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Ethnic Identity and Substance use in Multiracial Youth: The Moderating Role of Support Networks

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Abstract

Background: Substance use in multiracial adolescents exceeds rates identified in the general population. Despite this fact, there is limited research examining risk and protective factors for multiracial substance use.

Objectives: The current study examined the moderating effect of social support on the relationship between ethnic identity and substance use in a sample of multiracial adolescent youth.

Methods: Multiracial youth ($N = 523$) completed a survey that asked questions related to their ethnic identity, perceived social support, and substance use. A series of path analyses were conducted to test the hypothesized relationships between ethnic identity, social support, and substance use.

Results: Analyses indicated that ethnic affirmation was negatively related to frequency of, but not quantity of substance use. Teacher support was negatively related to both frequency and quantity of substance use, while parent support was only related to frequency. Further, teacher and parent support emerged as moderators of ethnic affirmation and frequency and quantity of substance use respectively.

Conclusions/Importance: Our findings add to the current understandings of the relationship between ethnic identity, social support, ethnic identity, and substance use among the understudied multiracial adolescent population.

Keywords

multiracial; substance use; ethnic identity; support networks

Adolescent substance use is a public health concern and has been found to be associated with numerous detrimental psychosocial, educational, and health outcomes, including involvement with the juvenile justice system (Monahan, Rhew, Hawkins, & Brown, 2014), school dropout (Orpinas, Lacy, Nahapetyan, Dube, & Song, 2015), and suicide (Wong, Zhou, Goebert, & Hishinuma, 2013). Despite national attention, rates of alcohol and drug use among adolescents remains high, with approximately 61% of students having tried alcohol and 50% having tried an illicit substance (i.e., marijuana, cocaine, heroin, hallucinogens, inhalants, and nonmedical use of prescription type pain relievers, tranquilizers, stimulants, and sedatives) by the end of high school (Johnston, O'Malley, Meich, Bachman, & Schulenberg, 2016).

The multiracial or multiple-race population, defined by the U.S. Census Bureau as the population of people endorsing more than one race, is the fastest growing population in the U.S. (US Census Bureau, 2012). Rates of alcohol and marijuana use are high among multiracial youth, with rates of current illicit substance use at 17.4% compared to 8.8% for Latinos, 9.5% for Whites, and 10.5% for Black youth (Substance Abuse & Mental Health Services Administration, 2014). Despite the growth of and high rates of use among this population, limited research has examined factors that exacerbate or diminish the rates of substance use among multiracial youth. Research has identified the role of ethnic identity and social support on the substance use behavior of monoracial ethnic minority youth. Despite the relevance of these factors for multiracial youth, there is a dearth of research in this area. To address this gap, the present study examines the associations between ethnic identity, social support networks, and substance use among multiracial youth; examining the moderating role of social support on the association between ethnic identity and substance use, in particular.

Ethnic Identity and Substance Use

Ethnic identity, an aspect of social identity, has been defined as “that part of an individual’s self-concept which derives from [his] knowledge of [his] membership of a social group (or groups) together with the value and emotional significance attached to that membership” (Tajfel, 1981; p.255). Ethnic identity is believed to develop over time with exploration occurring during adolescence, as individuals examine their ideas, thoughts, and beliefs about their ethnicity and its salience in their lives (Phinney, 1990). Ethnic identity development is thought to be composed of two distinct constructs (Roberts et al., 1999). The first, ethnic identity exploration, involves learning more about one’s ethnicity and participating in culturally relevant practices. The second subcomponent of ethnic identity, ethnic affirmation/resolution, is the understanding of what it means to be a part of an ethnic group and the salience of ethnicity in one’s life (Umaña-Taylor, Alfaro, Bámaca, & Guimond, 2009).

For multiracial youth, specifically, it is imperative to examine ethnic identity development, as it may differ from that of monoracial minority youth. As such, researchers have proposed unique identity development models for multiracial youth (Renn, 2008). Pioneers in the area of multiracial identity development argue that identity models for monoracial minority youth do not capture the duality of identities that multiracial youth must integrate to reach an achieved identity status (Renn, 2008). As such, identity models for multiracial youth

emphasize choice of group categorization (Poston, 1990), the impact of discrimination and ability to identify as multiracial (Root, 1990), and ecological/social influences on self-identification (Renn, 2008).

