

Examining Relations Between Negative Life Events, Time Spent in the United States, Language Use, and Mental Health Outcomes in Latino Adolescents

Sonia L. Rubens · Paula J. Fite · Joy Gabrielli · Spencer C. Evans · Michelle L. Hendrickson · Casey A. Pederson

Published online: 7 May 2013
© Springer Science+Business Media New York 2013

Abstract

Background Despite the growing number of Latino youth in the US, little research has examined factors that influence the development of mental health symptoms among this population, including factors related to immigration.

Objectives This study examined the link between negative life events (NLEs) and two outcomes, symptoms of anxiety and engagement in delinquency, among Latino adolescents. Time spent in the US and use of language with family and friends were examined as moderators.

Methods Study measures were completed by 144 Latino adolescents (N = 78 males; ages 14–19 years) attending a school in a large, Midwestern city.

Results Multiple regression analyses indicated that exposure to NLEs was the only significant unique predictor of anxiety symptoms, and exposure to NLEs and male gender were significant predictors of engagement in delinquency. Further, an interaction was found between NLEs and language use with friends, indicating that exposure to NLEs is significantly related to engagement in delinquent acts at both high and low use of English with their friends; the magnitude of this association was stronger for low use of English. No other significant interactions were found.

Conclusions Findings indicate that exposure to NLEs are important to consider for understanding the development of problem behavior among Latino adolescents. Further, the language that Latino youth speak with their friends is important to consider when monitoring these youth for mental and behavioral health symptoms. Interventions geared toward Latino youth should consider both exposure to NLEs and cultural factors to improve the cultural sensitivity of intervention efforts.

Keywords Negative life events · Latinos · Language · Anxiety · Delinquency · Adolescents

S. L. Rubens (✉) · P. J. Fite · J. Gabrielli · S. C. Evans · M. L. Hendrickson · C. A. Pederson
Clinical Child Psychology Program, University of Kansas, 1000 Sunnyside Ave,
Lawrence, KS 66045, USA
e-mail: sschwartz@ku.edu

Introduction

The Latino population in the United States continues to grow at a fast rate; between the 2000 and 2010 United States census, the number of individuals identifying as Latino grew by 43 % (Ennis et al. 2011). Projections estimate that by 2050, Latino youth will make up 35 % of the population of those under the age of 17 living in the United States (Passel and Cohn 2008). Further, research indicates that a substantial number of Latino youth report experiencing internalizing and externalizing symptoms (U.S. Department of Health and Human Services 2001), and these youth may experience more of these symptoms than youth from other racial or ethnic backgrounds (Bird et al. 2001). Despite this population growth and the high risk of reporting mental health symptoms among Latino youth, little research has been conducted to understand factors that influence mental health development among this population. For instance, exposure to negative life events (NLEs) is one factor found to relate to poor mental health outcomes (e.g., Attar et al. 1994), although little research has examined this relation among Latino youth. In addition, much of the research that has examined mental health outcomes among Latinos may not account for within-group differences among this heterogeneous group, such as immigration factors, adding to the challenge of understanding the influences on mental health within this population (Roosa et al. 2008). Thus, the current study contributes to the literature by examining the interaction between NLEs and immigration factors that are salient to Latino youth (i.e., time spent in the United States and language use) in predicting mental health outcomes among a sample of Latino adolescents. A better understanding of these relations may help to inform developmentally and culturally sensitive interventions for Latino adolescents.

Negative Life Events and Mental Health Outcomes

Negative life events can be defined as any event interpreted as stressful that falls outside the normative life experiences of an individual. NLEs can result in significant psychological stress, which often occurs when subsequent demands related to those events supersede the individual's ability to cope or respond adaptively (Lazarus and Folkman 1984). NLEs in youth can include experiences such as parental divorce, child maltreatment, death of a family member, or suspension from school. From the developmental psychopathology perspective, NLEs that occur early in an individual's life, such as during childhood or adolescence, may result in developmental trajectories that increase the likelihood of subsequent development of psychopathology. Indeed, much research has found a link between NLEs and internalizing and externalizing symptoms among youth (Attar et al. 1994; Johnson et al. 2002, 2012; Stevens et al. 2003). Furthermore, research has found that youth residing in urban, disadvantaged neighborhoods are exposed to a high level of stressful life events (Attar et al. 1994). Since 26.6 % of Latinos residing in the United States live below the poverty line (U.S. Census Bureau 2011), they are at a high risk for residing in disadvantaged neighborhoods (Roosa et al. 2010). This may increase the risk for Latino youth to be exposed to NLEs, which may contribute to the development of internalizing and externalizing behavior problems among this population.

