



Mind the Gap: Bridging the Divide Between Current Binge Drinking Prevention and the Needs of Hispanic Underage Emerging Adults

Mariya Petrova¹ · Charles R. Martinez Jr² · Jennifer Jean-Jacques¹ · Heather H. McClure³ · Hilda Pantin¹ · Guillermo Prado¹ · Seth J. Schwartz¹

Published online: 28 May 2019
© Society for Prevention Research 2019

Abstract

In this article, we highlight the urgent public health need for prevention of heavy episodic drinking among underage Hispanic emerging adults in the USA. We outline the current state of binge drinking prevention programming and contrast it with the unique cultural, social, and developmental realities of this population using an ecodevelopmental framework (Szapocznik and Coatsworth 1999). Finally, we advance specific recommendations for the development and delivery of culturally tailored, multisystemic binge drinking prevention programs for underage Hispanic emerging adults.

Keywords Hispanic · Emerging adult · Alcohol · Binge drinking · Prevention · Intervention

The cost of alcohol and drug misuse in the USA is estimated at more than \$400 billion per year (Sacks et al. 2015; National Drug Intelligence Center 2011), and three-quarters of the expenditures associated with alcohol use are due to intense drinking episodes¹ (Center for Disease Control and Prevention [CDC] 2015). These episodes have the potential to harm users and those around them through engagement in motor vehicle accidents, violence, risky sex, alcohol poisoning, and suicide (CDC 2018). The severity of these drinking incidents is illustrated by the finding that binge drinkers are nearly 14 times more likely to drive under the influence than other drinkers are (Naimi et al. 2003).

The present article is guided by two objectives within the framework of ecodevelopmental theory (Szapocznik and Coatsworth 1999). First, we seek to outline the specific needs of underage emerging adults (UEAs), particularly Hispanics,² who are characterized as having among the highest levels and experience the most severe consequences of heavy episodic drinking (e.g., drunk driving fatalities, alcohol related violence, unprotected sex while intoxicated; Caetano et al. 2017; Finer and Zolna 2011; Rangel et al. 2006; Romano et al. 2010). Second, we aim to support the forward movement of prevention science for this population by outlining actionable steps for future binge drinking prevention research, intervention development, and dissemination. In accordance with these goals, we review the prevalence of heavy episodic drinking and its consequences among Hispanic underage binge drinkers, the current state of binge drinking preventive interventions for this population, as well as the discrepancies between available binge drinking prevention interventions and the social, cultural, and developmental realities of Hispanic UEAs.³ Consideration is given to micro- and macrosystemic influences, and to the interactions among them, on the well-being of this population. We conclude with implications for further research and specific suggestions for intervention development and implementation.

¹ There is a lack of definitional agreement in the field regarding how intense drinking episodes should be regarded and labeled, and this lack of agreement leads to some ambiguities in measurement of these episodes. Some leading writers operationalize heavy episodic drinking (HED) as the frequency of consuming five or more drinks on a single occasion (Mulia et al. 2009; Kilmer et al. 2014), whereas the National Institute on Alcohol Abuse and Alcoholism (NIAAA) and the Substance Abuse and Mental Health Services Administration (SAMHSA) use a similar definition to denote binge drinking (BD). For the purpose of capturing the phenomenon of problematic intensive drinking throughout this article, we will use both terms interchangeably.

✉ Mariya Petrova
mpp72@med.miami.edu

¹ University of Miami, Coral Gables, FL 33146, USA

² University of Texas, Austin, TX 78712, USA

³ University of Oregon, 1585 E 13th Ave., Eugene, OR 97403, USA

² The terms “Hispanic” and “Latino” are used interchangeably.

³ The term “underage emerging adults (UEAs)” is used in reference to emerging adults between the ages of 18 and 20, and the term “emerging adults (EAs)” is utilized to mark the full developmental period of emerging adulthood (between 18 and 25 years of age).

Population at Highest Risk: Developmental and Cultural Considerations, Needs, and Opportunities for Prevention

Of all age groups, UEAs (between 18 and 20 years old) appear to be at highest risk for binge drinking and consequent risky behaviors. For example, underage binge drinkers are disproportionately more likely to be involved in fatal car crashes—those where at least one person (not necessarily the drunk driver) is killed (Fell et al. 2008). This worrisome trend can be explained by the developmental tasks of this age group, in combination with their status as legal adults who nonetheless are below the drinking age. The US Department of State (n.d.) declares that “children become adults at age 18.” This legal and social recognition, along with normal developmental processes, cues youth to explore “adult” behaviors such as drinking. However, in 1984, Congress passed the National Minimum Drinking Age Act, which required states to raise their age limits for purchase and public possession of alcohol to 21 years of age. Although later research eventually indicated that raising the minimum drinking age did lead to decreases in traffic crashes and alcohol consumption (Wagenaar and Toomey 2002), initial evaluations of underage college students suggested shifts in where they tended to drink (George et al. 1989), intensification of their efforts to avoid being caught by law enforcement, and increases in risk taking (Brittain and Roberge 1988). Having to “drink in secret,” so as not to attract the attention of authorities, may prompt youth to drink high quantities in short periods of time, which can potentiate binge drinking episodes (Sinha 2008). Further, research using the Monitoring the Future study, comparing individuals sampled in the 1970s with those sampled in the early 2000s, indicates that more recent cohorts are characterized by steeper increases in binge drinking in the early emerging adult years (Jager et al. 2015). To the extent to which underage binge drinking reflects “drinking in secret” to avoid consequences for underage alcohol consumption, the drinking in secret phenomenon has increased over generational time. Therefore, intervention programs are needed to prevent binge drinking and its consequences among individuals between 18 and 20.

The greatest prevalence of heavy episodic drinking generally occurs during emerging adulthood—the age period between the end of high school and the assumption of adult commitments such as committed partnership and parenthood (Arnett 2000, 2005). Furthermore, heavy episodic drinking during emerging adulthood and beyond is associated with mortality due to homicide and suicide (Pridemore and Chamlin 2006), unprotected sex and sexually transmitted infections (Finer and Zolna 2011), lost productivity at work (MacDonald and Shields 2004), relationship difficulties (Griffin et al. 2010), and interpersonal violence (Caetano et al. 2017), among many other negative social consequences.

Binge drinking is an important public health concern not only because of these proximal consequences but also because of distal health problems such as several types of cancer, stroke, cardiovascular disease, and liver problems (Lieber 2003; Boffetta et al. 2006). Many of these and other consequences of binge drinking are overrepresented among Hispanics.