Ethnic identity exhibits differential relationships with mental health and substance use outcomes for multiracial youth as compared to monoracial youth. Specifically, the literature is relatively clear about the relationship between ethnic identity and mental health and substance use outcomes for monoracial minority youth, finding higher levels of ethnic identity associated with better mental health and substance use outcomes (Brook & Pahl, 2005; Kulis, Marsiglia, Kopak, Olmsted, & Crossman, 2012). For multiracial youth, the literature is mixed with research finding that higher levels of ethnic identity are associated with both poorer mental health and substance use outcomes (Fisher, Reynolds, Hsu, Barnes, & Tyler, 2014; Lusk, Taylor, Nanney, & Austin, 2010), more positive mental health outcomes (Choi, Harachi, Gillmore, & Catalano, 2006), or find no association (James, Kim, & Armijo, 2000; Marsiglia, Kulis, & Hecht, 2001). Therefore, additional work is needed to understand the complex relationships between ethnic identity and substance use outcomes for multiracial youth.

While the majority of the aforementioned research has focused on an overall achieved identity status, the components of ethnic identity development can be used independently (Phinney & Ong, 2007) and have been found to be differentially associated with mental health outcomes. For instance, a study conducted by Fisher and colleagues (2014) with a large sample of African American, Caucasian, and multiracial high school aged youth, found that ethnic exploration was related to higher levels of mental health problems, with higher levels of affirmation relating to fewer mental health problems. This difference is thought to be explained by the self-medication hypothesis (Khantzian, 1997), which proposes that youth experiencing higher levels of exploration experience higher levels of distress and engage in substance use as a means to cope with feelings of identity confusion (Schwartz, Mason, Pantin, & Szapocznik, 2008). Due to the dearth of research in this area, particularly with the growing multiracial population, research examining the relationship of the subcomponents of ethnic identity to substance use is needed to identify and target specific ethnic identity processes through intervention (Phinney & Ong, 2007).

Social Support and Substance Use

Ecological systems frameworks underscore the importance of considering how various systems and environments (e.g., families, schools) interact to shape the lived experiences of youth (Bronfenbrenner, 1979; Garcia Coll et al., 1996). Importantly, social support has been identified as an environmental factor that may promote youth wellbeing (Cohen, 2004). Although conceptualized in many different ways, social support is thought to include interpersonal supporting behaviors (e.g., emotional, social participation) from parents, peers, and teachers. Consistent with these theoretical notions, Ennett and colleagues (2008) developed a conceptual framework particular to the social context of adolescent substance use, which includes microsystem influences from parents, peers, and schools. This framework was also guided by social control theory (Hirschi, 2017; Petraitis, Flay, & Miller, 1995), which posits that all individuals have a tendency to engage in deviant behavior, but

that it is only manifested when the bond between an individual and society (e.g., parents, peers, teachers) is weakened. Thus, engagement in risky behavior, such as substance use, increases for individuals with low levels of social support and decreases for those with high levels of support (Ennett et al., 2008). As purported by the integrative model (Garcia Coll et al., 1996), there is a need to understand if these theoretical notions work the same way for multiracial youth as social environments that all youth traverse may be promotive or inhibitive of adjustment depending on youth's race/ethnicity.

There is empirical work relating social support in parent, peer, and school contexts to substance use, primarily among monoracial youth. In particular, Ennett and colleagues (2008), in testing their model with a longitudinal design, found in a large sample of middle and high school students (52% White, 37% Black, 4% Hispanic & 7% other), that attributes of family, peer, and school contexts uniquely related to adolescent alcohol misuse in youth aged 11–17. Specifically, with regard to parental attributes, Ennett and colleagues found that parental monitoring and closeness (aspects of emotional social support) were associated with less adolescent alcohol use. These findings have been echoed in other research as parents are often identified as significant social influences on the developmental outcomes of young adolescents in both cross-sectional and longitudinal research (Marschall-Lévesque, Castellanos-Ryan, Vitaro, & Séguin, 2014; Moon, Patton, & Rao, 2010; Walsh, Kolobov, & Harel-Fisch, 2018). A systematic review examining family functioning and substance use found that poor parental support increased the risk of adolescent substance use (Hummel, Shelton, Heron, Moore, & Bree, 2013). Further, other research has found that when parents are provided interventions to increase parental support and closeness that it relates to lower rates of substance use (Borden, Schultz, Herman, & Brooks, 2010; Kuntsche & Kuntsche, 2016).

