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Relationships between parent and adolescent/young adult mental health among Hispanic and non-Hispanic childhood cancer survivors

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Abstract

Purpose: To examine associations between parents and adolescent and young adult (AYA) childhood cancer survivors' (CCS) mental health, and differences by Hispanic ethnicity.

Sample: Participants were 129 CCS ($M_{age} = 19.5$ yrs.; 49.9% female) and their parents ($M_{age} = 49.0$ yrs.; 87.6% female); 52.7% identified as Hispanic.

Methods: CCS completed assessments of Depressive Symptoms (CES-D), Posttraumatic Growth (PTG) and Pediatric Quality of Life (PedsQL), while parents completed CES-D, Perceived Stress (PSS) and Posttraumatic Stress Disorder (PTSD) measures.

Results: After controlling for covariates, all three negative parental mental health measures (Parent CES-D, PSS, and PTSD), were positively associated with CCS CES-D indicating that higher depressive symptoms and stress in parents was associated with higher depressive symptoms in CCS. Parent CES-D was negatively associated with CCS PedsQL and parent PSS was negatively associated with CCS PTG. Moderation analysis revealed parent PSS to be negatively associated with PedsQL and positively related to CES-D among Hispanic families only.

Conclusion: Higher parental negative mental health measures may adversely affect CCS levels of depression, while lower values for parental negative health measures were associated with positive CCS mental health outcomes in AYA. Hispanics parents experience more associations with stress than non-Hispanics.

Implications for Psychosocial Providers: Long-term survivorship follow-up care guidelines should address the mental health needs of both parents and CCS, paying particular attention to perceived stress in Hispanic families.

Keywords

childhood cancer; adolescent; young adult; parent-child dyad; mental health; Hispanic

Over 15,000 children are diagnosed with cancer in the United States annually; 88% of these children are expected to complete treatment and enter the remission phase.¹ Treatment

advancements in the past 30 years have improved the 5-year child cancer survivorship rates, leading to an estimated 429,000 childhood cancer survivors (CCS) living in the United States.¹ While survivors are cancer-free, over 60% have experienced, or will experience, a secondary medical diagnosis (or late effect) as a result of their initial cancer experience. These may include chronic pain, fatigue, reproductive issues, cognitive impairments and psychological symptoms.^{2,3} Mental health issues can result from the childhood cancer experience itself, the treatment procedures, or as a comorbidity to additional late effects,⁴⁻⁷ resulting in a variety of psychological impairments such as depressive symptoms, stress, posttraumatic stress disorder, anxiety, and suicidal ideation.³ Moreover, certain treatments may result in long-term cognitive impairments affecting the CCS's daily functioning abilities, leading to greater mental distress.³ In light of the prevalence of late effects in CCS, the Children's Oncology Group established follow-up care guidelines for all CCS.³ Included in these guidelines is a recommendation for annual psychological assessments.³

The cancer experience also impacts the mental health of parents. Caring for a child with cancer increases parental stress and often results in poorer parent quality of life.⁶ Recent research also identifies potential ethnic disparities among mental health outcomes of CCS and their families. For example, Hispanic (vs. non-Hispanic) parents of CCS report significantly higher rates of depressive symptoms and posttraumatic stress as a result of their child's cancer experience.^{8,9} Little is known about how parental mental health affects the mental health and quality of life of CCS, and how these relationships may vary by race/ethnicity.

Mental health of CCS

The research on mental health outcomes of CCS, when compared to the general population, yields mixed findings. For example, while some researchers found no significant differences in certain mental health outcomes (such as anxiety and somatic symptoms) between CCS and matched controls, others found CCS reporting higher levels of anxiety, depression and posttraumatic stress in adulthood in comparison to groups with no history of cancer in childhood.^{2,10-12} Furthermore, depressive symptoms in CCS are associated with higher anxiety, lower self-esteem, and poorer quality of life.^{13,14} In a study of CCS and their siblings, long-term survivors were found to have four times greater risk of developing posttraumatic stress disorder (PTSD).⁵ Poor perceived quality of life may lead the CCS into making unhealthy life choices (e.g., poor diet, insufficient physical activity, and substance abuse), all of which may further exacerbate negative mental health outcomes and secondary late effects.¹⁵

