Trauma Treatment Outcome among Culturally Diverse 
Latino Children and Adolescents

Melanie Perez, PhD 
James Rodriguez, PhD 
Jennifer P. Wisdom, PhD MPH 
Martina Pavlicova, PhD 
Theresa Schwartz, MS 
Kimberly Hoagwood, PhD

Target Journal:
Journal of Cultural Diversity and Ethnic Minority Psychology 
Hispanic Journal of Behavioral Sciences

Word Count:

Corresponding Author 
Melanie Perez, PhD 
New York State Psychiatric Institute/Columbia University 
100 Haven Ave Suite 31D 
New York NY 10032 
Phone 917-309-6783 
Fax 718-238-3001 
Email mp2735@columbia.edu
Abstract

Background: Latinos are the fastest growing ethnic group in the U.S., representing diverse nationalities with substantial historic and socioeconomic differences. Most research on Latino children with mental illness addresses them as a homogeneous group, but few studies examine how children of different Latino origins differ in mental health treatment outcomes. The purpose of this paper is to examine mental health treatment outcomes among Mexican, Puerto Rican and Dominican children who received evidence-based, cognitive behavioral treatment (CBT) at community based organizations for symptoms of post-traumatic stress disorder (PTSD) from exposure to the September 11, 2001 terrorist attacks.

Method: The sample consisted of 198 children of Dominican (39.9%), Puerto Rican (36.4%) and Mexican (23.7%) origin who received CBT for trauma following 9/11. We assessed differences in trauma symptoms across Latino subgroups and covariates (gender, age) at 3 and 6 months post-intervention by using a mixed effect model with random effects. Specific research questions are: (1) Are there differences in trauma treatment outcome among U.S. Latino subethnic groups (Dominicans, Puerto Ricans, and Mexicans) (2) Are differences in Latino subethnic groups associated with (a) family cohesiveness (b) family composition (whether it is a two or single parent household or other) or (c) treatment retention (show rates).

Results: At 6 months, Dominican children had significantly lower PTSD-RI scores than Puerto Rican (p=<0.001) and Mexican children (p=0.05). A logistic regression determined that Dominicans differed from Puerto Ricans and Mexicans by being more likely to live in a single-parents household, decreased family involvement and lower number of sessions compared to non-Dominicans.
Conclusions: Dominicans had fewer sessions, a trend towards less family involvement and better outcome. These findings indicate that Latino children receiving mental health treatment are a heterogeneous group, and suggest that evidence based treatments may not be equally effective for all Latino children. There is a need for research in EBT effectiveness studies and outcome studies, and a need for current studies to assess not just race, but ethnicity within Latinos.
1. Melanie Perez, Ph.D.
Instructor in Clinical Psychology/Research Scientist
New York State Psychiatric Institute/Columbia University
100 Haven Avenue, #31D
New York, NY 10032
(917) 309-6783
mp2735@columbia.edu

2. James Rodriguez, MSW PhD
Instructor of Child and Adolescent Psychology, Columbia University
100 Haven Ave. Suite 31D
New York, NY 10032
(646-328-4417)
jar200@columbia.edu

3. Jennifer P. Wisdom, PhD MPH
Research Scientist, New York State Psychiatric Institute and
Assistant Professor of Clinical Psychology in Psychiatry, Columbia University
New York, NY 10032
(212-342-4174)
jpw2129@columbia.edu

4. Martina Pavlicova, PhD
Assistant Professor of Biostatistics (in Psychiatry)
Department of Biostatistics
722 W. 168th Street, 6th fl
New York, NY 10032
mp2370@columbia.edu

5. Theresa Schwartz, M.S.
Research Project Manager/Statistical Analyst
New York State Psychiatric Institute/Columbia University
100 Haven Avenue, #31D
New York, NY 10032
(212)342-0105
Schwartt@childpsych.columbia.edu

6. Kimberly Hoagwood, PhD
Professor of Child and Adolescent Psychiatry, Columbia University and
Director of Youth Services Evaluation Research, New York State Office of Mental Health
1051 Riverside Drive Unit 78
New York, NY 10032
(212)543-6131
hoagwood@childpsych.columbia.edu
Introduction

Latino groups living in the U.S. are heterogeneous; there are substantial historic and socioeconomic differences among Latino families (Ayon & Marcenko, 2008; Zambrana & Dorrington, 1998). However, little is known about whether children of different Latino origin families differ in mental health treatment outcomes. Studies consistently show that Latino youth experience significantly, more mental health problems than White youth (U.S. Department of Health and Human Services (U.S. DHHS), 2001). Latino children are in great need of mental health services; have less availability of, mental health services; are less likely to receive needed mental health services; when in treatment, often receive a poorer quality of mental health services; and are underrepresented in mental health research (U.S. DHHS, 2001; Flores, Abreu, Olivar, & Kastner, 1998; Guarnaccia, 1997; McMiller & Weisz, 1996; Organista, 2000) The purpose of this paper is to examine differences in mental health treatment outcomes among Mexican, Puerto Rican and Dominican children who received trauma-focused cognitive behavioral therapy (CBT) for symptoms of post traumatic stress disorder (PTSD).

Mental Health Issues Among Latino Children

Although the term “Latino” represents a very diverse group of people these are usually used interchangeably and include people of any race with a Spanish heritage. There are approximately 39.9 million Latinos in the U.S., or about 12% of the population (U.S. Census Bureau, 2004). This is probably an underestimation of the actual numbers of Latinos because many undocumented immigrants do not register with the census.

Latinos are the fastest growing ethnic group in the United States; it is estimated that by 2050, Latinos will be the largest minority group in the U.S. (U.S. Census Bureau, 2004). There are many Latino countries and they are quite different from each other; nevertheless, few studies
have focused on within-group variations among Latinos (Zambrana & Dorrington, 1998). In the U.S., the largest Latino groups are Mexican Americans (58.8%), followed by Puerto Ricans (9.6%), Cuban Americans (3.5%) and Dominicans (2%) (U.S. Census Bureau, 2004). The 2008 New York State Health Disparities Report suggests that although there is an understanding of the mental health needs of the three largest Latino populations in the U.S. (i.e., Mexicans, Puerto Ricans, and Cubans), the study of emerging Latino subgroups (e.g., Dominicans, South Americans, and Central Americans) should be a high priority for behavioral and social scientists. During the last twenty years these Latino groups have expanded greatly, however there has been little or no research on their specific mental health outcomes. The need for psychiatric and epidemiological studies about new Latino immigrants, as well as services for them, is imperative (Acevedo, Gonzalez, Santiago & Vargas-Ramos, 2008).