During adolescence, peers are an increasingly important support network that influences substance use behavior of adolescents (Ennett et al., 2008; Forster, Grigsby, Bunyan, Unger, & Valente, 2015; Wills, Resko, Ainette, & Mendoza, 2004). The literature on the influence of peer support is mixed. A study conducted by Wills et al., (2004) using measures of peer support found an overall trend of peers contributing to greater substance use among 7th grade students, only 5% of whom reported being multiracial). A study conducted by Piko (2000) in a sample of 15–19 year olds from Hungary also found that perceived levels of peer support were associated with higher rates of substance use. While some studies find that peer support is related to higher rates of substance use, other studies have found no relationship. For example, a study conducted by Lifrak, McKay, Rostain, Alterman, & O'Brien (1997), found no relationship between perceived support from friends and cigarette, alcohol, and marijuana use in a diverse monoracial sample of 171 early adolescents (mean age 13.2). In contrast, A study conducted with 184 students in 7th and 8th grades, examined the peer networks of African American and Hispanic youth and found that higher perceptions of school-based friendships and supports were protective against substance use (Forster et al., 2015). Additional research clarifying the role of peer support on substance use, particularly among multiracial youth, is needed.

Schools are also critical environmental contexts that influence the substance use behavior of adolescents (Ennett et al., 2008; Moon et al., 2010; Rudasill, Reio, Stipanovic, & Taylor,

2010). Within this setting, research on monoracial minority and majority adolescents has identified teacher support as a protective factor against adolescent substance use (Moon et al., 2010). A longitudinal study conducted by Rudasill et al. (2010) with the NICHD Study of Early Child Care and Youth Development national sample of 4th to 6th grade youth found that closer teacher-student relationships were associated with less risky behavior, including substance use. Further, students who report troubled relationships with school personnel have been found to be more likely to use tobacco, marijuana, and other substances (Ennett et al., 2008).

The Moderating Role of Social Support

Using resiliency theory, the present study goes beyond looking at direct independent relationships of ethnic identity and social support, as risk or promotive factors, to examine the interaction of the influences of ethnic identity and social support on substance use (Brook, Brook, Gordon, Whiteman, & Cohen, 1990). Resilience theory purports that there are certain factors that place individuals at risk for negative outcomes and other factors that are protective against negative outcomes (Fergus & Zimmerman, 2005). There are various risk/resilience models that can be examined. The present study examines two of them 1) the interaction of both risk and protective factors and 2) the interaction of two promotive factors. For the first model, we examine the interaction between ethnic exploration (risk factor) and support networks (protective factor) on substance use outcomes. Researchers have postulated that higher levels of ethnic exploration may lead to engagement in risky behavior (Arnett, 2005). Support from parents, peers, and teachers, play a significant role in the development of adolescents and may serve as a place for refuge and acceptance for youth who have high levels of exploration and are experiencing confusion around their identity (Sartor & Youniss, 2002). Thus, those youth with more support networks may turn to these networks in times of distress instead of engaging in substance use behavior.

The second model examines the additive protective effects of both ethnic affirmation and support networks on the substance use behavior of multiracial youth. This model suggests that one promotive factor may enhance the effect of another promotive factor to lead to less negative outcomes. Thus, by examining the interaction between ethnic affirmation and social support, it is testing the model of protective effects among multiracial youth (Zimmerman & Arunkumar, 1994). Results of this line of analyses could aid in the planning of substance use interventions for multiracial youth. Further, while literature has developed sound conceptual models for substance use among predominately White samples, these risk and protective models are incomplete for minority youth, as they neglect unique ethnic/racial experiences that inform adjustment (García Coll et al., 1996; Zapolski, Pedersen, McCarthy, & Smith, 2014). Thus, in identifying risk and protective factors for ethnic minority youth, it is important to understand if these factors work in the same way for ethnic minority youth who are multiracial. To our knowledge, this is the first study that examines the role of social support on the relations between domains of ethnic identity and substance use among multiracial youth.

