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The Relationship between Mental Health, Acculturative Stress, and Academic Performance in a Latino Middle School Sample

Loren J. Albeg & Sara M. Castro-Olivo

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Abstract This study evaluated the relationship between acculturative stress, symptoms of internalizing mental health problems, and academic performance in a sample of 94 Latino middle school students. Students reported on symptoms indicative of depression and anxiety related problems and acculturative stress. Teachers reported on students' academic behavior and performance. Acculturative stress and symptoms of internalizing mental health problems were found to have a significant inverse association with students' academic performance. Implications for the development of culturally responsive interventions that address mental health problems and acculturative stress are discussed.

Keywords Latino middle school students' mental health · Acculturative stress · Acculturative stress and academic performance · Cultural issues in academic performance

Introduction

It is estimated that 21 % of children in the United

States have a diagnosable mental health disorder that is at least mildly disruptive to their daily functioning (U.S. Department of Human Health Services [USDHHS] 1999). More alarming are the statistics that suggest that 14 to 40 percent of students identified as needing mental health support never receive the appropriate professional help to function well in our society (Burns et al. 1995; Gudiño et al. 2009; Kataoka et al. 2002). Children whose mental health needs go unmet have been found to experience serious problems as adults; problems that

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have a negative impact in our entire society (Broidy et al. 2003; Loeber et al. 1998). The President's New Freedom Commission on Mental Health (2003) reported that children with serious emotional disturbances have the highest rates of school failure; 50 % of these students drop out of high school. This

finding suggests not only a serious failing of the public school system in preparing all students for graduation, but also the important role that children's mental health plays in their educational achievement.

In a time in which academic accountability is a high priority, schools should do everything they can, including focusing on the mental health needs of children, to ensure that every child gets the best chance to succeed academically. Students cannot afford to lose valuable learning opportunities because of their untreated mental health-related problems. In addressing these issues, schools have been encouraged by the United States Department of Human Health Services (USDHHS) and the National Association of School Psychology (NASP) to place an emphasis on addressing the mental health needs of all students, and in particular of ethnic minority students, as there is considerable evidence that

suggests that mental health issues, and underutilization of services, are more prevalent among this population (Gonzales and Kim 1997; Gudiño et al. 2009; National Association of School Psychologists [NASP] 2008; USDHHS 2001).

In the United States, ethnic minority students comprise 42 % of the school-age population (National Center for Education Statistics [NCES] 2008). This estimate is even higher in states such as California, where ethnic minority students comprise almost 70 % of the school-age population (NCES 2008). Among the fastest growing ethnic minority groups are Latinos, who comprise 21 % of the school-age population in the country and 50 % in states such as California (Aud et al. 2010). By 2050, the number of school-age Latino students is projected to increase by 166 % (Fry and Gonzales 2008). Unfortunately, Latino students have been found to not only

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be more likely to drop out of school than Caucasian and African American students but also more likely to experience anxiety-related and delinquency problem behaviors, depression, and drug use (National Center for Chronic Disease Prevention and Health Promotion 2008; NCES 2008; U.S. Census Bureau 2000). This suggests that U.S. schools may not be offering an educational environment that is ready to support the needs of Latino students overall, especially for those with mental health needs. Both the American Psychological Association (APA 2002) and the National Association of School Psychologists (NASP 2008) have issued guidelines that require that mental health care providers offer culturally competent services. However, APA and NASP provide little information on how these services should be carried out in the schools.

Although the literature almost exclusively focuses on conventional mental health related symptoms (e.g. depression, anxiety, aggression, hyperactivity) as contributors to poor academic performance, culturally focused researchers argue that these symptoms may not fully capture the mental health problems of ethnic minority groups such as Latinos. Accordingly, acculturative stress has been proposed as a culturally specific aspect of the mental health of ethnic minority groups and as a unique contributor to the poor academic performance of Latino youth (Alva and de los Reyes 1999; Blanco-Vega et al. 2008; Schwartz et al. 2007). Acculturative stress has been defined as the psychosocial stressors associated with being part of two conflicting cultures and the perceived need to conform to the host culture to avoid discrimination (Mena et al. 1987). The literature suggests that acculturative stress may be a critical construct for school professionals and para

professionals to consider when attempting to engage in culturally responsive/competent practices in the schools (Blanco Vega et al. 2008; Castro-Olivo and Merrell 2012). However, the current research on acculturative stress and school-age children is limited. There is a need to test the relationship between acculturative stress and academic performance. Knowing that a student is at risk for acculturative stress can help mental health care professionals develop and deliver culturally sensitive interventions that are more relevant to the needs of the target students. The importance of considering acculturative stress in providing culturally responsive interventions is implicit in the literature, which, although sparse, notes that acculturative stress is a unique risk factor that puts ethnic minorities, such as Latinos, at higher risk for negative social-emotional, behavioral, and academic outcomes (Blanco-Vega et al. 2008).

