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Mexican American Adolescents' Profiles of Risk and Mental Health: A Person-Centered Longitudinal Approach

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Abstract

Although Mexican American adolescents experience multiple risk factors in their daily lives, most research examines the influences of risk factors on adjustment independently, ignoring the additive and interactive effects of multiple risk factors. Guided by a person-centered perspective and utilizing latent profile analysis, this study identified Mexican American fifth graders' ($N = 749$) risk profiles based on family, peer, and socio-cultural risk factors and examined the relationships of these risk profiles to mental health symptomatology in seventh grade. Results revealed three distinct profiles that differed quantitatively and qualitatively. Profiles were then linked to levels of mental health symptomatology, with youth in the highest risk profile displaying the most symptoms. Youth in two other risk profiles displayed lower levels. The findings suggest that Mexican American youth develop within distinct risk contexts that differ in their relationships to adjustment. Such findings inform prevention/intervention efforts aimed at reducing mental health problems in adolescence.

Keywords

risk factors; mental health; Mexican American youth; person-centered

Adolescence is marked by an increase in internalizing and externalizing disorders, with estimates indicating that nearly 20% of adolescents will be diagnosed with one or more disorders before the age of 25 (O'Connell, Boat, & Warner, 2009). Prevalence estimates indicate that 5–8% of youth are diagnosed with a major depressive disorder (MDD) and 6–10% with an anxiety disorder, the most common internalizing disorders for adolescents. Nearly 6–8% of youth report conduct disorder (CD) and/or oppositional defiant disorder (ODD) and 3–6% are diagnosed with attention deficit hyperactivity disorder (ADHD), the most common externalizing disorders. Although these disorders afflict many U.S. adolescents, some evidence suggests that they are especially prevalent among Latino youth (e.g., Mikolajczyk, Bredehorst, Khelaifat, Maier, & Maxwell, 2007; Yung & Hammond, 1997). With Latinos being the largest, and one of the youngest and fastest growing ethnic minority groups in the U.S. and nearly 63% of this population being of Mexican origin

(Passel, Cohn, & Lopez, 2011), understanding factors that contribute to the development of mental health disorders among Mexican American adolescents is clearly important.

Numerous studies have identified risk factors linked to the development of mental health disorders (e.g., Greenberg, Speltz, DeKlyen, & Jones, 2001). For Mexican American youth, this includes socio-cultural risk factors associated with being an ethnic minority and cultural adaptation (Gonzales, Germán, & Fabrett, 2012). Most studies, however, have focused on the influences of single risk factors with little attention to the multiple risk factors from numerous sources that many adolescents face simultaneously, especially ethnic minority youth. This common practice does not realistically represent the way adolescents experience the world or the cumulative and interactive influence from the experience of multiple risk factors (Bronfenbrenner & Morris, 1998; Magnusson & Stattin, 1998). Our goal in this study was to examine the risk factors that Mexican American youth experience more holistically and realistically and, thereby, get a better perspective on how risk factors, cumulatively and interactively, relate to mental health. Specifically, we examined Mexican American youths' profiles of risk based on risk factors in individual, family, peer, and socio-cultural domains with special attention to describing a) the differences across profiles (e.g., qualitative, quantitative) and b) the pervasiveness of particular risk profiles. Second, we examine the differential longitudinal links between profiles of risk and mental health symptomatology.

An ecological framework posits that individual development, including mental health, is driven by the interaction of multiple environmental and individual factors (Bronfenbrenner & Morris, 1998). Individuals are embedded within interconnected contexts that influence each other and the individual in dynamic ways. Empirically, a large body of work has identified individual and environmental risk factors that relate to the development of mental health symptomatology (Kazdin, Kraemer, Kessler, Kupfer, & Offord, 1997). Adolescent gender has emerged as a significant individual risk factor for mental health disorders, with females reporting greater internalizing disorders, and males reporting greater externalizing disorders (Zahn-Waxler, Shirtcliff, & Marceau, 2008). Several environmental risk factors have also emerged as important, especially those from proximal settings such as family and peer contexts (e.g., Greenberg et al., 2001). Within the family environment, studies have identified economic hardship (e.g., Bolger, Patterson, Thompson, & Kupersmidt, 2008), parental mental health status (e.g., Cambell et al., 2009), single parenthood (e.g., Barret & Turner, 2006), and family conflict (e.g., Ingoldsby et al., 2006) as important risk factors for mental health disorders. Within the peer environment, research has identified difficulty with peer relationships (e.g., Parker, Rubin, Erath, Wojslawowicz, & Buskrik, 2006) and associations with deviant peers as important risk factors (e.g., Trudeau, Mason, Randall, Spoth, & Ralston, 2012).