According to epidemiologic studies Latino children are at greater risk for PTSD and other disorders, such as anxiety and depression disorders than non-Latino White and African American (Galea, Ahern, Resnick, Kilpatrick, et al., 2002; Pole, Nnamdi; Best, Metzler, Marmar, 2005). Latino children are at particular risk for not receiving specialty mental health care (Kataoka et al., 2002) because of lack of health insurance, parental preferences, lack of knowledge, language barriers and help seeking patterns, and an unrecognized need for services (Flores, Abreu, Olivar, & Kastner, 1998; Guarnaccia, 1997; McMiller & Weisz, 1996; Organista, 2000). These risk factors have significant implications for the ongoing health of the nation’s youth given that the adolescent population of Latinos is increasing more rapidly than that of any other racial or ethnic group (DHHS, 2001; U.S. Census Bureau, 2004).

Despite the dearth of literature that explores within-Latino group differences, a few scholars have begun pursuing the topic. For example, a recent study explored depression
longitudinally among Latino children and youth analyzing the National Survey on Children and Adolescent Well-Being (NSCAW) data by Latino origin to uncover within-group differences in depression (Ayon & Mercenko, 2008). Results revealed that overtime changes in the intensity of the depression varied by Latino origin. Mexican and Puerto Rican children experienced higher levels of depression compared to children from other Latino origins. Mexican children's depression symptoms tended to decrease over time, the change occurred at a slower rate compared to children from other Latino origins. Puerto Rican children's depression symptoms increased compared to children from other Latino origins (Ayon & Mercenko, 2008).

**Latino Children’s Mental Health Treatment Outcomes**

There is a growing literature that supports the effectiveness for ethnic minorities of evidence-based treatment, particularly cognitive behavioral therapy (Miranda & Bernal, 2005). The largest and most rigorous literature available clearly demonstrates that evidence-based care for depression improves outcomes for African Americans and Latino children, and that results are equal to or greater than for white Americans (Miranda & Bernal 2005). Most of the publication on CBT and Latino children has focused on depression therefore this paper will be focusing on trauma. In spite of this growing body of literature, there have been few studies examining efficacy of trauma focused CBT within subethnic Latino children.

Evidence based practices become evidence-based based on rigorous effectiveness studies. The National Registry of Evidence-based Programs and Practices (NREPP) provides guidelines for these studies, and lists specific treatments that have demonstrated enough evidence based. These studies, however, tend to be conducted with White clients, and not many studies include differences ethnic groups (NREPP, 2009). Only including minority individuals in research studies or having a small sample size of minorities will not provide enough information
regarding the effectiveness of psychotherapeutic interventions with minority populations (Beutler, Brown, Crothers, Booker, & Seabrook, 1996; Miranda, 1996; Nagayama Hall, 2001).

Very few studies have looked at differences between members of different ethnic groups for example, Pina, Silverman, Fuentes, Kurtines & Weems (2003) compared CBT among Latino and White youths aged 6–16 years with phobic and anxiety disorders. Pina et al. (2008) concluded that the treatment produced generally similar outcomes for both groups. A few shortcomings of this study limit its generalizability, however: Almost half of the Latino youth were Cuban Americans, and results obtained in this group may not generalize to other Latino cultures. (e.g., Mexican-Americans). Second, the treatment sessions were delivered largely in English, which may also affect factors salient to treatment, such as the youths’ comprehension of the treatment, the involvement of their parents, and their willingness to continue treatment. The authors suggested that is important in future research to systematically assess the degree to which therapists and/or clients may have used Spanish in sessions and to evaluate its potential influence on treatment effects and maintenance (Pina, et al., 2003). Many studies present similar limitations (Ayon & Mercenko, 2008; Rivera, Guarnaccia, Mulvaney-Day, Lin, Torres, 2008).

Several confounding factors have been hypothesized to influence the effectiveness of psychotherapeutic interventions with ethnic minorities, including socioeconomic status, immigration history, minority (or social) status, level of education, access to health care, and degree of assimilation with the White majority culture (Alvidrez, Azocar, & Miranda, 1996; D.W. Sue & Sue, 2003).

None of these constructs operate independently of one another, making the task of identifying variables that affect treatment outcomes extremely complicated (Alvidrez et al., 1996). The list of NREPP (NREPP, 2009) provides no indication of differential effectiveness of
treatments for minorities versus White Americans, and this suggests that these treatments should generalize to all individuals despite racial, ethnic, or cultural differences.

These are some reasons EBTs may not cross cultures from Whites to Latinos. One of the most relevant cultural constructs in the Latino literature is *Familismo* (family cohesiveness or involvement), which is defined as cultural value that involves an individual’s strong attachment to their nuclear and extended families; feelings of loyalty, reciprocity and solidarity among family members; and a tendency to devalue potential supports that fall outside the family (Marin & Marin, 1991; Rivera, Guarnaccia, Mulvaney-Day, Lin, Torres, 2008). Within Latino families, cohesion has been identified as a protective factor against external stressors (Hovey & King, 1996; Salgado de Snyder, 1987; Sabogal, Marin, & Otero-Sabogal, 1987). However, more recently it has been suggested that family cohesiveness may lose its protective factor with second generation children as they experience conflict with their parents due to acculturation differences (Portes & Rumbaut, 1996; Rivera et al., 2008). Children usually acculturate quicker than their parents (Jurkovic et al., 2004). These cultural conflicts might increase tension, exacerbate psychological distress, and affect the possible beneficial effects of family cohesion. Cultural conflicts may challenge traditional EBTs as they increase family stress (Szapocznik, Scopetta, Kurtines, & Aranalde, 1978) and children and parents may view the same traumatic event from different viewpoints. In addition, Dominican and Mexican families typically experience parental migration, during which parents are separated from their children for long periods of time; this often creates tension when the family reunites (Hernandez & Rivera-Batiz, 2003).

