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Ethnic Differences in Attributions and Treatment Expectancies for Adolescent Depression

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Abstract

Studies suggest that ethnicity and socioeconomic factors may relate to differences in treatment expectancies and the attributions made for emotional or behavioral problems. We examined ethnic differences in (1) parents' attributions about the causes of adolescent behavioral and emotional problems and (2) treatment expectancies among 236 adolescent participants who enrolled in a 36-week randomized controlled trial for depression. Controlling for education and income, European

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American parents were more likely to endorse beliefs reflecting physical causes of depression than African American parents. There were no ethnic differences for beliefs reflecting external, familial, or community factors. Ethnic differences were observed in the treatment expectancies reported by parents, but not adolescents, with African American parents more likely than European Americans and Other minorities to endorse positive expectations for CBT. These findings may have implications for understanding discrepancies in mental health service use.

Substantial ethnic and socioeconomic disparities exist in access to and the availability of mental health services. Minority populations have less access to mental health care and are more likely to receive poorer quality care when in treatment (U.S. Dept of Health and Human Services, 2001). In 1999, then Surgeon General Dr. David Satcher commissioned a report to investigate disparities in mental health care. In this widely publicized report, Dr. Satcher and others concluded that relative to ethnic majority individuals, “racial and ethnic minorities bear a greater burden from unmet mental health needs and thus suffer a greater loss to their overall health and productivity” (US Dept of Health and Human Services, 2001, pp. 3). The publication of this report, coupled with findings from the Unequal Treatment Report (Smedley, Stith, & Nelson, 2002), set the stage for initiatives designed to explicate and reduce discrepancies in mental health service utilization (National Institute of Mental Health, 2001; U.S. Dept of Health and Human Services, 2001).

To date, research examining ethnic differences in the use of mental health services has primarily focused on adults (Wang, Lane, Olfson, Pincus, Wells, & Kessler, 2005; Wells, Klap, Koike, & Sherbourne, 2001; Young, Klap, Sherbourne, & Wells, 2001). Several reports indicate that ethnic minority children also experience higher levels of unmet mental health need than majority ethnic group children (Garland, Lau, Yeh, McCabe, Hough, & Landsverk, 2005; Ringel & Sturm, 2001; Yeh, McCabe, Hough, Dupuis, & Hazen, 2003). For example, among a diverse, at-risk sample of youth with mental health needs, ethnic minority youth demonstrated higher levels of unmet need when compared to non-Hispanic Whites (Yeh et al., 2003). Ringel and Sturm (2001), in their review of large epidemiological studies, note that the highest rates (86–87%) of unmet need are found among Hispanic and “Other” minority groups. Recent reviews suggest that ethnic disparities in health care between youth of color and non-Hispanic White youth persist when controlling for socioeconomic factors including insurance status (Breland-Noble, Mitchell, Nicolas, Taylor, & Miller, 2005; Elster, Jarosik, VanGeest, & Fleming, 2003).

Discrepancies in the use of mental health services between ethnic minority and majority individuals have been attributed to a number of factors, including cost of services, mistrust of treatment and providers, fragmentation of services, and cultural differences in the expression and tolerance of symptoms (U.S. Department of Health and Human Services, 2001). Differing beliefs between ethnic groups concerning the societal stigma associated with mental health services and differences in the use of family and community resources for addressing mental health problems may also play a role (Hoberman, 1992; McMiller & Weisz, 1996; U.S. Department of Health and Human Services, 2001).

In recent years, research examining the relation of these factors to ethnic differences in mental health service utilization has increased (Breland-Noble et al., 2004; Wu et al., 2001). In particular, two hypotheses of note concern ethnic differences in attributions regarding the etiology of mental illness and treatment expectancies. The first hypothesis is that attributions regarding the cause of one’s illness affects whether or not one will seek services. Moreover, these attributions may impact what type of services one seeks. For example, an individual who believes their mental illness stems from spiritual difficulties may be more likely to seek services from a religious leader as opposed to a physician working in a medical center setting. The second hypothesis is that expectations regarding how helpful a particular treatment is likely to

be may impact whether or not an individual seeks out services at all or specific services. Indeed, ethnic differences have been observed in etiological attributions (e.g., Alvidrez, 1999; McCabe & Priebe, 2004) as well as in expectations for treatment outcomes (e.g., Sue & Zane, 1987) among adults. It has been proposed that these differences may also perpetuate discrepancies in service utilization among youth (e.g., Breland-Noble et al. 2004; Wu et al., 2001).