People of Hispanic origin comprise the nation’s largest racial/ethnic minority (56.6 million in 2015) and are younger than the total US population. Specifically, 27.5% of all Hispanic people were under the age of 21 in 2014 (USCB 2014). Because Hispanic UEAs (age 18–20) experience the cumulative effects of three risk factors—developmental period, pre-existing risky behavior, and membership in a high-risk ethnic group—they comprise a priority group for alcohol misuse prevention (Schwartz and Petrova *in press*).

The Current State of Heavy Episodic Drinking Prevention for Emerging Adults

Implementation of binge drinking prevention for UEAs and EAs in general is frequently centered in college settings. The 1970s gave rise to research on college student alcohol expectancies (Banks and Smith 1980; Wechsler et al. 1994), where positive expectancies refer to favorable attitudes toward the effects of alcohol and serve a motivating function in the decision to drink more. By the mid 1980s, the impact of peer influences on college drinking was evident, and it became clear that many young drinkers overestimated the extent and prevalence of binge drinking among their peers (Perkins and Berkowitz 1986). During the mid 1980s, these findings were translated into a brief motivational intervention (Baer et al. 1992; Fromme et al. 1986) that later grew into what may be the most prominent binge drinking intervention for EAs in the US to date—the Brief Alcohol Screening and Intervention for College Students (BASICS; Dimeff 1999).

BASICS is designed for college-attending EAs between the ages of 18 and 24 who drink heavily and experience negative health, educational, and social consequences as a result. It is built on components from three theoretical models focusing on individual behavior change: motivational interviewing (Miller and Rollnick 2013), stages of change (Prochaska et al. 1994), and cognitive behavior therapy (Dimeff 1999). It is intended to trigger personal change via two 50-min interviews. Based on the first interview and a questionnaire completed by the youth, information is gathered about student alcohol consumption patterns, personal beliefs about alcohol, understanding of social alcohol norms, and family history of alcohol use and problems. The second session occurs approximately 1 week after the initial interview and provides the student with personalized feedback on myths about the effects of alcohol, facts on alcohol norms, ways to reduce future risks associated with alcohol use, and options to assist in making

changes. Clinicians use motivational interviewing (MI) methods to conduct the feedback sessions. MI is a cognitive behavioral talk therapy technique that aims to help clients identify and change behaviors that may place them at risk for developing health problems. The five main principles of MI, through which conditions for change are created, are expression of empathy, avoiding arguments, supporting client self-efficacy, rolling with resistance, and developing discrepancy (Bundy 2004). BASICS is primarily implemented on college campuses and has not been extensively evaluated with non-college EAs or with primarily Hispanic samples.

BASICS has been demonstrated to reduce frequency of drinking, quantity of drinks consumed over time, and peak quantity of alcohol consumed. As reported by multiple studies, these trends have been sustained over 6 months and over 2 years (Marlatt et al. 1998), and reductions in drinking quantity and consequences were maintained over 4 years (Baer et al. 2001). These results were derived from testing the intervention with primarily (84%) Caucasian college students (Baer et al. 2001). Later versions of the intervention included a web-based delivery platform and utilization of peers as feedback providers (Chiauzzi et al. 2005; Larimer et al. 2001). Both versions were found to be partially efficacious. Although these studies were conducted primarily with Caucasian samples, the results of these two variations of BASICS may have particularly important implications for binge drinking prevention for Hispanic UEAs, as we discuss in greater detail below.

Hispanic Underage Emerging Adults: Developmental and Cultural Characteristics and Synergy with Current Prevention Strategies

Although BASICS and other college drinking interventions have been shown to be efficacious with largely White college student samples, we do not know whether such an individual-focused intervention would work with collectivistic Hispanic cultural systems or with non-college attending youth. We adopt an ecodevelopmental theoretical framework to present areas of divergence between existing binge drinking prevention programs and the cultural and social realities of Hispanic UEAs, as well as to bring forth recommendations for future research, intervention development, and implementation. We believe that ecodevelopmental theory fits well with the change processes experienced by Hispanic UEAs, and it is widely utilized in interventions with Hispanic and other minority populations (e.g., Prado and Pantin 2011).

Ecodevelopmental theory (Szapocznik and Coatsworth 1999) posits that individual risk is influenced by the risk in one's social environments, as well as by interactions among risks across levels of social context. The theory postulates that

understanding risk and protection for problem behaviors requires understanding not only of human development but also of the social systems within which development occurs. The theory consists of three primary components: (1) social ecological theory, (2) developmental theory, and (3) interactions among social systems.

The first element (social ecological theory) organizes the multiple systems to which a person belongs according to their level of influence on the individual. In the context of binge drinking prevention for Hispanic UEAs, for example, we focus on the microsystem with a focus on parents and peers and the macrosystem, capturing issues of discrimination, cultural values, ethnic pride, and access to binge drinking prevention programming. Research has consistently demonstrated the importance of incorporating these determinants into the next generation of prevention programs for Hispanic youth. Indeed, evidence suggests that interventions that include general developmental influences, but are tailored toward the cultural circumstances of the target group, are likely to produce the largest and most lasting effects (see Castro et al. 2010, 2017, for reviews).

The second theoretical element (developmental theory) emphasizes the changing nature of human well-being. It suggests that individuals' behaviors are not only a function of the present state of social influences in their lives but also a result of previously existing dynamics within their support systems. In the case of Hispanic UEAs, such influences include heritage culture values and gender roles, experiences of discrimination, and acculturation to US society (as well as retention of one's cultural heritage; Salas-Wright & Schwartz, in press).

Finally, the last element of ecodevelopmental theory is social interactions, which suggests that risk and protection can be triggered by individuals' interactions with their social contexts, as well as interactions among the various contextual levels and domains. For example, adolescents and UEAs are affected not only by their direct relationships with parents and peers but also by the quality of relationships between their parents and peers (Coatsworth et al. 2002).

Microsystemic Influences

Parenting Generally, emerging adulthood is a developmental period characterized by semi-autonomy. Specifically, most individuals in this age group are at least partially financially supported by their families of origin, and many continue living at home until their early to mid-twenties (Arnett 2011). A growing body of research indicates that, rather than being supplanted by peer influences, parenting remains a strong determinant of EA alcohol use (Ichiyama et al. 2009; Wood et al. 2004). More specifically, ineffective monitoring, perceived parental permissiveness of drinking, and parental modeling

of alcohol use have been shown to predict increases in alcohol use and related negative consequences among 18–20-year olds (Wood et al. 2004; Beck et al. 2004; Urberg et al. 2005). On the other hand, parental protective factors such as greater emotional and instrumental support, family cohesion, and positive parenting contribute to lower levels of UEA drinking (Ichiyama et al. 2009; Fairlie et al. 2012). Wood et al. (2004) suggest that heavy episodic drinking was lower among UEAs who perceived their parents to be disapproving of drinking (Wood et al. 2004). Finally, successful general and alcohol-specific communication between parents and their UEA children have been associated with reduced peer-influenced drinking behaviors (Ichiyama et al. 2009; Wood et al. 2004; Reid and Carey 2015).

