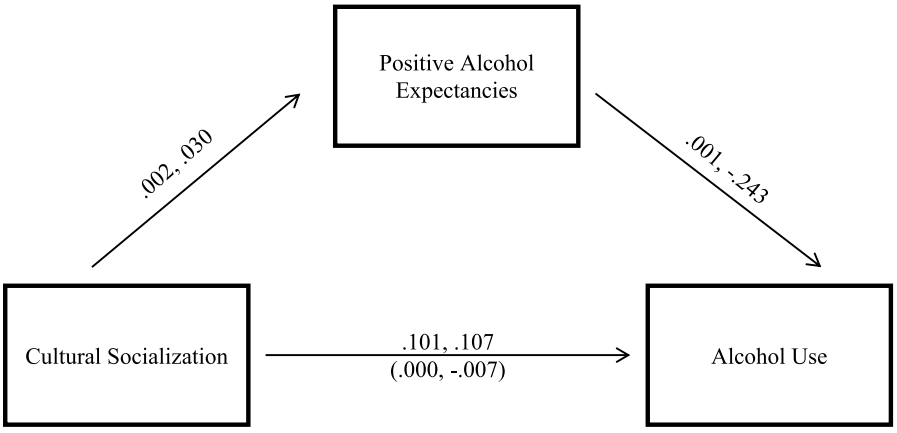
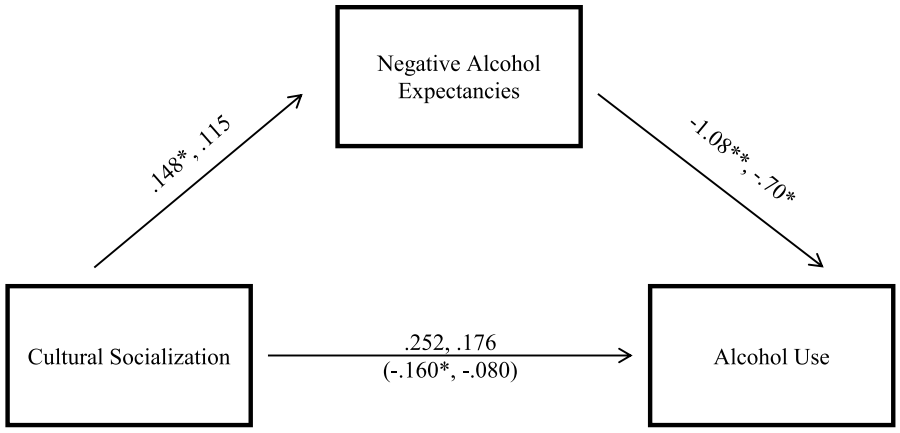


Fig. 1. Indirect pathway between cultural socialization on alcohol use through alcohol expectancies.
Depiction of an indirect pathway between cultural socialization and alcohol use through alcohol expectancies. Unstandardized coefficients are presented for the pathways. The direct effects for each pathway (i.e., path a, path b, and path c') are presented above the line. The indirect effect of cultural socialization on alcohol use through expectancies is presented in parenthesis below the line. For the positive alcohol expectancies pathway, the first value is for positive social expectancies and the second value is for wild and crazy expectancies. For the negative alcohol expectancies pathway, the first value is for negative arousal expectancies and the second value is for sedation expectancies. Age was included in the model as a covariate but is not depicted.
*$p < 0.05$, **$p < 0.01$.



pathway was examined based on four alcohol expectancy domains: positive social expectancies, wild and crazy expectancies, negative arousal expectancies, and sedation expectancies. Findings suggested that although a significant zero-order correlation between cultural socialization and alcohol use was not found, cultural socialization was associated with reduced risk for alcohol use through negative arousal alcohol expectancies. Specifically, we found that greater experiences of cultural socialization was associated with higher negative arousal expectancies, which was associated with reduced risk for alcohol use. However, a non-significant indirect effect was found for the other three alcohol expectancies.

These findings add to literature on the association between cultural socialization and substance use (Grindal & Nieri, 2016; Thompson et al., 2016) suggesting that even in the absence of a direct relationship, being exposed to messages regarding pride for their culture can increase youth's negative expectancies regarding alcohol, and thus lower risk for alcohol use. This finding may be related to evidence found among African American parents, in that they tend to hold more negative views regarding alcohol use compared to White parents (Wallace & Muroff, 2002; Zapolski, Pedersen, McCarthy, & Smith, 2014). Thus, it may be the case that through cultural socialization practices, parents are transmitting beliefs or expectations on the negative effects of alcohol use that are internalized by youth, which may in turn decrease risk for use among adolescents. Moreover, given that increases in negative emotions, such as those identified within the negative arousal expectancies (i.e., depressed, mad, angry) are predictive of alcohol related problems (Gonzalez, Reynolds, & Skewes, 2011; Karyadi & King, 2011), by developing higher negative arousal alcohol expectancies risk for experiencing alcohol related problems may also be decreased.

Based on these findings on cultural socialization and alcohol-related outcomes, and as suggested by other scholars, cultural socialization may be an important component to include in parenting programs for racial/ethnic minority parents (Corard, Foy-Watson, Zimmer, & Wallace, 2007; Corard, Wallace, Stevenson, & Brotman, 2004), as it can provide additional resources to foster adaptive outcomes among minority youth. For example, Anderson, McKenny, Mitchell, Koku, and Stevenson (2017) piloted a five-session intervention aimed to prepare African American parents for their discussions about racial encounters with their child, with preliminary evidence supporting the program's ability to increase both the parent and child's ability to calculate stress levels, communicate their stress, and relax through breathing. To date, no known studies has examined the effect that these interventions might have on alcohol or other substance use outcomes, highlighting the need for future research in this area that directly tests whether interventions that incorporate cultural socialization influence changes in substance use, including changes in substance-related expectancies among racial/ethnic minority youth.

