

EMPIRICAL ARTICLE

Substance use among Latinx youth: The roles of sociocultural influences, family factors, and childhood adversity

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Abstract

Substance use among youth is associated with adverse consequences and may increase vulnerability to addiction and psychiatric disorders later in life. Sociocultural factors such as discrimination have been associated with substance use, while positive cultural resources, such as enculturation and familism, have demonstrated protective outcomes. However, few studies have highlighted how family factors influence substance use among Latinx youth during their transition from adolescence to young adulthood. This study used longitudinal data to explore the associations between sociocultural factors, family factors, childhood adversity, and substance use among Latinx youth. The data were from a longitudinal study of acculturation and substance use among Latinx youth in Southern California ($n = 1257$, 52.1% female, mixed socioeconomic status). The average age was 14.5 ($SD = 0.39$). Data collection began in 2005 and ended in 2016. Hierarchical regression models showed that discrimination was associated with higher problematic alcohol susceptibility. Childhood adversity was associated with higher odds of tobacco, alcohol, and marijuana use. Parental communication was associated with lower odds of problematic alcohol and marijuana use. To promote youth well-being, preventive efforts should prioritize reducing childhood adversity and discrimination, while fostering positive family relationships. Overall, our findings suggest the need for interventions targeting various systemic levels to effectively address substance use among Latinx youth.

KEYWORDS

childhood adversity, Latinx, parenting, substance use

INTRODUCTION

Substance use among Latinx youth is a multifaceted issue with far-reaching consequences for individuals, families, and communities (Rogers et al., 2021). The Latinx population is one of the fastest-growing ethnic groups in the United States, with an estimated 62.1 million individuals making up 19.4% of the total population (U.S. Census Bureau, 2021). Despite this growth, Latinx youth continue to face a range of challenges, including discrimination, which may contribute to elevated rates of substance use (Villamil Grest et al., 2021). Over the past two decades, there has been a notable increase in the incidence of substance use among Latinx adolescents in the United States (Johnston et al., 2019). Latinx adolescents also report the highest rates of illicit substance use,

inhalant use, and alcohol use when compared to White and Black adolescents (Johnston et al., 2015). Substance use among youth may increase their vulnerability to addiction to other classes of drugs and psychiatric disorders later in life (Rogers et al., 2021). Given the heightened vulnerability of adolescents to substance use, it is essential to examine the influence of substance use and abuse on the overall health and well-being of Latinx adolescents.

Emerging adulthood is a critical period for intervention, marked by significant life transitions, biopsychosocial changes, and an increased risk of substance use (Wagner et al., 2020). For example, previous research has found that past-month substance use peaks, reaching about 49% among 19 and 20-year-olds and increasing to almost 70% by the age of 27 (Johnston et al., 2019). Therefore, there is a need

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for more studies examining the role of cultural and family factors in substance use among Latinx youth during the transition from adolescence to young adulthood, to inform targeted interventions.

The study framework draws from the Ecodevelopmental Theory (Szapocznik & Coatsworth, 1999), which examines the intricate web of influences and interconnected systems shaping youth development and behaviors. This theory places the family at the center of child development, with an emphasis on social and cultural factors that may influence youth outcomes. In this regard, the presence of risk factors in the family and sociocultural domains may have additive effects, potentially amplifying the risk of substance use among diverse youth (Boyd et al., 2021). Additionally, the ecological systems theory (Bronfenbrenner, 2000) suggests that interconnected factors at the micro and macro levels may be linked to substance use among Latinx youth. The microsystem focuses on the immediate environment in which youth interact. Within the microsystem, family dynamics and childhood adversity play a critical role in influencing youth (Andrade et al., 2021). Macro factors may include sociocultural factors such as familism, acculturation (Marsiglia & Kiehne, 2020), enculturation, and stressors such as discrimination by the majority culture (Rogers et al., 2020). Emerging literature has highlighted the need for a better understanding of the unique cultural and social factors that contribute to substance use among Latinx youth (Villamil Grest et al., 2021). This study bridges this gap by longitudinally examining the influence of family factors (i.e., parental monitoring and communication), sociocultural factors (acculturation, discrimination, and familism), and childhood adversity on substance use during young adulthood. The findings from this study will inform the design of preventive and culturally sensitive strategies to mitigate substance use among youth.