Although the need for culturally responsive practices in schools is evident, more research is needed to identify which constructs should be included when engaging in such practices. According to Castro et al. (2004), culturally responsive practices must be informed by research. For culturally responsive interventions to be considered socially valid, the content

being delivered must be derived from the risk and protective factors identified as significant for the target population (Bernal et al. 1995; Castro et al. 2004). Therefore, this study focuses on examining the relationship of internalizing mental health symptoms and acculturative stress on Latino students' academic performance. The following section, provides a review of the extant literature on the documented relationships between mental health and academic performance; acculturative stress and mental health; and acculturative stress and academic performance.

Research on both mainstream and ethnic minorities is summarized and an emphasis is placed on how these relationships impact these outcomes for Latino students in particular.

Mental Health, Acculturative Stress, and Academic Performance

Mental health and academic performance The relationship between mental health problems (e.g. symptoms of depression, anxiety, aggression) and academic performance in children and adolescents has been well documented (Matthews et al. 2009; Mistry et al. 2009; Schwartz and Gorman 2003). Mental health problems, both internalizing (e.g. depression, post-traumatic stress symptoms; Matthews et al. 2009; Mistry et al. 2009; Schwartz and Gorman 2003) and externalizing (e.g. aggression, hyperactivity; Schwartz and Gorman 2003), have been linked to lower grade point averages and decreased school engagement. In regard to the relationship between internalizing mental health problems and academic performance, Matthews et al. (2009) reported an inverse relationship between post-traumatic stress and academic performance in

African American children who were 11 to 13 years old. Similarly, Mistry et al. (2009) found that Chinese American adolescents ages 13 and 17 who reported higher levels of depressive symptoms were not only more likely to have lower grade point averages, but also to have lower levels of school engagement and less-positive attitudes about school. In regard to the relationship between externalizing mental health problems and academic performance, Schwartz and Gorman (2003) found that urban elementary school children who presented with a greater number of disruptive behaviors (e.g. aggression, hyperactivity) had lower academic performance.

For the Latino population, the negative relationship between symptoms of mental health problems and academic performance has been hypothesized since the 1970s (Padilla and Ruiz 1973). However, little empirical research has been conducted to establish this relationship for this population. In a recent study, Zychinski and Polo (2012) found that for 133 fifth through seventh grade Latino students, higher reports of depressive symptoms significantly correlated with lower academic achievement. Similarly, Lobato et al. (2011) found that Latino youth who had at least one sibling with an intellectual

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disability, reported higher levels of internalizing issues and lower levels of academic functioning. Similar relationships have been documented between externalizing problems and academic functioning among Latino youth (Prelow and Loukas 2003).

Acculturative stress and mental health Acculturative stress is a condition that is relatively understudied, especially in middle school-age children and adolescents. As defined earlier, acculturative stress refers to the psychosocial stressors associated with being part of two conflicting cultures and the perceived need to conform to the host culture to avoid discrimination (Mena et al. 1987). Acculturative stress is a potential outcome of acculturation, which is the psychosocial process of adapting to a new culture (Cabassa 2003). Although acculturation may not be stressful for all acculturating individuals, navigating language barriers and coping with perceived discrimination, parent-child acculturative gaps, and the loss of native cultural values and practices can be a stressful experience. Acculturative stress can lead to depression, anxiety, and low self-concept (Blanco-Vega et al. 2008; Ellis et al. 2008; Gil et al. 1994).

Based on our review of the literature, the majority of research on acculturative stress has focused on its relationship with internalizing mental health disorders such as post traumatic stress disorder (PTSD),

depression, and anxiety. The relationship between internalizing mental health symptoms and acculturative stress has been documented in children and adolescents of a variety of cultural backgrounds. In school-age children and adolescents (ranging from 9 to 18 years old), mental health problems, of both an internalizing and externalizing nature, have been linked to higher levels of acculturative stress (Ellis et al. 2008; Suarez-Morales and Lopez 2009; Umaña-Taylor et al. 2011). Ellis et al. (2008), in a community-based study, found that English-fluent Somali adolescent refugees (11 to 20 years old) who reported a greater number of symptoms related to acculturative stress also reported a greater number of symptoms related to PTSD and depression. Similarly, Suarez-Morales and Lopez (2009) found that Latino preadolescent children (9 to 12 years old) who reported higher levels of acculturative stress also reported higher levels of anxiety. Finally, Umaña-Taylor et al. (2011) found that unmarried Latino adolescent mothers (15 to 18 years old), with various immigration statuses and language preferences, who reported higher levels of acculturative stress also reported higher levels of depression and engagement in risky behaviors. Similar results have been found with non Latino culturally and linguistically diverse college-age populations in regard to acculturative stress and mental health (Hwang and Ting 2008). Although the research on acculturative stress and mental health is growing,

little to no research has been conducted with adolescent Latino populations between the ages of 12 and 15 years.