Extant research suggests that symptoms of anxiety are a common manifestation of distress following NLEs in youth. For instance, in a comparison study of youth with diagnoses of anxiety disorders and non-clinical youth, findings revealed that those youth with a diagnosed anxiety disorder reported a higher number of NLEs in the preceding year

(Allen et al. 2008). Also, twin-based research reveals that NLEs contribute to both the onset and type of anxiety above and beyond that of genetics (Eley and Stevenson 2000). The link between NLEs and anxiety is important to examine among adolescents, as research has found that symptoms of anxiety disorders increase during adolescence across racial and ethnic groups (Canino et al. 2004; Costello et al. 2003). Moreover, research suggests that Latino youth, particularly Latina females, report higher levels of anxiety symptoms compared to youth from other racial and ethnic backgrounds (McLaughlin et al. 2007). This may relate to the collectivist attitude that is common among traditional Latino families. In particular, collectivist societies value self-control, compliance, and constraint as appropriate behaviors for youth; however, for some, this may result in internalized emotional expression, such as anxiety (Varela and Hensley-Maloney 2009). Therefore, examining this link may assist in furthering our understanding of the development of anxiety symptoms among Latino youth.

Research has also found a link between NLEs and delinquency among adolescents (Eitle and Turner 2002; Hoffman and Cerbonef 1999; Maschi 2006). In a sample of Latino school-age children, Roosa et al. (2010) found that stressful life events were significantly related to externalizing symptoms, which included symptoms related to oppositional defiant disorder, conduct disorder, substance use, and attention deficit/hyperactivity disorder. Although delinquent behavior tends to increase as children enter adolescence (Moffitt 1993), little is known about the development of these behaviors among Latino adolescents. This study examined the relation between NLEs and delinquency in order to better understand factors that may influence engagement in delinquency among Latino high school students.

Moderating Role of Time in the United States and Language Use

In addition to better understanding the link between NLEs and mental health outcomes, research is needed to examine within-group differences of mental health outcomes among Latino youth exposed to NLEs. Consistent with the cumulative risk model, the additional stress of immigration-related factors, such as time spent in the United States and language use (Padilla et al. 1986), may add to the stress associated with exposure to NLEs and result in increased vulnerability to developing mental health symptoms. According to the “immigrant paradox,” this additional risk for poor mental health outcomes may actually be higher for those who have lived in the United States for longer (Garcia Coll and Marks 2011). For instance, youth who have lived in the United States for more of their life may experience more conflict with their family as they integrate into the United States traditions while their parents attempt to maintain ties to their native customs (Elder et al. 2005). Also, when parents and youth do not share the same language preference, the result is less family cohesion and communication (Tseng and Fulgini 2000). These factors are important to consider in order to assist in identifying Latino youth at risk for behavioral and mental health problems.

Consistent with the “immigration paradox,” research suggests that vulnerability to developing mental health symptoms increases as Latinos spend more time residing in the United States (Alderete et al. 2000; Gfoerer and Tan 2003; Vega et al. 2004; Warheit et al. 1996). For instance, Gfoerer and Tan (2003) found that Latino youth born in the United States were more likely than foreign-born youth to use alcohol and drugs; among the foreign-born youth, as time spent in the United States increased, so too did their risk of using alcohol and drugs. This factor is particularly important to consider among Latino

youth, as research suggests that Latino adults who immigrated prior to the age of 16 reported more mental health symptoms, including both internalizing and externalizing symptoms, than those who entered after age 16 (Vega et al. 2004). What is less known is whether the risks associated with time spent in the United States combine with the risks associated with exposure to NLEs in the development of mental health symptoms. Examining this relation may help identify those Latino youth most at risk of developing mental health symptoms and can thus improve intervention efforts targeting this population.

Research has also found that English language use with parents and peers may put Latino youth at risk for behavior and mental health symptoms (Marsiglia and Waller 2002; Nielson and Ford 2001; Ortega et al. 2000; Unger et al. 2000). For instance, Unger et al. (2000) found that Hispanic youth who spoke more English at home were more likely to have smoked cigarettes at some point. Several factors may account for this risk. As adolescents are increasingly exposed to US culture, for example, they may have increased exposure to risky behaviors commonly found among US-born adolescents, such as substance use (Unger et al. 2000). Many of these studies examined the risk of substance use, while less is known about other delinquent behaviors and mental health symptoms. Further, it is not known whether the use of English language combined with exposure to NLEs puts Latino youth at increased risk for mental health outcomes. This study examined this relation in order to better understand how immigration factors may affect mental health outcomes among Latino youth.

Current Study

Despite the growing population of Latino youth in the United States, limited research has been conducted to examine factors that influence mental health outcomes among this population. Research with Latino youth can be challenging due to the potential language barriers and concerns with protecting undocumented immigrants' identity and confidentiality (APA Task Force on Immigration 2012). Further, although many Latino youth and families are immigrants to the United States, few studies have examined the role of immigration-related factors, such as time spent in the United States and language use, in mental health outcomes from a within-group perspective. Given the growing population of Latino youth in the United States, the increased risk for negative mental health outcomes for these youth, and the dearth of information available on differences among Latino youth, further research examining factors unique to the mental health of this population is needed. This study contributes to the literature on mental health outcomes among Latino adolescents by being one of the first to examine the interactive effects of NLEs and immigration factors (i.e., language spoken at home, language spoken with friends, and time spent in the United States) on symptoms of anxiety and engagement in delinquent behaviors among a sample of Latino adolescents.