National demographic trends indicate that Hispanics represent an increasing proportion of EAs in the US (Ennis et al. 2011) and that 75% of Hispanic EAs live at home until at least age 21—often for cultural and economic reasons. Existing research indicates that, much like their non-Hispanic White counterparts, Hispanic EAs seek some degree of independence from family, but they are more likely to base their definitions of adulthood on role transitions (such as home ownership, education, or parenting), especially transitions regarding their role in relation to their family (supporting a household, caring for children, etc.) (Syed and Mitchell 2013). Family in Hispanic culture is not only a social construct—rather, it is a cultural value. Specifically, *familismo* refers to interdependency among family members (Cuéllar et al. 1995), and *respeto* emphasizes a young person's duty to respect their parents and older mentors (Garcia 1996). Hispanic parents are not only guardians but also the keepers of these cultural values. That is, parents are charged with maintaining the tight-knit structure and importance of the family context. This role is especially poignant and challenging for immigrant parents who have to (a) guide their youth in a culture they do not know well and (b) navigate their changing role in their relationship with their EA children, while continuing to instill values from their country of origin. It is not uncommon for Hispanic immigrant families to experience increased levels of conflict due to parent–youth discrepancies in cultural practices, values, and identities (Martinez 2006; Schwartz et al. 2016). These incongruences have been shown to compromise family functioning and lead to alcohol misuse in Latino youth.

A substantial body of research has demonstrated parents' impact on Hispanic adolescent outcomes, such as drug and alcohol use, risky sex, and other key health behaviors, and has translated these findings into efficacious family-centered interventions (e.g., Prado and Pantin 2011). However, literature on the impact of parents on Hispanic EA alcohol use (especially binge drinking) and related health behaviors is scant. Although there has been an increased recognition of emerging adulthood as a distinct developmental period, currently, there are no interventions in the published literature (as

of March 2018) that incorporate developmentally suitable parenting as a primary intervention component for substance misuse prevention for Hispanic UEAs or EAs. The most prevalent approach to binge drinking prevention for EAs—brief alcohol screening and intervention—is largely individual-centered, and its degree of match with youth from collectivistic, family-oriented cultural backgrounds is not known. Although currently validated approaches claim to be applicable across ethnic groups (Blue Prints for Healthy Youth Development 2018), they have been tested neither with exclusively Hispanic samples nor with samples consisting of both college and non-college participants.

Peers Although the debate about whether parents or peers are more influential in shaping a young person's norms, beliefs, and behaviors is ongoing, it is inarguable that peers play an increasingly important role as youth transition from childhood to adulthood (DeGarmo and Martinez Jr 2006; Steinberg and Monahan 2007). The influence of peers and the characteristics of youth social networks on adolescent development, and on risky health behaviors such as binge drinking, is well documented, and these peer influences continue well into emerging adulthood (Alexander et al. 2001; Ennett et al. 1994). In fact, young people's perceptions of the level and frequency of their peers' alcohol use, in contrast to their peers' actual drinking levels, are the most examined and well supported modifiable mechanisms in the college drinking literature (Reid and Aiken 2013; Rai et al. 2003; Toumbourou et al. 2007; Windle 2000).

Peer influences may be particularly pertinent to minority youth, such as Hispanic UEAs, for multiple reasons. First, in emerging adulthood, peers are generally the most proximal source of information regarding norms for “acceptable” behavior. In the face of minority status and discrimination, Hispanic UEAs may gravitate even more strongly toward “dominant” US culture behaviors and values in an attempt to “blend in” (Kasinitz et al. 2008). Second, in families where parents are unable to provide culturally syntonic guidance, youth may rely more heavily on peers to gain understanding of the host culture and make sense of the two cultural worlds they are navigating (Smokowski and Bacallao 2011).

The prominent role of peers in emerging adulthood has been leveraged in some intervention programs. As mentioned above, a version of BASICS utilized the power of peers beyond youth-reported peer norms. For example, in a study by Larimer et al. (2001), college students assigned to the BASICS intervention condition received a 1-h individual feedback session based on the information the participant provided at the baseline assessment. Sessions were facilitated by a member of the research team or by trained undergraduate peers and were designed to provide information about specific skills to encourage moderate drinking. Results indicated that, among students who received their feedback from college aged peers, significantly greater reductions in typical blood

alcohol concentrations were observed compared to students who received their individual sessions from professional staff members. Although this utilization of peers in delivering an adult-driven feedback process speaks to the importance of peer influences, it certainly does not take full advantage of the power that peers exert on EA behaviors nor does it capitalize on the developmental specificities of friendships during emerging adulthood. The power of peer influences has yet to be harnessed in binge drinking prevention interventions for EAs in general or for Hispanic UEAs in particular.

In contrast to the field of binge drinking prevention, numerous programs involving HIV prevention have integrated a focus on peer networks into intervention approaches with adolescents. HIV-related interventions have successfully lowered or prevented both risky sexual behaviors and substance use among the peer leaders who were directly trained and among the youth to whom these peer leaders disseminated the intervention, with no adverse effects (Mackesy-Amiti et al. 2011, Weeks et al. 2009). Such peer-led interventions can serve as a model for programs designed to prevent/reduce binge drinking among Latino (and other) UEAs.

For instance, Mackesy-Amiti and colleagues (Mackesy-Amiti et al. 2011) evaluated a 3-week peer educator training consisting of six sessions targeting injection–drug risks, sexual risks, and refusal skills among adolescents and EAs ages 15–30. The peer educator training was followed by community-based outreach where the peer educators were asked to spread the training to their peers. The intervention significantly reduced injection episodes between baseline and 6 months post-baseline among peer educators. For another example, Weeks et al. (2009) tested an approach that involved training active drug injectors and crack cocaine users as “Peer Health Advocates” to deliver an HIV, hepatitis, and STI prevention intervention to hard-to-reach members of their social networks and other community members. The program was designed to diffuse risk and harm reduction and health promotion via modeling of preventive practices and spreading of materials and information by the peer health educators. The study compared change in behaviors and attitudes between baseline and 6-months follow-up for the 112 primarily African-American and Latino health educators, 223 of their drug-network affiliates, and 118 other study recruits. Findings indicated significant correlations between the peer health educator follow-up efficacy score (public health educator beliefs about their own effectiveness as educators) and other participants’ reported reduction in prior 30-day unprotected sex, number of sex partners, and drug use as a result of having interacted with a peer health educator. The peer health advocates were thus effective in diffusing the preventive messages to their social networks—and they were *most* effective when they viewed themselves as competent educators. Self-efficacy training may therefore be important when training youth as intervention deliverers.