Acculturative stress and academic performance There is very little research on the relationship between acculturative stress and academic performance of school-age children/ adolescents. This is not surprising, given the sparseness of the literature on acculturative stress in general. While there are studies that have documented the relationship between academic performance and related constructs such as perceived discrimination (Alfaro et al. 2009; Bodkin-Andrews et al. 2010; Stone and Han 2005), to our knowledge, only one study specifically examined acculturative stress in relation to academic performance in school-age children. Schwartz et al. (2007) found evidence supporting the link between acculturative stress and academic achievement. This relationship was concurrently examined in 347 Latino adolescents. Participants were in grades 6 through 8. Most participants were born in the U.S. Half of participants had at least one parent born in the U.S. Students with very limited English proficiency were excluded from the study. Measures included the Process Oriented Stress subscale of the SAFE-C, the Rosenberg Self-Esteem Scale, the U.S. orientation subscale of the Acculturation Rating Scale for Mexican Americans II (modified to Hispanic/Latino), and self-reported grades. Correlational and SEM techniques were used to examine the relationship between acculturative stress and academic achievement. Correlations demonstrated an inverse relationship between acculturative stress and

self-reported grades ($r=-.15$, $p<.01$). In other words, adolescents who reported higher levels of acculturative stress also reported lower grades. In addition, results from their structural equation modeling demonstrated that the relationship between U.S. orientation and self-reported grades was mediated by acculturative stress and self-esteem.

In sum, the relationship between mental health and academic performance has been well documented for mainstream and Latino populations. Although the research in acculturative stress and mental health has established a strong relationship between these two constructs, most of this research has been done with adult populations; highly limiting implications for school-age children and adolescents. More specifically, research examining the relationship between acculturative stress and academic performance is scarce and desperately needed in order to establish the importance of this construct in school based culturally responsive/competent practices. The present study presents a preliminary examination of the relationship between Latino middle school students' mental health, acculturative stress and academic performance.

Purpose

As previously stated, the relationship between mental health and acculturative stress, in a Latino middle school population, warrants further examination. The main purpose of this study is to examine the relationship between mental health

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problems, in particular, internalizing symptoms (i.e. depression and anxiety), acculturative stress, and academic performance in Latino middle school students, one of the most prevalent and at-risk ethnic minority groups in U.S. schools today (Centers for Disease Control 2008; Fry and Gonzales 2008; NCES 2008; U.S. Census Bureau 2000).

This study set out to answer the following research questions: 1) Are students' internalizing symptoms and acculturative stress levels related to their current academic performance? 2) Does acculturative stress predict students' academic performance after controlling for students' internalizing symptoms?

We hypothesized that internalizing symptoms and acculturative stress would be inversely correlated with students' academic performance. This hypothesis is consistent with studies that found an inverse relationship between internalizing symptoms, acculturative stress (and related constructs such as perceived discrimination), and academic performance (Alfaro et al. 2009; Bodkin-Andrews et al. 2010; Schwartz et al. 2007; Stone and Han 2005).

Matthews et al. 2009; Mistry et al. 2009; Schwartz and Gorman 2003; Schwartz et al. 2007; Stone and Han 2005). We further hypothesized that, after controlling for internalizing symptoms, acculturative stress would inversely predict current academic performance. This hypothesis is informed by research that documents the relationship between mental health-related issues and academic performance (Matthews et al. 2009; Mistry et al. 2009; Schwartz and Gorman 2003), mental health related issues and acculturative stress (Ellis et al. 2008; Suarez Morales and Lopez 2009; Umaña-Taylor et al. 2011), and acculturative stress (and related constructs such as perceived discrimination) and academic performance (Alfaro et al. 2009; Bodkin-Andrews et al. 2010; Schwartz et al. 2007; Stone and Han 2005).

Method

Participants

A total of 94 Latino middle school students participated in this study, which was conducted during the 2009–2010 school year. Participants were drawn from sixth (n=8), 7th (n=43), and eighth (n=43) grade classrooms from two different schools in Northern and Southern California. The school in Southern California is a public performing arts magnet school composed primarily of low-income and/or Latino students. For example, 72 % (n=1,172) of their overall student body identified themselves as Latino, 16 % (n=262) identified themselves as African American, 6 % (n=105) identified themselves as Caucasian, and 5 % (n=74) identified themselves as Asian. In addition, school records indicated that 87 % (n=1,421) of the students were eligible for a free or reduced-price lunch in the 2008–2009 school year. Likewise, the school in Northern California is a public school, also primarily composed of low-income Latino students (53 % (n=282) of the overall student population). The remainder of students identified themselves as Asian (27 %; n=146), African-American (13 %; n=71), and Caucasian (4 %; n=21). School records indicated that 64 % (n=343) of the student population were eligible for a free or reduced-price lunch in the 2008–2009 school year. Participants were recruited from 12 different classrooms within these two schools. Students were only recruited from classrooms with teachers who responded to a call from the principal to participate in this study. Subjects taught in these classrooms were diverse (i.e. English Language Development, Science, Math, and regular English). A total of 240 students were invited to participate in this study but only 154 students returned consent and assent forms. Of those who returned consent and assent forms 55 were non-Latino; for this study, their

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Trained researchers/research assistants administered the surveys in a standardized manner. Survey administration took place in a group setting during regular school hours in the participating students' classrooms. All instructions and items were read to the students in English (although students were offered the Spanish version, all participants opted to take the surveys in English).

Measures

All instruments were administered over the span of one class period. Participating students filled out surveys on internalizing symptoms and acculturative stress. Participating teachers were expected to complete the teacher report instrument on each of the participating students in her or his class while students were completing the battery of surveys.

data was not included in the analysis. Further details on data collection procedures are described below.