A positive mental health phenomenon, posttraumatic growth (PTG), is commonly reported by CCS.¹⁶ PTG includes the positive changes and personal growth that occur as a result of a traumatic or highly stressful event.^{16,17} Barakat and colleagues¹⁸ reported that 85% of adolescent cancer survivors described at least one positive outcome from their cancer experience. This included positive changes within themselves, their relationships with others, and an optimistic future outlook.¹⁸ PTG themes include: (1) meaning making, (2) appreciation of life, (3) greater self-awareness, (4) closer relationships with family, (5) greater spirituality, and (5) a desire to give back to the community.¹⁹ Studies on gender and

ethnic differences reported by CCS find that females report greater PTG than males, and non-white persons (e.g., Hispanic and African American survivors) report greater PTG than non-Hispanic White CCS.^{7,16,20} Furthermore, PTG in CCS is related to higher quality of life ratings in psychosocial functioning, including emotional functioning (e.g., being less afraid or worrying about the future) and the ability to function well in a social and school environment.^{16,21,22}

Mental health of parents of CCS

Parents of CCS report higher depressive symptoms and anxiety, relative to parents of non-CCS.⁴ Parent stress is further increased when the CCS experiences neurocognitive late effects such as diminished executive functioning skills.²³ As with CCS, parents also experience positive mental health outcomes. Barakat and colleagues¹⁸ found that 80% of mothers and 90% of fathers of CCS experienced at least one positive outcome (including how they view their life or treat other people) as a result of their child's cancer experience, demonstrating that PTG may also occur in the parents. Furthermore, in a qualitative review, parents of self-reported "close-knit" families felt more cohesion and less stress during their child's cancer treatment.¹⁹ In turn, their children reported greater PTG and stronger attachments to parents and siblings after their cancer treatment.¹⁹

Race/ethnicity, mental health, and CCS

Recent research also identifies potential ethnic disparities among mental health outcomes of CCS and their families. For example, Hispanic (vs. non-Hispanic) parents of CCS report significantly higher rates of depressive symptoms and posttraumatic stress as a result of their child's cancer experience.^{8,9} Despite these outcomes, Hispanics CCS report greater posttraumatic growth in response to their cancer experience.^{16,24} These differences may reflect cultural influences in mental health outcomes. Historically, Santos et al,²⁵ finds that rates of individualism, where families tend to value self-direction and personal autonomy, is increasing globally for the past 50 years. However, the researchers also acknowledge that cultural identity plays a large role in social conventions.²⁵ To date, little research has been conducted comparing mental health associations (and differences) between non-Hispanic CCS/parents and Hispanic CCS/parents even though Hispanic children account for nearly one-quarter of the American child population, and comprise nearly one-quarter of new annual childhood cancer diagnoses.^{8,26}

Given their initial cancer experience and potential lifetime secondary medical issues related to the cancer treatment, many CCS and their parents experience mental health symptoms long after treatment is completed. This study examined associations in mental health and wellbeing between parents and CCS. We hypothesized that parent perceived stress, depressive symptoms, and posttraumatic stress would be positively associated with adolescent and young adult (AYA) CCS depressive symptoms, and negatively associated with CCS posttraumatic growth and quality of life. Furthermore, we hypothesized that Hispanic ethnicity would moderate these relationships, such that there would be stronger associations between parent and CCS mental health among Hispanics versus non-Hispanic families.

Methods

Participants and procedure

The data for this study is from Project Forward pilot study, whose primary objective was to identify risk factors and barriers to long-term cancer-related follow-up care in a cohort of adolescent and young adult Hispanic and Non-Hispanic CCS between the ages of 15 and 25 years old at the time of study and not diagnosed with Hodgkin's Lymphoma (these patients were involved in another research study). Four-hundred seventy eligible CCS patients were identified in the pilot study (detailed recruitment information published elsewhere).²⁷ For patients under the age of 18, both the parent and the CCS were mailed information inviting them to participate in the study, with parental consent required prior to CCS participation. For patients over 18 years of age, the patient was contacted first and asked to provide parent contact information and permission to approach the parent for study participation. Fifty percent of CCS participated in the pilot study (N = 235; M_{age} = 19.8 (2.78); 50.6% female; and 56.5% Hispanic), as well as 173 parents (M_{age} = 48.8(6.63); 87.7% female). Among this sample 13 parents participated although their children (the CCS) did not agree to participate or were unable to do so, resulting in 160 matched parent/AYA dyads in which both the parent and AYA completed surveys. From this number, 14 CCS were currently receiving cancer treatment, and another 17 CCS were less than two years from the time of their last treatment. In order to capture the mental health conditions of participants in survivorship extending beyond the immediate recovery/ remission phase, these dyads were excluded from this analysis. This yielded a final sample of 129 matched parent/AYA dyads (parent: M_{age} = 49.0 (6.84), 87.6% female; and AYA: M_{age} = 19.5, (2.96), 49.9% female), and 52.7% Hispanic, while 34.1% White, 5.5% African American, 3.9% Asian, and 3.9% other comprised the Non-Hispanic group.

