

## Ethnic Differences Among Adolescents Beginning Treatment for Depression

By: [Gabriela Livas Stein](#), John F. Curry, Jacqueline Hersh, Alfiée Breland-Noble, John March, Susan G. Silva, Mark A. Reinecke, and Rachel Jacobs

Stein, G.L. Curry, J.F., Hersh, J, Breland-Noble, A., Silva, S.G., Reinecke, M.A., Jacobs, R., & March, J. (2010). Ethnic differences at the initiation of treatment for adolescent depression. *Cultural Diversity and Ethnic Minority Psychology*, 16(2), 152-158.

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The original publication is available at <http://www.apa.org/pubs/journals/cdp/> or <http://dx.doi.org/10.1037/a0018666>

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### **Abstract:**

This study examines ethnic/racial differences at the start of treatment among participants in the Treatment for Adolescents with Depression Study (TADS). African American and Latino youth were compared to Caucasian youth on symptom presentation and cognitive variables associated with depression. Contrary to hypothesis, there were no significant differences in symptom presentation as measured by the interview-based items of the Children's Depression Rating Scale – Revised (CDRS-R). However, African American and Latino youth were both rated as demonstrating more severe symptoms on the observational items of the CDRS-R compared to Caucasian youth. In terms of cognitive variables associated with depression, African Americans reported fewer negative cognitive biases compared to Caucasians, but cognitive biases were significantly correlated with depression severity across ethnic groups.

**Keywords:** ethnic differences, depression, Latino and African American, cognitive variables

### **Article:**

It is important to understand possible ethnic differences in the presentation of adolescent depression as these differences may have implications for diagnosis and treatment. Although, cognitive-behavioral therapy (CBT) is considered an empirically supported treatment for adolescent depression (Curry & Becker, 2008), few empirical studies have examined whether the cognitive variables which CBT treats are related significantly to depression across ethnic groups. This paper will examine ethnic differences among youth entering the Treatment for Adolescents with Depression Study (TADS). Specifically, we assessed whether Latino and African American youth diagnosed with Major Depressive Disorder (American Psychiatric Association, 2004) differ from similarly diagnosed Caucasian youth in symptom presentation, in the level of cognitive biases, and in the relationship of these biases to depressive symptoms.

### **Ethnic Differences in Symptom Presentation**

The current understanding of adolescent depressive disorders has been developed primarily with Caucasian samples, and these models have then been applied to ethnically diverse communities without examining their validity (Stewart, 2008). However, cultural groups may exhibit different symptoms for the same underlying disorder (Gray-Little, 2002). Differences in symptom presentation may result in ethnically diverse groups being under or overdiagnosed as the current *DSM-IV* criteria may not be equally applicable across groups (Stewart, 2008). Thus, it is important to examine whether ethnic groups vary systematically in their clinical presentation as a first step in understanding the validity of our current theoretical models of depression. Past

research examining mean level differences across ethnic groups supports the notion that African Americans and Latinos exhibit a different depressive symptom pattern.

*Symptom presentation in African Americans.* A culture's view of depression and acceptability of the expression of sadness may lead to symptom presentation differences across ethnic groups (Escobar, Rubio-Stipec, Canino, & Karno, 1989). For African Americans, distress in the face of multiple stressors, including discrimination, racism, and poverty, may be expected and, thus, not experienced as sadness (Ayalon & Young, 2003). Instead, African Americans may express their distress somatically as reactions to stressful social and environmental milieus (Jenkins, Kleinman, & Good, 1991). In fact, depressed African Americans adults and adolescents exhibit greater somatic complaints than Caucasians (Choi, Meninger, & Roberts, 2006; Iwata, Turner, & Lloyd, 2002). In studies of adults, differences in somatic and neurovegetative symptoms have been documented both in community and in treatment samples (Ayalon & Young, 2003; Canino, Rubio-Stipec, Canino, & Escobar, 2002), but for adolescents, these findings have not been replicated with a treatment sample.