ETHNIC DIFFERENCES IN BELIEFS ABOUT THE ETIOLOGY OF MENTAL ILLNESS

Culturally influenced beliefs about the causes of mental health problems may influence help-seeking patterns (Breland-Noble, Bell, & Nicolas, 2006; Cauce et al., 2002; U.S. Dept of Health and Human Services, 2001). Among adults, beliefs about the causes of mental illness have been found to differ among several ethnic groups (Alvidrez, 1999; McCabe & Priebe, 2004; Narikiyo & Kameoka, 1992; Schnittker, Freese, & Powell, 2000; Sheikh & Furnham, 2000). In one study, African Americans were more likely than Caucasians to reject the idea that mental illness is caused by genetics or an unhealthy family upbringing (Schnittker, Freese, & Powell, 2000). In a comparison of the attributions endorsed by Latina, African American, and Caucasian women, Latina women were less likely to endorse medical and balance factors (i.e., imbalances in the self or environment) as the causes of mental illness than were African American and Caucasian women, and African American women were more likely to endorse religious and supernatural factors than Latina or Caucasian women (Alvidrez et al., 1999). In a study of ethnic group differences in endorsements of biological and social causes of mental illness, Caucasians cited biological causes for their illness more frequently than African Caribbeans and Bangladeshis, who, in turn, cited social causes more frequently (McCabe & Priebe, 2004). Finally, Japanese American college students have been found to be more likely than Caucasian college students to attribute mental illness to social causes (Narikiyo & Kameoka, 1992).

Ethnic differences in parents' understanding of the causes of mental health problems in their children have also been investigated. In a study of Caucasian and African American parents of children diagnosed with attention deficit hyperactivity disorder (ADHD), Caucasian parents tended to describe their child's ADHD as a medical condition, whereas African American parents more commonly described their child's ADHD as a behavior problem (Bussing, Schoenberg, Rogers, Zima, & Angus, 1998). More recent work examining parents' understanding of the causes of ADHD, however, has been somewhat contradictory and suggests that African American parents may be more likely than Caucasian parents to cite medical events as causing the condition, may feel uncertainty regarding etiology, and may be less likely than Caucasian parents to attribute their child's ADHD to school (Bussing, Gary, Mills, & Garvan, 2003). In another study of parents of children with identified mental health problems, ethnic minority parents were less likely to endorse attributions consistent with biopsychosocial causes of mental illness relative to Caucasians (Yeh, Hough, McCabe, Lau, & Garland, 2004), whereas few ethnic differences emerged for endorsements of etiologies reflecting sociological factors or "spiritual/nature disharmony." In a follow-up report, Yeh and colleagues (2005) found that beliefs mediated the relation between ethnicity and service use. Specifically, parental attributions that their child's mental illness stemmed from physical causes, relational issues, trauma, and/or prejudice partially mediated the relation between ethnicity and service use for Asian/Pacific Islander American and Latino youth. It should be noted that these studies were conducted among participants in the United States. Findings from similar investigations among non-American parents have been less consistent (e.g., McKelvey, Baldassar, Sang, & Roberts, 1999; Sheikh & Furnham, 2000).

Taken together, these findings suggest that ethnic differences may exist in individuals' beliefs about the causes of mental illness. Trends are emerging within the existing literature; however,

given the paucity of research in this area and somewhat discrepant findings, we propose to examine attributions regarding mental illness in a large sample of youth treated for major depression.

TREATMENT EXPECTANCIES

Ethnic disparities in utilization of mental health services may also be related to differences in expectancies concerning the likely effectiveness of psychotherapy (Nock & Kazdin, 2001; Sue & Zane, 1987). Little empirical work has addressed expectancies regarding the likely effectiveness of treatment among children and adolescents. As Nock and Kazdin (2001) have noted, although child expectancies may influence therapeutic change, it is typically parents who decide to initiate and continue psychotherapy for the child. Accordingly, most work addressing the role of expectancies in youth psychotherapy has been based on parent-report and parent expectancies.