This study has two aims. The first aim is to examine the relation between NLEs and mental health outcomes (i.e., symptoms of anxiety, engagement in delinquent behaviors) among a sample of Latino adolescents. In accordance with the cumulative risk model, it was expected that exposure to more NLEs would be related to high rates of anxiety symptoms and engagement in delinquency. The second aim is to examine whether factors related to immigration, including time spent in the United States and language use across contexts, moderate the relation between NLEs and mental health outcomes among this sample. It was expected that the additive risk of exposure to more NLEs and residing in the

United States for more time would result in high rates of symptoms of anxiety and engagement in delinquent acts. It was also expected that those who were exposed to more NLEs and who spoke more English with parents and peers would report high symptoms of anxiety and engagement in delinquent acts.

Method

Participants

The current study sample was comprised of students recruited from a charter high school located in a large, Midwestern city. Recruitment was conducted during parent-teacher conferences; a table was set up in the school's main hallway, and the research team provided information to caregivers about the study. Those interested in enrolling their youth in the study provided written informed consent. In order to address language barriers that often limit the ability for non-English speaking caregivers to provide consent for their youth to participate in research, consent forms were available in both English and Spanish to accommodate the large number of caregivers who spoke Spanish as their primary language. Consent forms were translated by a school-sanctioned translator and were then back-translated by an individual affiliated with the research team's institutional research center. School-sanctioned translators also assisted researchers with providing information to families and answering their questions about the study. Consent forms were also sent home with students whose parents were unable to attend the parent-teacher conferences. Students who were 18 years old or older were allowed to provide their own written consent to participate.

Out of the 207 children attending the school, 155 (77 %) received written consent to participate, with 142 receiving parental consent and 13 providing their own written informed consent. Approximately two-thirds of the consent forms returned were in Spanish. Verbal assent was received from each participant prior to completing the survey. Of the 155 students with consent to participate, 152 (98 %) completed the survey; three students were absent during data collection. For the current study, the 144 participants who self-identified as Hispanic/Latino on the demographics form of the survey were included in the analysis. This included 78 males and 66 females with a mean age of 16.25 years ($SD = 1.46$; range = 14–19 years). School reports indicated that 95.4 % of students at the school qualified for free or reduced lunch, indicating that this sample was primarily of low socioeconomic status.

Measures

Demographics

Adolescents were asked to report on several demographic characteristics, including age, gender, and ethnicity (i.e., "Hispanic or Latino," or "Not Hispanic or Latino"). Students were also asked "How long have you lived in the United States?" Time spent living in the United States was calculated as a proportion (number of years spent living in the United States/age).

Language

To assess what languages students spoke in different contexts, adolescents were asked two questions: “What language(s) do you usually speak at home?” and “What language(s) do you usually speak with friends?” Responses were recorded on a 5-point likert scale ranging from 1 to 5 (“Only Spanish,” “More Spanish than English,” “Both equally,” “More English than Spanish” or “Only English”) with higher scores indicating that they spoke more English within a given context. Responses for home and peers are reported separately.

Anxiety

The short form of the Revised Children’s Manifest Anxiety Scale—Second Edition (RCMAS-2; Reynolds and Richmond 2008) was used to assess for the number of anxiety symptoms experienced by adolescents. Although no known studies have measured the validity of using the RCMAS-2 to measure anxiety among Latino youth, the previous version of this measure (RCMAS) has been found to be a valid measure of anxiety among Latino youth (e.g., Varela and Biggs 2006; Varela et al. 2008). Participants responded to ten items by indicating whether an item was true for them (yes = 1) or not true for them (no = 0). The measure includes items regarding being nervous and worrying about what others think. Scores were summed across items, with higher scores indicating a greater number of anxiety symptoms. Internal consistency for this study was good ($\alpha = .77$).

Negative Life Events

Negative life events were assessed using adolescent reports on Swearingen and Cohen’s (1985) questionnaire. Participants responded to 26 items indicating whether they had experienced the event within the past year (yes = 1, no = 0). NLEs included items such as “saw crime/accident,” “someone in family was arrested,” and “breakup with boyfriend/girlfriend.” The total number of NLEs endorsed was summed across items, with higher scores indicating that an adolescent had experienced a greater number of undesirable NLEs. Since response options were dichotomous, internal consistency was not computed for the measure (Cohen et al. 2003).

Adolescent Delinquency

Self-reported delinquency was assessed using adolescent reports on Fergusson et al. (1999) delinquency items. Adolescents responded to fourteen questions about whether they had engaged in various antisocial and deviant behaviors within the past year (yes = 1, no = 0), including school truancy, police contact, and property damage. Delinquent behaviors endorsed were summed across items, with higher scores representing greater levels of delinquency. Due to dichotomous response options, internal consistency was not computed for the measure (Cohen et al. 2003).