Sociocultural factors and substance use

Extant studies have identified sociocultural factors such as acculturation and discrimination as correlates of substance use among diverse populations (Marsiglia & Kiehne, 2020). Acculturation is a normative process of cultural change involving values, behaviors, and attitudes (Sam & Berry, 2016; Schwartz et al., 2014), whereas enculturation emphasizes the retention of Latinx cultural values. These are both critical processes through which Latinx youth build distinct identities (Sam & Berry, 2016). Previous studies have found that youth who are more acculturated to the U.S. may have a higher likelihood of substance use (Marsiglia & Kiehne, 2020). This has been examined through the lens of the healthy immigrant paradox (Salas-Wright et al., 2016), which suggests that as acculturation progresses, the initial health advantages of immigrants' experience may begin to decline (Hamilton et al., 2015; Marks et al., 2014). Similar studies have shown that this pattern is evident among adolescents, suggesting an association between acculturation

and poorer behavioral health outcomes (McCabe et al., 2021; Tabler et al., 2020). Conversely, other studies propose that it is not acculturation per se, but the balance of other cultural factors that function as risk or protective factors for substance use behaviors among youth (Unger et al., 2009).

Familism, a cultural value emphasizing respect, fidelity, and interdependence among family systems (Pedreira et al., 2024), has been associated with lower rates of substance use among Latinx youth (Lopez-Tamayo et al., 2016). Previous studies on Latinx youth found that familism was protective against substance use (DiBello et al., 2016). However, other studies have found no association between familism and substance use (Valdivieso-Mora et al., 2016). These inconsistent findings suggest a need for more research on the association between familism and substance use.

Latinx youth also experience sociocultural stressors such as discrimination (Constante et al., 2021; Pasco et al., 2022). Discrimination is the differential treatment of individuals based on their membership in a minority or lower-status group. It encompasses both overt and subtle microaggressions (Torres et al., 2019). During adolescence, when the developing brain is more affected by environmental factors and stressors (Eiland & Romeo, 2013), chronic discrimination may disrupt protective psychological mechanisms that allow youth to cope with stressors, which may increase the likelihood of substance use (Cave et al., 2020). When youth experience these types of stressors, negative coping, including the use of alcohol or other substances, may be used to minimize stress (Unger et al., 2014). Given these findings, examining the sociocultural factors in Latinx youth substance use behaviors can enhance the field's capacity to identify potential risk or protective factors, and ultimately identify key prevention strategies for this population.

Family factors and substance use

The family environment exerts a critical influence on youth behavioral outcomes (Rusby et al., 2018). Family factors such as parental monitoring and communication may be important predictors of substance use, considering the significance of the family in Latinx cultures (Meca et al., 2021). The quality of parent-child relationships may reduce the likelihood of delinquent youth behavior by limiting opportunities for deviant behavior, providing alternative prosocial activities, and encouraging positive development (Rusby et al., 2018). For instance, parental monitoring has been found as a protective factor against substance use (Andrade et al., 2021). These authors found that maternal monitoring was negatively associated with substance use. Similarly, Rusby et al. (2018) revealed that parental monitoring was protective for alcohol use, and marijuana use onset.

Researchers have found a negative relationship between parental communication and youth substance use (Opara et al., 2019). In this study, parental communication was found as one of the most salient protective factors against substance use in the community. Examining the role of

family factors is pivotal in understanding the factors influencing substance use among youth, attenuating the risk of substance use among Latinx youth, and ensuring targeted interventions.

Childhood adversity and substance use

Childhood adversity has a significant and enduring influence on health outcomes across an individual's lifespan (Davis et al., 2021; Felitti et al., 1998). Previous studies have established that early exposure to chronic stressors may increase vulnerability to pathology and psychopathology (Albott et al., 2018), including substance use, in both adults (Forster et al., 2017) and youth (Davis et al., 2021). Other studies on intergenerational trauma and substance use continuity (Okine et al., 2023) provide a foundation for analyzing these linkages. Biological responses to stressors suggest that the coping and self-regulation capacities of adolescents may become reduced when exposed to many childhood adversities. This may subsequently increase stress and affect neurophysiological and psychosocial functioning (Anda et al., 2006).