Current Study

Ecological models explaining risk and protective factors related to adolescent substance use exist, yet, the research used to inform these models relies predominately on White samples and does not examine risk or promotive factors for multiracial ethnic minority populations. Prior research has identified ethnic identity as a promotive factor for ethnic minority populations, yet little research has disentangled the various aspects of ethnic identity (exploration and affirmation) as related to substance use for multiracial ethnic minority populations, who may struggle more with these identity processes (Renn, 2008). In addition, despite the identification of aspects of support networks as promotive/protective factors against a myriad of negative outcomes for monoracial minority youth, little is known about how support networks interact with ethnic identity in relation to substance use for multiracial youth. Guided by this literature, the *first aim* of the study was to examine the unique links between multiple indicators of ethnic identity (exploration and affirmation) and support networks (parent, peer, and teacher) on substance use in a community sample of multiracial youth. It is hypothesized that higher levels of ethnic identity affirmation and parent, peer, and teacher support would be associated with lower levels of substance use. It is hypothesized that higher levels of ethnic exploration would be associated with higher reported rates of substance use. The *second aim* was to examine the moderating role of support networks on the associations between two aspects of ethnic identity and substance use in a community sample. It is hypothesized that higher levels of parent, peer, and teacher support will diminish the positive relationship between ethnic exploration and substance use. Alternatively, it is hypothesized that higher levels of parent, peer, and teacher support will strengthen the negative relationship between ethnic affirmation and substance use.

Methods

Participants and Procedures

Data for this study come from the Coordinated Community Student Survey (C²S²) study, a collaborative effort that collected data from primary and secondary students in the Midwestern area of the United States of America over the course of 6 years. Adolescents completed the C²S², a 208-item instrument designed to assess student's self-reported physical, social, and psychological functioning. The questionnaire incorporates reliable and valid, multi-item scales that were selected by the faculty and community members of the Coordinated Community Collaborative from public and peer-reviewed sources that had known psychometric properties (e.g., Michigan 21st Century Statewide Evaluation, California Health Kids Survey, the Centers for Disease Control and Prevention's YRBS survey, and the SEARCH Institute's 40 Developmental Assets for Adolescents instrument). All of the measures that we describe below come from this instrument administered in the larger study.

As approved by the University IRB, participants were sampled from 159 schools (21 school districts) in a large Midwestern county of the US. Informed consent forms were sent home to parents of potential participants. Signed consent forms were obtained from 50% of parents (approximately 12,000 students each year). Wave 5 of the study was used due to the large number of multiracial participants, presence of measures of interest, and completeness of

data. The current study used the multiracial subsample of 6th – 12th grade students ($n = 523$; 54% female; M grade = 7.91, $SD = 1.62$).

Measures

Demographic information.

Participants were asked to indicate their gender, grade, birthdate, and racial/ethnic background (i.e., African American, Native American, Asian, Latino, Multiracial, White, and Other). Those participants who identified themselves as multiracial (e.g., selected multiracial as their ethnic group instead of another racial classification) were the focus of this study. Participants rated their mobility via one question: “How many times have you moved into another home or apartment in the past year?” (0 = *no times* to 4 = *4 or more times*). Family mobility has been suggested as a proxy for socioeconomic status as students in the US with less housing stability due to financial restraints (i.e., loss of jobs, insecure or temporary housing) are likely to move more frequently (Bradley & Corwyn, 2002; McLoyd, 1990). Student gender (0 = *females*, 1 = *males*) and grade were also included as covariates.

Ethnic identity.

The Multi-group Ethnic Identity Measure (MEIM) developed by Phinney (1992) and revised by Roberts and Colleagues (1999) was used to measure ethnic identity. The MEIM is a 12-item scale designed to measure two components of ethnic identity: exploration and affirmation. Students are asked to think about their identified ethnicities, in this case multiracial, to answer questions related to their ethnic identity. For the exploration subscale, example items include, “In order to learn more about my ethnic background” and “I have often talked to other people about my ethnic group.” For the affirmation subscale, example items include, “I feel good about my cultural or ethnic background.” Items were rated on a 4-point Likert-type scale, with responses ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Both components scales had high internal consistency (exploration $\alpha = 0.82$; affirmation $\alpha = 0.91$) in this sample, which is consistent with previous literature with reliability ranging from 0.81 – 0.92 (Ponterotto, Gretchen, Utsey, Stracuzzi, & Saya Jr, 2003).

Substance use.