Existing work evaluating the role of parent expectancies in treatment has focused primarily on congruence between parent expectancies about the focus and structure of therapy (e.g., number of sessions required, level of parental involvement) and the actual focus of therapy that is provided (Hoagwood, 2005). Parents' expectations regarding treatment *outcome* expectancies have been evaluated in only one study (Nock & Kazdin, 2001). In that investigation, Nock and Kazdin (2001) found that among clinic-referred youth presenting with oppositional, aggressive, and antisocial behavior, lower parent expectancies predicted subsequent barriers to treatment, poorer treatment participation, and premature termination from therapy. Youth expectancies were not evaluated. Nock and Kazdin (2001) also found that ethnic minority status was uniquely related to lower parent expectancies regarding the likely effectiveness of therapy. Insofar as ethnic minority clients are at higher risk for attrition from therapy (Armbruster & Kazdin, 1994; Kazdin, Stolar, & Marciano, 1995; Novick, Benson, & Rembar, 1981), it is possible that lower mental health utilization rates by minority children may be related to their parents' modest expectations about the likely effectiveness of psychotherapy. Parent expectancies, in turn, may be reduced among parents who believe that their child's problems are due to factors that psychotherapy would be unlikely to remediate (e.g., ascribing the child's problems to spiritual or genetic factors).

A recent investigation of the Treatment of Adolescents with Depression Study (TADS) data (Curry et al., 2006) evaluated possible predictors and moderators of treatment outcome. Findings suggest that adolescent treatment expectancies may predict treatment outcome, whereas parent treatment expectancies may not. As such, evaluating ethnic group differences in youth expectancies may have important clinical implications. Furthermore, Curry and colleagues found that race and level of parent education did not predict or moderate outcome. Family income, however, was found to moderate treatment outcome such that among adolescents whose families earned incomes greater than or equal to \$75,000, cognitive behavior therapy (CBT), fluoxetine (FLX), and the combination of CBT and FLX (COMB) were equivalent, but only COMB and CBT significantly surpassed placebo (PBO). In contrast, FLX was equivalent to COMB for adolescents from families with an income below \$75,000. These interesting findings regarding the TADS inform the current investigation.

With this in mind, in the present investigation we examined ethnic differences in parents' attributions about adolescent behavior and emotional problems, and parent and adolescent treatment outcome expectancies. Although we could not assess service utilization in our analyses, we hypothesized that significant differences would exist between attributions endorsed by parents as a function of ethnicity, and that income and years of education would account for a portion of these differences. We also examined ethnic differences in adolescent and parent expectancies about the effectiveness of the psychiatric treatments for depression

offered in TADS—CBT, FLX, and COMB. We hypothesized that, controlling for income and education, ethnic minority parents and adolescents would endorse less positive expectancies for all forms of treatment. To our knowledge, this is the first study to investigate (1) ethnic differences in parents' attributions for behavioral and emotional problems within a sample of adolescents with major depression, and (2) ethnic differences in parents' and adolescents' expectancies concerning the degree to which depressive symptomatology may be ameliorated by a variety of psychiatric treatments. Given the debilitating impact depression has on the lives of youth (e.g., Weissman et al., 1999), understanding the attributions and expectancies of families that choose to seek out treatment is an important first step in examining how beliefs may contribute to service utilization.

METHODS

Participant Characteristics

Participants were a subsample of the 439 adolescents enrolled in the Treatment for Adolescents with Depression Study (TADS Team, 2003, 2005). Sponsored by the National Institute of Mental Health (NIMH), TADS was a randomized controlled trial of FLX, CBT, COMB, and PBO. The demographic and clinical characteristics of the 439 adolescents participating in TADS are detailed elsewhere (TADS Team, 2005).

Our analysis sample was comprised of 236 depressed adolescents aged 12 to 17 for whom data were collected on (1) parents' (primarily mothers') attributions for their child's problems and (2) parents' (again, primarily mothers') and adolescents' treatment expectancies. Fifty-six percent of this subsample was female. Ethnic differences were examined among African Americans, an aggregate group of "Other" ethnic minorities, and European Americans on measures of attributions and treatment expectancies. The amount of missing data was due to differences across sites in coding procedures. Specifically, sites differed in the numeric codes given to some responses regarding attributions. Much of the missing data was due to the fact that we could not reconstruct these interviews and recode these responses. However, our sample did not differ from the overall TADS sample on any clinical or demographic measure, as detailed below.