According to self-medication theories, individuals with early and multiple victimizations may use alcohol or other substances to manage their feelings of anxiety or stress, which can contribute to lifelong patterns (Magrys & Olmstead, 2015). Previous studies have established an association between childhood adversity and substance use (Salas-Wright et al., 2016; Vaughn et al., 2017). These studies emphasize the need for more studies to examine the influence of childhood adversity on substance use behaviors among diverse youth groups.

Current study

Sociocultural stressors such as discrimination have been associated with substance use (Marsiglia & Kiehne, 2020). However, few studies have examined the role of family factors on substance use among Latinx youth during the transition from adolescence to young adulthood (Lorenzo-Blanco et al., 2016; Unger et al., 2016). The Ecodevelopmental theory (Szapocznik & Coatsworth, 1999) highlights the individual, environmental, and sociocultural factors that may influence youth behavioral outcomes. The presence of risk factors in the family and sociocultural domains may have additive effects, potentially amplifying the risk of substance use among diverse youth (Boyd et al., 2021). Conversely, family and sociocultural strengths may mitigate the negative impact of substance use among Latinx youth (Andrade et al., 2021). Existing literature presents divergent perspectives on intervention strategies. While some studies advocate for culturally adapted prevention (Marsiglia et al., 2022), others emphasize the significance of family-based interventions (Opara et al., 2019). Additionally, previous studies on Adverse Childhood Experiences (ACE) have emphasized the need to

examine the influence of ACEs among diverse ethnic groups (Villamil Grest et al., 2021), considering the well-established link between childhood adversity and negative health outcomes (Salas-Wright et al., 2016; Vaughn et al., 2017). The present study utilized longitudinal data to fill these gaps by examining the association between sociocultural and family factors and substance use among youth in young adulthood. The additive risk hypothesis suggests that family factors and childhood adversity will serve as an independent risk source, beyond sociocultural factors, for youth substance use problems. We hypothesized that discrimination, U.S. acculturation, and childhood adversity would be associated with an increase in substance use. In addition, we expect familism, enculturation, parental monitoring, and parent-child communication to be associated with a decrease in substance use.

METHODS

Data and participants

The study data were from the Reteniendo Entendiendo Diversidad para-Salud (Project Red; Unger et al., 2009). This was a longitudinal study of substance use and acculturation among Latinx youth in Southern California, from 2005 to 2016. The study sample was from schools situated in Los Angeles County, with varying socioeconomic profiles. Based on the 2000 census data, the median annual income of households in the school's ZIP codes was between \$29,000 and \$73,000. Latinx youth in the ninth grade from one of the seven schools in those ZIP codes were invited to participate. Students were allowed to participate in the study when they provided written, verbal, or telephone parental consent. Most participants had parents, grandparents, or great-grandparents from Mexico and the rest were from Central America. All study procedures were approved by the University of Southern California IRB (Protocol HS-048052).

In 2005 (mean age = 14.5), the first seven data collection time points (T1–T7) began, with all enrolled students ($N = 3,218$ total) invited to participate. About 2222 students (69 percent) completed the initial survey. At one or more of the four additional time intervals, 1303 adolescents completed the surveys (T4–T7) (Villamil Grest et al., 2021). Data for the current study were from T1 (mean age = 14.5), T5 (mean age = 21.6), and T7 (mean age = 23.9).

Measures

Parent-child communication

We measured parent-child communication at T1 (mean age = 14.5) using a 5-item questionnaire, adapted from the Cohen et al. (1994) parental communication scale. The questionnaire asked adolescents about their degree of openness and problems with family communication from an adolescent's perspective. Response options ranged from 1 = *never*,

2=*hardly ever*, 3=*sometimes* to 4=*very often* (Cronbach's $\alpha=.78$; Cohen et al., 1994).

Parental monitoring

A 3-item questionnaire, adapted from the Cohen et al. (1994) parental monitoring scale, was used to measure parental monitoring. The questionnaire asked students to reflect on how much their parents knew about their activities and answered Likert-style questions ranging from 1=*never*, 2=*hardly ever*, 3=*sometimes*, to 4=*very often* (Cronbach's $\alpha=.71$; Cohen et al., 1994). We measured parent-child communication at T1 (mean age = 14.5).