Additionally, although the current study examined the effects of cultural socialization on alcohol related outcomes solely among racial/ethnic minority youth – which is consistent with most of the published studies in the area of the cultural socialization (e.g., Loyd & Gaither, 2018; Priest et al., 2014) – there is some evidence to suggest that

pathways involving cultural socialization may operate similarly among White youth (Hughes, Witherspoon, et al., 2009). We ran supplementary analysis where the indirect pathways were tested for our whole sample of youth, which included 26 White youth. Our results with the whole sample mirrored results found among the original analyses with only racial/ethnic minority youth. These findings point to the need to be more inclusive in our assessment of cultural socialization to better understand whether the hypothesized pathways are cross-culturally valid for both racial/ethnic minority and majority youth. Providing evidence for cross-cultural validity can in turn increase the clinical implications for pathways found between cultural socialization and various health outcomes among adolescent populations.

We did not find a significant indirect effect for either sedation expectancies, positive social expectancies, or wild and crazy expectancies. The lack of a significant effect for the sedation expectancies may be a byproduct of the study's sample size, as the associations between cultural socialization and sedation expectancies, and the full indirect model for sedation expectancies were close to the significance cut-off. It is plausible that with a larger sample size there would have been more power to detect an effect for sedation expectancies. As for positive social and wild and crazy expectancies, based on the zero-order correlation analysis, these expectancies appear to be unrelated to one another among our sample. Moreover, wild and crazy expectancies were significantly related to both negative arousal and sedation expectancies. These findings suggest that positive social and wild and crazy expectancies may not represent a higher order positive alcohol expectancy factor for racial/ethnic minority youth and should be further investigated in future research. Positive social and wild and crazy expectancies were also unrelated to cultural socialization, suggests that they may not be associated with cultural socialization practices among racial/ethnic minority youth in similar ways that appear to operate among the negative alcohol expectancies. In a study examining the effect of parental respect on alcohol initiation among middle school students, researchers found that positive alcohol expectancies mediated this relationship for White and Asian youth. However, this same effect was only found to be non-significant for Hispanic and African American youth (Shih, Miles, Tucker, Zhou, & D'Amico, 2012). Given that our sample was primarily composed of African American and Hispanic youth, perhaps positive alcohol expectancies are important mediators for some minority adolescents, but not others.

Though this study has many strengths, such as examining novel pathways to understand the association between cultural socialization and alcohol use, there are some limitations to highlight. First, this study was conducted among youth within afterschool programs. Given that afterschool programs have been shown to have some effect in reducing engagement in health compromising behaviors (Gottfredson, Gerstenblith, Soulé, Womer, & Lu, 2004), the study findings may not generalize to a broader adolescent population. Second, due to the low prevalence of substance use and limited variability in frequency of use among our sample, the alcohol use variable was dichotomized. Although dichotomization of substance use variables is commonly done within adolescent substance use research (e.g., Earnshaw et al., 2017; Luk, Farhat, Iannotti, & Simons-Morton, 2009; McDonough, Jose, & Stuart, 2016; Schuler, Tucker, Pedersen, & D'Amico, 2019; Van Ryzin, Fosco, & Dishion, 2012), it is a more simplistic estimate of use and limits variance to find an effect (Van Ryzin et al., 2012). Third, our sample size was relatively small, which may have limited both the power to find effects. It is plausible that with a larger sample, effects for sedation expectancies would have been significant, and would confirm whether or not an indirect effect is found for positive social or wild and crazy expectancies. Additionally, because of this small sample size we collapsed findings across minority groups rather than examining the groups separately. It is plausible that the pathway between cultural socialization, alcohol expectancies, and alcohol use may differ across racial/ethnic minority groups and should be examined in future research.

The current study is one of the first to examine mediational pathways between cultural socialization and alcohol use. Although our findings point to negative arousal alcohol expectancies as a mechanism through which cultural socialization interventions would impact drinking outcomes, given that our study was cross-sectional, we cannot ascertain the specific causal process through which this pathway may operate. It is plausible that during the socialization process parents provide specific messages about the harms of alcohol use. Alternatively, based on literature showing that social learning and social bonding mediate the relationship between cultural socialization and substance use (Grindal, 2017; Grindal & Nieri, 2016), it is also plausible that the relationship between cultural socialization and negative alcohol expectancies operates indirectly through exposure to cultural norms, through which adolescents consume messages concerning negative aspects of alcohol use. In this case, it may also be social influences outside of the familial structure that play a role in the cultural socialization process that influences youth's negative alcohol expectancies. Future studies are needed to examine these hypothesized pathways, which can in turn inform clinical practice and interventions aimed at enhancing cultural socialization in order to promote positive behavioral health outcomes for youth.

In sum, our results support previous research highlighting the impact of cultural socialization, particularly the buffering effect that it can have against alcohol use through negative alcohol expectancies. These results point to cultural socialization and negative alcohol expectancies specifically, as potential targets for intervention among racial/ethnic minority youth to reduce risk for alcohol use. While some interventions have been developed that utilize cultural socialization (e.g., Corard et al., 2004), studies have yet to include substance-related outcomes. Future studies are needed that examine specific mechanisms through which cultural socialization may impact risk for alcohol use, as well as other substances, which can inform clinical practice and interventions youth and their families.

Conflict of interest

All authors have given final approval of the version to be published. My coauthor and I do not have any conflicts of interest or activities that might be interpreted as influencing the research submitted, and this study was conducted in accordance with APA ethical standards. This research has not been presented at a conference and is not under consideration for publication with any other journals.

Declarations of interest

None.

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