Measures

Demographics and potential covariates for the parent/AYA dyads included parent, family, clinical and system level variables: age (continuous), sex (male vs. female), race/ethnicity (Hispanic vs. non-Hispanic), parent's age (continuous), parent's sex (male vs female), living at home status (yes vs. no), cancer diagnoses (bone, brain & central nervous system, leukemia, lymphoma, and other), cancer treatment intensity (Intensity of Treatment Rating Scale 2.0),²⁸ number of years since diagnoses (continuous), cancer treatment hospital site (Children's Hospital of Los Angeles and Miller Children's), health insurance status (yes vs. no/not sure), and socioeconomic status. The proxy for socioeconomic status (SES) comprised of neighborhood-specific SES quintile measure based on census block data on education and income levels provided by the cancer registry.²⁹

Positive mental health outcomes.—PTG was measured using the PTGI short form, which has been previously validated among CCS populations ($\alpha = 0.87$, $\alpha = 0.95$).^{7,30,31} The Cronbach alpha for this sample was .91. The Pediatric Quality of Life questionnaire measures several aspects of psychosocial and health functioning, including physical health, social and emotional functioning, and school functioning as experienced by adolescents and young adults. It produces a single composite score, known as the Psychosocial Health Summary Score. The PedsQL of this sample had excellent reliability ($\alpha = .92$).

Negative mental health outcomes.—Two of the three negative mental health outcomes, stress and PTSD, were measured in parents only. Stress was measured using the PSS-4.³² Psychometric properties for the PSS-4 are considered reliable ($\alpha = 0.77$) in the normative population,³³ and used in a variety of clinical populations among youth and their parents including parental stress on childhood asthma, and maternal postpartum stress studies^{34,35} Cronbach alpha in this sample was acceptable ($\alpha = 0.72$). To measure parental PTSD, The Impact of Event Scale-Revised was utilized to assess parents' current feelings, somatic issues, physical symptoms, and other stressors as a direct result of their child's cancer situation.³⁶ This sample's reliability was excellent ($\alpha = 0.95$) and comparable to other studies that capture a similar parental trauma effect as a result of their child's cancer experience.

Finally, depression symptoms were measured in both parent and CCS using the CES-D, which captures current depressive symptoms reported by participants within the previous 30 days.³⁷ This measure has been validated previously among CCS and parents of CCS populations ($\alpha = 0.91$ and $\alpha = 0.84$, respectively).^{8,16} Cronbach alpha scores of depressive symptoms for this study were excellent for CCS and comparable for parents ($\alpha = .92$ and $.84$, respectively).

Statistical Analysis.—Separate regression models were developed to determine if parental mental health measures were associated with three CCS mental health outcomes: CCS Depressive Symptoms, Posttraumatic Growth and Quality of Life. To identify which variables would serve as potential covariates included in the multivariable regression models, bivariate associations were observed between the predictor study variables and sociodemographic variables for parents and CCS (i.e., age, gender, SES, ethnicity, treatment intensity, time since diagnoses, insurance status, and living arrangement status, parent's age, parent's gender and parent's ethnicity). Of those variables, parent age, SES and insurance status were significantly associated with the predictor variables at a level below $p = .10$, and were therefore included in the final models. Due to theoretical importance, CCS age and gender, and parent gender, were also included in the final models as control variables.³⁸

To avoid multi-collinearity issues with having all parent predictor variables in the same model, separate models for each outcome were constructed for each parent mental health indicator. Thus, for example, for the outcome of CCS-CESD, three models were run each including a different parental mental health indicator (parent CESD, parent PSS, and parent PTSD). SAS statistical software (version 9.2) was utilized to examine univariate and bivariate associations as well as multivariable regression models using parent-level predictors on CCS-level outcome.