Childhood adversity

We measured childhood adversity using a modified version of the Adverse Childhood Experience Study Framework (Anda et al., 2006), as informed by previous research based on study data (Villamil Grest et al., 2021). The eight items (physical, psychological, sexual abuse, substance use, parental violence, divorce, mental illness, and incarceration) were mapped onto the original 10 ACEs (excluding physical and emotional neglect). Each ACE was dichotomized (0/1) and added. For the analysis, the ACEs continuous summative scores were used. Childhood adversity was measured at T5 (mean age = 21.6) to highlight participants' experiences before the age of 18.

Acculturation/enculturation

Acculturation was measured at T1 (mean age = 14.5) using the Acculturation Rating Scale for Mexican Americans-II (Cuellar et al., 1995). The ARSMA-II is an early and widely used acculturation measure. It was made for Mexican Americans but has also been used with other Latinx groups. The ARSMA-II gives two scores to each person, showing how much, they are oriented to the U.S./Anglo culture (U.S. Orientation Scale Score) and Latinx culture (Latino Orientation Scale Score). The items were rated on a 13-item Likert-type scale ranging from 1=*never* to 5=*almost always or extremely frequently*. Examples include: "I enjoy listening to English language music" and "I think in Spanish". For the analysis, two total subscale scores were used. These included five items for enculturation (Hispanic/Latinx orientation; $\alpha=.90$) and seven items for acculturation (U.S. orientation; $\alpha=.74$).

Discrimination

Discrimination was assessed at T1 (mean age = 14.5) using a 10-item measure of perceived discrimination, which assessed participants' personal experiences of discrimination

(Gyll et al., 2001). For example, "you are treated with less respect compared to others" (Cronbach's $\alpha=.87$).

Familism

Familism was assessed at T1 (mean age = 14.5). Familism was measured using a four-item scale (Escobedo et al., 2018), with responses ranging from *Definitely not*=1, *Probably not*=2, *Probably yes*=3 and *Definitely yes*=4. Examples include "I can count on my relatives to support me when I need them" and "when a family has an important decision to make, they should consult their close relatives". For this analysis, the response items were used to create a composite score (Cronbach's $\alpha=.71$).

Substance use

The study examined youth substance use at T7 (mean age = 23.9) with items that measured substance use in the past 30 days. Youth reported the number of days they smoked cigarettes or had at least one drink of alcohol in the past 30 days. The response categories ranged from 1 to 6. 0 days = 0, 1–2 days = 1, 3–5 days = 2, 6–9 days = 3, 10–19 days = 4, 20–29 days = 5 or all/30 days = 6. Problematic alcohol use was assessed by measuring the number of days the youth had five or more drinks in a row 0 days = 0, 1 day = 1, 2 days = 2, 3–5 days = 3, 6–9 days = 4, 10–19 days = 5 or 20+ = 6. Marijuana use was assessed by measuring the number of times it was used in the past 30 days 0 times/never = 0, 1–2 times = 2, 3–9 times = 3, 10–19 times = 4, 20–39 times = 5 or 40+ times = 6. Because the distributions of continuous measures of problematic substance use, marijuana, and tobacco use were skewed, we dichotomized the response options. For the analysis, substance use variables were recoded (0=yes, 1=no).

Covariates

Covariates included gender (female/male; 0/1), household composition (single vs. two-parent household; 0/1), and persons per room in the home, as a proxy for socioeconomic status. Persons-per-room/house is the ratio of the total number of people living in the home divided by the number of rooms. Overcrowding is defined as a household with more than one person per room or house (Myers et al., 1996). These covariates have been previously highlighted as factors that may be associated with substance use (Villamil Grest et al., 2021).