In the school-based adolescent substance use prevention literature, Valente et al. (2007) found increased program effects when a social network approach was utilized in the selection of teen peer leaders and their audiences (who would then receive the peer-led intervention). Unlike BASICS, which used adult-selected students to provide normative feedback to fellow college students, Valente et al.’s study illustrated that using peer-nominated youth, and pairing them with the youth who selected them to perform follow-up activities, was the most effective way to structure the program. Although this example comes from the adolescent literature, it also seems developmentally well suited for UEAs. Arnett and colleagues (Arnett 2007) suggest that selective association in friendships may be much more pronounced in emerging adulthood than in adolescence. Specifically, acquaintances and distant friends are much less likely to be influential in EAs’ lives than they are in the lives of adolescents—meaning that specific peers selected as close friends exert greater influence in emerging adulthood than in adolescence. Further, Collins and colleagues (Collins and Van Dulmen 2006) provide evidence for the increased intimacy in EA friendships—they tend to be characterized by increased emotional depth, complexity, and discussions of personal importance. These developmental differences between adolescent and EA friendships suggest that pairing influential EAs with their close friends to carry out prevention activities may be especially important. Using close friends to deliver peer-led intervention content may therefore be especially effective in emerging adulthood. Although BASICS has included important advances in capitalizing on peer influences, the techniques employed within the intervention are likely not complex enough to fully harness the prevention potential of close friends in emerging adulthood.

Macrosystemic Influences

Culture, Discrimination, and Gender While individual-based intervention components such as those included in BASICS (e.g., recognition of one’s alcohol consumption pattern, personal beliefs about alcohol, understanding of social alcohol norms, ways to reduce future risks associated with alcohol use) certainly seem relevant for Hispanic UEAs, a heavy episodic drinking intervention for this population must also consider the effects of culture on individual health behaviors. Specifically, it is essential to understand the immigrant population’s heritage culture, locate it within the larger receiving context, and consider the effects of the interactions between the two cultures on individual and family health outcomes. That is, the cultural determinants of health within a given population must be considered and incorporated into interventions intended for that population (Castro et al. 2010; Castro et al. 2017).

One key example of a salient cultural process is discrimination. Experience of discriminatory treatment in the USA is a well-documented occurrence among Latino immigrants (Salas-Wright et al. 2015). Discrimination refers to differential treatment based on one's membership in a minority ethnic, cultural, or social group (Williams and Mohammed 2009). In turn, a substantial body of research suggests that perceived discrimination increases risk for substance use (e.g., Schwartz et al. 2015; Unger et al. 2014), whereas heritage–culture retention (as a way of coping with and lessening the effects of discrimination) may inhibit escalation of substance use during late adolescence and emerging adulthood (Unger et al. 2014). Thus, engaging Hispanic UEAs not only in culturally tailored interventions but also in programs that address healthy ways of coping with discrimination likely helps to build skills for effectively navigating the changing nature of processes and relationships during emerging adulthood. In turn, such skills are important for solidifying Hispanic UEA engagement in activities and relationships reflective of their cultural values and practices, as well as those of the larger US society.

When discussing culture, it is also essential to consider the role of gender and of variations in interpretation of mental health concerns, both within Hispanic cultures and in the context of the efficacy of preventive interventions with Hispanic EAs or UEAs specifically. Within many Hispanic cultural systems, traditional gender roles assign breadwinning and protection tasks to men and assign nurturance and domestic tasks to women (Galanti 2003). The process of adjusting to the USA may be gendered as well—men's roles are fairly similar between the two sets of cultural systems, but women's roles are quite different. Regarding alcohol use, then, women in many traditional Hispanic cultural contexts may be discouraged from drinking, whereas alcohol use is an expression of *machismo* among men. Accordingly, women may have more “acculturating” to do once in the USA, and Hispanic women who are more Americanized may be at especially high risk for heavy episodic drinking (Rote and Brown 2013).

There is also some evidence that men and women may respond differently to alcohol prevention interventions. For example, Neighbors et al. (2010) found that college women, but not men, reduced their drinking in response to a personal normative feedback intervention. The study was designed to evaluate the efficacy of general versus gender-specific personalized normative feedback for heavy-drinking college students. A 2-year randomized controlled trial was conducted with 818 freshmen who reported one or more binge drinking episodes at baseline. The sample was 57.6% women and 42% non-Caucasian. After a random assignment to four experimental conditions (gender-specific vs. gender non-specific and a single vs. biannual administration of the intervention) and one control condition, results indicated that for women, but not for men, gender-specific biannual personalized normative feedback was associated with reductions in alcohol-

related problems over time compared to the control condition. It is not known whether this same pattern of results would emerge for Hispanic UEAs specifically.

A randomized controlled trial was conducted by Chiauuzzi et al. (2005) comparing an online version of BASICS for college binge drinkers to an alcohol education website at baseline, postintervention, and 3-month follow-up. The sample consisted of 265 predominantly Caucasian students (73% White, 7.5% Hispanic). Findings indicated that women and persistent heavy binge drinkers were most likely to benefit from the online version of the intervention. If replicated consistently within Hispanic UEA populations, such gender differences would suggest the need for different components—if not different interventions entirely—for young Hispanic men versus women (Barrera et al. 2011).

Social Contextual Variation in Pathways Toward Binge Drinking Obtaining higher education or beginning one's career is a central developmental task in emerging adulthood. However, at present, binge drinking prevention is available only to those who pursue higher education—which does not include the majority of Hispanic EAs. In 2014, only 35% of Hispanics between the ages of 18 and 24 were enrolled in 2- or 4-year colleges (Krogstad 2016). Also, in 2014, a National Journal poll indicated that 66% of Hispanic EAs who entered the workforce or the military rather than pursuing higher education cited having to support their families as a reason for not enrolling in college—again highlighting the importance of family in Hispanic culture. Perhaps as a result, in 2014, only 15% of Hispanics aged 25–29 had a bachelor's degree, and Hispanics were the US ethnic group least likely to enroll in a 4-year college, attend an academically selective college, or enroll full time. Four-year colleges with large numbers of full-time students living on campus are often those that have the most demand, infrastructure, and funding for widespread alcohol prevention programming (Krogstad 2016). Hispanic UEAs are therefore quite unlikely to receive binge drinking prevention programming. Ascertaining which types of programs are efficacious or effective for non-college-attending UEAs, and making those programs accessible to non-college young adults, and especially ethnic minority UEAs, represent a major public health priority. Meeting this need requires us to move beyond a primary focus on college drinking preventive interventions.