Huey and Polo (2008) suggests that evidenced-based CBT for trauma has strong enough evidence-based to be considered appropriate for Latino children. Others have argued that CBT for Trauma may not easily translate from Whites to Latinos because of the broad range of
specific traumatic events that occur more often within a particular ethnic group depending on the family's background (De Arellano & Danielson, 2008). For example, immigration-related crime (e.g., human trafficking among Mexican and Central American immigrant women; Farley, 2003); political trauma (e.g., political violence among families from Columbia), or natural disasters (e.g., hurricanes and mudslides in Puerto Rico and other Latin American countries in the Caribbean) are comparatively rare among Whites. In addition, children and adults from an ethnic minority background also report stress and traumatic events due to discrimination and racism (Kessler, Mickelson, & Williams, 1999). The effects of discrimination and racism have been well documented, including poorer medical and mental health outcomes (Krieger & Sidney, 1996; Krieger, Sidney, & Coakley, 1999; Ren, Amick, & Williams, 1999; Williams, Yu, Jackson, & Anderson, 1997).

At a time when the use of best practice or evidence based programs is being strongly encouraged, the paucity of research on the effectiveness of treatments for Latino children generally, and subgroups of Latinos specifically leaves key questions about the importance of cultural modifications in enhancing evidence based treatment efficacy largely unanswered. As treatments progress from clinical research to community practice settings, researchers have called for greater attention to understanding the effective range of treatments and the possible moderating effects of demographic characteristics such as race and ethnicity on treatment outcomes (Kazdin & Weisz, 2003). Although a growing body of evidence suggests that CBT is effective for children and adolescent with symptoms of post traumatic stress disorder, few studies have examined whether treatment outcomes vary by Latino origin.

This paper is a secondary analysis of data from the Child and Adolescent Trauma Treatments and Services Consortium (CATS), a consortium of nine social service agencies
formed in the wake of September 11th terrorist attacks in New York City (9/11) that evaluated the impact of evidence-based CBT for traumatized children and adolescents, including a large Latino population. This analysis assessed mental health treatment outcomes among low-income Latino subgroups, and included data on factors that may be associated with treatment outcomes among Latino subgroups, including family involvement, single parent household, and treatment retention (show rates). Specific research questions are: (1) Are there differences in trauma treatment outcome among U.S. Latino subethnic groups (Dominicans, Puerto Ricans, and Mexicans) (2) Are differences in Latino subethnic groups associated with (a) family cohesiveness (b) family Composition (whether it is a two or single parent household or other) or (c) treatment retention (show rates).

**Methods**

This secondary data analysis was completed using data from CATS, a multi-site study that evaluated the impact of evidence-based CBT for traumatized children and adolescents following the September 11th terrorist attacks in New York City (9/11).

**Study Design**

CATS included youth with clinically significant trauma and those with sub-clinical trauma (see below). Youth with significant PTSD symptoms (N = 445) were treated with a developmentally-appropriate, evidence-based CBT for trauma; youth with sub-clinical trauma received Project Liberty’s enhanced services (PL-ES) (n=112) or treatment as usual (TAU) (N = 32). (Hoagwood et al., 2007). In this study assessing differences between Latino subgroups in response to evidence-based CBTs, we included only outcomes of Latino youth treated with the evidence-based CBT (N=198).

**Participants**
Mental health treatment agencies in New York City were selected to participate in CATS through a competitive grant process that solicited applications from licensed clinics and medical-academic centers. Nine agencies were selected; all provided a range of trauma-related services to affected youth and families. These included standardized assessments, individual psychotherapy, case management, referral, medication consultation and family support (Hoagwood et al., 2007). The sites provided services in a variety of settings, including outpatient, school-based, and community-based mental health clinics. Agency staff received training and booster training sessions from the New York State Office of Mental Health on CBTs for trauma. Bi-weekly clinical consultation calls were conducted by the CBT manual developers for the supervisors and clinicians at each site. These calls focused on fidelity to the treatment models and trouble-shooting the research versus practice challenges (Hoagwood et al., 2007).

Latino children in this paper were of Dominican (n=79, 39.9%), Puerto Rican (n=72, 36.4%) and Mexican (n=47, 23.7%) descent. Youth ranged from 9 to 11 years old, with an average age of 11.0 years (SD = 3.02).

Following referral to any CATS site, participants were brought in for consent, intake and assessment. All youth were treated in accordance with ethical standards of research and participated with the active parental consent and youth assent. Parents were informed of the project and consented for assessment to determine eligibility for CATS. Consent and assent forms and procedures were approved by the New York State Office of Mental Health Institutional Review Board as well as the institutional review boards of each of the nine sites.

**Procedures**

Youth were recruited to two groups: the intervention group (which received CBT) or the comparison group (which received TAU or PL-ES). To be included in the intervention group,
youth were required to demonstrate significant symptoms of PTSD as measured by a UCLA PTSD Reaction Index (PTSD-RI; Steinberg, Brymer, Decker, & Pynoos, 2004) score greater than 24. Children and youth who scored between 17 and 24 on the PTSD-RI were considered to have subclinical symptoms and were assigned to the non-equivalent comparison group. PTSD symptoms could have be referenced either to the 9/11 disaster or another identified trauma such as community violence, domestic violence, or sexual abuse.

All of the Latino youth in this sample were part of the intervention group who received one of two developmentally-appropriate evidence-based treatments: Youth 5-12 years old received Trauma Focused –Cognitive Behavioral Treatment (TF-CBT), which was developed and tested primarily with preschool and school-aged children (Cohen, Mannarino, & Deblinger, 2002), and youth 13-21 years old received Trauma/Grief Focused Group Psychotherapy (TGGP) that was developed for adolescents (Layne, Saltzman, & Pynoos, 2002). TF-CBT and TGGP have many shared components, including psycho-education, affect regulation, relaxation, cognitive restructuring, gradual exposure techniques, and homework assignments. Both manualized treatments outline a 16-20 week course of treatment. Both treatments are based on ‘trauma narrative’ or gradual exposure, a process whereby youth are guided through their trauma experience to create a type of narrative or visual representation along with associated thoughts and feelings. Gradual exposure helps children process their experiences and become desensitized to them, with the goal of reducing distress, functional impairments, and cognitive distortions (Layne, Saltzman, & Pynoos, 2002).