Items assessing substance use were adapted from existing measures of substance use used in various national studies conducted among youth populations (e.g., Monitoring the Future, YRBSS). Participants were asked to indicate how many days in the past 30 days they had used cigarettes, half a pack or more cigarettes, smokeless tobacco, had one drink of alcohol, had 5 drinks of alcohol, marijuana, inhalants, and other drugs (8 items; $\alpha = .93$). Responses choices were provided on a 7-point Likert-type scale, with 1 (0-days), 2 (1 or 2 days), 3 (3–5 days), 4 (6–9 days), 5 (10–19 days), 6 (20–29 days) and 7 (everyday). Most youth in the sample reported using no substances in the last month across all types (frequency reporting 0 days: cigarettes = 91%, half a pack or more cigarettes = 94.9%, smokeless tobacco = 95.7%, had one drink of alcohol = 79.7%, had 5 drinks of alcohol = 90.3%, marijuana = 89.7%, inhalants = 95.9%, and other drugs = 96.5%). Based on this low frequency of use, as well as the importance of assessing both the quantity and frequency of polysubstance use

(Rounsaville, Petry, & Carroll, 2003), we created two composite measures to represent substance use in our analyses. To indicate the *number of substances used (quantity)*, we dichotomized responses for each substance into -use (i.e., response choices 2–7 coded as 1) and non-use (i.e., response choice 1 coded as 0) categories. Then, we summed the 8 items to get youth's report of the number of substances used in the past 30 days (responses ranged from 0 – 6 substances in the current sample). To indicate *days of use (frequency)*, we calculated the mean across the response choices for the 8 items to represent the average number of days youth used substances in the past 30 days (responses ranged from approximately 1 = *no days* to 7 = *everyday*).

Social support.

In the current study, we included domains of social support from parents, peers, and teachers. As stated previously, these measures were included in the larger study having shown sound psychometric properties (Barnes et al., 2009). Adolescents reported on *parental support* (i.e., “Your parents/caregivers...listen to you”, “...enjoy spending time with you”, “...do fun things with you”; 8 items, $\alpha = .91$). Adolescents also reported on *peer support* (i.e., “My friends help me when I'm having a hard time”, “My friends are there when I need them”, “I feel that I can talk to my friends about my problems”; 5 items, $\alpha = .92$). Adolescents reported on *teacher support* (i.e., “There is a teacher or some other adult who really cares about me at my school”, “There is a teacher or some other adult who listens to me at my school”; 6 items, $\alpha = .76$). Adolescents self-reported on a 4-point Likert scale (1 = *strongly disagree*, 4 = *strongly agree*).

Analytic Approach

To address our study aims, we used Mplus 7.4 (Muthén & Muthén, 1998 - 2013) to conduct a series of path analyses with full information maximum likelihood estimation robust (FIML-R) that used all available data ($N = 523$; Enders, 2010). FIML-R adjusts for non-normality and skew in the data (i.e., substance use quantity and frequency skew = 5.33, 5.31, respectively). We tested our hypothesized relationships separately for each dependent variable (i.e., number of substances in past 30 days –quantity; days of use in past 30 days – frequency). We also estimated separate models to test (a) direct relationships and (b) moderation (i.e., two models for each substance use outcome, plus any simple slopes follow-up models, see below). The independent variables were youth's reports of ethnic identity exploration and affirmation, the moderator variables were parent, teacher, and peer support, and the control variables were gender, grade, and mobility.

To test the moderating role of support, interaction terms including the moderator of interest and the ethnic identity variables (e.g., parent support X affirmation) were included in the path models. All variables were centered prior to the creation of the interaction terms to reduce multicollinearity (Aiken & West, 1991). The models presented include only significant interaction terms as retaining interactions that are not significant contributes to an increase in standard errors (Aiken & West, 1991). We conducted follow up analyses for significant interactions as outlined by (Aiken & West, 1991), including plotting and testing for significant simple slopes +1 SD above and –1 SD below the mean on the moderators. This involved estimating two additional models for each significant interaction, one for the

simple slope estimates +1 SD above the mean and one for the simple slope estimates –1 SD below the mean.

Results

Descriptive statistics and correlations among all study variables are reported in Table 1. Results of the path analyses addressing Aim 1 indicated different patterns of associations based on substance use indicator. The models explained a moderate amount of variance in the substance use outcomes (r^2 frequency = .14; r^2 quantity = .19). Partially consistent with our hypotheses, we found that high levels of ethnic affirmation related to lower frequency of substance use, but not the quantity of substances (direct effects models, Table 2). Again, partially consistent with our hypotheses, high levels of teacher support related to both lower quantity and frequency of substances used, whereas high levels of parent support only related to lower frequency. Contrary to our hypotheses, we did not find an association between ethnic exploration or peer support with substance use. These patterns suggest that youth who feel more confident about their ethnicity and receive more support from teachers report fewer days of substance use. Teacher and parent support was related to the use of fewer substances.