Procedures

Student surveys were completed during a required writing course. Class sizes ranged from 9 to 24 students, with one researcher assigned to each classroom. School personnel were asked to leave the classroom before beginning survey administration in order to increase

participants' comfort in answering the questions. Students were informed that their names would not appear on any of the research documents and that the government would not have access to individually identifiable data. This was noted in an attempt to provide additional comfort in answering the questions for those participants whose families were not legal residents of the United States. Researchers read each question aloud while participants completed the survey individually. Questionnaire administration lasted approximately 30 minutes. School personnel provided a list of students who may have difficulties in understanding the survey in English. Of these students, only three needed Spanish assistance with the survey. As compensation for their participation, each participant received a \$5.00 gift card. This study received approval from the researchers' institutional review board. The authors had no conflicts of interest in conducting this research.

Results

Descriptive Statistics

Descriptive statistics were calculated to determine the prevalence rate of exposure to NLEs, delinquency, symptoms of anxiety, proportion of time participants lived in the United States, and participants' use of English and Spanish (Table 1). Participants reported experiencing between 0 and 24 NLEs in the past year with 96 % reporting that they experienced at least one NLE in the past year ($M = 7.80$, $SD = 5.00$). Table 2 lists the individual NLEs experienced. Findings indicate that the most frequently endorsed NLEs were seeing a crime or accident (56 %) and breaking up with a boyfriend or girlfriend (56 %). When examining mental health outcomes, 77 % of participants reported engaging in at least one delinquent act in the past year ($M = 3.35$, $SD = 3.29$) and 72 % reported experiencing at least one symptom of anxiety ($M = 2.61$, $SD = 2.45$). Participants also reported spending an average of 76 % of their life in the United States ($SD = .27$). With regards to language use, 10 % of participants reported speaking only Spanish at home and 10 % reported speaking only English at home ($M = 2.86$, $SD = 1.13$); 1 % of participants reported speaking only Spanish with friends while 16 % reported speaking only English with friends ($M = 3.70$, $SD = .85$).

Table 1 Descriptive statistics and correlations of study variables

	1	2	3	4	5	6	7	8
1. Gender	–							
2. Age	–.10	–						
3. Negative life events	.15	–.13	–					
4. Time in United States	.09	–.08	.28**	–				
5. Language spoken at home	.10	–.01	.26**	.55**	–			
6. Language spoken with friends	.09	–.13	.20*	.50**	.56**	–		
7. Anxiety symptoms	.14	–.09	.19*	–.04	–.01	–.02	–	
8. Delinquency	–.17*	–.02	.44**	.20*	.16	.13	.06	–
Mean	–	16.25	7.81	.76	2.86	3.70	2.61	3.35
SD	–	1.45	5.00	.27	1.13	.85	2.45	3.28

Gender (1 = males; 2 = females)

* $p < .05$, ** $p < .01$

Table 2 Experiences of negative life events

Negative life event	% endorsed
Saw crime/accident	56
Breakup with boyfriend/girlfriend	56
Loss of a close friend	51
Someone in family died	47
Someone in family was arrested	47
Serious sickness/injury of a close friend	46
Seriously sick or injured	43
Started going to a new school	40
Family member had drug/alcohol problem	39
Family member was seriously ill/injured	39
Death of a close friend	36
Family moved	35
Negative change in parent's financial situation	33
Parent got a new job	32
Mother/father figure lost job	26
Parents argued more than previously	25
Brother and sister left home	20
One parent was away from home more often	19
Family member had mental/emotional problem	18
Parental separation	16
Victim of crime/violence/assault	15
New brother or sister	15
A new adult moved into the house	14
Parent got into trouble with the law	14
Parental divorce	7
Parent went to jail	7

Bivariate Correlations

Bivariate correlations were calculated to examine the relations between study variables (Table 1). Note that r -values of .10 are considered small, r -values of .30 are considered medium, and r -values of .50 or greater are considered large effects (Cohen 1988). Analyses indicated that youth who were exposed to more NLEs spent more time living in the United States, spoke more English than Spanish at home and with their friends, experienced more symptoms of anxiety, and engaged in more delinquent acts. Those who spent more time living in the United States also reported speaking more English than Spanish at home and with their friends, and engaging in more delinquent acts. Boys reported engaging in more delinquent acts than girls.

Regression Analyses

A series of multiple regression models were evaluated to examine the direct and interaction effects of NLEs, time spent in the United States, and the two language variables (language spoken with family, language spoken with friends) on symptoms of anxiety (Table 3).