The main purpose of the CATS project was to provide evidence-based trauma treatment and evaluate for treatments outcomes for children and adolescents exposed to traumatic events with high levels of traumatic stress symptoms.
All youth were assessed using measures below at baseline (T1) and 3 months (T2), 6 months (T3) and 12 months (T4) after baseline. Due to high attrition at T4 that would preclude subgroup analyses, this paper uses data from T1 through T3.

**Measures**

**Demographics.** At intake, parents were asked to complete a demographic survey that included questions regarding family structure (Two or Single parent household or other), race/ethnicity of parents and children, and socioeconomic status (household income, education, occupation). Eight race/ethnicity categories were created, including White, African American, Latino, Asian, Pacific Islander, Middle Eastern, Native American and mixed race. Latino and Asian categories were subcategorized by nations of origin (e.g. Mexico, Puerto Rico, China, Korea). For this analysis, only the subcategories or subethnic groups of Mexico, Puerto Rico, and Dominican Republic were used.

**Posttraumatic Stress Disorder.** The UCLA PTSD Reaction Index (PTSD-RI) for DSM-IV (Steinberg et al., 1998) is a widely-used self-report measure of PTSD for youth ages 7-19 that conforms to DSM-IV criteria for PTSD. There are equivalent versions for children (ages 7-12) and adolescents (ages 13-19). The PTSD-RI has 49 items for the adolescent version and 47 items for the child version. It includes a trauma events inventory (14 items); items to assess the level of threat or danger of the traumatic event (A1 Criterion; 7 items) and the youth’s subjective evaluation of the event (A2 Criterion; 5 items); and a frequency rating scale of DSM-IV PTSD symptoms for re-experiencing (Criterion B; 5 items), avoidance (Criterion C; 8 items) and hyper-arousal (Criterion D; 6 items). For symptom items, participants were asked whether they experienced specific problems related to the traumatic event scored on a five-point scale from 1 (None) to 5 (Most of the time). The adolescent version has two additional items; one
addresses foreshortened future in the avoidance subscale and one for irritability/anger as part of the hyper-arousal subscale, which are part of the total PTSD-RI scores that were included in the analysis. In the present study, Cronbach’s alpha for the items that make up the overall severity score were .83 for the adolescent version and .74 for the child version.

**Family Cohesiveness.** Family cohesiveness was measured by the Family Involvement subscale of the Behavioral Emotional Rating Scale (BERS), which is a 52-item scale completed by the parents or caregivers. The BERS is a strength-based assessment consisting of 5 subscales. These subscales are: the Interpersonal Strengths subscale (ability to control his/her emotions or behaviors in social situations); Intrapersonal Strengths subscale (measures the child’s outlooks on his or her competence or accomplishments); Family Involvement subscale (measures child’s participation in and relationship with his/her family); School Functioning subscale (focuses on child’s competence in school and classroom tasks) and Affective Strengths subscale (assess child’s ability to accept affection from others and express feelings towards others). Each item is measured in a 4-point scale ranging from 0= not at all like the child to 3=very much like the child. All of subscales were included in this analysis. In addition, this measure addresses constructs that are roughly similar to constructs hypothesized to be important predictors of Latino treatment outcomes; for example, the Family Involvement subscale is similar to *Familismo* because it assess the child’s sense of belonging to the family and family relationship. Example items of the Family Involvement subscale are: The child demonstrates a sense of belonging to the family; the child trusts a significant person with his life; and the child maintains family relationships.

**Show Rates.** Show rates were tracked via contact logs kept by clinical staff as a running record of the contacts made with or on behalf of participants. Clinicians and staff involved in
intake and assessment at each of the sites were instructed to all treatment contacts (e.g. sessions, collateral contacts, and parent contacts) during the course of treatment, with instructions for documenting treatment visits that were scheduled but not kept ("no shows"), distinguishing between missed and cancelled appointments. Treatment show rates were calculated as the ratio of treatment sessions to total number of treatment appointments.

Data Analysis

To examine Latino subethnic group differences, we first used a mixed effect model with random effects to assess the effect of Latino subethnic group and covariates on the outcomes of interest: PTSD-RI outcome score collected at Time 2 and Time 3 (3 and 6 months). A mixed effects model was deemed the best approach for modeling the longitudinal outcome variable PTSD-RI while estimating random effects due to site and it accommodates missing data, provided they are missing at random (Little & Rubin, 1997). Further, a mixed effects model is appropriate to account for overdispersion in the outcome variables with a negative binomial distribution, like the PTSD-RI, which was used with a log link function to model the data. Baseline PTSD-RI score, assessment time (Time 2 and Time 3), child’s gender, child’s age, show rate and the number of parents/guardians in household (Two, single or other) were included in the model as a covariates. In order to assess the differences in response of Latino subethnic group over time, an interaction term between the Latino subethnic groups and assessment time was included into the model.

Next, since Dominican children had significantly better PTSD-RI outcome scores to their Puerto Rican and Mexican counterparts, we assessed the differences between the Dominican youth and other Latino ethnic groups. A logistic regression was performed to determine what factors significantly differ Dominican youth compared to other youth. A dichotomous outcome
variable denoting if the child is Dominican was modeled using covariates: baseline PTSD-RI score, child’s gender, child’s age, number and type of parents/guardians in household, number of sessions, and the 5 standardized BERS subscale scores (interpersonal strength, intrapersonal strength, family involvement, school functioning, affective strength). All statistical analyses were conducted using the GLIMMIX procedure in SAS 9.1 software for Windows.

**Results**

Table 1 displays demographic information for the sample. On average, youth were 11.00 year old (standard deviation [SD] = 3.02). Mexican youth were significantly younger than Dominicans and Puerto Ricans ($F(2, 195) = 7.28, p = <0.01$). Dominican youth were more likely to live with in a single parent household than the other groups ($\chi^2 = 28.1, p < .01$).