Additionally, African American culture may discourage the expression of sadness as it viewed as a sign of weakness, leading adolescents to deny such feelings. Some have hypothesized that instead of expressing depression as sadness, African Americans may demonstrate greater irritability and anger (Baker, 2001). Supporting this notion, depressed African Americans are less likely to endorse sadness than Caucasians (Iwata et al., 2002), and in contrast, African American adults and adolescents experience greater anger and irritability as part of their depression (Baker, 2001; Manning & Hussong, 2006).

*Symptom expression in Latinos.* As with African Americans, many studies have documented that Latinos may express their distress somatically (e.g., Choi et al., 2006; Escobar et al., 1989), but no studies have examined this question in an adolescent sample seeking sample. It is hypothesized that Latinos respond to environmental stressors somatically because it is not as culturally acceptable to express discontent affectively (Jenkins et al., 1991). In addition, Latino youth are at greater risk for suicidal ideation compared to Caucasian youth (Zayas, Lester, Cabassam, & Fortuna, 2005).

#### *Ethnic Differences in Depressive Cognitions*

There is limited research exploring differences across ethnic groups in cognitive variables associated with depression (e.g., attributional style, negative cognitive errors, and the cognitive triad of depressive thoughts about self, the world, and the future (hopelessness) (Ingram, Nelson, Steidtmann, & Bistricky, 2007). The majority of this research has focused on differences in the mean level of these variables endorsed by different ethnic groups. However, to date, this research is inconclusive with some studies finding no ethnic differences (Kennard, Stewart, Hughes, Patel, & Emslie, 2006), others finding Caucasians demonstrating more biases (Thompson, Kaslow, Weiss, & Nolen-Hoeksema, 1998; Waschbusch, Sellers, LeBlanc, & Kelley, 2003) and one study finding that African Americans report greater biases (Greening, Stopplebein, Dhossche, & Martin, 2005).

However, it may be more important to examine whether there are ethnic differences in the relations between these cognitive variables and depressive symptoms rather than to examine whether there are ethnic differences in the mean level of depressive cognitions. If the depressive cognitions are not as strongly related to depressive symptoms among ethnically diverse youth as they are in Caucasian youth, the cognitive model of depression would be less applicable in guiding treatment of depressed minority youth. Although the majority of the research examining the relationship between these variables has been conducted with primarily Caucasian samples, two studies suggest that the relationship may be stronger for Caucasian youth compared to African American youth (Herman, Ostrander, & Tucker, 2007; Kennard et al., 2006).

#### *Current Study*

The current study aims to extend previous research by examining patterns of symptom presentation and cognitive variables in a clinically depressed adolescent sample at treatment initiation. We hypothesize that the profile of depressive symptoms will differ across groups. Compared to Caucasian adolescents, Latino and African American adolescents are hypothesized to endorse more severe somatic and neurovegetative symptoms. Additionally, it is hypothesized that when compared to Caucasian youth, African American youth will endorse more severe irritability and less severe sadness, and Latinos will endorse more severe suicidal ideation. Finally, this study will explore whether African American and Latino youth report different levels of depressive cognitions, compared to Caucasian youth, and whether there are differences in the relations between these variables and depression across ethnic groups.

## Methods

### *Sample*

The sample for the current study is drawn from the baseline assessment of The Treatment for Adolescents with Depression Study (TADS). The original sample was composed of 439 youths ages 12–17 with a primary *DSM-IV* diagnosis of current Major Depressive Disorder ( $n = 55$  African American;  $n = 39$  Latino). The original sampling procedures are described in detail elsewhere (Treatment for Adolescents with Depression Study (TADS) Team, 2005). Informed consent was obtained from parents and assent was obtained from the adolescents.