In addition to facing the more normative risk factors during adolescence, Mexican American youth are presented with additional challenges associated with being an ethnic minority and the process of cultural adaptation (Gonzales, Germán, & Fabrett, 2012). For Mexican Americans living within the U.S., this includes exposure to ethnic/racial discrimination (Pérez, Fortuna, & Alegría, 2008) and, for many, linguistic challenges associated with living in a bilingual environment (e.g., Gluszek & Dovidio, 2010). Empirical work among Latinos and other ethnic and racial minority youth has consistently linked perceived ethnic/racial discrimination to internalizing and externalizing symptoms (e.g., Alfaro, Umaña-Taylor, Gonzales-Backen, Bámaca, & Zeiders, 2009; Brody et al., 2006; Nair, White, Roosa, & Zeiders, *in press*) and more recently, suggested that peer discrimination is especially important in understanding youths' psychological functioning (Benner & Graham, *in press*). Less work, however, has focused on language hassles despite a growing awareness of their unique effects and importance (Nair et al., *in press*; Yoo, Gee, & Takeuchi, 2009).

While numerous studies have identified robust individual and environmental risk factors in the development of mental health disorders, our understanding of risk has emerged primarily from the use of models that investigate one or, much more rarely, a few risk factors at a time (Lanza, Rhoades, Nix & Greenberg, 2010). While useful, such models ignore theoretical tenets of the ecological framework positing that multiple risk factors across different domains contribute to development. Cumulative risk models have been one strategy employed by researchers interested in understanding the influence of multiple risk factors (Sameroff & Seifer, 1990). This strategy, which uses a count of all risk factors experienced and assumes that all risk factors have an equal influence on mental health outcomes, contrasts with specificity models of risk that suggest that certain risk factors underlie the development of a particular disorder, but not other disorders (McMahon, Grant, Compas, Thurm & Ey, 2002). Further, the cumulative risk approach masks the occurrence of unique or unusual configurations of risk patterns and their influences on adolescent disorders (Parra, Dubois, & Sher, 2006).

The person-centered perspective offers an alternative approach to understanding the influences of multiple risk factors on mental health. Derived from holistic interactionism which posits that individuals function and develop within a structure of social, economic, and cultural factors (Magnusson & Stattin, 1998), this approach aims to uncover a structure or pattern underlying and influencing the processes of development (Bergman & Magnusson, 1997). Many scholars have concluded that a person-centered approach offers a helpful perspective in understanding how multiple risk factors are associated with the development of mental health disorders (e.g., Bergman & Magnusson, 1997; Menard, Bandeen-Roche, & Chilcoat, 2004). Methodologically, this approach focuses on uncovering meaning from unique patterns among risk factors, and requires person-centered analytic methods such as latent profile or latent class analysis (Bergman & Trost, 2006). The person-centered approach to studying risk is promising because it identifies (a) both quantitative and qualitative differences in profiles of risk, (b) the pervasiveness of particular profiles, and (c) the differential relations between profiles of risk and mental health symptomatology.

The few studies examining profiles of risk using a person-centered approach, have identified specific and unique patterns that differ both quantitatively and qualitatively from one another (Menard et al., 2004; Copeland, Shanahan, Costello, & Angold, 2009). For instance, both Menard et al. and Copeland et al. found profiles of risk that could be categorized as high risk (high on most factors) and low risk (low on most factors). These groups' *patterns* looked similar to one another, but differed drastically in the *quantity* of overall risk experienced. Other identifiable profiles emerged in these studies that were more *qualitatively* different from one another. That is, groups emerged that were high on family functioning risk, but low in other domains, or high on peer risk, but relatively low in other domains (Menard et al., 2004; Copeland et al., 2009).