Table 2 displays the outcome variable (PTSD-RI) and BERS subscale and total scores. There were no differences in PTSD-RI scores at Time 1 (Baseline) or Time 2. At Time 3 (6 months), Puerto Ricans (M=24.6, SD=15.04) were more likely to have higher scores than Mexicans (M=20.6, SD=10.55) and Dominicans (M=16.5, SD=9.56) ($F(2, 109) = 4.66, p = <0.01$). Dominican youth demonstrated significantly more change in PTSD-RI scores (Time 1-Time 3), showing an 18.1x-point reduction compared to Puerto Rican (10.4x) or Mexican youth (13.1x) ($F(2, 109) = 3.93, p < 0.05$).

There were differences in the BERS total scores at Time 1 (Baseline) Mexicans had higher scores (M=78.38, SD=15.31) than Dominicans (M=69.17, SD=13.24) and Puerto Ricans (M=69.17, SD=13.24). There were no differences at Time 2 or Time 3. There was no significant change in the BERS total scores from Time 1 to Time 3. In the BERS subscales a significant differences was found in the BERS Family Involvement subscale at Time 1 (baseline) between groups ($F(2,183)=5.37, p=<0.01$) with higher scores for Mexicans (M=16.1, SD=2.91), than
Dominicans (M=14.5, SD=3.22) and Puerto Ricans (M=14.4, SD=2.88) there were no
differences at Time 2 or Time 3 nor were any significant change in Family Involvement from
Time 1 to Time 3. There was also a significant difference \( F(2,183)=3.25, p=<0.04 \) in the
BERS Interpersonal Strength with Mexicans presenting a higher score (15.2x) than Dominicans
(14.4x) and Puerto Ricans (13.5x). In the BERS School Functioning subscale there were
differences at Time 1 \( F(2,183)=8.02, p=<0.01 \) at Time 2 \( F(2,142)=7.07, p=<0.01 \) and Time 3
\( F(2,100)=5.96, p=<0.01 \) with Mexicans presenting higher school functioning scores each time
(Time1=15.0x, Time 2= 15.4x, Time 3=15.7) than Puerto Ricans (Time1=12.5x, Time 2= 13.0x,
Time 3=13.5) and Dominicans (Time1=13.6x, Time 2= 14.4x, Time 3=13.6) (see Table 2).
However, there was no significant change from Time 1 to Time 3.

The Mexican group also had a significantly higher \( F(2,168)=5.47, p=<0.01 \) show rate
(M =.84, SD=.16) than Dominicans (M=.70, SD=.18) and Puerto Rican (M=.75, SD= 1.88).

Table 3 displays the mixed effect model to assess the association between Latino
subethnic groups and PTSD-RI outcomes after controlling for baseline PTSD-RI score,
assessment time (Time 1, Time 2, Time 3), child’s gender, child’s age, show rate, and the
number of parents in household, and with site treated as a random effect. Baseline PTSD-RI
score, assessment time, show rate and the Latino subethnic group were found to be significant
predictors of the PTSD-RI outcomes at Time 2 (3 months) and Time 3 (6 months). The
interaction between assessment time and Latino subethnic group demonstrated a trend toward
significance \( F=2.29, p = .10 \), suggesting that there may be differences between Latino
subethnic groups in their response to the treatment over time (See Figure 2). The interaction was
kept in the model to account for the differences in Latino subethnic groups responses to
treatment over time. Baseline PTSD-RI scores are significant predictors of Time2 (3 months)
and Time 3 (6 months) PTSD-RI; each one point increase in baseline PTSD-RI score is associated with a 1.52% \( (F = 15.43, p < 0.01) \) higher PTSD-RI score at 6 compared to 3 months. Similarly, the show rate was a significant predictor of Time 2 (3 months) and Time 3 (6 months) PTSD-RI. Figure 1, which graphically displays the effects of Latino subgroup on PTSD-RI scores over time, demonstrates observed baseline scores and model-predicted scores at 3 and 6 months.

PTSD-RI scores for Dominicans were significantly lower \( (p=<0.01) \) at 6 months (PTSD-RI predicted = 16.27) than at 3 months (PTSD-RI predicted = 23.44). At 3 months, there were no significant differences found between Dominicans, Puerto Ricans and Mexicans. At 6 months, the Dominicans had significantly lower PTSD-RI scores than Puerto Ricans \( (p=0.01) \) and a trend toward significance for lower PTSD-RI scores than Mexicans \( (p=<0.06) \).

Since we found that Dominican youth differ from both Puerto Rican and Mexican youth in their PTSD-RI outcome scores, we conducted a logistic regression to determine what factors may predict this outcome. The results of the logistic regression are displayed in Table 3. The variables number of parents in household, BERS family involvement and show rate were found to significantly differ for Dominican youth relative to their Puerto Rican and Mexican peers. Despite better outcomes, Dominican youth were 5.1% less likely to attend each additional session compared to non-Dominicans (Adjusted Odds Ratio [AOR] = .949, \( p=0.45 \)). Dominicans also indicated a trend toward significance in demonstrating lower family involvement than non-Dominicans (AOR = 0.84, \( p < .10 \)).

**Discussion**

This research found differences in treatment outcome by subethnic group on the PTSD symptoms following CBT. Results suggest that children of Dominican descent appear to respond
better to the evidence-based CBT intervention for trauma compared to Puerto Rican and Mexican counterparts. This confirms that Latinos are a heterogeneous group (Ayon & Marcenko, 2008; Zambrana & Dorrington, 1998) and the differences within subethnic groups may influence treatment outcome.

In this sample factors that may contribute to this differential response include that Dominican youth are more likely than Puerto Rican and Mexican youth to live in a single-parent household, they demonstrated decreased family involvement at baseline and lower number of sessions compared to non-Dominicans. This finding was surprising since Dominicans had fewer sessions and less family involvement at the beginning of treatment but better outcomes.