The mean age of participants was 12.9 years old, with ages ranging between 11 and 15. Of the 94 Latino participants, 36 were boys and 58 were girls. Eighty-six percent (n=81) reported being born in the U.S., 12 % (n=11) in Mexico, and 2% (n=2) in Guatemala. Seventeen percent (n=16) listed their primary language as English, 48 % (n=45) Spanish, and 35 % (n=33) listed two languages. Table 1 presents the demographic characteristics of the participating sample.

Procedure

Once approval from the human subjects institutional review board from the sponsoring University, and the participating school districts were obtained, students were recruited during regular school hours from participating classrooms. Consent forms and information about the project were sent home with students from the 12 participating classrooms. Only students who returned signed parental consent and student assent forms were allowed to participate in this study. Consent forms and surveys were made available in both English and Spanish.

Table 1 Participant Demographics

	Variable	n	%
Birth Place	United States	81	86
	Mexico	11	12
	Guatemala	2	2
Home Language	Primary		
	English	16	17
	Spanish	45	48
	Two Languages	33	35
Ethnicity/Race			
	Latino	94	100

Descriptions of the instruments are presented below.

The Symptoms Test (by Merrell et al. 2008) was used to gauge participants' depressive and anxious symptoms. This test consists of 10 Likert-scaled items. Some sample items are, "I feel depressed or sad" and "I worry about things." Previous studies have found the Symptoms Test to be a valid and reliable measure (Merrell et al. 2008), with reliability ranging from $\alpha = .70$ to $.80$ and convergence validity with the Children's Depression Inventory (CDI; Kovacs 1992) and the Internalizing Symptoms Scale for Children (ISSC; Merrell and Walters 1998) ranging from $.70$ to $.88$. The Chronbach's alpha for the current sample was $= .82$, which suggests that the scale had adequate internal consistency among the current sample.

The Coping with Acculturative Stress in American Schools. (CASAS) instrument (by Castro-Olivo et al. 2013) was used to measure participants' acculturative

stress. CASA S is a 16-item Likert-scaled instrument designed to identify/ screen school-age children, from sixth to twelfth grade who may be experiencing acculturative stress from the cultural interactions/conflicts between their school and home or social networks. Sample items are, "I feel bad when my family members do not understand the cultural changes that I am experiencing in school" and "It bothers me when kids at school make fun of me because of the way I speak English." Castro-Olivo et al. (2013) found the CASAS to be a valid and reliable measure of acculturative stress, with internal consistency of $\alpha = .88$, test-retest reliability 0.84 , and concurrent validity with the Acculturative Stress Inventory for Children (ASIC; Suarez-Morales et al. 2007) to be $r=.66$, $p<.001$. CASAS was found to be reliable for the current sample at $\alpha = .78$.

To gauge students' academic performances, participating teachers were asked to fill out a brief survey on their observations of students' academic behaviors and performance. The Teacher Report on Students' Observed Academic Engagement Behaviors (Teacher Report) is an 11-item Likert scaled instrument that measures teacher perceptions of students' academic performance and behaviors in the classroom. Sample items are, "This student comes to class prepared"; "This student engages in class discussion"; "This student gets good grades in my class"; and "This student makes the effort to learn." Previous studies have found this scale to be a reliable and valid measure (Castro-Olivo 2006), with internal consistency reliability of $\alpha = .95$, and inter-rater reliability ranging from .77 to .95 (Castro-Olivo 2006). The measure also demonstrated strong internal consistency reliability for the current sample at $\alpha = .96$, and was found to be a valid measure of academic performance for the current sample, as indicated by its convergence with students' performance on the California State Test scores in English Language Arts and Math from the year prior to this study ($r=.39$, $p<.01$; $r=.25$, $p<.05$, respectively).

Data Analysis

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Table 2 Intercorrelations, Means, and Standard Deviations for the Symp toms Test, CASAS, and Teacher Report

Measure 1 2 3 M SD

1. Symptoms Test — .11 -.24* 13.09 5.65 2. CASAS — -.32**
16.47 7.34 3. Academic Performance — 34.20 8.33

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

symptoms and academic performance ($r (90) = -.24$, $p<.05$). Those students who reported higher levels of

Research question # 1: Correlational analyses were used to answer the first research question (Are students' symptoms of internalizing mental health problems and acculturative stress levels related to their current academic performance?)

Research question # 2: Hierarchical multiple regression was used to address the second research question (Does acculturative stress predict students' academic performance after controlling for students' internalizing symptoms? Adjusted R^2 was used as the primary measure of predictive power, as it is considered to be less biased than population R^2 (Agresti and Finlay 2009). Standardized regression coefficients were used as the primary measure of change in academic performance because the predictor variables were not on a comparable scale/unit of measurement. This procedure is recommended by Agresti and Finlay (2009) as a means to achieve more meaningful comparisons.

Based on the literature, predictors were entered in steps in the following order: Step 1: internalizing symptoms, and Step 2: acculturative stress (Lomax 2007). Internalizing symptoms were entered first because the literature suggests that it is a stronger predictor of academic performance than is acculturative stress (Blanco-Vega et al. 2008; Matthews et al. 2009; Mistry et al. 2009; Schwartz and Gorman 2003; Schwartz et al. 2007).