Research using the person-centered approach also provides information about the *pervasiveness (commonness)* of particular risk profiles. For instance, Menard et al., (2004), Copeland et al., (2009) and Parra et al., (2006) found that the most common risk profile could be characterized as low risk; nearly half of their samples of children or adolescents reported low levels across all examined risk factors. Less common are profiles described as high risk (high on most or all risk factors). Prior studies found that only 7–9% of youth report experiencing most risk factors. Other groups with qualitatively distinct patterns (high on particular risk factors and low on others) were less common than low risk groups, but more common than high risk groups. Thus, we might expect that, across all populations, most individuals develop in low risk contexts with a small proportion of individuals in high risk contexts.

Finally, the use of a person-centered approach provides an opportunity to examine the link of different risk profiles to different mental health disorders. Understanding whether particular risk profiles differentially relate to disorders provides us with a greater understanding of the etiological pathways linking contexts and outcomes and can grow our understanding of specificity in linking risks to outcomes (McMachon, et al., 2002, Copeland et al., 2009). The few studies that have linked person-centered risk profiles to specific mental health outcomes have suggested that quantitatively and qualitatively unique risk contexts differentially relate to mental health outcomes. That is, high and low risk groups typically had the strongest and weakest links, respectively, to mental health symptomatology (Copeland et al., 2009). However, qualitatively different risk profiles also related to specific disorders. For instance, in Copeland et al., individuals in a moderate risk context characterized by poverty, single-parent status, and parental criminal behaviors were at greater risk for disruptive disorders than the low risk group, whereas individuals in another moderate risk context characterized by poverty and poor parental education were at greater risk for emotional disorders than the low risk group.

In sum, a person-centered approach to studying risk allows us to describe different risk profiles, identify how pervasive each profile is, and examine if risk profiles relate to mental health disorders differently. Further, it allows for the simultaneous consideration of socio-cultural specific risk factors, such as discrimination and language hassles, in conjunction with other more normative risk factors (e.g., family conflict). As scholars have pointed out, a more complete understanding of ethnic minority youth development requires the inclusion of both types of risk (García Coll et al., 1996). With this approach we can move beyond models examining single risk factors and examine the interactive and cumulative effects of risk influencing Mexican American youths' mental health.

The Current Study

The current study identified Mexican American early adolescents' (5th graders') risk profiles based on risk factors related to family functioning (maternal depression, family economic hardship, single parenthood), parent-child relationship (parent-child conflict), peer relations (association with deviant peers, peer conflict), and socio-cultural stressors (ethnic discrimination, language hassles). Because some risk factors may be more prevalent for boys than girls, or vice versa, we also included adolescent gender as an individual risk indicator (Rudolph & Hammen, 1999). We then focused on describing risk profiles (e.g., quantitatively and/or qualitatively different) and examining the pervasiveness or commonness of each profile of risk. Although no hypotheses could be made about the number of profiles or specific patterns within each profile that would emerge, based on prior work we expected that there would be quantitative differences across risk profiles (i.e., a high and low risk context) and also qualitative differences (i.e., profiles characterized by high risk in certain domains and low risk in other domains). We also hypothesized that the most common risk profile would be characterized by low levels of risk across domains. Next, we examined the relations between identified risk profiles of fifth graders and seventh grade mental health symptoms (i.e., MDD, Anxiety, CD/ODD, and ADHD symptoms), controlling for fifth grade symptoms. We expected that youth in low risk profiles would display lower seventh grade mental health symptoms than youth in high risk profiles.

Method

Participants

Data for this study come from a longitudinal study of Mexican American families in a large southwestern metropolitan area (*authors' citation*). This study recruited 749 Mexican American families that met these eligibility criteria: (a) families had a fifth grader; (b) both

mother and child agreed to participate; (c) the mother was the child's biological mother, lived with the child, and self-identified as Mexican or Mexican American; (d) the child's biological father was of Mexican origin; (e) the child was not severely learning disabled; and (f) no stepfather or mother's boyfriend was living with the child. This study utilized data at Time 1 (T1) when the adolescents were in fifth grade and Time 2 (T2) when the adolescents were in seventh grade.