Measures

Ethnicity—Ethnicity information was gathered from participants at baseline. Original categories collected in TADS were Caucasian, African American, Hispanic—Black, Hispanic—White, Asian, Native American, Pacific Islander, and Other. The entire TADS sample ($n = 439$) consisted of 324 Caucasians, 55 African Americans, and 60 individuals in the Other category. For the purposes of our analyses, we collapsed Hispanic—Black, Hispanic—White, Pacific Islander, Asian, and multi-ethnic categories into an Other group due to low observed frequencies. Collapsing these groups allowed us to make judicious use of the available data, while still accounting for a portion of the diversity represented in our sample beyond African Americans. Our analysis sample included 199 European Americans, 20 African Americans, and 17 individuals in the Other category who had available data on attribution and treatment expectancy measures. The 17 individuals in the Other category identified themselves as Hispanic—Black ($n = 1$), Hispanic—White ($n = 8$), Pacific Islander ($n = 1$), Asian ($n = 2$), and multi-ethnic ($n = 5$). Chi-square and t tests did not indicate that our subsample differed from the full TADS sample on baseline demographic (age, education, income, gender) or clinical (depression severity, functional impairment) characteristics. Furthermore, within each ethnic group, there were no significant clinical or demographic differences between participants who were included versus excluded in our sub-sample.

The Child and Adolescent Impact Assessment (CAIA)—The CAIA (Angold, Patrick, Burns, & Costello, 1999) is a semistructured parent interview which was adapted for the TADS to assess the impact of adolescents' behavioral and/or emotional problems on their families. It is derived from a larger interview package, the Child and Adolescent Psychiatric Assessment (CAPA; Angold et al., 1995), which assesses impact in the areas of economic burden, positive and negative family relationships, family activities, responsibility for problems, and caregiver personal well-being. The CAIA has good internal consistency and has shown good discriminant validity between general and clinical samples (Farmer, Burns, Angold, & Costello, 1997). Retest reliability for the interview on which the CAIA is based is good (Costello et al., 1996), with Kappa statistics for individual items over 0.60. The measure includes a set of 15 items that assess parents' attributions for the cause of their child's behavioral or emotional problems: the role of genetics; physical injury or disability; previous traumatic experience; child responsibility for the problem; self responsibility; partner responsibility; child's other parent responsibility; other family member responsibility; the child's peers; school, neighborhood, or community influences; chance or bad luck; God's will; Satan and "other." Possible coded responses on the CAIA were "vague or indefinite," "partially responsible," or "completely responsible" attributions. Parents could endorse as many of the items as they wished. Administration occurred prior to treatment randomization.

Treatment Expectancy: Parent & Adolescent (TEP/TEA)—The TEP and the TEA were designed for TADS and are parent and adolescent self-report questionnaires that assess the degree to which caregivers (88% mothers, 10% fathers, 2% other caregivers) and adolescents, respectively, expect the adolescent to benefit from a particular treatment. All questionnaires were completed prior to randomization, thus, participants did not know which treatment they would subsequently receive. This questionnaire contained items for each treatment—CBT, FLX, and COMB (parent form version): "If treated with *insert treatment*, I expect (my teenager will be) my depression problems will be ..." Responses could range from 1 (*very much improved*) to 7 (*very much worse*). As we were interested primarily in expectations for improvement, we recoded this to a 4-point scale 3 from 0 (*very much worse to no change*), 1 (*minimally improved*), 2 (*much improved*), to 3 (*very much improved*). Parents and adolescents were asked to respond to each item.

Covariates

Income and Education—Gross family income over the past year was obtained using a version of the Child and Adolescent Services Assessment (CASA; Ascher & Farmer, 1996) adapted for TADS. The CASA categorizes income in 12 intervals ranging from less than \$5,000 to over \$200,000. The modal income of families in the analysis sample was between \$50,000 and \$74,999. When annual income was missing ($n = 15$), this modal income category value was imputed. Information on the highest level of education obtained by the adolescent's parents was gathered at baseline. If data for both mother and father were available, the highest value was retained. If data for only one parent was available, this data was retained. In the case of missing data ($n = 8$), the analysis sample mode was imputed (modal education = high school graduate).