Results

Research question # 1: Correlational analyses demonstrated that students' symptoms of internalizing mental health problems and acculturative stress levels are related to their current academic performance (as reported by teachers' observations of their academic engagement, preparedness and overall performance in their class); the correlations presented in Table 2 indicate an inverse relationship between internalizing

internalizing symptoms were perceived by their teachers to demonstrate lower levels of academic performance. Likewise, students who reported higher levels of acculturative stress were perceived by their teachers to demonstrate lower levels of academic performance ($r (84) = -.32$, $p<.01$).

Research question # 2: Table 3 summarizes the results of the hierarchical multiple regression analysis that was conducted to evaluate the extent to which acculturative stress predicts students' academic performance after controlling for students' internalizing symptoms. The results of these analyses indicate that acculturative stress is the stronger

predictor of teachers' report of participating students' academic performance. In Step 1, internalizing symptoms were entered; and, in Step 2, the main effect of acculturative stress was entered to assess its independent contribution to current teachers' report of students' academic performance. In Step 1, internalizing symptoms were a significant negative predictor of teachers' report of students' academic performance ($\beta_i = -.24$, $p < .05$). In Step 2, after controlling for the effects of internalizing symptoms, acculturative stress was found to be a significant negative predictor of teachers' report of students' academic performance ($\beta_i = -.29$, $p < .05$). For every one unit increase in acculturative stress, there was a .29 decrease in teacher reports of students' academic performance.

After including acculturative stress in the model, internalizing symptoms were no longer a significant predictor of teacher reports of students' academic performance ($\beta_i = -.20$,

Table 3 Hierarchical Multiple Regression Analysis

Predictor Current Academic Performance

$p = .05$). Further, acculturative stress accounted for a 7 % increase in variance explained in teacher reports of students' academic performance ($\Delta R_{adj}^2 = .07$, $p < .05$). While internalizing symptoms alone explained 4 % of the variance in teacher reports' of students' academic performance ($R_{adj}^2 = .04$), the inclusion of acculturative stress in the model accounted for 12 % of the variance in teacher reports' of students' academic performance ($R_{adj}^2 = .12$).

Discussion

The purpose of this study was to examine the relationship between internalizing symptoms of depression and anxiety, acculturative stress, and teacher's perception of students' academic performance among Latino middle school students. The extent to which acculturative stress predicts teacher's perceptions of students' academic performance after controlling for internalizing symptoms was also examined. It was hypothesized that internalizing symptoms would be significantly and inversely related to perceived academic performance. In accordance with this hypothesis, the findings of this study indicate that students who reported experiencing higher levels of internalizing symptoms (such as worrying a lot and feeling sad or down frequently), exhibited lower levels of academic performance, as reported by their teachers. These results were similar to those found by Matthews et al. (2009); Mistry et al. (2009), and Schwartz and Gorman (2003), which linked mental health problems to poor academic performance. Our findings also suggest that students who experience symptoms of anxiety and depression are more likely to exhibit academic difficulties, according to their teachers' report.

Similar results were found with the relationship between acculturative stress and academic performance. Students who reported experiencing higher levels of acculturative stress were perceived to have lower levels of academic performance by their teachers. The inverse relationship between acculturative stress and teacher-perceived poor academic performance is not only consistent with the proposed hypothesis

$$\Delta R^2 \Delta R_{adj}^2 B \beta_i 95 \% CI \text{ for } B$$

Step 1 .06* .04*

Internalizing symptoms -.35* -.24* [-.66, -.03] Step 2 .08* .07*

Internalizing symptoms -.30 - .20 [-.60, .01] Acculturative stress -.33* -.29* [-.57, -.10]

Note. CI=confidence interval; * $p < .05$, ** $p < .01$, *** $p < .001$.

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but also with the results from previous studies that found an inverse relationship between acculturative stress (and related constructs such as perceived discrimination) and teachers' reports of students' academic performance (Alfaro et al. 2009; Bodkin-Andrews et al. 2010; Schwartz et al. 2007;

Stone and Han 2005).

In regard to the extent to which acculturative stress predicts academic performance, it was hypothesized that acculturative stress would inversely predict teacher reports of students' academic performance, even after controlling for students' reported symptoms of depression and anxiety. In predicting perceived academic performance, acculturative stress

accounted for more variance than did internalizing symptoms. This may further indicate the relevance of culturally specific symptoms, such as acculturative stress, to the academic performance of ethnic minority middle school students (Blanco Vega et al. 2008).