Statistical analysis

Hierarchical regressions were conducted in three stages to examine the relationships between sociocultural, family factors, childhood adversity, and substance use. The first

stage assessed the predictive associations between sociodemographic variables (age, sex, persons-per-room/household, and household composition) and substance use. The second stage included sociocultural factors (acculturation, discrimination, and familism). The final stage included family factors (parental communication, monitoring), and childhood adversity while simultaneously adjusting for sociodemographic and sociocultural factors. Because problematic alcohol, tobacco, and marijuana use were positively skewed, we dichotomized them and used binary logistic regression (Coxe et al., 2009) as the modeling strategy for these outcome variables. Ordinary least squares (OLS) regression was estimated for alcohol use. As suggested by Cohen (2013), the variables were estimated concurrently in subsequent stages. To address possible clustering issues (i.e., students nested within schools), intraclass correlation was evaluated with a maximum value of .05. An ICC value below 0.05 is an indication of potential bias in standard errors and the need for multilevel analysis, an indication that an individual-level analysis is sufficient (Muthén & Satorra, 1995). The covariates for the study included age, sex, persons-per-room or household, and household composition. SPSS version 28.0 was used for the analysis.

RESULTS

The sample's sociodemographic characteristics are presented in Table 1.

Table 2 shows the full details of the bivariate associations between the study variables.

Table 3 presents the results of the adjusted hierarchical regression models for each outcome: marijuana, alcohol, problematic alcohol, and tobacco use, for three stages: (1) sociodemographic correlates, (2) sociocultural variables (acculturation, discrimination, and familism), and (3) family variables (parental monitoring, parental communication) and (childhood adversity).

The OLS regression results from Stage 3 indicated that controlling for sociocultural and socio-demographic factors, parental monitoring at T1 ($B = 0.10, p < .05$) predicted higher levels of past 30-day alcohol use at T7. Furthermore, childhood adversity at T5 ($B = 0.05, p < .05$) was associated with higher levels of past 30-day alcohol use at T7. The R^2 statistic increased across stages, explaining 2.2% of the variance in Stage 1, 3.6% in Stage 2, and 5.1% in Stage 3 (Table 3).

Binary logistic regression models for problematic alcohol use in stage 3 indicated that controlling for other factors, youth who experienced discrimination at T1 ($AOR = 1.03, p < .05$) had higher odds of past 30-day problematic alcohol use at T7. Furthermore, parental communication at T1 predicted lower levels of problematic alcohol use ($AOR = 0.83, p < .05$). The R^2 statistic increased across stages, explaining 1.7% of the variance in Stage 1, 3.4% in Stage 2, and 4.3% in Stage 3 (Table 3).

Binary logistic regression models for marijuana use in stage 3 revealed that controlling for sociocultural and

demographic factors, parental communication at T1 was associated with lower odds of marijuana use ($AOR = 0.82, p < .05$). Furthermore, childhood adversity at T5 was associated with higher odds of past 30-day marijuana use at T7 ($AOR = 1.20, p < .001$). The R^2 statistic increased across stages, explaining 3.7% of the variance in stage 1, 4.3% in stage 2, and 6.7% in stage 3 (Table 3).

Binary logistic regression results from Stage 3 revealed that controlling for other factors, childhood adversity at T5 predicted higher odds of past 30-day tobacco use by 16% ($AOR = 1.16, p < .001$). The R^2 statistic increased across stages, explaining 5.0% of the variance in Stage 1, 5.7% in Stage 2, and 7.1% in Stage 3 (Table 3).

DISCUSSION

The harmful effects of substance use remain pervasive. Although some sociocultural factors such as discrimination have been identified as risk factors for substance use among diverse youth (Riley et al., 2021), the critical transition from adolescence to young adulthood is often understudied among Latinx youth, despite its significance in prevention. In this study, we extend the current literature on substance use among diverse youth by examining the influence of sociocultural and family factors and their impact on the substance use behaviors of Latinx youth during young adulthood.