Results

Hispanic parents were, on average, seven years younger than non-Hispanic parents and lived in lower SES census blocks than non-Hispanic families (both p 's $< .001$). There were no other significant differences in demographics between Hispanic and non-Hispanic study participants (Table 1). Hispanic parents reported higher PTSD, depressive symptoms and marginally higher perceived stress than non-Hispanic parents ($p < .001$; $p = .006$ and $p = .05$,

respectively). Hispanic CCS reported higher posttraumatic growth than non-Hispanic CCS ($p < .001$). Bivariate correlations between demographic, parent-level and CCS-level study variables are shown in Table 2.

Multivariable results are presented in Table 3 for each of the three outcomes including the separate models for each of the three parental mental health indicators, controlling for CCS age and sex, parent age and sex, SES, and insurance status. In the models with CCS depressive symptoms as the outcome, all three negative parent mental health indicators were positively associated: parent CES-D ($\beta = .263, p = .006$), parent PSS ($\beta = .261, p = .006$) and parent PTSD ($\beta = .271, p = .007$), indicating that higher depressive symptoms and stress in parents were related to higher depressive symptoms in CCS. For models with positive CCS mental health outcomes, childhood cancer survivor PTG was negatively associated with parent PSS ($\beta = -.208, p = .027$); and survivor PedsQL was negatively associated with parent CES-D ($\beta = -.252, p = .009$) and parent PSS ($\beta = -.301, p = .002$), suggesting that lower values for these negative mental health parental measures were related to higher positive mental health outcomes in the childhood cancer survivors. Parent PTSD was not significantly related to either CCS positive mental health outcome. For complete models see Table 3.

To test the moderation by ethnicity, an interaction term (Hispanic x *Parent Variable*) was added to each of the main effect models. A significant interaction between Hispanic ethnicity and parent PSS was present for CCS depressive symptoms and CCS quality of life outcomes ($\beta = .416, p = .039$ and $\beta = -.403, p = .048$). Post hoc analysis comparing the Hispanic and non-Hispanic samples revealed a) the relationship parent PSS and survivor CES-D was significantly positive among Hispanics only ($\beta = .390, p = .002$; non-Hispanics $\beta = .120, p = .420$); and b) the relationship between parent PSS and survivor PedsQL was significantly negative for the Hispanic sample only ($\beta = -.445, p < .001$; non-Hispanic sample ($\beta = -.163, p = .286$).

Discussion

Results partially supported the hypotheses that parent mental health indicators are associated with CCS mental health outcomes, after controlling for demographic and clinical covariates. The positive correlation between parent stressors/depressive symptoms and AYA depressive symptomology empirically supports previous findings on the significant relationships between parent posttraumatic stress and adolescent depressive symptomology in response to a child-related trauma, such as a chronic and acute childhood illnesses, and injuries.³⁹

Hispanic ethnicity was found to moderate the relationships between parent PSS and AYA survivor CES-D and PedsQL. We predicted that these outcomes would be stronger in Hispanic families than non-Hispanic families and discovered that these relationships primarily existed only in Hispanic dyads. The results indicate that parent PSS among Hispanic families may be uniquely associated with their child's depressive symptoms, and quality of life. Indeed, in a nationwide survey conducted by the National Alliance for Hispanic Health, researchers found that 42% of Hispanics cite concerns over their family members' health as their leading source of stress, compared to 25% White and 37% African

American.⁴⁰ Further, seventy-five percent of Hispanic women reported making the sole healthcare decisions for the family.⁴⁰ The majority of our parent sample was comprised of female caregivers. Women are often the primary household manager in Hispanic families and tend to bear the responsibility of caregiving for immediate and extended family members.⁴¹ These burdens place a considerable amount of daily stress on the Hispanic mother. Furthermore, this demographic is less likely to seek professional services to address mental health concerns.⁴² Hispanic ethnicity did not significantly moderate the relationship between parent PTSD and child mental health outcomes, despite this demographic being more prone to developing PTSD than other ethnic groups.^{8,40} Future research should explore additional factors within the Hispanic family unit (e.g., acculturation or discrimination) that may be responsible for disparities in PTSD. An additional area study that is prudent to address is the impact of immigration on this particular population's mental health. No data on immigration or citizenship status was collected in the current study, however, 53.7% of parents indicated that they were born outside of the United States. Additionally, current literature suggests that youth mental health is also impacted by immigration.⁴³ Future research needs to address these cases to understand the compounding effect of trauma in addition to the cancer experience on the mental health of adolescent and young adult immigrant cancer survivors and their parents. The primary strengths of this study are the relatively large number of parent/AYA dyads and the Hispanic representation. To our knowledge, this study is the first to compare the mental health relationships that exist between parent and CCS among non-Hispanic and Hispanic dyads. This study supports the need for family-centered aftercare programs, particularly among Hispanic families.