Adolescents who endorsed Asian ( $n = 3$ ), Pacific Islander ( $n = 2$ ), or “other” ( $n = 16$ ) ethnicity were excluded due to small sample sizes. Subjects with missing control variables (income or parent education) were also deleted ( $n = 40$  Caucasian,  $n = 4$  African American;  $n = 2$  Latino). Thus, the current sample is comprised of 372 adolescents (56% female;  $n = 51$  African American,  $n = 37$  Latinos) with a mean age of 14.6 ( $SD = 1.56$ ). To be eligible for the study, both parents and children had to speak English fluently. Country of origin data were not collected for the Latinos in the study, but the majority of the Latino adolescents were from New York City (23 of 37). Adolescents did not differ in age or gender distribution across ethnic groups.

### *Demographic Measures*

Parents reported annual family income on a 12-point scale (ranging from 1 = \$0–\$4,999 to 12 = *More than \$200,000*). Parents/caregivers indicated their level of education and that of their partners if both informants were not available, on a 10-point scale (ranging from 0 = *not completing high school* to 10 = *doctoral degree*). The highest level of education reported for either parent/primary caretaker was used in the current study.

### *Measures*

*Evaluator-rated depression symptoms.* The Children's Depression Rating Scale–Revised (CDRS-R) assesses depressive symptoms through a semistructured interview given separately to one parent and to the adolescent and then synthesized by the interviewer (Poznanski & Mokros, 1996). The CDRS-R contains 14 interview items and 3 behavioral observation items using either 5-point or a 7-point scale, leading to a total raw score ranging from 17 to 113. The scale has demonstrated adequate to good psychometric properties, and for this sample, there was excellent interrater reliability based on audiotape reviews (intraclass correlation = .95; TADS Team, 2005). With the exception of one Latina evaluator, all of the interviewers were Caucasian.

Scales and items from the CDRS-R were used to examine symptom presentation. A factor analysis of the CDRS-R (Guo, Nilsson, Heiligenstein, Wilson, & Emslie, 2006) revealed five factors: *reported* depressive mood, anhedonia, morbid thoughts, somatic symptoms, and *observed* depressive mood. Where possible, our hypotheses were tested using these factors. Because the items had different metrics, the total score on the set of items constituting each factor was used.

The CDRS-R irritable mood item did not load on any of these factors but was analyzed independently because of our hypothesis regarding irritability. The somatic and neurovegetative symptoms were also examined individually (physical complaints, sleeping difficulty, fatigue) due to the fact that the somatic factor scale also included another item that was not a somatic symptom (impaired schoolwork).

*Self-reported depressive symptoms.* The 30-item Reynolds Adolescent Depression Scale assessed adolescent reported depressive symptoms (Reynolds, 1987). The RADS has demonstrated adequate psychometric properties and has been previously used in diverse populations (Reynolds, 1987). In the current study, the measure demonstrated good reliability across ethnic groups (Caucasian  $\alpha = .90$ ; African American  $\alpha = .91$ ; Latino  $\alpha = .90$ ). The RADS is comprised of four subscales (Reynolds, 1987): depressed mood, negative affect, negative view of self, and somatic symptoms. Item scores on each factor were averaged to make up the scale scores to examine differences in symptom presentation.

*Cognitive variables.* Four self-report scales assessed cognitive variables associated with depression. The cognitive triad of depression was assessed with two scales. Hopelessness for the future was assessed with the Beck Hopelessness Scale (BHS; Beck & Steer, 1993). The scale has shown adequate psychometric properties with adolescents (Beck & Steer, 1993) and demonstrated good reliability across ethnic groups in the current sample (Caucasian  $\alpha = .88$ ; African American  $\alpha = .87$ ; Latino  $\alpha = .92$ ). A total score assessed hopelessness with higher scores indicating greater hopelessness (range 0–20; mean 9.97,  $SD = 5.47$ ). The Cognitive Triad Inventory for Children (CTI; Kaslow, Stark, Printz, Livingston, & Tsai, 1992) assessed the adolescent's views of the self and world. The measure has demonstrated adequate psychometric properties (Kaslow et al., 1992), and demonstrated good reliability across ethnic groups in the current sample (Caucasian  $\alpha = .88$ ; African American  $\alpha = .88$ ; Latino  $\alpha = .90$ ). A total score for each scale was used to measure the view of self (range 0–24,  $M = 13.63$ ,  $SD = 5.38$ ) and of the world (range 0–23,  $M = 11.98$ ,  $SD = 5.38$ ), higher scores indicated more positive perceptions.