Implications

The results of this study have important implications for the schooling of Latino students in low socioeconomic status schools. First, the current study provides additional evidence of the relationship between symptoms of depression and anxiety and perceived academic performance, which suggests the need for schools to focus more of their attention on the development and implementation of programs that help children cope with, or overcome, anxiety and depression. In addition, the results of this study support the inclusion of school-based culturally responsive mental health practices, as it showed that acculturative stress is not only related to but also a predictive factor of students' low academic performance (as perceived by their teachers). Merrell and Gueldner (2010) suggested that schools that are interested in improving their students' academic and social-emotional development should strongly consider implementing school-wide social-emotional programs that focus on explicitly teaching students skills such as self-awareness, social awareness, cognitive restructuring, positive thinking, goal setting, and stress relief. In addition to school-wide SEL instruction, Castro-Olivo (2010) recommended that schools with a large proportion of culturally and linguistically diverse (CLD) students should make sure that their school-wide social-emotional learning program employs a culturally responsive approach. For these programs to be considered culturally responsive, cultural adaptations should be used to ensure that the skills taught are culturally accessible and sensitive to the students who are being served. For an example on how to make SEL programs more culturally responsive for Latino students see Castro-Olivo and Merrell (2012). In that study, Castro-Olivo and Merrell validated a model for making cultural adaptations with an evidence-based SEL program. The culturally

adapted program showed to be effective at teaching SEL skills to recent immigrant Latino students, who rated the program as highly socially valid. Students who participated in that study also reported improved outcomes on acculturative stress.

Additionally, the results of this study have implications for teacher training. Teachers should be

provided explicit training on the effects of social-emotional issues on students' mental health and academic performance. Further, teachers need to be more aware of issues related to acculturative stress and other culturally specific factors that could pose additional challenges to the ethnic minority students they serve.

Limitations

As with most research, there are several limitations that deserve mention. First, the sample was selected based on participants' prompt return of parental consent, which may have created a self-selection bias. Second, because all participants were Latino middle school students and in schools that were primarily low socioeconomic status (as indicated by percent age who received a free or reduced-priced lunch), generalizability is limited to Latino middle school students in primarily low socioeconomic status schools. Future research should focus on recruiting a sample that is more diverse in terms of students' ethnicity, language abilities, immigration/generational status, and socioeconomic status. Third, because there is a great deal of variation and diversity in terms of language and culture within the Latino community, an analysis of results by country of origin and English language development will be important in future research. Blanco Vega et al. (2008) and Castro-Olivo (2010) suggest that examining these subgroup differences is important because Latino immigrant adolescents may experience higher levels of acculturative stress and mental health problems than do their U.S.-born counterparts, given their recent/abrupt social adaptation and social/language demands.

Another major limitation of this study is the means used to assess internalizing symptoms. The brief measure used for assessing internalizing symptoms could have contributed to the non-significant correlation between acculturative stress and mental health. According to Salvia et al. (2007), brief measures are less reliable and can contribute to low statistical power. The measure used for this study had only 10 items and was used with a population not suspected to have significant problems. In addition, the sample recruited for this study was enrolled in general education classes and were not suspected to be experiencing clinical levels of internalizing issues. Merrell (2010) explained that measuring students' symptoms of problem behavior in normally developing samples could confound research results. For this reason, Merrell recommended that researchers interested in examining the

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relationship between mental health and other outcomes also should take into consideration the students' social-emotional resiliency, which also could be viewed as a measure of mental health (i.e., positive). Future research should examine the relationship between social-emotional resiliency and academic performance of Latino students. In addition, future research should also aim to recruit students with suspected clinical levels of depression and anxiety.

Another area that must be addressed in future research is the way academic performance was evaluated for this study. Although the measure used has been shown to be reliable and valid (with strong predictive validity for GPA and state tests (Castro-Olivo 2006), it is not a direct measure of academic performance. The measure used merely assessed teachers' perceptions of students' academic performance and behaviors in the classroom. Future research should use GPA and/or state test scores as the outcome variable for a more objective measure of students' academic performance.

Conclusion

The current study makes a valuable contribution to the field of school psychology as it calls attention to a construct (acculturative stress) that has not been previously discussed in our field. Acculturative stress has been shown to be related to symptoms of depression and anxiety and poorer academic behaviors in an at-risk population (Latinos). We argue that addressing culturally related constructs can help school psychologists engage in more culturally responsive practices and effectively address the diverse needs of CLD students and families.

References

Agresti, A., & Finlay, B. (2009). Statistical methods for the social sciences (4th ed.). Upper Saddle River, NJ: Prentice Hall.

Alfaro, E. C., Umaña-Taylor, A. J., Gonzales-Backen, M. A., Bámaga, M. Y., & Zeiders, K. H. (2009). Latino adolescents' academic success: The role of discrimination, academic motivation, and gender. *Journal of Adolescence*, 32(4), 941–962. doi:10.1016/j.adolescence.2008.08.007.

Alva, S. A., & de los Reyes, R. (1999). Psychosocial stress, internalized symptoms, and the academic achievement of Hispanic adolescents. *Journal of Adolescent Research*, 14(3), 343–358. doi:10.1177/0743558499143004.

American Psychological Association. (2002). Guidelines on multicultural education, training, research, practice, and organizational change for psychologists. Retrieved from <http://www.apa.org/pi/multiculturalguidelines/scope.html>.

Aud, S., Fox, M., & KewalRamani, A. (2010). Status and trends

in the education of racial and ethnic groups (NCES 2010-015). U.S. Department of Education, National Center for Education

Statistics. Washington, DC: U.S. Government Printing Office. Retrieved from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2010015>.

Bernal, G., Bonilla, J., & Bedillo, C. (1995). Ecological validity and cultural sensitivity for outcome research: Issues for the cultural adaptation and development of psychological treatments with Hispanics. *Journal of Abnormal Child Psychology*, 23(1), 67–82.