First, NLEs, time spent in the United States, and the two language variables were regressed onto symptoms of anxiety, while controlling for age and gender (1 = males, 2 = females). NLEs was the only significant predictor of symptoms of anxiety ($B = .20, p = .03$). Next, to limit the number of parameters in the model and increase power to detect interaction effects, one interaction term was entered into the regression model at a time. More specifically, the interaction between NLEs and language spoken with family was entered into the model. Then, this interaction was removed, and the interaction between NLEs and language spoken with friends was entered into the model. This interaction was then removed and the interaction between NLEs and time spent in the United States was entered. No significant interactions were found (Model $F_s \geq 1.27, p_s > .20$).

A second series of multiple regression models were then evaluated to examine the first-order and interaction effects of NLEs, time spent in the United States, and the two language variables on engaging in delinquent acts (Table 3). Gender ($B = -.26, p = .001$) and NLEs ($B = .45, p < .001$) were both significant predictors of engaging in delinquency. Next, one interaction term was entered into the regression model at a time as described above. A significant interaction was found between NLEs and language spoken with friends ($F = 6.72, p < .001$), with a significant R^2 change in model fit (see Table 3). To better understand these findings, the interaction was probed at high and low levels (+1 SD and -1 SD from the standardized values) of language spoken with friends (Aiken and West 1991). Findings indicated that while NLEs is significantly related to engagement in delinquent acts at both high ($B = .32, p < .01$) and low ($B = .65, p < .001$) use of English with their friends, the magnitude of this association was stronger for low use of English (Fig. 1). No other significant interactions were evident (Model $F_s = 6.16$ and $6.04, p_s < .001$).

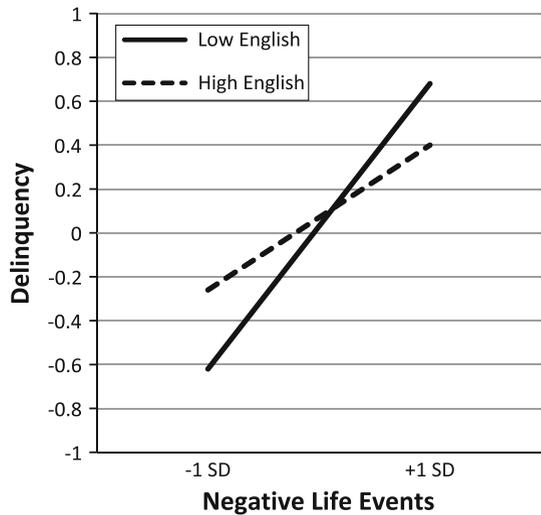
Table 3 Regression models predicting symptoms of anxiety and engagement in delinquent acts

Predictors	Anxiety		Delinquency	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
	$R^2 = .07, F = 1.45, p = .20$		$R^2 = .26, F = 7.05, p < .001$	
Gender	.09	.09	-.26**	.08
Age	-.07	.09	.02	.08
Negative life events	.20*	.20	.46***	.09
Time spent in United States	-.12	.11	.04	.10
Language spoken at home	-.02	.12	.01	.11
Language spoken with friends	-.05	.11	.04	.11
	$\Delta R^2 = .003, \Delta F = .46, p = .50$		$\Delta R^2 = .001, \Delta F = .23, p = .63$	
Negative life events × time spent in United States	.07	.11	-.05	.10
	$\Delta R^2 = .002, \Delta F = .22, p = .64$		$\Delta R^2 = .01, \Delta F = .86, p = .36$	
Negative life events × language spoken at home	.04	.09	-.08	.08
	$\Delta R^2 = .01, \Delta F = .81, p = .37$		$\Delta R^2 = .02, \Delta F = 3.80, p = .054$	
Negative life events × language spoken with friends	.09	.10	-.16*	.08

Gender (1 = males; 2 = females)

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

Fig. 1 Association between negative life events and delinquency at *high* and *low* levels of English spoken with friends



Discussion

This study expands our understanding of influences of mental health among Latino youth. More specifically, this study is one of the first to examine the interactive effects between NLEs and immigration factors on Latino adolescent outcomes. Findings revealed that the youth in this sample are exposed to many NLEs across a range of domains, including exposure to violence and crime as well as events affecting their family and peer contexts. As expected, Latino youth in this sample who were exposed to more NLEs were more likely to report symptoms of anxiety and engagement in delinquent acts. This builds on previous literature indicating a relation between NLEs and mental health problems in youth (e.g., Roosa et al. 2010) by examining this relation in a sample of Latino adolescents. These findings suggest that evaluating Latino adolescents who are exposed to NLEs may be useful in identifying those who may benefit from intervention.

Findings from this study suggest that those who spent more time living in the United States and those who spoke more English with their family and friends reported greater exposure to NLEs. This may relate to the acculturation process, or changes people go through when they find themselves within a culture different from their own (Williams and Berry 1991). Youth who have spent more time in the United States and who speak more English may be more integrated into United States culture (e.g., Unger et al. 2000). Thus, within-group differences may exist for youth exposed to NLEs based on how long they have resided in the United States. These findings may be helpful in identifying Latino youth most at risk for exposure to these events.