Given the high correlations between the BHS and the subscales of the CTI (CTI self and world  $r = .74$ , CTI self and BHS  $r = -.63$ , CTI world and BHS  $r = -.59$ ), the CTI items were reversed, and these scales were standardized and combined. Higher scores indicate a more depressive cognitive triad.

The Children's Attributional Style Questionnaire assessed the extent of stable, global, and internal attributions for positive events (CASQ; Seligman et al., 1984). The measure has demonstrated adequate psychometric properties (Seligman et al., 1984) and demonstrated adequate reliability across ethnic groups in the current sample (Caucasian  $\alpha = .62$ ; African American  $\alpha = .56$ ; Latino  $\alpha = .59$ ). The total score was used to assess attributional style for positive events with lower scores indicating more depressive attributions (range 1–21;  $M = 9.89$ ,  $SD = 3.57$ ).

The Children's Negative Cognitive Error Questionnaire assessed common cognitive errors associated with depression as hypothesized by Beck's model of depression (CNCE; Lietenberg, Yost, Carol-Wilson, 1996). The measure has demonstrated adequate psychometric properties (Lietenberg et al., 1996) and demonstrated good reliability in the current sample across ethnic groups (Caucasian  $\alpha = .94$ ; African American  $\alpha = .93$ ; Latino  $\alpha = .95$ ). The total score was used to assess negative cognitive distortions with higher scores indicating greater distortions (range 24–120;  $M = 63.05$ ,  $SD = 20.31$ ).

### *Statistical Plan*

A series of multivariate analyses of covariance (MANCOVA) were used to minimize experiment-wise error and to examine whether adolescents differed on the main outcomes of interest (evaluator-rated symptom patterns, self-reported symptom patterns, and cognitive variables). Because ethnic groups differed significantly on parental education and family income, these were used as control variables. Caucasian families had higher incomes than either African American or Latino families,  $F(2, 369) = 6.87$ ,  $p = .001$ , and higher parental education levels than Latino families,  $F(2, 369) = 3.47$ ,  $p = .03$ . The MANCOVAs also

controlled for severity of symptoms in order to rule out the possibility that any symptom level differences were due to ethnic differences in overall level of depressive symptoms. To avoid issues of multicollinearity due to using similar methodology, we used the CDRS-R as a control for outcomes involving the self-report outcomes (RADS, cognitive variables) and the RADS for outcomes involving items of CDRS-R. If the MANCOVA indicated significant group differences, a posteriori comparisons were conducted using least square means *t* tests to examine whether Caucasians differed significantly from African Americans and Latinos on the individual measures. An alpha level of less than .05 was used for all reported statistical analyses. Covariate adjusted group means are presented in Tables 1 and 2.

Table 1  
*Adjusted Means and Standard Deviations by Ethnic Group*

Variable	Caucasian		African American		Latino	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<b>CDRS Symptom Scales<sup>1</sup></b>						
Depression	13.01	2.51	12.14	2.90	12.34	2.90
Anhedonia	8.90	2.51	9.23	2.47	9.60	2.48
Morbid Ideation	3.92	2.51	3.52	2.47	3.13	2.43
Somatization	16.52	3.69	16.83	3.68	16.93	3.67
Observed symptoms	8.10*	3.35	9.86*	3.32	9.53*	3.31
<b>CDRS Individual Items<sup>1</sup></b>						
Irritability	4.79	1.51	4.68	1.48	4.40	1.48
Physical complaints	2.93	1.68	2.67	1.63	2.76	1.67
Difficulty sleeping	3.72	1.51	3.82	1.48	3.80	1.54
Excessive fatigue	5.19	1.51	5.07	1.48	5.48	1.48
<b>RADS Symptom Scales<sup>2</sup></b>						
Depressed mood	2.90	0.50	2.77	0.57	2.92	0.59
Negative affect	2.25	0.50	2.13	0.49	2.01	0.53
Negative self image	2.51	0.67	2.35	0.63	2.37	0.65
Somatic symptoms	3.06	0.50	2.93	0.49	2.98	0.47