For Aim 2 (moderation models, Table 2), teacher (Figure 1) and parent (Figure 2) support emerged as moderators between the associations between ethnic affirmation and frequency and quantity of substance use, respectively. These models explained a moderate amount of variance in the substance use outcomes, an increase over the direct effects models (r^2 frequency = .15; r^2 quantity = .22). The teacher support interaction with affirmation, qualified the direct association between affirmation and substance use. In particular, under conditions of low levels of teacher support, high levels of affirmation were associated with less frequent substance use, $b = -.29$, $SE = .10$, $p = .01$ (contrary to our hypothesis). Under conditions of high levels of teacher support, there was no association between affirmation and frequency of substance use, $b = -.02$, $SE = .22$, $p = .82$. Turning to parent support (contrary to our hypothesis), under conditions of low levels of parent support, high levels of affirmation were associated with low quantities of substances, $b = -.36$, $SE = .14$, $p = .01$. Under conditions of high levels of parent support, no association between affirmation and quantities of substances was found, $b = .07$, $SE = .14$, $p = .63$.

Discussion

Multiracial youth have some of the highest substance use rates compared to same aged youth from different ethnic groups (Choi et al., 2006). Despite the growing population (US Census Bureau, 2012), and high rates of substance use among multiracial youth, limited research has examined models of risk or protection for this group. The present study sought to contribute to the literature on this topic by investigating the moderating role of social support on the relationship between ethnic identity domains and indicators of substance use in the under researched population of multiracial youth.

Relations between Ethnic Identity, Social Support, and Substance Use

The first aim of the study examined the independent relationships between ethnic identity and social support on substance use. Constructs of ethnic identity (exploration and affirmation) were differentially related to substance use for multiracial youth. Ethnic affirmation related to lower levels of substance use frequency, but not to the quantity of substances. Thus, multiracial youth who are more affirmed in their ethnic identity reported fewer days of substance use. Indeed, research has found that ethnic affirmation is associated with increased positive feelings about one's ethnicity and self-esteem (Mandara et al., 2009) and thus lower levels of risk taking behaviors including less drug use and exposure, and intention to use drugs (Corneille & Belgrave, 2007; Marsiglia et al., 2001; Rivas-Drake et al., 2014). In addition, it is possible that those youth who have strong levels of ethnic affirmation use substances less frequently because it serves as an important protective factor against race based incidents (i.e. discrimination, microaggressions), which have been linked to increased use of substances among youth (Kulis, Marsiglia, & Nieri, 2009; Martin, Tuch, & Roman, 2003; Whitbeck, Hoyt, McMorris, Chen, & Stubben, 2001). Though the current study did not include perceptions of discrimination, future research should examine the role of ethnic affirmation as a moderating variable on the relationship between discrimination and substance use behaviors among adolescents.

Results of this study build on limited studies and clarify inconsistent findings examining the role of ethnic identity on substance use among multiracial youth (Choi et al., 2006; Fisher et al., 2014). Findings point to the potential importance of supporting the development of youth ethnic affirmation among multiracial youth when considering efforts to prevent or reduce substance use. Recently, researchers have begun to develop and pilot interventions to increase ethnic identity in diverse populations (Umaña-Taylor, Douglass, Updegraff, & Marsiglia, 2018). These interventions may also be helpful in increasing ethnic affirmation and subsequently reducing substance use among multiracial adolescents.

Ethnic identity exploration was not significantly related to substance use outcomes. The lack of significance between ethnic exploration and substance use outcomes was surprising given research connecting high levels of exploration to higher levels of distress and negative health related behaviors in other ethnic minority groups (Schwartz, Zamboanga, Weisskirch, & Rodriguez, 2009). It may be that for youth with multiple ethnic identities, ethnic exploration and identity development follows a different trajectory and does not relate to the same outcomes that researchers find with other monoracial youth. Indeed, researchers have developed separate identity development models for multiracial youth (Poston, 1990; Renn, 2008; Root, 1990) but given limited longitudinal research (Phinney & Ong, 2007), little is known about how differences in identity development differentially relate to health outcomes. Future research will be needed to examine mechanisms to further understand the implications of identity development on various health outcomes, including substance use, among multiracial youth.