At T1, family incomes ranged from less than \$5,000 to more than \$95,000 ($M_{range} = \$30,000$ to $\$35,000$). The mean age of mothers was 35.8 years ($SD = 5.77$) and they averaged 10.3 years of education ($SD = 3.68$). The mean adolescent age at T1 was 10.4 years old ($SD = .55$). At T1, nearly 70% of mothers were interviewed in Spanish, whereas 82% of adolescents were interviewed in English. A majority of mothers (74.3%), but only 29.7% of adolescents, were born in Mexico. Nearly 95% ($n = 711$) of the original sample was re-interviewed at T2, approximately two years after T1. Families who participated in T2 interviews were compared to families who did not on several T1 demographic variables and no differences emerged on adolescent characteristics (i.e., gender, age, nativity, language of interview), mother characteristics (i.e., marital status, age, nativity), or father characteristics (i.e., age, nativity).

Procedure

The complete research procedures are described elsewhere (*authors' citation*); only key features are summarized here. Researchers identified communities served by 47 public, religious, or charter schools chosen to represent the metropolitan area's cultural, economic, and social diversity. Recruitment materials that explained the project and asked parents to provide contact information if interested in participating in the study were sent home with all fifth grade children in these schools. Nearly 85% of those who returned contact information were eligible for screening (e.g., Latino) and 1,028 met eligibility criteria. Computer Assisted Personal Interviews, lasting about 2.5 hours, were then conducted in the homes with 749 families, 73% of those eligible. These interviews were conducted by professional interviewers who read questions and response options aloud in the participants' preferred language to control for variation in literacy levels. Participants were paid \$45 at T1 and \$50 at T2.

Measures

Family Functioning Risk—To assess family functioning risks we examined three factors: maternal depression, family economic hardship, and residence in a single parent household. Maternal depression was examined utilizing the Center for Epidemiological Depression Scale (CES-D; Radloff, 1977) which measures depressive symptomatology in the general population utilizing 20 items (e.g., "You felt that that everything you did was an effort"). Mothers responded using a Likert-type scale ranging from 1 (*Rarely or none of the time*) to 4 (*Most of the time*). The scale demonstrated high reliability for this study ($\alpha = .91$).

For economic hardship, mothers and fathers completed the Economic Hardship scale (Barrera, Caples, & Tein, 2001). Using 11 items, three scales assess families' inability to make ends meet, not enough money for necessities, and financial strains. The mean of the three scales was computed for mothers and fathers, and averaged in two parent families, with higher scores representing greater economic hardship. Mothers' scores alone were used for single-parent households. Cronbach's alpha was .92 for mothers' and fathers' report.

For family structure, mothers were asked about their current marital status. Mothers who identified their marital status as *Never married and not living with partner* ($n = 58$), *Married*

but not living together ($n = 40$), *Divorced* ($n = 61$), or *Widowed* ($n = 12$) were treated as single parents households, whereas mothers who reported *Living with a partner but not legally married* ($n = 79$) or *Married and living together* ($n = 499$) were treated as two parent households.

Parent-adolescent Relationship Risk—Parent-adolescent relationship risk was assessed with the 10-item Parent-Adolescent Conflict Scale (PACS; Ruiz & Gonzales, 1998) for which adolescents reported minor disagreements and serious arguments with their mothers and fathers in the past three months. Adolescents responded to items (e.g., “You and your mom/dad had a serious argument or fight”) using a 5-point Likert scale ranging from 1 (*Almost never or never*) to 5 (*Almost always or always*). Because adolescents’ reports for mom and dad were highly correlated ($r = .68, p < .001$), a mean was computed in two-parent households; adolescents’ reports on conflict with mom were used for single-parent homes. The measure was reliable for adolescent reports of conflict with mothers and fathers ($\alpha s = .72$ and $.74$, respectively).

Peer Relationship Risk—To assess peer relationship risks we examined conflict with peers and association with deviant peers. Conflicts with peers were assessed with the peer hassles subscale of the Multicultural Events Scale for Adolescents (MESA; Gonzales, Tein, Sandler, & Friedman, 2001). The MESA is a life events index for adolescents that specifically fits the lifestyle and experiences of culturally diverse, urban adolescents. Adolescents reported which of 14 events happened in the previous three months (e.g., “Other kids told mean stories or lies about you”). For association with deviant peers, 13-items from the Peer Delinquent Behavior scale (Dishion, Patterson, Stoolmiller, & Skinner, 1991; Thornberry, Lizotte, Krohn, Farnworth, & Jang, 1994) were utilized. Adolescents responded to statements like “How many of your friends have sold drugs?” on a 5-point Likert-type scale ranging from 1 (*None of them*) to 5 (*All of them*). Cronbach’s alpha was .79.