In the current study, more time in the United States was associated with engagement in delinquent acts. This is consistent with previous research which has found a relation between time spent in the United States and engagement in delinquent acts such as substance use (Gfoerer and Tan 2003). Research on both youth and adult Latinos suggests that acculturation, which may be related to time spent in the United States, plays a role in the use of alcohol and illicit drugs, in addition to gender, education, and socioeconomic status (Lara et al. 2005). However, when both time spent in the United States and NLEs were entered together in the regression model, the influence of time spent in the United States

was no longer a predictor for engagement in delinquent acts. This suggests that NLEs may play a stronger role in predicting delinquency among Latino youth than time spent in the United States. Further research is warranted to understand factors related to acculturation in order to develop culturally sensitive delinquency interventions for Latino youth.

Interestingly, in the current study, an interaction was found between NLEs and language use with friends, but not family, in predicting engagement in delinquent acts. Findings indicate that NLEs were significantly related to engagement in delinquent acts at both high and low use of English with their friends, however, contrary to the study hypothesis, the magnitude of this association was stronger for low use of English rather than high use of English. Given the limited data looking at English language use among Latino youth, the reasons for these findings are not clear. It may be that youth who speak more Spanish than English find themselves with fewer positive adult supports with whom they can communicate, such as teachers or coaches, who may otherwise provide support to those coping with NLEs. In addition, several reasons may account for why there was a relation found for friends but not family in this study. For instance, given that this is an adolescent sample, it may be that these youth are confiding in their friends more than their family, as friends tend to play an increasingly important role as youth become adolescents. Further, peers are highly influential in engagement in delinquent acts (Hawkins et al. 1992), which may account for why this interaction was found in engagement in delinquency and not symptoms of anxiety. Little research has explored the use of different languages across different contexts; therefore, more research into this relation is warranted to improve our understanding of language use across contexts.

No significant interactions were found when examining factors that influence the development of symptoms of anxiety among this sample. It may be that Latino youth exposed to NLEs are at risk for developing symptoms of anxiety regardless of immigration factors. More research into within-group and across-group differences is needed to clarify the development of anxiety among Latino youth.

Several factors should be considered in the interpretation of these results. First, although the measure of NLEs is a validated measure that has been used with diverse populations, research is needed to examine the cultural validity of this measure to ensure that the NLEs are indeed the stressors most salient to minority youths (Prelow and Guarnaccia 1997). Of particular relevance to Latino samples are the issues of measurement timing and contextual factors associated with immigration and acculturation. The present study measured the total number of stressors occurring within the past year. However, the processes of immigration and acculturation can be highly variable, and the nature and severity of associated stressors may depend upon one's subjective experience of numerous factors, such as the contexts of departure, migration, and arrival, time spent in the United States, linguistic abilities, citizenship status, and social support (Ko and Perreira 2010). Future research should examine the nature and effects of NLEs experienced over time—before, during, and after immigration—as well as in relation to various contextual factors, such as those noted above. In addition, no known studies have examined the cross-cultural validity of the delinquency measure. This is important to examine in future research in order to understand the cultural validity of this measure for Latino samples. Also, this sample was recruited from a charter high school with an emphasis on improving youths' academic, occupational, and social outcomes. Although charter schools are free to attend, participants' parents sought out a different school system than that being offered by the public schools. Therefore, future research may include examining these relations in Latino youth attending public and private schools, as well as clinical samples, in order to better understand these relations across Latino youth.

Conclusions/Future Directions

Despite these limitations, this study demonstrates that NLEs are important to consider for understanding the development of problem behavior among Latino adolescents. Further, the language that Latino youth speak with their friends is important to consider when monitoring these youth for the development of mental and behavioral health symptoms. Distinction between language use with friends versus language use with family should be considered when using these indicators of acculturative status. Future research should also examine other acculturation-related factors, such as attitudes, values, and beliefs (Cabassa 2003), in the development of mental health symptoms among Latino youth, and should look at these factors among younger Latino youth to determine if these relations hold across development. Given the high rate of endorsement of negative life events in this sample, this study suggests that people working with Latino youth may wish to assess for negative life events and should consider cultural factors to improve the cultural sensitivity of prevention and intervention efforts.