The findings reveal a significant positive association between experiences of discrimination prior to age 14.5 and problematic alcohol use during young adulthood. This association remained significant even after accounting for family variables, underscoring the independent role of discrimination as a risk factor for substance use among Latinx youth. These results align with previous research which found that individuals who experience higher levels of discrimination are more likely to engage in substance use (Riley et al., 2021; Unger et al., 2014). This association might be attributed to the disruptive nature of discrimination, which can impair the psychological mechanisms that individuals use to cope with stressors, potentially leading to maladaptive responses such as substance use (Cave et al., 2020). Therefore, alcohol use might be used as a response to stress (Balagopal et al., 2022; Paulus et al., 2021) in both the U.S. and Latinx cultures. This finding highlights the importance of addressing discrimination during preventive efforts. Young adulthood is marked by significant changes in the lives of youth (Dahl & Gunnar, 2009), making it an important time for targeted interventions for youth who have experienced discrimination. Culturally sensitive counseling and support services focusing on coping mechanisms, resilience-building, and empowerment may mitigate the adverse effects of discrimination. Youth also should be equipped with social-emotional learning skills (Taylor et al., 2017) to proactively address stressors, discrimination, and substance use-related issues.

The findings of this study extend beyond the previously studied sociocultural predictors to show the predictive

TABLE 1 Sample and variable characteristics.

	<i>N</i> (%)	<i>M</i> (<i>SD</i>)	Range
Age		14.5 (0.39)	13.6–16.7
Female	1127 (52.1%)		
Persons per room/house			
<1.0	51 (2.3%)		
≥1.0	2137 (97.7%)		
Household composition			
Single parent	429 (20.1%)		
Both/two parents	1702 (79.9%)		
Cultural predictors			
Acculturation/enculturation			
U.S. orientation		25.7 (4.8)	2–35
Mexican orientation		14.6 (5.6)	1–25
Discrimination		32.4 (6.0)	2–40
Familism		13.3 (2.4)	2–16
Family predictors			
Parental monitoring		10.8 (1.3)	2–12
Parental communication		9.7 (3.2)	1–16
Childhood adversity		2.7 (2.1)	0–8
Depression		37 (9.07)	8–80
Substance use			
Tobacco use frequency, past 30 days	299 (21.1%)		
Alcohol use past 30 days (Yes)	1013 (80.4%)		
Alcohol use-binge, past 30 days (Yes)	621 (49.3%)		
Marijuana use frequency, past 30 days (Yes)	345 (24.8%)		
Childhood adversity			
0	236 (16.7%)		
1	225 (15.9%)		
2	245 (17.3%)		
3	237 (16.8%)		
4	173 (12.2%)		
5	149 (10.5%)		
6	82 (5.8%)		
7	49 (3.5%)		
8	17 (1.2%)		

TABLE 2 Bivariate correlations between the main independent and dependent study variables.

	1	2	3	4	5	6	7	8	9	10
1. Tobacco										
2. Marijuana use	.24***									
3. Alcohol use	.29***	.29***								
4. Alcohol use-binge	.26***	.24***	.59***							
5. Familism	-.05	-.08*	-.01	-.01						
6. Acculturation	-.09**	-.04***	-.02	-.04***	.19***					
7. Enculturation	-.09**	-.11***	-.12***	-.11***	.09***	-.02				
8. Discrimination	-.10**	-.09***	-.09*	-.01	.22***	.11***	.09***			
9. Parental Monitoring	-.06	-.11***	.02	-.03	.21***	.15***	.08***	.15***		
10. Parental communication	-.06*	-.16***	-.10**	-.12***	.22***	.01	.16***	.17***	.35***	
11. Childhood adversity	.12***	.15***	.08**	.05	-.16***	-.06	-.10**	-.15***	-.01	-.15***

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

TABLE 3 Hierarchical ordinary least squares (OLS) and logistic regression for past 30-day substance use behaviors.