*Note.* Least square means adjusted for covariates of parental education, income, and overall depressive symptoms and unequal cell sizes. CDRS-R = Children's Depression Rating Scale-Revised; RADS = Reynolds Adolescent Depression Scale.

<sup>1</sup> *N* = 366 (*n* = 50 African American, *n* = 35 Latinos). <sup>2</sup> *N* = 368 (*n* = 50 African American, *n* = 35 Latinos).

\* Differ significantly from Caucasians at *p* < .05.

Table 2  
*Cognitive Variables Adjusted Means and Standard Deviations by Ethnic Group*

Variable	Caucasian		African American		Latino	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Triad	0.08*	0.83	-0.30*	0.82	-0.18	0.84
CASQ	9.59*	3.49	11.01*	3.56	10.52	3.54
CNCE	65.08*	19.77	54.80*	20.16	59.78	19.98

*Note.* Least square means adjusted for covariates of parental education, income, evaluator-based severity, and unequal cell sizes. *N* = 357 (*n* = 47 African American, *n* = 36 Latinos). Triad = composite variable of Beck's Hopelessness Scale and Cognitive Triad Inventory self and world scale; CASQ = Children's Attributional Style Questionnaire; CNCE = Children's Negative Cognitive Error Questionnaire.

\* Differ significantly from Caucasians at *p* < .05.

## Results

### *Missing Data*

Some adolescents did not complete all of the measures. Listwise deletion was employed for specific analyses where a participant was missing data such that the sample changes slightly for each MANCOVA (from 349

to 372). An examination of the pattern of missing data using multiple chi-squares and Fisher's exact test indicated that it did not vary significantly across ethnic groups.

### *Control Variables*

Parent education and family income were not significant predictors in any of the MANCOVAs, but total depressive symptoms using either the CDRS-R total score or the RADS total score were significant predictors in the analyses in which they were included. The CDRS-R and RADS are correlated significantly ( $r = .41, p < .01$ ), and the correlations were similar across ethnic groups.

### *Symptom Presentation*

A MANCOVA assessed group differences in evaluator-rated symptom presentation as measured by the factor-based subscales of the CDRS-R. There was a significant main effect of ethnicity on symptom scale scores on the CDRS-R, Wilks'  $\lambda = 0.92, F(10, 361) = 3.03, p < .01$ . As seen in Table 1, evaluators rated African American ( $p < .01$ ) and Latino adolescents ( $p = .01$ ) as demonstrating more severe observed depressive symptoms compared to Caucasians. Contrary to our hypotheses, compared with Caucasians, African Americans and Latino clients were not rated as having significantly more somatic symptoms, African Americans were not rated as showing less severe depressive mood symptoms, and Latinos were not rated as demonstrating more severe morbid ideation.

The second MANCOVA tested for ethnic differences on selected specific items of the CDRS-R assessing irritability, physical complaints, excessive fatigue, and sleep disturbances. Contrary to our hypotheses, there was no significant main effect of ethnicity on these symptom items on the CDRS-R, Wilks'  $\lambda = .098, F(8, 363) = .71, p = .69$ .

The third MANCOVA tested for ethnic differences on the subscales of the RADS. Contrary to our hypotheses, there was no significant main effect of ethnicity on any of these subscales, Wilks'  $\lambda = 0.97, F(8, 359) = 1.53, p = .14$ .