With regard to social support, higher levels of teacher support were related to both less frequent drug use and fewer quantities of substances while parent support was only related to a less frequent use. Given the varying environmental experiences of youth of different ethnic backgrounds (Garcia Coll et al., 1996), this finding extends the literature that

identifies parents and teachers as major influences on the substance use of adolescents for monoracial minority and majority youth to multiracial youth (Roberts et al., 1999) as protective factors in substance use among multiracial youth. Accordingly, efforts to reduce substance use should consider the support networks around multiracial youth when identifying risk factors or targets for intervention.

The results of the present study found no significant relationship between peer support and adolescent substance use. This is not surprising given the conflicting findings in the literature regarding the influence of peers on substance use for monoracial youth (Ennett et al., 2008; Forster et al., 2015; Wills et al., 2004). Conflicting findings could be due to differences in measurement (i.e., peer nomination, self-report, social networks), or sample demographics (i.e., monoracial minority, monoracial majority, multiracial). Further, the present study only asked about perceptions of peer support broadly. While informative in the development of models of risk, peer networks are often more complicated, and associations with risk behavior such as substance use, can vary based on adolescent ethnic background and the types of peer's adolescents are receiving support from. Recent research conducted by (Choi, He, Herrenkohl, Catalano, & Toumbourou, 2012) with a large sample of multiracial youth found that compared to monoracial youth, multiracial youth associate more frequently with substance using or antisocial peers, but that they are no more vulnerable to peer influence on substance using behavior than other youth. Additional work that captures the nuance of multiracial adolescent peer networks is needed to further elucidate this important environmental influence.

Moderating Role of Social Support

The second aim examined the interacting effects of ethnic identity and social support across networks (parents, peers, and teachers) on substance use. Despite theoretical notions of the additive effect of protective factors (Zimmerman & Arunkumar, 1994), ethnic identity and support networks did not interact to enhance their protective effects on substance use outcomes. To the contrary, the results indicated that teacher and parent support interacted with ethnic identity affirmation, such that for youth who had low levels of parent and teacher support, ethnic affirmation acted as a promotive factor resulting in lower levels of substance use. For youth with high levels of parent and teacher support, there was no relationship between ethnic affirmation and substance use. These findings suggest that youth in the context of high support from parents and teachers may not need to turn to internal resources such as ethnic identity as a protective factor. On the contrary, in the context of low social support from teachers and parents, adolescents need to turn to internal sources of strength to counteract the potential stress of unsupportive teachers and parents. These findings underscore the important role ethnic affirmation plays in the context of poor parent or teacher relationships. Ethnic affirmation may be critically important for multiracial youth as they often report less parental support, less satisfactory parent-adolescent relationships, and lower levels of school bonding than peers of other ethnic backgrounds (Lorenzo-Blanco, Bares, & Delva, 2013; Yang & Anyon, 2016). Results of the current study add to the current understanding about the relationship between social support, ethnic identity, and substance use (Caldwell et al., 2004; Nasim, Belgrave, Jagers, Wilson, & Owens, 2007) among the understudied multiracial adolescent population.

Limitations and Future Directions

The results of the present study shed light on risk, promotive, and protective factors that inform substance use in an understudied community sample of multiracial youth. Despite this contribution to the literature, the results should be interpreted with the limitations in mind. First, the present study examined substance use among a population of self-identified multiracial youth. Some scholars argue that, given the heterogeneity of this population, multiracial youth should be categorized based on their ethnic makeup rather than just on self-identification as multiracial. For example, there is some literature that suggests that multiracial youth who identify as multiracial have better health outcomes than multiracial youth who identify with only one part of their ethnic makeup (Lusk et al., 2010). Thus, future research should also examine models of substance use risk with multiracial youth who provide both information on their parents' ethnic background and reports on how they identify (with one specific ethnic group or as multiracial). Additionally, youth included in this study were from one county in the U.S. Midwest; as such, the generalizability of the findings may be limited. The inclusion of multiracial youth from various areas of the U.S. would help support the generalizability of these findings. Lastly, the study used a community normative sample, with low base rates of risk engagement, including substance use (Gutman & Eccles, 2007; Measelle, Stice, & Hogansen, 2006) and low retention rates over time.