Limitations

A few precautions should be taken into consideration with these results. First, the study sample was limited to participants who were treated at two hospitals in the Los Angeles area and may not be generalizable across all CCS populations. Further, the analyses utilized cross-sectional, self-reported data, a study design that only captured a specific moment in time and therefore, cannot establish any causal mechanisms, thus we cannot determine if the positive correlation between parent stressors/depressive symptoms and AYA depressive symptomology was due to the parent's mental health affecting the survivor's mental health or vice versa. Data examined in this study was restricted to complete parent/dyads only (particularly mothers), as a result there may be biases in generalizing the results to all caregivers of CCS. There is also the possibility of a response bias among the CCS. Overall, significantly more younger CCS responded to the survey than older CCS (under age 21 vs. 21 years and older), as noted in similar research.⁴⁴ Another limitation of the study is the use of the term *Hispanic* to identify all participants of Latin American and Spanish heritage. Participants in this study self-identified as Hispanic, as the term Latina/Latino/Latinx was not a provided option at the time of data collection. Just over half of parents indicated that they were from Mexico, while the other half came from various areas around the world. As a result, this blanket categorization fails to address individual nuances, and cultural differences between ethnic groups.⁴⁵ While the authors' use of this terminology is intended to remain consistent with the participants' survey responses, future studies should address the appropriateness of Hispanic versus Latinx terminology. This study also utilized a Spanish language version of the survey, which slightly more than half of the Hispanic parents

completed. This version of the survey was translated by an approved translating company, reviewed by local Spanish speakers, and received a certificate of translation. For some of the more established behavioral scales, a pre-existing Spanish translation was used when available. Although post hoc reliability tests conducted on the variables of interest in the Spanish language parent surveys were in acceptable ranges (data not shown), there are still possible measurement errors that can occur when using the same psychological measures in different languages across ethnic groups.⁴⁶ However, when statistically adjusting for language in the regression models (data not shown), the pattern of results remained the same. Finally, when comparing several models with multiple similar outcomes, there is always a chance of committing a Type 1 error (i.e., a false positive). Therefore, it is possible that some of the significant findings in this study may have occurred by chance.⁴⁷

Conclusions

The results of this research emphasize the importance of addressing the mental health needs of both CCS and their caregivers throughout CCS cancer treatment, remission and long-term survivorship periods with potentially augmented need among Hispanics. In addition to supporting the long-term needs of CCS and parental mental health, this project extends the deficient body of Hispanic childhood cancer survivorship literature and identifies unique mental health associations among Hispanic parent/CCS dyads that are not observed in non-Hispanic families. The outcome of these studies should inform clinicians on improving techniques addressing mental health issues in CCS families and tailoring benefits to address specific issues among Hispanic families in order to improve the overall wellbeing in both CCS and their parents.

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Table 1.

Demographic and mental health characteristics Hispanic and non-Hispanic CCS and their parents

