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Adverse childhood experiences and substance use among Hispanic emerging adults in Southern California

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HIGHLIGHTS

- Among participants the average number of adverse childhood experiences was two.
- Verbal abuse was associated with drinking, cigarette, marijuana, and hard drug use.
- Physical abuse was associated with binge drinking, marijuana, and hard drug use.
- Parental separation or divorce was associated with cigarette and marijuana use.

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ABSTRACT

Introduction: Emerging adults who experienced stressful childhoods may engage in substance use as a maladaptive coping strategy. Given the collectivistic values Hispanics encounter growing up, adverse childhood experiences may play a prominent role in substance use decisions as these events violate the assumptions of group oriented cultural paradigms. Alternatively, adverse childhood events might not increase the risk of substance use because strong family ties could mitigate the potential maladaptive behaviors associated with these adverse experiences. This study examined whether adverse childhood experiences were associated with substance use among Hispanic emerging adults.

Method: Participants (n = 1420, mean age = 22, 41% male) completed surveys indicating whether they experienced any of 8 specific adverse experiences within their first 18 years of life, and past-month cigarette use, marijuana use, hard drug use, and binge drinking. Logistic regression models examined the associations between adverse childhood experiences and each category of substance use, controlling for age, gender, and depressive symptoms.

Results: The number of adverse childhood experiences was significantly associated with each category of substance use. A difference in the number of adverse childhood experiences, from 0 to 8, was associated with a 22% higher probability of cigarette smoking, a 24% higher probability of binge drinking, a 31% higher probability of marijuana use, and a 12% higher probability of hard drug use respectively.

Conclusions: These findings should be integrated into prevention/intervention programs in hopes of quelling the duration and severity of substance use behaviors among Hispanic emerging adults.

1. Introduction

Emerging adulthood is a time of exploration, transition, and development between the ages of 18 and 25 (Arnett, 2011). The use of tobacco products, illicit drugs, and binge drinking can undermine optimal development, and are prevalent behaviors among emerging adults in the U.S. (Substance Abuse and Mental Health Services Administration, 2013). The prevalence of tobacco product use, drug use, and binge drinking varies by ethnicity (Regina, Miles, Tucker, Zhou, & D'Amico, 2010), with Hispanics described as a priority population for substance use prevention (Stone, Becker, Huber, & Catalano, 2012). The literature on substance use among Hispanic emerging adults is growing, but still in its nascent stage.

Recent studies have focused on how role transitions are associated with substance use among Hispanic emerging adults. These studies viewed substance use as a maladaptive coping strategy where substance use starts and increases for emerging adults shortly after a role transition is experienced (Arnett, 2005). For example, loss of a job, experiencing a breakup, starting to date someone new, being arrested, and becoming a caregiver for a family member were associated with past-month cigarette use (Allem, Soto, Baezconde-Garbanati, & Unger, 2013b). Being arrested, experiencing a breakup, starting to date someone new, starting a new job, and experiencing a demotion at work were found to be associated with binge drinking and marijuana use among Hispanic emerging adults (Allem, Lisha, Soto, Baezconde-Garbanati, & Unger, 2013a). While

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identifying which role transitions are associated with substance use has been useful in furthering the literature on Hispanic emerging adults, a critical next step to reducing the prevalence of substance use among this priority population may involve understanding how adverse childhood experiences are associated with substance use (Rosenberg, 2011). Emerging adults who experienced stressful childhoods may also engage in substance use as maladaptive coping strategies in order to avoid negative emotions.

Frameworks that describe early emotional development provide insight to why maladaptive coping mechanisms start and continue among individuals who experience trauma in childhood (Bradley et al., 2011; Gerson & Rappaport, 2013; Schore, 2009). One of the earliest unfortunate situations an individual can be born into is abuse in childhood. Abuse and other traumatic events ultimately impact how the child sees the world and views interpersonal relationships (Schore, 2009). An automatic response to overwhelming situations, especially situations out of the control of the child, is to disassociate (e.g. emotionally detach from the immediate surroundings) (Dalenberg et al., 2012). When mechanisms like disassociation are repeatedly used as a defense in order to shut out affective responses to events or people, there are direct consequences on child development (Schore, 2014). One such consequence is the inability to form secure attachment (e.g., a biological impulse to gravitate toward a caregiver or parent in the face of discomfort) (Landers & Sullivan, 2012; Schore, 2002; Sullivan, 2012), which has been described as the biological preamble for processes like intimacy and emotional regulation (Porgess & Furman, 2011).