Blanco-Vega, C., Castro-Olivo, S., & Merrell, K. (2008). Social emotional needs of Latino immigrant adolescents: A sociocultural model for development and implementation of culturally specific interventions. *Journal of Latinos and Education*, 7(1), 43–61. doi: 10.1080/15348430701693390.

Bodkin-Andrews, G. H., Seaton, M., Nelson, G. F., Craven, R. G., & Yeung, A. S. (2010). Questioning the general self-esteem vaccine: General self-esteem, racial discrimination, and standardized achievement across Indigenous and non-Indigenous students. *Australian Journal of Guidance & Counselling*, 20(1), 1–21. doi: 10.1375/ajgc.20.1.1.

Broidy, L. M., Nagin, D. S., Tremblay, R. E., Bates, J. E., Brame, B., Dodge, K. A., et al. (2003). Developmental trajectories of childhood disruptive behaviors and adolescent delinquency: A six-site, cross national study. *Developmental Psychology*, 39(2), 222–245.

Burns, B. J., Costello, E. J., Angold, A., Tweed, D., Stangl, D., Farmer, E. M., et al. (1995). Children's mental health service use across service sectors. *Health Affairs*, 14(3), 147–159.

Cabassa, L. J. (2003). Measuring acculturation: Where we are and where we need to go. *Hispanic Journal of Behavioral Sciences*, 25, 127–146. doi:10.1177/0739986303025002001.

Castro, F. G., Barrera, M., & Martinez, C. R. (2004). The cultural adaptation of prevention interventions: Resolving tensions between fidelity and fit. *Society for Prevention Research*, 5, 41–45.

Castro-Olivo, S. (2010). One size does not fit all: Adapting SEL programs for use in our multicultural world. In K. W. Merrell & B. A. Gueldner (Eds.), *Social and emotional learning in the classroom: Promoting mental health and academic success* (pp. 83–102). New York, NY: Guilford.

Castro-Olivo, S. (2006). The effects of a culturally-adapted social emotional learning curriculum on social-emotional and academic outcomes of Latino immigrant high school students. University of Oregon, Eugene: Unpublished doctoral dissertation.

Castro-Olivo, S., & Merrell, K. W. (2012). Validating cultural adaptations of school-based social-emotional learning program for use with Latino immigrant adolescents. *Advances in School Mental Health Promotion*, 5(2), 78–92. doi:10.1080/1754730X.2012.689193.

Castro-Olivo, S. M., Palardy, G., Albeg, A. L., & Williamson, A. A. (2013). Development and validation of the Coping with Acculturative Stress in American Schools (CASAS) scale on a Latino adolescent sample. *Assessment for Effective Intervention*. doi:10.1177/1534508413500983.

Centers for Disease Control. (2008). Health disparities experienced by Hispanic children, youth, and adults. Atlanta, GA: U.S. Department of Health & Human Services. Retrieved from http://www.cdc.gov/HealthyYouth/disparities/hispanic/hispanic_disparities.htm.

Ellis, B. H., MacDonald, H. Z., Lincoln, A. K., & Cabral, H. J. (2008). Mental health of Somali adolescent refugees: The role of trauma, stress, and perceived discrimination. *Journal of Consulting and Clinical Psychology*, 76(2),

Fry, R., & Gonzales, F. (2008). One-in-five and growing fast: A profile of Hispanic public school students. Washington, DC: Pew Hispanic Center. Retrieved from <http://pewhispanic.org/reports/report.php?ReportID=92>.

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Gudiño, O. G., Lau, A. S., Yeh, M., McCabe, K. M., & Hough, R. L. (2009). Understanding racial/ethnic disparities in youth mental health services. *Journal of Emotional and Behavioral Disorders*, 17(1), 3–16. doi:10.1177/1063426608317710.

Gonzales, N. A., & Kim, L. S. (1997). Stress and coping in an ethnic minority context. In S. A. Wolchik & I. N. Sandler (Eds.), *Handbook of children's coping: Linking theory and intervention* (pp. 481–511). New York, NY: Plenum Press.

Hwang, W. C., & Ting, J. Y. (2008). Disaggregating the effects of acculturation and acculturative stress on the mental health of Asian Americans. *Cultural Diversity and Ethnic Minority Psychology*, 14(2), 147–154. doi:10.1037/1099-9809.14.2.147.

Kataoka, S. H., Zhang, L., & Wells, K. B. (2002). Unmet need for mental health care among U.S. children: Variation by ethnicity and insurance status. *American Journal of Psychiatry*, 159(9), 1548–1555.

Kovacs, M. (1992). *Children's Depression Inventory*. North Tonawanda, NY: Multi-Health Systems.

Lobato, D., Kao, B., Plante, W., Seifer, R., Grullon, E., Cheas, L., et al. (2011). Psychological and school functioning of Latino siblings of children with intellectual disability. *Journal of Child Psychology and Psychiatry*, 52(6), 696–703. doi:10.1111/j.1469-7610.2010.02357.x.

Loeber, R., Farrington, D. P., Stouthamer-Loeber, M., & Van Kammen, W. B. (1998). *Antisocial behavior and mental health problems: Explanatory factors in childhood and adolescence*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc., Publishers.