### *Cognitive Variables*

The final MANCOVA tested for group differences on the cognitive variables as assessed by the triad composite (CTI and BHS), CNCE, and CASQ. There was a significant main effect of ethnicity on the cognitive variable measures Wilks'  $\lambda = 0.96, F(6, 351) = 2.68, p = .01$ . As seen in Table 2, pairwise comparisons indicated that African Americans differed significantly from Caucasians on all three scales, whereas Latinos did not differ from Caucasians. On average compared to Caucasian adolescents, African American adolescents reported less negative views of the self, world, and future ( $p < .01$ ); greater internal, global, stable attributions for positive events ( $p = .01$ ); and fewer negative cognitive distortions ( $p < .01$ ).

Pearson bivariate correlations were calculated between the cognitive variables and depressive symptoms on the CDRS-R and the RADS for the three ethnic groups. Overall, greater levels of depressive symptoms were related to greater cognitive errors, more negative attributional style, and a more negative cognitive triad. As seen in Table 3, for Caucasian, African American, and Latino adolescents, the self-reported depressive symptoms (RADS) were moderately significantly correlated with cognitive variables, although for Latino adolescents the triad composite was more strongly related to self-reported depressive symptoms than for Caucasian adolescents. However, in terms of clinician rated symptoms (CDRS-R), these all demonstrated a small significant correlation only for Caucasian adolescents. For African Americans, cognitive errors as measured by the CNCE were not correlated with clinician-rated depressive symptoms. For Latino adolescents, cognitive errors, cognitive triad, and attributional style for positive events were not significantly correlated with clinician-rated depressive symptoms, but the magnitude of correlation was similar to that for Caucasians.

Table 3

*Correlations of Cognitive Variables With Evaluator-Reported and Self-Reported Depression by Ethnic Group*

Variable	Caucasian		African American		Latino	
	CDRS-R	RADS	CDRS-R	RADS	CDRS-R	RADS
Triad	0.26*	<b>0.64*</b>	0.49*	0.67*	0.30	<b>0.82*</b>
CNCE	0.19*	0.54*	0.01	0.35*	0.07	0.52*
CASQ	-0.18*	-0.37*	-0.32*	-0.32*	-0.22	-0.66*

*Note.* Data in bold signify that correlations significantly differ using a Fisher's  $r$  to  $z$  transformation. Triad = composite variable of Beck's Hopelessness Scale and Cognitive Triad Inventory self and world scale; CASQ = Children's Attributional Style Questionnaire; CNCE = Children's Negative Cognitive Error Questionnaire.

\* Pearson correlations significant at  $p < .05$ .

## Discussion

Overall, contrary to our hypotheses, there were no ethnic differences in the interview reported presentation of depressive symptoms. The only significant ethnic difference was that Latino and African American youth were observed and rated by interviewers as demonstrating more severe behavioral symptoms of depression. Although there were some mean level differences in the endorsement of the cognitive variables associated with depression between Caucasian and African American youth, there were few differences in the relationships between these variables and both self-reported and evaluator rated depressive symptoms. Thus, given the findings of the current study, it appears that the current models of depression may be applicable across ethnic groups.

The only significant ethnic difference in symptom endorsement concerned the behavioral items of the CDRS-R, where both Latinos and African Americans were rated as more severely depressed than Caucasians. This pattern is interesting given that African Americans and Latinos did not endorse greater symptoms on any of the scales of the CDRS-R when compared to Caucasian youth. Similar patterns have been noted in previous research with adults (Brown, Shulburg, & Madonia, 1996).

Three factors may have influenced evaluators to rate ethnically diverse youth as more severe. First, there may be a bias by the primarily Caucasian evaluators assessing members of a different group. Implicit biases may affect how Caucasian evaluators interpret the behavior of ethnic minorities (Amodio & Devine, 2006;), and implicit bias activation has been found to influence clinical judgment (Abreu, 1999). Alternatively, Latino and African American youth may present slightly differently in a treatment setting than Caucasian youth. Latino youth due to cultural factors, such as *respeto* (respecting people in authority), may behave more quietly, make less eye-contact, and verbalize less when interacting with evaluators (Marin & VanOss-Marin, 1991). African American youth may exhibit greater guardedness in their interviews as has been found with adult samples (Sue & Sue, 2007). Both of these presentations may lead to cultural misinterpretation of the adolescent's behavior as demonstrating flat affect, listless speech, and hypoactivity, the observational items of the CDRS-R. These explanations are not mutually exclusive and the differential rating pattern may have resulted from an interaction of both evaluator bias and the behavior of the ethnically diverse youth. Lastly, it may also be that African American and Latino youth in TADS present with more severe behavioral symptoms.