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.
- Alderete, E., Vega, W. A., Kolody, B., & Aguilar-Gaxiola, S. (2000). Effects of time in the United States and Indian ethnicity on DSM-III-R psychiatric disorders among Mexican Americans in California. *The Journal of Nervous and Mental Disease*, 188(2), 90–100.
- Allen, J. L., Rapee, R. M., & Sandberg, S. (2008). Severe life events and chronic adversities as antecedents to anxiety in children: A matched control study. *Journal of Abnormal Child Psychology*, 36, 1047–1056.
- APA Task Force on Immigration. (2012). *Crossroads: The psychology of immigration in the new century*. Washington, DC: American Psychological Association.
- Attar, B. K., Guerra, N. G., & Tolan, P. H. (1994). Neighborhood disadvantage, stressful life events, and adjustment in urban elementary-school-children. *Journal of Clinical Child Psychology*, 23, 391–400.
- Bird, H. R., Canino, G. J., Davies, M., Zhang, H., Ramirez, R., & Lahey, B. B. (2001). Prevalence and correlates of antisocial behaviors among three ethnic groups. *Journal of Abnormal Child Psychology*, 29, 465–478.
- Cabassa, L. J. (2003). Measuring acculturation: Where we are and where we need to go. *Hispanic Journal of Behavioral Sciences*, 25, 127–146.
- Canino, G., Shrout, P. E., Rubio-Stipec, M., Bird, H. R., Bravo, M., Ramirez, R., et al. (2004). The DSM-IV rates of child and adolescent disorders in Puerto Rico—Prevalence, correlates, service use, and the effects of impairment. *Archives of General Psychiatry*, 61(1), 85–93.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd Ed.). Hillsdale: Erlbaum.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analyses for the behavioral sciences* (3rd ed.). Mahwah: Erlbaum.
- Costello, E. J., Mustillo, S., Erkanli, A., Keeler, G., & Angold, A. (2003). Prevalence and development of psychiatric disorders in childhood and adolescence. *Archives of General Psychiatry*, 60, 837–844. doi: [10.1001/archpsyc.60.8.837](https://doi.org/10.1001/archpsyc.60.8.837).
- Eitle, D., & Turner, R. J. (2002). Exposure to community violence and young adult crime: The effects of witnessing violence, traumatic victimization, and other stressful life events. *Journal of Research in Crime and Delinquency*, 39(2), 214–238.
- Elder, J. P., Broyles, S. L., Brennan, J. J., de Nuncio, M. L. Z., & Nader, P. R. (2005). Acculturation, parent-child acculturation differential, and chronic disease risk factors in a Mexican-American population. *Journal of Immigrant Health*, 7, 1–9.
- Eley, T. C., & Stevenson, J. (2000). Specific life events and chronic experiences differentially associated with depression and anxiety in young twins. *Journal of Abnormal Child Psychology*, 28(4), 383–394.
- Ennis, S. R., Ríos-Vargas, M., & Albert, N. G. (2011). *The Hispanic Population: 2010*. Washington, DC: U.S. Census Bureau.