Socio-Cultural Risk—To assess socio-cultural risks, adolescents reported on their language hassles and perceived ethnic discrimination from peers. Language hassles were assessed with the language hassles subscale of the MESA. Seven items ask about problems adolescents face that are related to either their inability to speak English (e.g., “Other kids put you down for not speaking English or not speaking it well”) or Spanish well (e.g., “Other kids put you down for not speaking Spanish or not speaking it well”). Adolescents reported if the event happened in the past three months. For perceived ethnic discrimination, adolescents responded to five items designed to assess discriminatory experiences from peers (Johnston & Delgado, 2004). The measure is an adapted from Hughes and Dodge’s (1997) Racism in the Workplace Scale, Landrine & Klonoff’s (1996) Schedule of Racist Events, and Klonoff and Landrine’s (1995) Schedule of Sexist Events; adolescents endorsed how true or how often statements were true on a scale from 1 – 5 (e.g., “Kids at school have negative beliefs about Mexicans or Mexican Americans”). Cronbach’s alpha was .76.

Adolescent Mental Health Symptoms—We used the Diagnostic Interview Schedule for Children (DISC-IV; Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000), a structured diagnostic interview for use by nonclinicians to assess adolescents’ MDD, Anxiety (generalized), CD/ODD, and ADHD symptoms at T1 and T2. This interview provides symptom counts as continuous measures of mental health. Consistent with prior research (Shaffer et al., 1996), we used a combined report that reflects the mean of adolescent and mother report of symptoms.

Results

Mexican American Adolescents' Risk Profiles

Risk profiles were identified using latent profile analyses (LPA) in Mplus Version 6.1 (Muthén & Muthén, 1998–2007). Missing data were accounted for using maximum likelihood estimation via the EM algorithm (Enders, 2010). LPA, used to identify unobserved subgroups with similar patterns, proceeds in a series of steps starting with a one-profile model solution and increasing in number of profiles (Pastor, Barron, Miller, & Davis, 2007). The best fitting model is determined by the Bayesian information criteria (BIC and the adjusted BIC (ABIC); Tein, Coxé & Cham, in press) and the Youg-Lo-Mendell-Rubin (LMR; Lo, Mendell, & Rubin, 2001). A decrease in the BIC and ABIC indicates an improvement in model fit (Lubke & Muthén, 2005) while a significant LMR test value indicates that the model in which k profiles are specified is a better fitting than the $k-1$ profile model (Tofighi & Enders, 2006). Researchers also evaluate the interpretability of each solution from a theoretical viewpoint to help identify the best fitting model.

A series of LPAs were run that included eight risk factors and adolescent gender as observed indicators. All indicators were allowed to correlate, but variances and co-variances were constrained to be equal across profiles. To avoid convergence on a local maximum, 200 random sets of starting values were used (Pastor et al., 2007). Table 1 presents BIC, ABIC, and LMR results for each analysis. Based on optimal fit indices and interpretability, the 3-profile solution was selected as the final model. Figure 1 presents the standardized means on risk factor indicators for each of the 3 profiles. Gender and household structure did not differentiate the groups and are therefore not presented in Figure 1. A majority of Mexican American adolescents (84.6%; $n = 634$) demonstrated low levels across all risk factors and were labeled as *Low risk*. Next, 11.3% ($n = 85$) of adolescents fell into a group characterized by the highest levels of maternal depression and language hassles (2.5 standard deviations above the sample mean) along with more moderate levels of peer conflict, association with deviant peers, peer conflict, and discrimination. This group was labeled as *Moderate risk-language*. Finally, the smallest group to emerge (4.0%; $n = 30$) was characterized by the highest levels of association with deviant peers (3.5 standard deviations above sample the mean), peer conflict (1.25 standard deviations above the mean), and ethnic peer discrimination and labeled as *High risk-peer*.

Post-hoc analyses were examined to determine whether group membership differed by nativity and language preference. Groups differed by nativity [$\chi^2(2) = 11.39, p < .01$], with a greater proportion of individuals in the *Moderate risk-language* group (45%) being born in Mexico compared to individuals in the *Low risk* (27%), and *High risk-peer* group (37%). Similarly, groups differed by language preference [$\chi^2(2) = 6.09, p < .05$], with 27% of individuals in the *Moderate-risk language* group completing the interview in Spanish compared to 17% in the *Low risk* group and 13% in the *High risk-peer* group.