	Alcohol use		
	Stage 1: Demographics B	Stage 2: Demographics and cultural factors B	Stage 3: Demographics, cultural, and family predictors B
Age	-.05	-.17	-.24
Male	.39*	.39***	.42***
Persons per room/house	.19	.23	.20
Household composition	-.07	-.11	-.07
Cultural predictors			
Acculturation		.09	.08
Enculturation		-.02*	-.03
Discrimination		-.01	-.05
Familism		.09	.08
Family predictors			
Parental monitoring			.10*
Parental communication			-.02
Childhood adversity			.05*
	Problematic alcohol use		
	Stage 1: Demographics, AOR (95% CI)	Stage 2: Demographics and cultural factors, AOR (95% CI)	Stage 3: Demographics, cultural, and family predictors, AOR (95% CI)
Age	0.91 (0.62–1.34)	0.78 (0.52–1.18)	0.79 (0.50–1.20)
Male	1.82*** (1.37–2.40)	1.84*** (1.36–2.48)	1.99*** (1.4–2.76)
Persons per room/house	1.23 (0.43–3.49)	1.14 (0.38–3.41)	1.09 (0.35–3.27)
Household composition	0.78 (0.54–1.16)	0.78 (0.51–1.17)	0.83 (0.53–1.29)
Cultural predictors			
Acculturation		0.99 (0.96–1.03)	0.99 (0.95–1.02)
Enculturation		0.97* (0.94–0.99)	0.97 (0.94–1.01)
Discrimination		1.01 (0.98–1.04)	1.03* (1.03–1.08)
Familism		0.99 (0.93–1.06)	1.01 (0.93–1.07)
Family predictors			
Parental monitoring			1.13 (0.99–1.28)
Parental communication			0.83* (0.89–0.98)
Childhood adversity			1.06 (0.97–1.14)
	Marijuana use		
	Stage 1: Demographics, AOR (95% CI)	Stage 2: Demographics and cultural factors, AOR (95% CI)	Stage 3: Demographics cultural and family predictors, AOR (95% CI)
Age	0.75 (0.48–1.15)	0.59* (0.37–0.94)	0.58* (0.35–0.95)
Male	2.49*** (1.83–3.3)	2.26*** (1.62–3.15)	2.3*** (1.6–3.33)
Persons per room/house	2.16 (0.77–6.05)	1.96 (0.66–5.85)	1.76 (0.57–5.35)
Household composition	1.23 (0.81–1.86)	1.14 (0.73–1.77)	1.01 (0.62–1.61)
Cultural predictors			
Acculturation		1.01 (0.97–1.04)	1.02 (0.96–1.04)
Enculturation		0.97 (0.94–1.01)	0.98 (0.95–1.02)
Discrimination		0.98 (0.95–1.01)	0.99 (0.96–1.03)
Familism		0.97 (0.90–1.04)	0.99 (0.92–1.07)
Family predictors			
Parental monitoring			0.97 (0.85–1.11)

TABLE 3 (Continued)

	Marijuana use		
	Stage 1: Demographics, AOR (95% CI)	Stage 2: Demographics and cultural factors, AOR (95% CI)	Stage 3: Demographics cultural and family predictors, AOR (95% CI)
Parental communication			0.82* (0.88–0.98)
Childhood adversity			1.20*** (1.09–1.30)
	Tobacco use		
	Stage 1: Demographics, AOR (95% CI)	Stage 2: Demographics and cultural factors, AOR (95% CI)	Stage 3: Demographics, cultural, and family predictors, AOR (95% CI)
Age	0.86 (0.55–1.36)	0.751 (0.45–1.22)	0.65 (0.38–1.08)
Male	3.09*** (2.2–4.29)	2.8*** (1.98–4.06)	3.02*** (2.04–4.45)
Persons per room/house	0.54 (0.11–2.50)	0.66 (0.14–3.13)	0.63 (0.13–2.97)
Household composition	1.08 (9.68–1.69)	1.01 (0.61–1.63)	0.87 (0.51–1.47)
Cultural predictors			
US acculturation		0.97 (0.94–1.01)	0.98 (0.93–1.02)
Enculturation		0.96 (0.93–1.02)	0.97 (0.94–1.01)
Discrimination		0.97 (0.94–1.01)	0.98 (0.95–1.02)
Familism		1.01 (0.93–1.08)	1.03 (0.95–1.11)
Family predictors			
Parental monitoring			1.02 (0.88–1.18)
Parental communication			0.97 (0.93–1.05)
Childhood adversity			1.16** (1.05–1.27)

Note: Boldface indicates statistical significance. * $p < .05$, ** $p < .01$, *** $p < .001$.