Unfortunately, we cannot ascertain which of these explanations led to the ethnic differences in the observed symptoms. However, given that the CDRS-R served as the primary outcome measure for the TADS treatment study and in other child depression studies, it is important to further understand the differential ratings by evaluators on these particular items. Moreover, these findings have larger implications for cultural competency. Clinical evaluators need to understand the cultural factors that may impact both their evaluation

and the behavior of the youth in a clinical setting. Future research could have raters of multiple ethnicities code for behavioral symptoms of depression and examine whether there are any significant patterns by ethnicity.

Unlike previous studies conducted in community samples, our study did not find ethnic differences on self-or interview-reported presentation. The severity of our sample may explain the lack of significant findings as youth in community samples do not necessarily meet criteria for major depression.

In terms of the cognitive variables associated with depression, African Americans reported fewer cognitive symptoms associated with depression compared to Caucasians. These differences may be due the lack of cultural appropriateness of these measures as they were developed with majority Caucasian samples, and the measures may not adequately capture the experience of depression for African American youth. An examination of some of the items suggests they may not be as salient for urban, culturally diverse youth (e.g., “Your parents take you to the beach and you have a good time.”), and as such they may need to be modified to best capture these cognitive errors in diverse communities. Moreover, these measures may not take into account cognitions that may be unique for African American youth. For example, race-related cognitions involving racial identity and discrimination are absent from the current measures.

Although the cognitive measures may be improved to better reflect the cognitions of depressed diverse youth, overall, depressive cognitions do correlate with depression across ethnic groups. This suggests that the current cognitive models of depression may be applicable to African American and Latino youth and targeting these variables in interventions may be useful. The lack of correlation between cognitive errors and severity of depression on the CDRS-R for African Americans may be due to fact that the items on the CNCE were normed with Caucasian youth as discussed above. This study is only the third study to examine the relationship between these variables and because these findings differ from the two previous studies, future research should continue to examine the cultural validity of the cognitive model of depression.

There are several limitations to the current study. First, this study only generalizes to adolescents with moderate to severe major depression seeking treatment. Moreover, families in the TADS trial had to be willing to randomize into different treatments, and African Americans were less likely to continue with treatment randomization (May et al., 2007). Thus, the findings pertaining to African American youth may not generalize to all African Americans with depression. Future research should examine these questions in a more inclusive sample. Second, there was a small sample of Latino participants and the results for that group may have been underpowered; thus, larger sample sizes may help address this issue. Third, it is important to note that the Latinos in the current sample had to speak English to participate in the study; therefore, these findings do not generalize to monolingual Spanish-speaking Latinos. Fourth, we only administered the positive attributions subscale of the CASQ. Ethnic differences may be evident on the negative attributions scale but more research is necessary to determine if this is the case.

#### *Implications for Research, Policy, and Practice*

This is the first study examining ethnic differences in a depressed adolescent treatment-seeking sample and future research should examine these questions in a broader sample of depressed youth. Given the findings of this study, it is important to understand the differential ratings on the observation items of the CDRS-R due to its widespread use in clinical trials. Future research should explore how clinical evaluators rate symptoms in cross-ethnic pairs to examine systemic biases. If such biases are indeed present and can be characterized, this research will aid in the development of cultural competency training. Additionally, future research should examine the cultural applicability of cognitive measures of depression as our findings suggest that there may be differential response on these measures. However, our findings support the cultural applicability of the cognitive model of depression as there were minimal ethnic differences in the correlation between the cognitive variables and overall depressive symptoms.



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