Risk Profiles and Mental Health Disorder Symptomatology

To examine the relationships between risk profiles and mental health symptoms, adolescents were assigned a risk profile membership based on the LPA solution. This approach is acceptable when, as in the present case, the entropy of the LPA model is above .80 (Clark & Muthén, 2010). Using MPLUS, T2 major depressive disorder (MDD), anxiety, conduct disorder/oppositional defiant disorder (CD/ODD), and attention deficit hyperactivity disorder (ADHD) symptoms were regressed on risk profile membership and T1 MDD, Anxiety, CD/ODD, and ADHD symptoms. Table 2 (Model 1) presents standardized regression coefficients with the *Low risk* profile as the reference group. Results revealed that, after controlling for T1 symptoms, adolescents in the *High risk-peer* profile reported

significantly greater MDD, anxiety, CD/ODD, and ADHD symptoms at T2 than adolescents in the *Low risk* profile group. Individuals in the *Moderate risk-language* group, however, did not differ significantly from individuals in the *Low risk group* on any symptoms. To examine if individuals in the *Moderate risk-language* group differed significantly from those in those in the *High risk-peer* group, the same model was conducted with the *Moderate risk-language* group as the reference (Table 2, Model 2). Results revealed that the *Moderate risk-language* group reported significantly lower MDD, anxiety, and ADHD symptoms at T2 compared to *High risk-peer* individuals. These groups did not differ on CD/ODD symptoms. To examine if there were difference in the relations between risk profiles and symptomatology by adolescent gender, multi-group analyses were conducted with gender as the grouping variable. No differences emerged.

Discussion

Guided by an ecological framework and a person-centered approach, the current study identified Mexican American youths' risk profiles and examined the longitudinal links between risk profiles and mental health symptomatology. Unique risk profiles emerged and differed quantitatively and qualitatively, with most individuals reporting relatively low risk. Risk profiles predicted mental health symptomatology two years later. The study is the first empirical study of Mexican American youth that focuses on a broad set of risk factors and examines their impact longitudinally. The study contributes to our broader understanding of risk contexts in Mexican American youth and underscores the importance of examining multiple risks when trying to understand variations in mental health symptomatology.

Mexican American Adolescents' Risk Profiles

Examining Mexican American adolescents' risk profiles based on family, peer, and cultural risk factors and adolescent gender yielded three distinct risk profiles: *Low risk*, *Moderate risk-language*, and *High risk-peers*. The *Low risk* profile characterized by low levels of family, peer, and cultural risk was the most common profile with nearly 85% of the Mexican American sample experiencing this context. The *Moderate risk-language* profile, characterized by the highest levels of language hassles was the next most common profile with 11% of the sample. Finally, the *High Risk-peers* profile, characterized by the highest levels of deviant peer associations, peer conflict, and perceived discrimination was the least common profile with only about 4% of the sample. Notably, there were no differences across profiles by gender and single parent structure; the risk contexts had the same proportion of males and females, and individuals living in single versus two-parent homes.

These findings suggest that Mexican American adolescents' risk contexts at 5th grade differ both quantitatively and qualitatively. The three profiles identified differed in the level of risk (i.e., low, medium and high) and in the patterns of risk, suggesting that characterizing risk contexts strictly on quantitative differences may not be adequate. For instance, while individuals in the *Moderate risk-language* profile demonstrated lower risk levels than those in the *High risk-peer* profile on most factors, they did emerge with strikingly high levels of language hassles (large effect size). Most noticeable about the *High risk-peer* profile was the high levels of deviant peers, peer conflict, and discrimination. These differences suggest that risk factors do tend to congregate or co-occur (high risk in multiple domains), but that there are important differences that paint a picture of different risk processes occurring in Mexican American youths' lives.