Demographic and Mental Health Characteristics	Hispanic (N = 68 dyads)	Non-Hispanic (N = 61 dyads)	Statistical difference Hispanic vs. Non-Hispanic	
	M(SD)/Percentage	M(SD)/Percentage	Statistic	p-value
CCS Age	M=19.35(2.77)	M=19.57(3.17)	$t=0.42$	0.67
CCS Sex				
Male	50.0%	50.8%	$\chi^2=0.009$	0.93
Female	50.0%	49.2%		
Parent Age	M=46.32 (6.07)	M=51.98 (6.33)	$t=5.03$	<0.001
Parent Sex				
Male	10.3%	14.8%	$\chi^2=0.59$	0.44
Female	89.7%	85.6%		
Living at home				
Yes	85.3%	73.8%	$\chi^2=2.65$	0.10
No	14.7%	26.2%		
SES	M=1.99 (1.04)	M=3.90 (1.14)	$t=9.99$	<0.001
Treatment Intensity	M = 2.57(.78)	M=2.60 (.76)	$t=0.19$	0.85
Cancer Diagnosis				
Bone	8.8%	4.9%	$\chi^2=5.29$	0.258
Brain/CNS	10.3%	24.6%		
Lymphoma	20.6%	21.3%		
Leukemia	29.4%	24.6%		
Other	30.9%	24.6%		
Years since diagnosis	M=7.79 (2.11)	M=7.70 (1.94)	$t=0.26$	0.80
Hospital				
CHLA	89.7%	82.0%	$\chi^2=1.60$	0.21
Miller Children's LB	10.3%	18.0%		
Health Insurance of CCS				
Any (public or private)	61.8%	73.8%	$\chi^2=2.71$	0.10
None/Not Sure	38.2%	26.2%		
CCS Depressive Symptoms	M=15.1(11.8)	M=12.1(10.4)	$t=1.47$	0.14
CCS Posttraumatic Growth	M=38.6(10.9)	M=32.0(10.9)	$t=3.42$	<.001
CCS Pediatric Quality of Life	M=75.5(17.4)	M=75.2(16.7)	$t=0.09$	0.93
Parent Posttraumatic Stress	M=36.3(23.7)	M=14.5(17.7)	$t=5.76$	<.001
Parent Perceived Stress	M=6.14(3.58)	M=4.92(3.44)	$t=1.95$.050
Parent Depressive Symptoms	M=17.9(13.0)	M=11.7(11.9)	$t=2.79$.006

Table 2.

Bivariate correlations among main study variables and demographic variables.

	M (SD)	CCS Sex (ref = female)	Parent Age	Parent Sex (ref = female)	SES	Insurance Status (ref = none)	Parent Post- traumatic Stress	Parent Perceived Stress	Parent Depressive Symptoms
CCS									
Depressive Symptoms	13.67 (11.2)	0.12	-0.12	0.14	-0.13	-0.11	0.32***	0.30***	0.31***
Posttraumatic Growth	35.38 (11.3)	0.05	-0.21**	-0.21**	-0.11	0.01	0.18**	-0.14	-0.05
Pediatric Quality of Life	75.34 (16.6)	-0.17**	-0.03	0.04	0.00	0.10	-0.17*	-0.26**	-0.24**
Parent									
Posttraumatic Stress	25.99 (23.6)	-0.05	-0.16*	0.09	-0.42**	-0.17*	1.00	0.54***	0.67***
Perceived Stress	5.54 (3.5)	-0.08	-0.23**	0.11	-0.22**	-0.16*	0.54***	1.00	0.78***
Depressive Symptoms	14.92 (12.8)	-0.10	-0.23**	0.09	-0.27**	-0.10	0.67***	0.78***	1.00

Significance level:

* p < .05;

** p < .01;

*** p < .001

Adjusted standardized parameter estimates for parent mental health indicators associated with CCS mental health outcomes after controlling for CCS age, CCS sex, parent age, parent sex, SES, and insurance status.

Table 3.

Multivariable Regression Model Results					
	β	SE	t	p	
Outcome: CCS CES-D					
Main Effect Models					
Parent CES-D	.263	.083	2.81	.006	
Parent PSS	.261	.296	2.83	.006	
Parent PTSD	.271	.045	2.76	.007	
Interaction Models					
Parent CES-D*Hispanic ethnicity	.317	.165	1.69	.095	
Parent PSS*Hispanic ethnicity	.416	.570	2.09	.039	
Parent PTSD*Hispanic ethnicity	.110	.100	0.48	.633	
Outcome: CCS Posttraumatic Growth					
Main Effect Models					
Parent CES-D	-.106	.085	-1.13	.262	
Parent PSS	-.208	.303	-2.25	.027	
Parent PTSD	.189	.047	1.93	.056	
Interaction Models					
Parent CES-D*Hispanic ethnicity	-.146	.167	-0.78	.435	
Parent PSS*Hispanic ethnicity	-.056	.584	-0.28	.778	
Parent PTSD*Hispanic ethnicity	.123	.103	0.54	.587	
Outcome: CCS Pediatric Quality of Life					
Main Effect Models					
Parent CES-D	-.252	.125	-2.66	.009	
Parent PSS	-.301	.446	-3.23	.002	
Parent PTSD	-.192	.072	-1.90	.060	
Interaction Models					
Parent CES-D*Hispanic ethnicity	-.207	.249	-1.08	.283	
Parent PSS*Hispanic ethnicity	-.403	.855	-2.00	.048	
Parent PTSD*Hispanic ethnicity	.104	.157	0.44	.658	

For interactions, main effect terms are also included in the model.