Summary, Recommendations, and Call for Action

Research strongly points to intensive drinking episodes as representing among the most problematic and costly

alcohol-related behaviors in the USA. Hispanic UEAs are disproportionately affected by the consequences of heavy episodic drinking and thus constitute a high-priority group for binge drinking prevention. The current state of binge drinking prevention for UEAs, however, seems to be missing the mark regarding this large and growing ethnic group. The challenge is twofold and requires us to re-think the design of binge drinking prevention interventions for Latino UEAs as well as the avenues for program implementation. Table 1 summarizes the evidence based elements potentially relevant to Latino UEA binge drinking prevention program design. The most widely used program, BASICS, is put in place primarily in 4-year

residential colleges and universities, but in 2016, only 47% of Hispanic high school graduates ages 18 to 24 were enrolled in college (Pew Research Center 2017), with only half of these youth attending 4-year universities (Krogstad 2016; Pew Research Center 2016). This large gap between supply of and demand for binge drinking prevention interventions could be addressed effectively by high school- or pediatric care-based prevention initiatives and by engagement of post-secondary educational institutions and industries with large Latino populations. The 2014 Bureau of Labor Statistics report highlighted the industries with the highest concentration of Hispanic workers: 27.3% of the workers in construction were

Table 1 Summary of ecodevelopmental influences on emerging adult binge drinking

Systemic level of influence	Evidence-based elements for Latino UEA binge drinking (BD) prevention
Macrosystem	<p>Cultural processes: BD risk factors: ▪ Perceived discrimination (e.g., Schwartz et al. 2015; Unger et al. 2014) BD protective factors: ▪ Heritage-culture retention as a way of coping with and lessening the effects of discrimination (Unger et al. 2014) Gender influences: BD risk factors: ▪ The gendered acculturation process of Hispanic women in the US (Rote and Brown 2013) BD protective factors: ▪ Personal normative feedback intervention effective for women (Neighbors et al. 2010) ▪ Women most likely to benefit from online prevention delivery (Chiauzzi et al. 2005; Barrera et al. 2011) Social contextual factors: BD risk factors: ▪ Majority of Hispanic UEA do not attend 2- or 4-year colleges, yet binge drinking prevention is available only to those who pursue higher education (Krogstad 2016) ▪ Construction and leisure and hospitality industries employ large percentage of Latino workers and have some of the most elevated rates of heavy alcohol use and substance use disorders (Bureau of Labor Statistics 2019; Bush and Lipari 2015)</p>
Microsystem	<p>Parenting BD risk factors: ▪ Ineffective monitoring, perceived parental permissiveness of drinking, and parental modeling of alcohol use (Wood et al. 2004; Beck et al. 2004; Chassin et al. 1996; Urberg et al. 2005) ▪ Increased levels of conflict due to parent–youth discrepancies in cultural practices, values, and identities (Martinez 2006; Schwartz et al. 2016) BD protective factors: ▪ Greater emotional and instrumental support, family cohesion, and positive parenting, general and alcohol-specific communication between parents and their UEA (Wood et al. 2004, Ichiyama et al. 2009; Fairlie et al. 2012) Peer influences BD risk factors ▪ Perceptions of elevated level and frequency of peers’ alcohol use, in contrast to peers’ actual drinking levels (Reid and Aiken 2013; Rai et al. 2003; Toumbourou et al. 2007; Windle 2000) BD protective factors: ▪ Youth nominated peers are safe and effective intervention dissemination agents (Larimer et al. 2001, Mackesy-Amity et al. 2011, Weeks et al. 2009, Valente et al. 2007)</p>
Mezosystem	<p>Parent–peer interaction Protective factors: ▪ Positive interactions between parents and the peers of their children (Coatsworth et al. 2002) Note: Findings are from adolescent literature and are potentially generalizable to EAs</p>

Hispanic, 23.1% in agriculture were Latino, and leisure and hospitality employed 22.3% Latino workers (Bureau of Labor Statistics 2019). Additionally, the 2015 CBHSQ report outlined that the second highest rate of past month heavy alcohol use among full-time workers aged 18–64 was found in the construction industry and the accommodations and food services industry had the highest rates of past-year substance use disorder (Bush and Lipari 2015). Thus, to effectively support the health of Hispanic UEAs post high school, businesses in these high risk industries must be incentivized, whether through taxes or available NIH research grant support to (1) collaborate with scientists and conduct local evaluations on alcohol use and (2) implement employee heavy drinking prevention and wellness promotion programs with built-in evaluations.

Although some of the components of BASICS and other college drinking prevention programs are likely applicable to Hispanic UEAs, prior research points to the importance of culturally tailoring prevention programs (see Castro et al. 2017). Hispanic UEAs are often pulled in multiple directions by obligations to family, developmental necessity for both friendships and romantic relationships, socioeconomic realities, and incompatibilities between their cultural heritage and the larger US cultural system, among other issues. This presence of multiple cultural and social influences calls for a multisystemic approach to binge drinking prevention to actively engage and transform not only UEAs but also the systems around them.

We support the use of some of the major elements of BASICS if integrated into more multisystemic program. Targets such as increased awareness of one's alcohol consumption pattern, personal beliefs and social norms regarding alcohol, family history of alcohol use and problems, knowledge of alcohol norms and effects, and help seeking may be beneficial but not sufficient for Hispanic UEAs. We recommend that these alcohol-specific aims be embedded within larger goals such as increased understanding of emerging adulthood as a key developmental time for identity exploration and formation and heightened awareness of heritage-culture challenges (e.g., machismo) and assets (familismo) and how those unfold in the context of a receiving country (e.g., discrimination, acculturation). We place strong emphasis on preparing Hispanic UEAs to transmit knowledge and skills to their peers and families, who represent the main sources of both support and risk for UEA alcohol misuse and binge drinking.

We also recommend that peers and parents be intervened with directly to strengthen each specific microsystem and thus to provide a healthier overall environment for sustained success among Hispanic UEAs. Literature points to key elements that must be present in a family-based binge drinking preventive intervention for

Hispanic UEAs: providing knowledge of the changes and processes occurring during emerging adulthood; delivering developmentally appropriate general and alcohol/binge drinking specific parenting; and increasing awareness of macrosystemic influences such as heritage culture, gender, acculturation, and discrimination on the family system. Recommendations for the ingredients of a peer-based binge drinking prevention component are challenging to specify because little is known about the demographic composition of Hispanic UEAs' close peer networks. Some of the individual change components of BASICS regarding alcohol and binge drinking will likely also be applicable to the close friends of underage Hispanic drinkers, even if these friends are not Hispanic themselves..

In accordance with ecodevelopmental theory, the interactions among contextual systems must be considered. In addition to the parents-UEAs and peers-UEAs interactions, it is essential to facilitate positive connections between peers and parents, as adult mentors (such as parents) are consistently found to be the most powerful protective factor in the adolescent and young adult literature (Schwartz and Petrova *in press*). Such an approach may increase the efficacy and reach of binge drinking prevention interventions for Hispanic UEAs by promoting synergy between important social contexts in young people's lives. Peers would also gain access to additional adult mentors, i.e., their friends' parents.