In addition to describing patterns of risk, the person-centered approach allowed us to understand the pervasiveness of particular risk contexts. Prior person-centered studies found that a majority of youth in primarily European American samples lived in low risk contexts while a small portion of youth experienced higher levels of risk (e.g., Menard et al., 2004,

Parra et al., 2006). Similarly, a majority of Mexican American youth in this study reported experiencing contexts characterized by low levels of risk. Together, such evidence suggests that despite the numerous changes during adolescence, most youth progress through this developmental time experiencing relatively low levels of risk (Steinberg & Morris, 2001) and that the *normative* contexts for Mexican American youth in early adolescence are *not* characterized by high risk in family, peer, and cultural domains. This evidence is encouraging given the great deal of attention that has been placed on the risk status of Mexican American youth, often highlighting negative aspects of development including higher dropout rates and poorer academic functioning than their peers from other racial and ethnic groups (e.g., Arellano & Padilla, 1996; Carvajal, Hanson, Romero, & Coyle, 2002). It should be noted, however, that our examination of risk profiles occurred relatively early in adolescence and work focused on middle or late adolescence could result in a greater number of individuals at high risk.

The small minority of Mexican American youth identified as at risk in this study, however, should not be overlooked. We found about 11% of youth were experiencing moderate risk and about 4% experiencing high risk. These groups align with prior research on primarily European Americans that has suggested less than 10% of youth experience disproportionately high levels of risk while a greater percentage of youth (usually 15 – 30%) experience more moderate levels of risk (Copeland et al., 2009; Menard et al., 2004). Albeit a small percentage of youth, these contexts are important contexts when trying to understand how risk factors work together to affect youths' mental health, as discussed below.

Risk Profiles and Mental Health Disorder Symptomatology

Finally, the person-centered approach to understanding risk allowed us to link unique profiles of risk to different mental health symptomatology over time. As hypothesized, individuals in the highest risk profile demonstrated the highest levels of the mental health symptoms. This is consistent with prior research utilizing a person-centered approach (Copeland et al., 2009; Parra et al., 2006), and suggests that there is a cumulative component to risk. That is, individuals who display the most risk, regardless of patterns or co-occurrence of risk, tend to exhibit the most mental health problems (Rutter, 1981; Sameroff & Seifer, 1990). According to the logic of a cumulative risk model, however, we might expect that individuals in the *Moderate risk-language* profile would be at greater risk for one or more mental health disorders compared to individuals in the *Low risk* context. This was not the case. One explanation for this focuses on the characteristics of the *Moderate risk-language* group. This risk context represented a group of individuals who were especially high on an important socio-cultural risk, namely language hassles. Post-hoc analyses revealed that these individuals were also more likely to be born in Mexico and be interviewed in Spanish compared to individuals in the other two risk contexts. Together, this group could represent individuals who are less acculturated to the U.S. mainstream culture and may possess higher levels of their own cultural values. Mexican American cultural strengths, that include ethnic identity and familism values, have been shown to protect individuals from internalizing and externalizing symptoms, while greater acculturation to mainstream US values has been linked to poorer mental health outcomes (for a review see Gonzales, Fabrett, & Knight, 2009). Thus, while individuals in the *Moderate risk-language* group demonstrated moderate levels of risk, they might be protected from the negative effects of these risks by cultural values. On the other hand, because of the young age of these adolescents, it is possible that those in the *Moderate risk-language* group are more likely than the low risk group to develop adjustment problems *later* in adolescence. Future studies focused on protective factors in conjunction with risk and studies focused on the relations across adolescence are needed to fully illuminate the developmental changes and resilience in Mexican American youth.

Contributions, Future Directions, and Limitations

This study contributes to our understanding of the development of mental health symptomatology in Mexican American youth by providing important information about the unique risk profiles these youth face, how their socio-cultural experiences contribute to their risk profiles in 5th grade, and how these profiles relate to their mental health in 7th grade. From a preventive intervention perspective, the identification of these groups, especially the high risk group, could allow prevention efforts to shift from *universal strategies* designed to address risk factors in entire populations of youth to more *selective prevention* approaches designed to target groups who show significant risk (Prado et al., in press; Weisz, Sandler, Durlak, & Anton, 2005). Similarly, identifying risk contexts that appear to be risky, but are not linked to subsequent mental health symptomatology, could contribute to the identification of new information about potential protective mechanisms at work in youths' lives (Prado et al., in press).