It has been shown that biological experiences provide the capacity for individuals to develop attachment and eventually emotional regulation (Porgess, 2009; Rincón-Cortés & Sullivan, 2014). This biological development starts in infancy and is informed by social relationships. One specific requisite for secure attachment is the sense of safety (Porgess, 2003). The feeling of safety is developed by reciprocal signals between offspring and caregiver, and is molded by the offspring's environment. If the feeling of safety is present for the offspring, secure attachment can develop (Porgess, 2001). In other words, there are substrates for intimacy that allows for closeness and the capacity for emotional regulation. In the presence of adverse childhood experiences these processes are retarded, and the ability to form secure attachment, and subsequently the ability to regulate emotions is curbed. With an impaired ability to regulate emotions, individuals may engage in substance use or other maladaptive behaviors in order to cope with the sequela of trauma.

Adverse childhood experiences violate one of the pillars of group oriented cultural paradigms, the family (Triandis, McCusker, & Hui, 1990). Given the collectivistic values Hispanics encounter growing up (Arnett, 2003; Gaines et al., 1997; Shkodriani & Gibbons, 1995), this betrayal may have an influential role in substance use decisions. Alternatively, adverse childhood experiences may not have an association with substance use among Hispanics, as their strong family ties could mitigate the potential maladaptive behaviors associated with these adverse experiences. This study examined whether or not adverse childhood experiences were associated with substance use among Hispanic emerging adults in order to inform prevention and intervention programs for this priority population.

Hypothesis 1. The accumulated number of adverse childhood experiences is positively associated with substance use.

Hypothesis 2. Specific adverse childhood experiences are positively associated with substance use.

2. Methods

2.1. Participants

Participants filled out surveys for Project RED (Retiendo y Entendiendo Diversidad para Salud), a longitudinal study of cultural risk and protective factors for substance use among Hispanics in Southern California (Lorenzo-Blanco, Unger, Ritt-Olson, Soto, & Baezconde-Garbanati, 2013). Originally, participants joined the study as adolescents, while attending one of seven high schools in the greater Los Angeles area. Details on school recruitment, student recruitment, and survey procedures have been published elsewhere (Unger, Ritt-Olson, Wagner, Soto, & Baezconde-Garbanati, 2009). The University's Institutional Review Board approved all procedures. Participants who self-identified as Hispanic, Latino or Latina, Mexican, Mexican–American, Chicano or Chicana, Central American, South American, Mestizo, La Raza, or Spanish were surveyed in emerging adulthood from January 2012 to December 2013. Research assistants sent letters to respondents' last known addresses, and invited them to call a toll-free phone number, or visit a website to participate in the study. If participants could not be contacted with the information they had provided in high school, staff searched for them online using social networking sites, and publicly available search engines. These tracking procedures resulted in 2151 participants with valid contact information. A total of 1420 (66%) emerging adults provided verbal consent over the phone, or read the consent script online, and clicked a button to indicate consent, and participated in the survey. Those lost to follow-up were significantly more likely to be male, report binge drinking, marijuana use, and hard drug use in high school, but did not differ on age, or smoking status in high school.

2.2. Measures

Researchers at Kaiser Permanente developed the adverse childhood experiences scale (Felitti et al., 1998); this scale was adopted for the present study. The adverse childhood experiences score is an integer count of eight distinct categories of adverse childhood experiences, and measures cumulative exposure to trauma in childhood. Coding of the adverse childhood experiences measures, and the subsequent analysis strategy were informed by prior research conducted by the original authors of the scale (Anda et al., 1999).

All questions regarding adverse childhood experiences referred to the participants' first 18 years of life. Participants were prompted with the statement: “The next set of questions will be about events that may have happened to you while growing up in the first 18 years of life…” *Verbal abuse* was determined from answers to the following two questions: “…how often did a parent, stepparent, or adult living in your home swear at you, insult you, or put you down?” and “…how often did a parent, stepparent, or adult living in your home threaten to hit you or throw something at you, but didn't do it?” Responses of “often,” or “very often,” to either item defined verbal abuse during childhood.

Physical abuse was determined from answers to the following two questions: “…how often did a parent, stepparent, or adult living in your home push, grab, slap, or throw something at you?” and “…how often did a parent, stepparent, or adult living in your home hit you so hard that you had marks or were injured?” A participant was defined as being physically abused if their response was either “often,” or “very often,” to the first question or “sometimes,” “often,” or “very often,” to the second.

Sexual abuse was measured by the following: “Some people, while they are growing up in their first 18 years of life, had a sexual experience with an adult or someone at least 5 years older than themselves. These experiences may have involved a relative, family friend, or stranger. During the first 18 years of life, did an adult, relative, family friend, or stranger ever (1) touch or fondle your body in a sexual way, (2) have you touch their body in a sexual way, (3) attempt to have any type of sexual intercourse with you (oral, anal, or vaginal), and/or (4) actually have any type of sexual intercourse with you (oral, anal, or vaginal)?” A “yes” response to any 1 of the 4 questions defined a participant as having experienced sexual abuse during childhood.