Finally, due to the association of binge drinking with other health risk behaviors (e.g., homicide and suicide (Pridemore and Chamlin 2006), unprotected sex and sexually transmitted infections (Finer and Zolna 2011), lost work productivity (MacDonald and Shields 2004), relationship challenges (Griffin et al. 2010), and interpersonal violence (Caetano et al. 2017)), interventions will likely have to be tailored to the specific needs of each population. This approach will require an assessment prior to program implementation to identify which behaviors associated with binge drinking are most relevant to the youth to be receiving an intervention.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Research Involving Human Participants and/or Animals Not applicable.

Informed Consent This was not an empirical study, and no human subjects were recruited.

Ethical Approval This was not an empirical study, and no human subjects were recruited.

References

- Alexander, C., Piazza, M., Mekos, D., & Valente, T. (2001). Peers, schools, and adolescent cigarette smoking. *Journal of Adolescent Health, 29*, 22–30.
- Arnett, J. (2000). Emerging adulthood. A theory of development from the late teens through the twenties. *The American Psychologist, 55*, 469–480.
- Arnett, J. (2005). The developmental context of substance use in emerging adulthood. *Journal of Drug Issues, 35*, 235–254.
- Arnett, J. J. (2007). *Socialization in emerging adulthood: From the family to the wider world*. from Socialization to Self-Socialization.
- Arnett, J. J. (2011). *Emerging adulthood(s): The cultural psychology of a new life stage. Bridging cultural and developmental approaches to psychology: New syntheses in theory, research, and policy* (pp. 255–275). New York: Oxford University Press.
- Baer, J. S., Marlatt, G. A., Kivlahan, D. R., Fromme, K., Larimer, M. E., & Williams, E. (1992). An experimental test of three methods of alcohol risk reduction with young adults. *Journal of Consulting and Clinical Psychology, 60*, 974–979.
- Baer, J. S., Kivlahan, D. R., Blume, A. W., McKnight, P., & Marlatt, G. A. (2001). Brief intervention for heavy-drinking college students: 4-year follow-up and natural history. *American Journal of Public Health, 91*, 1310–1316.
- Banks, E., & Smith, M. (1980). Attitudes and background factors related to alcohol use among college students. *Psychological Reports, 46*, 571–577.
- Barrera, M., Castro, F. G., & Steiker, L. K. H. (2011). A critical analysis of approaches to the development of preventive interventions for subcultural groups. *American Journal of Community Psychology, 48*(3–4), 439–454.
- Beck, K. H., Boyle, J. R., & Boekeloo, B. O. (2004). Parental monitoring and adolescent drinking: Results of a 12-month follow-up. *American Journal of Health Behavior, 28*, 272–279.
- Blue Prints for Healthy Youth Development. (2018). Blueprints programs: Positive youth development. Retrieved from <https://www.blueprintsprograms.org/search-results>. Accessed 1 May 2019.
- Boffetta, P., Hashibe, M., La Vecchia, C., Zatonski, W., & Rehm, J. (2006). The burden of cancer attributable to alcohol drinking. *International Journal of Cancer, 119*, 884–887.
- Brittain, S. E., & Roberge, L. P. (1988). Students' perceptions of the effects of a university's alcohol policy. *College Student Journal, 22*, 277–281.
- Bundy, C. (2004). Changing behavior: Using motivational interviewing techniques. *Journal of the Royal Society of Medicine, 97*, 43–47.
- Bureau of Labor Statistics, U.S. Department of Labor, *The Economics Daily*, Hispanics and Latinos in industries and occupations on the Internet at <https://www.bls.gov/pub/ted/2015/hispanics-and-latinos-in-industries-and-occupations.htm>. Accessed 08 Apr 2019.
- Bush, D. M., & Lipari, R. N. (2015). The CBHSQ report: Substance use and substance use disorder by industry. Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality: Rockville, MD, USA.
- Caetano, R., Schafer, J., & Cunradi, C. B. (2017). *Alcohol-related intimate partner violence among white, black, and Hispanic couples in the United States. Domestic violence: The five big questions*.
- Castro, F. G., Barrera, M., Jr., & Holleran Steiker, L. K. (2010). Issues and challenges in the design of culturally adapted evidence-based interventions. *Annual Review of Clinical Psychology, 6*, 213–239.
- Castro, F. G., Bautista, T. G., Mendieta, M. I. H., Ramirez, S. O., Heydarian, N. M., Hughes, A. S. (2017) Systems Context for Designing Culturally Adapted Interventions. In Schwartz, S. J., & Unger, J. (Eds.). *The Oxford Handbook of Acculturation and Health*. Oxford University Press.
- Center for Disease Control and Prevention [CDC]. (2015, December 31). Chronic Disease Prevention and Health Promotion. Retrieved from <https://www.cdc.gov/chronicdisease/resources/publications/aag/alcohol.htm>.
- Center for Disease Control and Prevention [CDC]. (2018, March 27). Fact sheets – Binge drinking. Retrieved from <https://www.cdc.gov/alcohol/fact-sheets/binge-drinking.htm>.
- Chassin, L., Curran, P. J., Hussong, A. M., & Colder, C. R. (1996). The relation of parent alcoholism to adolescent substance use: A longitudinal follow-up study. *Journal of Abnormal Psychology, 105*(1), 70.
- Chiauzzi, E., Green, T. C., Lord, S., Thum, C., & Goldstein, M. (2005). My student body: A high-risk drinking prevention web site for college students. *Journal of American College Health, 53*, 263–274.
- Coatsworth, J. D., Pantin H., McBride C, Briones E, Kurtines W, & Szapocznik J. (2002). Ecodevelopmental correlates of behavior problems in young hispanic females. *Applied Developmental Science 6*(3), 126–143.
- Collins, A., & Van Dulmen, M. (2006). *Friendships and romance in emerging adulthood: Assessing distinctiveness in close relationships*.
- Cuellar, I., Arnold, B., & González, G. (1995). Cognitive referents of acculturation: Assessment of cultural constructs in Mexican Americans. *Journal of Community Psychology, 23*, 339–356.
- DeGarmo, D. S., & Martinez, C. R., Jr. (2006). A culturally informed model of academic well-being for Latino youth: The importance of discriminatory experiences and social support. *Family Relations, 55*, 267–278.
- Dimeff, L. A. (Ed.). (1999). *Brief Alcohol Screening and Intervention for College Students (BASICS): A harm reduction approach*. New York: Guilford Press.
- Ennett, S. T., Rosenbaum, D. P., Flewelling, R. L., Bieler, G. S., Ringwalt, C. L., & Bailey, S. L. (1994). Long-term evaluation of drug abuse resistance education. *Addictive Behaviors, 19*, 113–125.
- Ennis, S. R., Rios-Vargas, M., & Albert, N. G. (2011). *The Hispanic Population: 2010*. Washington D.C.: U.S. Census Bureau.
- Fairlie, A. M., Wood, M. D., & Laird, R. D. (2012). Prospective protective effect of parents on peer influences and college alcohol involvement. *Psychology of Addictive Behaviors, 26*, 30.
- Fell, J. C., Fisher, D. A., Voas, R. B., Blackman, K., & Tippetts, A. S. (2008). The relationship of underage drinking laws to reductions in drinking drivers in fatal crashes in the United States. *Accident Analysis & Prevention, 40*, 1430–1440.
- Finer, L. B., & Zolna, M. R. (2011). Unintended pregnancy in the United States: Incidence and disparities, 2006. *Contraception, 84*, 478–485.
- Fromme, K., Kivlahan, D. R., & Marlatt, G. A. (1986). Alcohol expectancies, risk identification, and secondary prevention with problem drinkers. *Advances in Behaviour Research and Therapy, 8*, 237–251.
- Galanti, G. A. (2003). The Hispanic family and male-female relationships: An overview. *Journal of Transcultural Nursing, 14*(3), 180–185.
- Garcia, W. (1996). Respeto: A Mexican base for interpersonal relationships. In W. B. Gudykunst, S. Ting-Toomey, & T. Nishida (Eds.), *Communication in personal relationships across cultures* (pp. 137–155). Thousand Oaks: Sage Publications.
- George, W. H., Crowe, L. C., Abwender, D., & Skinner, J. B. (1989). Effects of raising the drinking age to 21 years in New York State on self-reported consumption by college students. *Journal of Applied Social Psychology, 19*, 623–635.
- Griffin, K. W., Bang, H., & Botvin, G. J. (2010). Age of alcohol and marijuana use onset predicts weekly substance use and related psychosocial problems during young adulthood. *Journal of Substance Use, 15*, 174–183.
- Ichiyama, M. A., Fairlie, A. M., Wood, M. D., Turrissi, R., Francis, D. P., Ray, A. E., & Stanger, L. A. (2009). A randomized trial of a parent-based intervention on drinking behavior among incoming college freshmen. *Journal of Studies on Alcohol and Drugs Supplement, 67–76*.