Despite these contributions, there are important limitations to consider. First, to determine risk profiles, our study relied upon a relatively small number of family, peer, and socio-cultural risk factors in order to maintain a parsimonious model. These domains were chosen based on theoretical notions of salient influences in adolescence and because they reflected more normative risk factors in individuals' micro and macro contexts. Thus, some important, but less common risk factors were not assessed and could not be considered such as childhood abuse (physical, sexual, and emotional) and family violence (Margolin & Gordis, 2000). In addition, this study focused on early adolescence, assessing risk contexts in fifth grade only. As individuals progress through adolescence, certain risk factors become more common or change in importance and new ones emerge (e.g., parent-child conflict intensifies, difficulties in romantic relationships emerge; Laursen, Coy, & Collins, 1998; Connolly, Craig, Goldberg & Pepler, 1999). Understanding risk contexts in different stages of adolescence, the transition in and out of particular risk contexts, and how these contexts are linked to the development of mental health outcomes could greatly improve our understanding of the development of adolescent mental health disorders. Similarly, mental health problems increase in prevalence as adolescence progresses so that the risk profiles identified here may have somewhat different relations with mental health symptomatology in coming years. Finally, this study focused exclusively on risk factors and did not consider the protective factors and processes these adolescents may have possessed that could mitigate the impact of risk profiles. This is an important area for future research to consider. Despite these limitations, this study is the first to examine risk profiles of Mexican American adolescents, taking into account cultural risk factors and relating these profiles to mental health two years later, all important steps in increasing our understanding of adolescent mental health in this population.

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Figure 1. ($N = 749$). Latent profile means on indicators for the 3-profile solution. All variables were standardized across the sample; means reflect how much each profile differed by standard deviation compared to overall sample mean.

Table 1

Model fit indices for latent profile analyses

	BIC	ABIC	<i>p</i> value for LMR	Entropy
1 profile	13201.03	13083.54	—	1.00
2 profiles	12889.88	12740.64	.23	.98
3 profiles	12640.52	12459.53	.03 *	.98
4 profiles	12599.77	12387.02	.30	.95
5 profiles	12596.46	12351.95	.90	.95

Note. $N = 749$. BIC = Bayesian information criterion; ABIC adjusted Bayesian information criterion; LMR = Lo-Mendell-Rubin.

* $p < .05$. Bolded text indicates the best-fitting solution.

Table 2

Standardized regression coefficients and standard errors (SE) for analyses examining profile membership, mental health symptomatology ($N = 749$).

	Model 1	Model 2
	β (SE)	β (SE)
<i>MDD symptoms (T2)</i>		
Intercept	.79 (.06) ***	.79 (.12) ***
MDD symptoms (T1)	.33 (.03) ***	.33 (.03) ***
Low risk		.00 (.04)
Moderate risk-language	.00 (.04)	
High risk-peers	.09 (.04) *	.09 (.04) *
<i>Anxiety symptoms (T2)</i>		
Intercept	.89 (.07) ***	.98 (.13) ***
Anxiety symptoms (T1)	.29 (.03) ***	.29 (.03) ***
Low risk		-.03 (.04)
Moderate risk-language	.03 (.04)	
High risk-peers	.17 (.04) ***	.15 (.04) ***
<i>CD/ODD symptoms (T2)</i>		
Intercept	.62 (.05) ***	.75 (.11) ***
CD/ODD symptoms (T1)	.45 (.03) ***	.45 (.03) ***
Low risk		-.05 (.04)
Moderate risk-language	.04 (.03)	
High risk-peers	.09 (.03) *	.06 (.04)
<i>ADHD symptoms (T2)</i>		
Intercept	.68 (.05) ***	.65 (.11) ***
ADHD symptoms (T1)	.41 (.03) ***	.41 (.03) ***
Low risk		.01 (.04)
Moderate risk-language	-.01 (.03)	
High risk-peers	.11 (.03) **	.12 (.04) **
<i>Model Fit Indices</i>		
Chi-square (df)	130.35 (20) ***	130.35 (12) ***
CFI	.92	.92
RMSEA	.09	.09
SRMR	.07	.07

Note. MDD = major depressive disorder; CD/ODD = conduct disorder/oppositional defiant disorder; ADHD = attention deficit hyperactivity disorder. In Model 1, *Low risk* is the reference group. In Model 2, *Moderate risk-language* is the reference group.

* $p < .05$,

** $p < .01$,

*** $p < .001$