Despite these limitations, the present study contributes to our understanding of risk and protective factors for multiracial youth, providing clarity on the role of ethnic identity exploration in multiracial substance use, suggesting that youth who spend more time exploring their ethnic background may not be at a higher risk of substance use. Further, in the context of low parent and teacher social support, high levels of ethnic affirmation relates to less youth substance use. Models of risk and protection for multiracial youth should begin to examine mechanisms that link multiracial identity development to health-risk and health-promotive behaviors and consider ethnic identity in the development of targeted interventions that promote positive development for multiracial ethnic minority youth (Umaña-Taylor et al., 2018).

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Figure 1.

Association between youth ethnic identity affirmation and substance use – days of use in past month as moderated by teacher support. * $p < .05$.

Figure 2.

Association between youth ethnic identity affirmation and substance use – number of substances in past month as moderated by parent support. * $p < .05$.

Table 1

Correlations and Descriptive Statistics for all Study Variables (N = 523)

Variables	1	2	3	4	5	6	7	8	9	10
1. Gender	-									
2. Grade	.04	-								
3. Mobility	.01	-.09*	-							
4. Exploration	-.01	-.06	.08 [†]	-						
5. Affirmation	.04	-.06	.05	.72*	-					
6. Parent support	.04	-.17	-.06	.22*	.25*	-				
7. Teacher support	.09*	-.02	-.07	.12*	.18*	.27*	-			
8. Peer support	.36*	-.09*	-.02	.07	.13*	.28*	.30*	-		
9. Use days	-.10*	.20*	.04	-.15*	-.21*	-.21*	-.24*	-.11	-	
10. Number of substances	-.08 [†]	.25*	.03	-.15*	-.20*	-.30*	-.29*	-.09*	.86*	-
<i>M</i>	.54	7.91	.64	2.34	2.90	3.01	2.82	3.26	1.28	.62
<i>SD</i>	.50	1.62	1.10	.68	.74	.68	.60	.68	.88	1.26

Note.[†] $p < .10$.* $p < .05$.

Table 2.

Results of Path Analyses Predicting Substance Use from Ethnic Identity and Support (N = 523).

Parameters	Days of Use in Past Month (Frequency)			Number of Substances in Past Month (Quantity)				
	Direct Effects Model		Moderation Model	Direct Effects Model		Moderation Model		
	<i>b</i> (SE)	<i>B</i>	<i>b</i> (SE)	<i>B</i>	<i>b</i> (SE)	<i>B</i>		
<i>Covariates</i>								
Gender	.17* (.08)	.09	.17* (.08)	.10	.21* (.11)	.08	.23* (.11)	.09
Grade	.10* (.02)	.18	.10* (.02)	.19	.17* (.03)	.22	.17* (.11)	.22
Mobility	.03 (.03)	.04	.03 (.03)	.04	.03 (.05)	.03	.02 (.11)	.02
<i>Predictors</i>								
Exploration	.01 (.06)	.01	.00 (.06)	.00	.00 (.11)	.00	-.02 (.11)	-.01
Affirmation	-.18* (.07)	-.15	-.15* (.07)	-.13	-.18 [†] (.11)	-.11	-.15 (.11)	-.09
<i>Moderators</i>								
Parent support	-.12 (.08)	-.09	-.12 (.08)	-.09	-.36* (.12)	-.19	-.30* (.11)	-.16
Teacher support	-.28* (.07)	-.19	-.30* (.07)	-.20	-.48* (.10)	-.23	-.50* (.11)	-.24
Peer support	.05 (.10)	.04	.05 (.10)	.40	.17 (.11)	.09	.18 [†] (.11)	.10
<i>Interactions</i>								
Affirmation X teacher support			.23* (.09)	.12				
Affirmation X parent support							.31* (.11)	.15
<i>R</i> ²	.14* (.03)		.15* (.04)		.19* (.03)		.22* (.04)	

Note. Gender and grade are centered indicating results on average. We used a model building technique, with the first moderation model including all of the interaction terms (i.e., exploration and affirmation by each moderation). The final moderation models include only the significant interactions per Aiken & West, 1991. ¹Model fit all variables (fully saturated models): $\chi^2(0) = 0.00$, $p = .00$. CFI = .00. CFI = 1.0. SRMR = .00.

[†] $p < .10$

[±] $p = .05$

* $p < .05$