- Jager, J., Keyes, K. M., & Schulenberg, J. E. (2015). Historical variation in young adult binge drinking trajectories and its link to historical variation in social roles and minimum legal drinking age. *Developmental Psychology, 51*, 962–974.
- Kasinitz, P., Mollenkopf, J. H., Waters, M. C., & Holdaway, J. (2008). *Inheriting the city: The children of immigrants come of age*. New York: Russell Sage Foundation.
- Kilmer, J., Cronce, J., & Larimer, M. (2014). College student drinking research from the 1940s to the future: Where we have been and where we are going. *Journal of Studies on Alcohol and Drugs Supplement, 26*–35.
- Krogstad, J. M. (2016). 5 Facts about Latinos and education. Retrieved from <http://www.pewresearch.org/fact-tank/2016/07/28/5-facts-about-latinos-and-education/>. Accessed 1 May 2019.
- Larimer, M. E., Turner, A. P., Anderson, B. K., Fader, J. S., Kilmer, J. R., Palmer, R. S., & Cronce, J. M. (2001). Evaluating a brief alcohol intervention with fraternities. *Journal of Studies on Alcohol, 62*, 370–380.
- Lieber, C. S. (2003). Relationships between nutrition, alcohol use, and liver disease. *Alcohol Research and Health, 27*, 220–231.
- MacDonald, Z., & Shields, M. A. (2004). Does problem drinking affect employment? Evidence from England. *Health Economics, 13*, 139–155.
- Mackesy-Amiti, M. E., Ouellet, L. J., Golub, E. T., Hudson, S., Hagan, H., & Garfein, R. S. (2011). Predictors and correlates of reduced frequency or cessation of injection drug use during a randomized HIV prevention intervention trial. *Addiction, 106*, 601–608.
- Marlatt, G., Baer, J., Kivlahan, D., Dimeff, L., Larimer, M., Quigley, L., ... Kendall, Philip C. (1998). Screening and brief intervention for high-risk college student drinkers: Results from a 2-year follow-up assessment. *Journal of Consulting and Clinical Psychology, 66*, 604–615.
- Martinez Jr, C. R. (2006). Effects of differential family acculturation on Latino adolescent substance use. *Family Relations, 55*(3), 306–317.
- Miller, W. R., & Rollnick, S. (2013). *Motivational interviewing: Preparing people for change* (3rd ed.). New York: Guilford Press.
- Mulia, N., Ye, Y., Greenfield, T. K., & Zemore, S. E. (2009). Disparities in alcohol-related problems among white, black and Hispanic Americans. *Alcoholism, Clinical and Experimental Research, 33*, 654–662.
- Naimi, T. S., Brewer, R. D., Mokdad, A., Denny, C., Serdula, M. K., & Marks, J. S. (2003). Binge drinking among us adults. *JAMA, 289*, 70–75.
- National Drug Intelligence Center. (2011). *The economic impact of illicit drug use on American society*. Washington D.C.: United States Department of Justice.
- Neighbors, C., Lewis, M. A., Atkins, D. C., Jensen, M. M., Walter, T., Fossos, N., ... Larimer, M. E. (2010). Efficacy of web-based personalized normative feedback: a two-year randomized controlled trial. *Journal of Consulting and Clinical Psychology, 78*(6), 898.
- Perkins, H. W., & Berkowitz, A. D. (1986). Perceiving the community norms of alcohol use among students: Some research implications for campus alcohol education programming. *International Journal of the Addictions, 21*, 961–976.
- Pew Research Center. (2016). Facts about Latinos and education. Retrieved from <http://www.pewresearch.org/fact-tank/2016/07/28/5-facts-about-latinos-and-education/>. Accessed 1 May 2019.
- Pew Research Center. (2017). Hispanic dropout rate hits new low, and college enrollment at new high. Retrieved from <http://www.pewresearch.org/fact-tank/2017/09/29/hispanic-dropout-rate-hits-new-low-college-enrollment-at-new-high/>.
- Prado, G., & Pantin, H. (2011). Reducing substance use and HIV health disparities among Hispanic youth in the USA: The Familias Unidas program of research. *Psychosocial Intervention, 20*, 63–73.
- Pridemore, W. A., & Chamlin, M. B. (2006). A time-series analysis of the impact of heavy drinking on homicide and suicide mortality in Russia, 1956–2002. *Addiction, 101*, 1719–1729.
- Prochaska, J. O., Norcross, J. C., & Diclemente, C. C. (1994). *Changing for good. A revolutionary six-stage program for overcoming bad habits and moving your life positively forward*. New York: Harper Collins.
- Rai, A. A., Stanton, B., Wu, Y., Li, X., Galbraith, J., Cottrell, L., ... & Burns, J. (2003). Relative influences of perceived parental monitoring and perceived peer involvement on adolescent risk behaviors: An analysis of six cross-sectional data sets. *Journal of Adolescent Health, 33*, 108–118.
- Rangel, M. C., Gavin, L., Reed, C., Fowler, M. G., & Lee, L. M. (2006). Epidemiology of HIV and AIDS among adolescents and young adults in the United States. *Journal of Adolescent Health, 39*, 156–163.
- Reid, A. E., & Aiken, L. S. (2013). Correcting injunctive norm misperceptions motivates behavior change: A randomized controlled sun protection intervention. *Health Psychology, 32*, 551–560.
- Reid, A., & Carey, K. (2015). Interventions to reduce college student drinking: State of the evidence for mechanisms of behavior change. *Clinical Psychology Review, 40*, 213.
- Romano, E., Voas, R. B., & Lacey, J. H. (2010). *Alcohol and highway safety: Special report on race/ethnicity and impaired driving (no. HS-811 336)*. Washington, DC: National Highway Traffic Safety Administration.
- Rote, S. M., & Brown, R. L. (2013). Gender differences in alcohol and drug use among Hispanic adults: the influence of family processes and acculturation. *Journal of Addictive Diseases, 32*(4), 354–364.
- Sacks, J. J., Gonzales, K. R., Bouchery, E. E., Tomedi, L. E., & Brewer, R. D. (2015). 2010 National and state costs of excessive alcohol consumption. *American Journal of Preventive Medicine, 49*, E73–E79.
- Salas-Wright, C. P., Robles, E. H., Vaughn, M. G., Córdova, D., & Pérez-Figueroa, R. (2015). Toward a typology of acculturative stress: Results among Hispanic immigrants in the United States. *Hispanic Journal of Behavioral Sciences, 37*, 223–242.
- Schwartz, S. J., & Petrova, M. (in press). Prevention science in emerging adulthood: A field coming of age. *Prevention Science, 1*–5.
- Schwartz, S. J., Unger, J. B., Baezconde-Garbanati, L., Zamboanga, B. L., Lorenzo-Blanco, E. I., Des Rosiers, S. E., Romero, A. J., Cano, M. A., Gonzales-Backen, M. A., Córdova, D., Piña-Watson, B. M., Huang, S., Villamar, J. A., Soto, D. W., Patarroyo, M., & Szapocznik, J. (2015). Trajectories of cultural stressors and effects on mental health and substance use among Hispanic immigrant adolescents. *Journal of Adolescent Health, 56*, 433–439.
- Schwartz, S. J., Unger, J. B., Baezconde-Garbanati, L., Zamboanga, B. L., Córdova, D., Lorenzo-Blanco, E. I., ... & Villamar, J. A. (2016). Testing the parent–adolescent acculturation discrepancy hypothesis: A five-wave longitudinal study. *Journal of Research on Adolescence, 26*, 567–586.
- Sinha, R. (2008). Chronic stress, drug use, and vulnerability to addiction. *Annals of the New York Academy of Sciences, 1141*, 105–130.
- Smokowski, P. R., & Bacallao, M. A. (2011). *Becoming bicultural: Risk, resilience, and Latino youth*. New York: New York University Press.
- Steinberg, L., & Monahan, K. C. (2007). Age differences in resistance to peer influence. *Developmental Psychology, 43*, 1531–1543.
- Syed, M., & Mitchell, L. L. (2013). Race, ethnicity, and emerging adulthood: Retrospect and prospects. *Emerging Adulthood, 1*, 83–95.
- Szapocznik, J., & Coatsworth, J. D. (1999). *An ecodevelopmental framework for organizing the influences on drug abuse: A developmental model of risk and protection*.
- Toumbourou, J. W., Stockwell, T., Neighbors, C., Marlatt, G. A., Sturge, J., & Rehm, J. (2007). Interventions to reduce harm associated with adolescent substance use. *Lancet, 369*, 1391–1401.
- U.S Department of State. (n.d.). Retrieved from <https://www.state.gov/m/dghr/flo/c21961.htm>. Accessed 1 May 2019.
- Unger, J. B., Schwartz, S. J., Huh, J., Soto, D. W., & Baezconde-Garbanati, L. (2014). Acculturation and perceived discrimination:

- Predictors of substance use trajectories from adolescence to emerging adulthood among Hispanics. *Addictive Behaviors*, 39, 1293–96.
- United States Census Bureau [USCB]. (2014). The Hispanic population in the United States: 2014. Retrieved from <https://www.census.gov/data/tables/2014/demo/hispanic-origin/2014-cps.html>. Accessed 1 May 2019.
- Urberg, K., Goldstein, M.S., Toro, P.A. (2005). Supportive relationships as a moderator for the effects of parent and peer drinking on adolescent drinking. *Journal of Research on Adolescence*, 15(1), 1–19.
- Valente, T. W., Ritt-Olson, A., Stacy, A., Unger, J. B., Okamoto, J., & Sussman, S. (2007). Peer acceleration: Effects of a social network tailored substance abuse prevention program among high-risk adolescents. *Addiction*, 102, 1804–1815.
- Wagenaar, A. C., & Toomey, T. L. (2002). Effects of minimum drinking age laws: Review and analyses of the literature from 1960 to 2000. (Statistical data included). *Journal of Studies on Alcohol Supplement*, 63, S206.
- Wechsler, H., Davenport, A., Dowdall, G., Moeykens, B., & Castillo, S. (1994). Health and behavioral consequences of binge drinking in college: A national survey of students at 140 campuses. *JAMA*, 272, 1672.
- Weeks, M. R., Li, J., Dickson-Gomez, J., Convey, M., Martinez, M., Radda, K., & Clair, S. (2009). Outcomes of a peer HIV prevention program with injection drug and crack users: The Risk Avoidance Partnership. *Substance Use & Misuse*, 44, 253–281.
- Williams, D. R., & Mohammed, S. A. (2009). Discrimination and racial disparities in health: Evidence and needed research. *Journal of Behavioral Medicine*, 32, 20–47.
- Windle, M. (2000). Parental, sibling, and peer influences on adolescent substance use and alcohol problems. *Applied Developmental Science*, 4, 98–110.
- Wood, M. D., Read, J. P., Mitchell, R. E., & Brand, N. H. (2004). Do parents still matter? Parent and peer influences on alcohol involvement among recent high school graduates. *Psychology of Addictive Behaviors*, 18, 19–30.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.