nature of family factors on substance use in Latinx youth (Rusby et al., 2018). For instance, parental communication emerged as a protective factor against both marijuana and problematic alcohol use. This is consistent with the work of Opara et al. (2019), who identified parental communication as one of the most salient protective factors against substance use among Black and Latinx girls. The findings also extend the extant literature by demonstrating that family factors during adolescence continue to exert an influence on substance use during young adulthood, even after accounting for culturally relevant variables (Becoña et al., 2012). However, the unexpected positive association between parental monitoring and alcohol use warrants further investigation. This finding contrasts with previous studies which found parental monitoring to be negatively associated with substance use (Andrade et al., 2021). This finding might be because the dynamics of parental monitoring may change during young adulthood, when youth may be more influenced by their peers (Van Ryzin et al., 2012). This is in tandem with the theory of emerging adulthood, which suggests that young adulthood is marked by identity exploration, where the influence of peers may be more pronounced (Tanner & Arnett, 2016). Similarly, socialization theory suggests that youth who associate more with and see their peers engaging in substance use may have a higher likelihood of trying and using substances (Oetting & Beauvais, 1987; Sigal et al., 2021). It is also possible that their parents might have already been monitoring

them because they were starting to engage in risky behaviors (Clark et al., 2008). Future studies can explore these dynamics, as they would provide essential information for designing interventions that address the evolving needs of youth. Also, interventions should focus on enhancing parental communication and strengthening family relationships in acculturating families. There is also a need to have partnerships with parents and utilize family-centered treatments when working with youths who use substances (Pantin et al., 2003).

Childhood adversity was linked to higher levels of marijuana, alcohol, and tobacco use in young adulthood, even after controlling for other variables. These findings corroborate previous research showing a similar association between childhood adversity and substance use in ethnically diverse youth (Forster et al., 2017). The coping and self-regulation capacities of adolescents may be impaired when exposed to childhood adversities. This may subsequently increase stress and affect their neurophysiological and psychosocial functioning (Anda et al., 2006; Magrys & Olmstead, 2015). Consistent with self-medication theories, youth experiencing adversity may use alcohol or other substances to relieve their feelings of anxiety or stress, which can contribute to lifelong patterns (Magrys & Olmstead, 2015). The present findings support the eco developmental theory (Szapocznik & Coatsworth, 1999), which posits that individuals adjusting to life in a country are exposed to systems at various ecological levels,

including sociocultural and family factors that may contribute to an increase in substance use behaviors. To promote positive behavioral health outcomes for youth, it may be critical to address the fundamental causes of childhood adversity, such as poverty, mental health, and family dysfunction (Liming, 2019). Collaborative efforts with social services, schools, and healthcare providers could facilitate early intervention and support for at-risk youth.

Limitations

The results of this study must be viewed in the context of its limitations. Firstly, the ACE measures relied on self-report, which may pose challenges to validity; however, ACEs were assessed when participants were on average 21.6 years old, limiting memory recall bias (Mersky et al., 2017). In addition, the study only included Latinx youth in Southern California. We did not include the country of origin in our analysis; thus, the findings may not be generalizable to youth in other parts of the country or ethnic groups. Future research could examine the impact of the country of origin on youth substance use. Despite its limitations, this study makes significant contributions to the extant literature on health disparities among minority youth, during young adulthood. Additionally, the findings provide information on substance use among Latinx youth, to inform targeted and culturally sensitive interventions. Finally, the use of longitudinal data provides valuable insights into the experiences of Latinx youth.

CONCLUSION

This study contributes to the extant literature on substance use behaviors among diverse youth. Discrimination is a potential risk factor for substance use among Latinx youth and may be essential for the design of prevention strategies. Furthermore, childhood adversity significantly influences substance use among diverse youth. However, parental communication is a protective factor against marijuana and problematic alcohol use. Therefore, early prevention efforts aimed at promoting parental communication within acculturating families may be an effective strategy to attenuate the risk of youth substance use. Given the distinct impact of sociocultural, family factors, and childhood adversity on substance use among youth, approaches to reducing substance use among Latinx youth may include targeting sociocultural, family factors, and childhood adversity, when designing interventions.

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CONFLICT OF INTEREST STATEMENT

The authors declare that they have no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the PI. The data are not publicly available due to privacy or ethical restrictions.

PATIENT CONSENT STATEMENT

Informed consent was obtained from parents of all adolescents who participated in the study, and adolescents provided their assent.

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