BERS family involvement scores at baseline (Time 1) were lower for Dominicans than non-Dominicans, which is not consistent with other epidemiological research that has found that Dominicans usually live in extended family formations, mostly due to their low SES in the U.S. (Hernandez & Rivera-Batiz, 2003) suggesting there would be more family involvement. However, in our sample Dominican youth were more likely to live in a single-parent household, possibly resulting in reduced family involvement since one parent has to meet all their needs.

Results suggest that Mexican youth were about at the average in terms of PTSD-RI change scores, had a higher show rate, were more likely to have both parents in the home. According to the BERS Mexicans came into treatment with higher behavioral and emotional strengths when compared to the Dominican and Puerto Rican youth counterparts. The scores also suggested a trend towards higher school functioning although not a significant change from baseline to six months from the Dominican or Puerto Rican youth. Regarding school functioning other researchers have suggested is essential to assess trauma sequelae relevant to the school functioning (De Arellano & Danielson, 2008). Research has demonstrated that youth who exhibit
attentional and disruptive behavioral problems (symptoms associated with PTSD) in school are at great risk for school dropout (Rosenthal, 1998; Rumberger, 1995). Ethnic minority children, particularly those with language barriers, are frequently at a disadvantage in the U.S school where language based lecture format is the teaching methods. These children with a history of trauma exposure may be at a bigger disadvantage.

Puerto Rican youth fared less well on the PTSD-RI outcome scores. According to the BERS Puerto Ricans came into treatment with significantly lower behavioral and emotional strength in comparison to the Dominicans and Mexican youth. Puerto Ricans youth scores suggest significantly lowered interpersonal strength at baseline although interpersonal strength appeared to improve as treatment continued as there was no difference at 6 months or significant changes between groups from baseline to six months. Their scores also suggested a trend towards lowered school functioning although there were no significant changes from the Dominican or Mexican youth from baseline to six months.

Findings suggest that in order to meet the needs of Latino children and their families we must consider cultural issues in treatment by adapting evidence-based practices. Treatment approaches can be tailored to more effectively meet the needs of Latino children and families while remaining true to the treatment model (De Arellano & Danielson, 2008; Bernal & Scharrón-del-Río, 2001). Several cultural specific constructs have been identified and suggested to be integrated throughout treatment these include familismo (Family Cohesion/collectivistic vs. individualistic), which have suggested that when working with trauma and doing an intital assessment information from other extended family members involved in the child’s care should be included in addition to their perspective of the traumatic event (De Arellano & Danielson, 2008). In our sample, we only had the report of one of the parents.
Personalismo (views of interpersonal) relationships which is the preference to a relationship with an individual clinician rather than with the agency as a whole, respeto and simpatia (views of appropriate interpersonal communication) suggest to communicate with respect but at the same time being pleasant. Spirituality/religion has been suggested to assess the meaning of the trauma from the families spiritual perspective and assess if they have received alternative or complementary medicine (e.g., folk healers; curanderos; spiritistas) (De Arellano & Danielson, 2008; González & Acevedo, 2006). Traditional gender roles (e.g., Marianismo, Machismo) in many occasions because of migration situation Latino groups in the U.S. often need to assume unaccustomed roles such as women working to support the family, which can threaten the traditional hierarchical structure of power within the Latino family (Rivera et al., 2008). Language (De Arrellano, 2008; González & Acevedo, 2006). Some research has found that in bilingual children their repertoire in the way they describe and express emotions may be more developed in one language over another and they have a better recollection of memories when assessed in the language in which the memory is encoded (Javier, Baroso, & Munoz, 1993; Javier & Marcos, 1989). This major implications particularly when working with a trauma narrative or gradual exposure, which helps children process their experiences and become desensitized to them, with the goal of reducing distress, functional impairments, and cognitive distortions (Layne, Saltzman, & Pynoos, 2002).

These findings should be interpreted cautiously in light of several limitations. We could not assess several variables likely to affect youth’s responses to treatment, including immigration status, language in which services were delivered and levels of acculturation. Families who are legal immigrants, who are fluent in English, and who are well-acculturated may be more likely to respond to EBTs that are validated with White samples (Miranda & Bernal 2005). In this study
we found differences between three Latino subethnic groups; however, future studies should address systematic differences between a wide range of Latino populations. Further, we were unable to address within-country differences; for example, the experiences of Dominican families that are in the U.S. may differ by the region of Santo Domingo from which they originated, the nature of their immigration (e.g., during political strife), and their ability to move flexibly between countries. Finally, it should be noted that Dominican youth may have received additional services compared to other children due to Dominican-targeted community interventions following the crash of a New York airplane headed to Santo Domingo.

Researchers should be encouraged to identify the country of origin for Latino youth in treatment outcome studies and to recognize that Latinos are not a homogenous group. Future studies should assess specific factors related to family immigration status, language and acculturation to determine the effect of these factors on youth services. Additional attention should focus on how to best translate cultural differences into culturally-competent interventions that take unique family situations into account, and how to increase sensitivity of the workforce to these cultural issues. Another potential limitation is that during the study period there was another tragedy that happened in New York City where an airplane crash on its way to Santo Domingo. This incident could potentially have changed the nature of variables within Latino subtypes, these children may have received additional community resources, which may have affected Dominicans outcome more than other Latino subgroups.

Conclusions

These findings indicate that Latino children receiving mental health treatment are a heterogeneous group, and suggest that evidence based treatments may not be equally effective for all Latino children. Mental health interventions developed and delivered with minimal
consideration to Latino families’ unique histories may be at risk of missing essential needs and compromising the effectiveness of the services. There is a need for research in EBT effectiveness and outcome studies, and a need for current studies to assess not just race, but ethnicity within Latino populations in order to determine those salient characteristics that are important in the specific ethnic Latino population and have an effect on their ability to benefit from an evidence based treatment.
Table 1. Sample gender and family composition.