Lomax, R. G. (2007). *Statistical concepts: A second course for education and the behavioral sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Matthews, T., Dempsey, M., & Overstreet, S. (2009). Effects of exposure to community violence on school functioning: The mediating role of posttraumatic stress symptoms. *Behaviour Research and Therapy*, 47, 586–591. doi:10.1016/j.brat.2009.04.001.

Mena, F. J., Padilla, A. M., & Maldonado, M. (1987). Acculturative stress and specific coping strategies among immigrants and later generation college students. *Hispanic Journal of Behavioral Sciences*, 9, 207–225. doi:10.1177/07399863870092006.

Merrell, K. W. (2010). Linking prevention science and social and emotional learning: The Oregon Resiliency Project. *Psychology in the Schools*, 47(1), 55–70. doi:10.1002/pits.20451.

Merrell, K. W., & Gueldner, B. A. (2010). *Social and emotional learning in the classroom: Promoting mental health and academic success*. New York, NY: Guilford.

Merrell, K. W., Juskelis, M. P., Tran, O. K., & Buchanan, R. (2008). Social and emotional learning in the classroom: Evaluation of strong kids and strong teens on students' social-emotional knowledge and symptoms. *Journal of Applied School Psychology*, 24, 209–224. doi:10.1080/15377900802089981.

Merrell, K. W., & Walters, A. S. (1998). *Internalizing Symptoms Scale for Children*. Austin, TX: PRO-ED.

Mistry, R. S., Benner, A. D., Tan, C. S., & Kim, S. Y. (2009). Family economic stress and academic well-being among Chinese-American youth: The influence of adolescents' perceptions of economic strain. *Journal of Family Psychology*, 23, 279–290. doi:10.1037/a0015403.

National Association of School Psychologists. (2008). *The importance of school mental health services (Position Statement)*. Bethesda, MD: Author.

National Center for Chronic Disease Prevention and Health Promotion. (2008). *Healthy youth! Health risks and disparities experienced by Hispanic youth*. Retrieved from <http://www.cdc.gov/HealthyYouth/disparities/hispanic/Hispanicdisparities.htm>.

National Center for Education Statistics. (2008). *Fast facts: Dropout rates for high school students*. Retrieved from <http://nces.ed.gov/FastFacts/display.asp?id=16>.

Padilla, A. M., & Ruiz, R. A. (1973). *Latino mental health: A review of literature*. Oxford: England: U.S. Government Printing Office.

Prelow, M. H., & Loukas, A. (2003). The role of resource, protective, and risk factors on academic achievement-related outcomes of economically disadvantaged Latino youth. *Journal of Community Psychology*, 31(5), 513–529. doi:10.1002/jcop.10064.

President's New Freedom Commission on Mental Health. (2003). *Achieving the promise: Transforming mental health care in America: Final report* (DHHS Pub. No. SMA-03-3832). Rockville, MD: Author.

Salvia, J., Ysseldyke, J. E., & Bolt, S. (2007). *Assessment in special and inclusive education* (10th ed.). Boston, MA: Houghton Mifflin.

Schwartz, D., & Gorman, A. H. (2003). Community violence exposure and children's academic functioning. *Journal of Educational Psychology*, 95, 163–173. doi:10.1037/0022-0663.95.1.163.

Schwartz, S. J., Zamboanga, B. L., & Jarvis, L. H. (2007). Ethnic identity and acculturation in Hispanic early adolescents: Mediated relationships to academic grades, prosocial behaviors, and externalizing symptoms. *Cultural Diversity and Ethnic Minority Psychology*, 13(4), 364–373. doi:10.1037/1099-9809.13.4.364.

Stone, S., & Han, M. (2005). Perceived school environments, perceived discrimination, and school performance among children of Mexican immigrants. *Children and Youth Services Review*, 27(1), 51–66. doi:10.1016/j.childyouth.2004.08.011.

Suarez-Morales, L., & Lopez, B. (2009). The impact of acculturative stress and daily hassles on pre-adolescent psychological adjustment: Examining anxiety symptoms. *Journal of Primary Prevention*, 30, 335–349. doi:10.1007/s10935-009-0175-y.

Suarez-Morales, L., Szapocznik, J., & Dillon, F. R. (2007). Validation of the acculturative stress inventory for children. *Cultural Diversity and Ethnic Minority Psychology*, 13(3), 216–224. doi:10.1037/1099-9809.13.3.216.

Umaña-Taylor, A. J., Updegraff, K. A., & Gonzales-Backen, M. A. (2011). Mexican-origin adolescent mothers' stressors and psychological functioning: Examining ethnic identity affirmation and familism as moderators. *Journal of Youth and Adolescence*, 40(2), 140–157.

U.S. Census Bureau. (2000). *The Hispanic population in the United States: March 2000*. Washington, DC: U.S. Government Printing Office.

U.S. Department of Health and Human Services. (1999). *Mental health: A report of the Surgeon General*. Washington, DC: Author. Retrieved from

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: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services.

Zychinski, K. E., & Polo, A. J. (2012). Academic achievement and depressive symptoms in Low-income Latino youth. *Journal of Child and Family Studies*, 21, 565–577. doi:10.1007/s10826-011-9509-5.

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