- Fergusson, D. M., Woodward, L. J., & Horwood, L. J. (1999). Childhood peer relationship problems and young people's involvement with deviant peers in adolescence. *Journal of Abnormal Child Psychology*, 27, 357–369.
- Garcia Coll, C., & Marks, A. K. (2011). *The immigrant paradox in children and adolescents: Is becoming american a developmental risk?* Washington, DC: American Psychological Association.
- Gfoerer, J. C., & Tan, L. L. (2003). Substance use among foreign-born youths in the United States: Does the length of residence matter? *American Journal of Public Health*, 93, 1892–1895.
- Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin*, 112, 64–105.
- Hoffman, J. P., & Cerbone, F. G. (1999). Stressful life events and delinquency escalation in early adolescence. *Criminology*, 37, 343–373.
- Johnson, J., Cohen, P., Gould, M., Kasen, S., Brown, J., & Brook, J. (2002). Childhood adversities, interpersonal difficulties, and risk for suicide attempts during late adolescence and early adulthood. *Archives of General Psychiatry*, 59, 741–749.
- Johnson, D. P., Whisman, M. A., Corley, R. P., Hewitt, J. K., & Rhee, S. H. (2012). Association between depressive symptoms and negative dependent life events from late childhood to adolescence. *Journal of Abnormal Child Psychology*, 40, 1385–1400.
- Ko, L. K., & Perreira, K. M. (2010). "It turned my world upside down": Latino youths' perspectives on immigration. *Journal of Adolescent Research*, 25, 465–493.
- Lara, M., Gamboa, C., Iya Kahramanian, M., Morales, L. S., & Hayes Bautista, D. E. (2005). Acculturation and Latino health in the United States: A review of the literature and its sociopolitical context. *Annual Review of Public Health*, 26, 367–397.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer Publishing Company.
- Marsiglia, F. F., & Waller, M. (2002). Language preference and drug use among Southwestern Mexican American school students. *Children and Schools*, 24, 145–158.
- Maschi, T. (2006). Exploring the link between trauma and delinquency: The cumulative versus differential risks. *Social Work*, 1, 59–70.
- McLaughlin, K. A., Hilt, L. M., & Nolen-Hoeksema, S. (2007). Racial/ethnic differences in internalizing and externalizing symptoms in adolescents. *Journal of Abnormal Child Psychology*, 35, 801–816. doi: [10.1007/s10802-007-9128-1](https://doi.org/10.1007/s10802-007-9128-1).
- Moffitt, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, 100, 674–701.
- Nielson, A. L., & Ford, J. A. (2001). Drinking patterns among Hispanic adolescents: Results from a national household survey. *Journal of Studies on Alcohol and Drugs*, 62, 448–456.
- Ortega, A. N., Rosenheck, R., Alegria, M., & Desai, R. (2000). Acculturation and the lifetime risk of psychiatric and substance use disorders among Hispanics. *Journal of Nervous and Mental Disease*, 188, 728–735.
- Padilla, A. M., Alvarex, M., & Lindholm, K. J. (1986). Generational status and personality factors as predictors of stress in students. *Hispanic Journal of Behavioral Sciences*, 8, 275–288.
- Passel, J., & Cohn, D. (2008). *U.S. Population Projections: 2005–2050*. Washington, D.C.: Pew Research Center.
- Prelow, H. M., & Guarnaccia, C. A. (1997). Ethnic and racial differences in life stress among high school adolescents. *Journal of Counseling and Development*, 75, 442–450.
- Reynolds, C. R., & Richmond, B. O. (2008). *Manual for the Revised Children's Manifest Anxiety Scale* (2nd ed.). Los Angeles: Western Psychological Services.
- Roosa, M. W., Burrell, G. L., Nair, R. L., Cox, S., Tein, J. Y., & Knight, G. P. (2010). Neighborhood disadvantage, stressful life events, and adjustment among Mexican American early adolescents. *Journal of Early Adolescence*, 30(4), 567–592. doi:[10.1177/0272431609338177](https://doi.org/10.1177/0272431609338177).
- Roosa, M. W., Liu, F. F., Torres, M., Gonzales, N. A., Knight, G. P., & Saenz, D. (2008). Sampling and recruitment in studies of cultural influences on adjustment: A case study with Mexican Americans. *Journal of Family Psychology*, 22(2), 293–302. doi:[10.1037/0893-3200.22.2.293](https://doi.org/10.1037/0893-3200.22.2.293).
- Stevens, S. J., Murphy, B. S., & McKnight, K. (2003). Traumatic stress and gender differences in relationship to substance abuse, mental health, physical health, and HIV risk behavior in a sample of adolescents enrolled in drug treatment. *Child Maltreatment*, 8, 46–57.
- Swearingen, E. M., & Cohen, L. H. (1985). Measurement of adolescents' life events: The Junior High Life Experiences Survey. *American Journal of Community Psychology*, 13, 69–85.
- Tseng, V., & Fulgini, A. J. (2000). Parent-adolescent language use and relationships among immigrant families with East Asian, Filipino, and Latin American backgrounds. *Journal of Marriage and the Family*, 62, 465–476.

- Unger, J. B., Cruz, T. B., Rohrbach, L. A., Ribisl, K. M., Baezconde-Garbanati, L., Chen, X., et al. (2000). English language use as a risk factor for smoking initiation among Hispanic and Asian American adolescents: Evidence for mediation by tobacco-related beliefs and social norms. *Health Psychology, 19*, 403–410.
- U.S. Census Bureau. (2011). *Current Population Survey 2010 and 2011 Annual Social and Economic Supplements*.
- U.S. Department of Health and Human Services. (2001). *Mental health: Culture, race, and ethnicity—A supplement to Mental health: A report of the Surgeon General*. Rockville, MD: Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services.
- Varela, R. E., & Biggs, B. K. (2006). Reliability and validity of the RCMAS across samples of Mexican, Mexican American, and European American children: A preliminary investigation. *Anxiety, Stress, and Coping: An International Journal, 19*, 67–80.
- Varela, R. E., & Hensley-Maloney, L. (2009). The Influence of culture on anxiety in Latino youth: A review. *Clinical Child and Family Psychology Review, 12*, 217–233. doi:10.1007/s10567-009-0044-5.
- Varela, R. E., Sanchez-Sosa, J. J., Biggs, B. K., & Luis, T. M. (2008). Anxiety symptoms and fears in Latin American and European American children: Cross-cultural measurement equivalence. *Journal of Psychopathology and Behavioral Assessment, 30*, 132–145.
- Vega, W. A., Sribney, W. M., Aguilar-Gaxiola, S., & Kolody, B. (2004). 12-month prevalence of DSM-III-R psychiatric disorders among Mexican Americans: Nativity, social assimilation, and age determinants. *The Journal of Nervous and Mental Disease, 192*, 532–541.
- Warheit, G. J., Vega, W. A., Khoury, E. L., Gil, A. G., & Elfenbein, P. R. (1996). A comparative analysis of cigarette, alcohol, and illicit drug use among an ethnically diverse sample of Hispanic, African American, and non-Hispanic White adolescents. *Journal of Drug Issues, 26*, 901–922.
- Williams, C. L., & Berry, J. W. (1991). Primary prevention of acculturative stress among refugees: Application of psychological theory and practice. *American Psychologist, 46*, 632–641.