<table>
<thead>
<tr>
<th></th>
<th>Dominican N</th>
<th>Puerto Ricans N</th>
<th>Mexicans N</th>
<th>Total n</th>
<th>Chi-Sq p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>37</td>
<td>40</td>
<td>25</td>
<td>102</td>
<td>1.22, 0.544</td>
</tr>
<tr>
<td>Male</td>
<td>42</td>
<td>32</td>
<td>22</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td><strong>Parents in household</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both Parents</td>
<td>19</td>
<td>20</td>
<td>32</td>
<td>71</td>
<td>28.1, &lt;0.001***</td>
</tr>
<tr>
<td>Single Parent</td>
<td>50</td>
<td>41</td>
<td>14</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
<td>10</td>
<td>1</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>79</td>
<td>72</td>
<td>47</td>
<td>198</td>
<td></td>
</tr>
<tr>
<td>M (SD)</td>
<td>11.6 (3.11)</td>
<td>11.3 (3.13)</td>
<td>9.6 (2.19)</td>
<td></td>
<td>7.28 (2,195) 0.0009*</td>
</tr>
</tbody>
</table>

Note: *** p < .001
Table 2. UCLA PTSD Reaction Index (PTSD-RI) and Behavioral Emotional Rating Scale BERS among Dominicans, Puerto Ricans and Mexicans living in the U.S.

<table>
<thead>
<tr>
<th></th>
<th>Dominicans</th>
<th></th>
<th>Puerto Ricans</th>
<th></th>
<th>Mexicans</th>
<th></th>
<th>F (df)</th>
<th>pvalue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M (SD)</td>
<td>n</td>
<td>M (SD)</td>
<td>n</td>
<td>M (SD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTSD-RI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time 1</td>
<td>79</td>
<td>35.6 (9.43)</td>
<td>72</td>
<td>36.4 (8.36)</td>
<td>47</td>
<td>35.04 (9.81)</td>
<td>0.34 (2,195)</td>
<td>0.713</td>
</tr>
<tr>
<td>Time 2 (3 mo.)</td>
<td>56</td>
<td>22.4 (9.90)</td>
<td>56</td>
<td>25.4 (14.38)</td>
<td>40</td>
<td>22.7 (12.08)</td>
<td>1.01 (2,149)</td>
<td>0.368</td>
</tr>
<tr>
<td>Time 3 (6 mo.)</td>
<td>42</td>
<td>16.5 (9.56)</td>
<td>39</td>
<td>24.6 (15.04)</td>
<td>31</td>
<td>20.6 (10.55)</td>
<td>4.66 (2,109)</td>
<td>0.011*</td>
</tr>
<tr>
<td>Change (T1-T3)</td>
<td>42</td>
<td>-18.1 (11.35)</td>
<td>39</td>
<td>-10.4 (14.79)</td>
<td>31</td>
<td>-13.1 (10.99)</td>
<td>3.93 (2,109)</td>
<td>0.023*</td>
</tr>
<tr>
<td>BERS Family Involvement Subscale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time 1</td>
<td>71</td>
<td>14.5 (3.22)</td>
<td>69</td>
<td>14.4 (2.88)</td>
<td>46</td>
<td>16.1 (2.91)</td>
<td>5.37 (2,183)</td>
<td>0.005*</td>
</tr>
<tr>
<td>Time 2 (3 mo.)</td>
<td>55</td>
<td>15.0 (2.87)</td>
<td>51</td>
<td>14.8 (2.53)</td>
<td>39</td>
<td>15.8 (2.92)</td>
<td>1.56 (2,142)</td>
<td>0.214</td>
</tr>
<tr>
<td>Time 3 (6 mo.)</td>
<td>38</td>
<td>14.6 (3.24)</td>
<td>34</td>
<td>15.2 (3.03)</td>
<td>31</td>
<td>15.7 (2.57)</td>
<td>1.12 (2,100)</td>
<td>0.329</td>
</tr>
<tr>
<td>Change (T1-T3)</td>
<td>36</td>
<td>0.56 (3.05)</td>
<td>32</td>
<td>0.44 (3.07)</td>
<td>30</td>
<td>-0.13 (3.62)</td>
<td>0.41 (2,95)</td>
<td>0.665</td>
</tr>
<tr>
<td>BERS Interpersonal Strength Subscale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time 1</td>
<td>71</td>
<td>14.4 (3.63)</td>
<td>69</td>
<td>13.5 (3.04)</td>
<td>46</td>
<td>15.2 (3.67)</td>
<td>3.25 (2,183)</td>
<td>0.041*</td>
</tr>
<tr>
<td>Time 2 (3 mo.)</td>
<td>55</td>
<td>15.1 (3.40)</td>
<td>51</td>
<td>14.3 (2.71)</td>
<td>39</td>
<td>15.7 (3.64)</td>
<td>2.11 (2,142)</td>
<td>0.125</td>
</tr>
<tr>
<td>Time 3 (6 mo.)</td>
<td>38</td>
<td>14.6 (3.64)</td>
<td>34</td>
<td>14.6 (2.51)</td>
<td>31</td>
<td>14.9 (3.10)</td>
<td>0.10 (2,100)</td>
<td>0.907</td>
</tr>
<tr>
<td>Change (T1-T3)</td>
<td>36</td>
<td>0.97 (3.71)</td>
<td>32</td>
<td>1.03 (3.50)</td>
<td>30</td>
<td>0.17 (3.26)</td>
<td>0.59 (2,95)</td>
<td>0.556</td>
</tr>
<tr>
<td>BERS-Intrapersonal Strength Subscale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time 1</td>
<td>71</td>
<td>15.5 (3.64)</td>
<td>69</td>
<td>14.8 (3.37)</td>
<td>46</td>
<td>16.3 (3.14)</td>
<td>2.68 (2,183)</td>
<td>0.071</td>
</tr>
<tr>
<td>Time 2 (3 mo.)</td>
<td>55</td>
<td>15.8 (3.21)</td>
<td>51</td>
<td>15.3 (3.55)</td>
<td>39</td>
<td>16.1 (3.60)</td>
<td>0.66 (2,142)</td>
<td>0.517</td>
</tr>
<tr>
<td>Time 3 (6 mo.)</td>
<td>38</td>
<td>15.6 (3.41)</td>
<td>34</td>
<td>15.8 (3.89)</td>
<td>31</td>
<td>15.9 (3.48)</td>
<td>0.11 (2,100)</td>
<td>0.900</td>
</tr>
<tr>
<td>Change (T1-T3)</td>
<td>36</td>
<td>0.53 (3.62)</td>
<td>32</td>
<td>0.78 (3.35)</td>
<td>30</td>
<td>-0.13 (3.39)</td>
<td>0.57 (2,95)</td>
<td>0.565</td>
</tr>
<tr>
<td>BERS-School Functioning Subscale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time 1</td>
<td>71</td>
<td>13.6 (3.49)</td>
<td>69</td>
<td>12.5 (3.37)</td>
<td>46</td>
<td>15.0 (3.18)</td>
<td>8.02 (2,183)*</td>
<td>0.0005</td>
</tr>
<tr>
<td>Time 2 (3 mo.)</td>
<td>55</td>
<td>14.4</td>
<td>51</td>
<td>13.0</td>
<td>39</td>
<td>15.4</td>
<td>7.07 (2,142)*</td>
<td></td>
</tr>
</tbody>
</table>
### Latino Subgroup Differences

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time 3 (6 mo.)</td>
<td>38</td>
<td>13.6 (3.46)</td>
<td>34</td>
<td>13.5 (2.55)</td>
<td>31</td>
</tr>
<tr>
<td>Change (T1-T3)</td>
<td>36</td>
<td>0.69 (2.52)</td>
<td>32</td>
<td>1.22 (3.42)</td>
<td>30</td>
</tr>
</tbody>
</table>

**BERS- Affective Strength Subscale**

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time 1</td>
<td>71</td>
<td>14.9 (3.79)</td>
<td>69</td>
<td>13.9 (3.24)</td>
<td>46</td>
</tr>
<tr>
<td>Time 2 (3mo.)</td>
<td>55</td>
<td>15.1 (3.34)</td>
<td>51</td>
<td>14.9 (3.13)</td>
<td>39</td>
</tr>
<tr>
<td>Time 3 (6mo.)</td>
<td>38</td>
<td>14.7 (3.81)</td>
<td>34</td>
<td>15.4 (3.75)</td>
<td>31</td>
</tr>
<tr>
<td>Change (T1-T3)</td>
<td>36</td>
<td>0.06 (4.08)</td>
<td>32</td>
<td>1.03 (3.18)</td>
<td>30</td>
</tr>
</tbody>
</table>

**BERS Total Scores**

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time 1</td>
<td>71</td>
<td>72.89 (15.31)</td>
<td>69</td>
<td>69.17 (13.24)</td>
<td>46</td>
</tr>
<tr>
<td>Time 2 (3 mo.)</td>
<td>55</td>
<td>75.38 (13.16)</td>
<td>51</td>
<td>72.22 (12.22)</td>
<td>39</td>
</tr>
<tr>
<td>Time 3 (6 mo.)</td>
<td>38</td>
<td>73.11 (15.60)</td>
<td>34</td>
<td>74.59 (13.81)</td>
<td>31</td>
</tr>
<tr>
<td>Change (T1-T3)</td>
<td>36</td>
<td>2.81 (13.95)</td>
<td>32</td>
<td>4.50 (13.12)</td>
<td>30</td>
</tr>
</tbody>
</table>
Table 3: Mixed Effects Results

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD Baseline</td>
<td>15.43</td>
<td>0.0001</td>
</tr>
<tr>
<td>Age</td>
<td>2.05</td>
<td>0.1532</td>
</tr>
<tr>
<td>Female</td>
<td>0.06</td>
<td>0.8137</td>
</tr>
<tr>
<td>Number of Sessions</td>
<td>6.76</td>
<td>0.0099</td>
</tr>
<tr>
<td>Child lives with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both Parents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>1.19</td>
<td>0.3052</td>
</tr>
<tr>
<td>Single Parent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time Point</td>
<td>7.39</td>
<td>0.0071</td>
</tr>
<tr>
<td>Latino Label</td>
<td>4.64</td>
<td>0.0105</td>
</tr>
<tr>
<td>Latino Label*Time Point</td>
<td>2.29</td>
<td>0.1030</td>
</tr>
</tbody>
</table>

*p-value<0.05
**Table 4: Logistic Regression Results**

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>AOR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD Baseline</td>
<td>0.975</td>
<td>0.940, 1.012</td>
</tr>
<tr>
<td>Age</td>
<td>1.081</td>
<td>0.958, 1.219</td>
</tr>
<tr>
<td>Female</td>
<td>0.712</td>
<td>0.357, 1.423</td>
</tr>
<tr>
<td>Number of Sessions</td>
<td>0.949**</td>
<td>0.901, 0.997</td>
</tr>
<tr>
<td>Child lives with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both Parents</td>
<td>0.399**</td>
<td>0.190, 0.837</td>
</tr>
<tr>
<td>Other</td>
<td>1.004</td>
<td>0.381, 2.642</td>
</tr>
<tr>
<td>BERS: Interpersonal</td>
<td>1.042</td>
<td>0.891, 1.219</td>
</tr>
<tr>
<td>BERS: Family Involvement</td>
<td>0.836*</td>
<td>0.697, 1.003</td>
</tr>
<tr>
<td>BERS: Intrapersonal</td>
<td>1.071</td>
<td>0.903, 1.270</td>
</tr>
<tr>
<td>BERS: School Functioning</td>
<td>1.047</td>
<td>0.922, 1.190</td>
</tr>
<tr>
<td>BERS: Affective Strength</td>
<td>1.041</td>
<td>0.886, 1.224</td>
</tr>
</tbody>
</table>

*p-value<0.10  
**p-value<0.05
Figure 1:

Estimated 3 and 6 months PTSD RI

<table>
<thead>
<tr>
<th></th>
<th>Baseline (obs)</th>
<th>3 months (pred)</th>
<th>6 months (pred)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominicans</td>
<td>35.6</td>
<td>23.44</td>
<td>16.27</td>
</tr>
<tr>
<td>Puerto Ricans</td>
<td>36.4</td>
<td>25.41</td>
<td>23.85</td>
</tr>
<tr>
<td>Mexicans</td>
<td>35.04</td>
<td>23.48</td>
<td>21.17</td>
</tr>
</tbody>
</table>
**References**


Latino Subgroup Differences

Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health.