Clinical Characteristics—Age and gender were collected from participants at baseline. Participant pretreatment depression severity ratings were obtained using an independent evaluator-completed 7-point Clinical Global Impression-Severity scale (CGI-S; Guy, 1976), which was completed after administration of the Children's Depression Rating Scale-Revised (CDRS-R; Poznanski and Mokros, 1996) for symptoms in the past week. Both the CGI-S and CDRS-R are included in our analyses as measures of depression severity. In addition, a self-report depression measure was completed by adolescents. The Reynolds Adolescent Depression Scale (RADS; Reynolds, 1987) is a 30-item self-report measure of current

depressive symptomatology. This measure utilizes a 4-point Likert scale and has excellent internal consistency and good test-retest reliability (Reynolds, 1987). Our analyses use total scores, with higher scores reflecting more severe depression. To assess functional impairment, the independent evaluator also completed the 100-point Children's Global Assessment Scale (CGAS; Shaffer et al., 1983), yielding an index of overall functioning in the past week. This rating scale has good reliability (Rey, Starling, Wever, Dosseter, & Plapp, 1995) and measures functional competence.

Statistical Analyses

Principal Components Analysis (PCA)—We conducted an exploratory PCA from the 15 attribution items in the CAIA for the purposes of exploring ethnic differences in parents' beliefs about the causes of their adolescents' behavioral and emotional problems. Three of the 15 attribution items (other parent, partner, and other) were omitted because they were found to have a large amount of missing data among subjects with a high (80% response to 12 of 15 items) overall completion rate. A PCA with a varimax rotation was conducted to examine the factor structure of the attribution variables. Using Scree and Kaiser methods (including a minimum eigenvalue of 1.0), PCA procedures employing a varimax rotation were conducted on the remaining attribution items. An attribution variable was dropped from the final solution model if its factor loading was less than 0.45 on all retained factors or if the item was the only variable with a loading of 0.45 or more comprising a given factor.

Clinical and Demographic Characteristics—For the 236 participants in our study, as well as for each ethnic group individually, descriptive statistics were calculated. These include: least square means, standard deviations, and ranges for each variable. Spearman correlations were calculated for clinical and demographic variables. A General Linear Model (GLM) was conducted with *a posteriori* tests to determine if the three ethnic groups differed on clinical and demographic measures at the 0.05 level.

Ethnic Differences in Explanatory Factors and Treatment Expectations—GLMs were conducted to test for ethnic differences on the parental attribution factor-based score derived from the PCA and parent and youth treatment expectancy scores for CBT, medication, and their combination. These analyses were subsequently conducted controlling for baseline income and education. If the *F* statistic for the Type III Sum of Squares was significant at the 0.05 level, we conducted *a posteriori* pairwise comparisons using least square means *t* tests. For each attribution and expectancy item, ethnic differences were tested with and without income and education in the model as covariates.

RESULTS

PCA Factor-Based Scores

The initial PCA yielded a 5-factor solution accounting for 57% of the variance. The "other family member" item was removed since it did not meet our 0.45 minimum loading criteria. A re-analysis of the remaining 11 items yielded a 5-factor solution accounting for 60% of the variance. The fifth factor was comprised of a single variable, "Satan," and was removed from further analysis. The final PCA with 10 attribution items and 219 patients yielded four conceptually meaningful factors that accounted for 55% of the variance. Table 1 shows the factor loadings of each variable. Factor 1, which can be described as attributions to external circumstances, includes attributions to God's will, luck/chance, and adolescent's friends/peers and accounted for 20% of the variance. Factor 2, which can be described as attributions to family, accounted for 13% of the variance and includes attributions to the self (parent) and to the child. Factor 3, which can be described as attributions to community, accounted for 12% of the variance and includes attributions to the neighborhood/community, the school, and

previous traumatic experience. Factor 4, which can be described as attributions to physical factors, accounted for 10% of the variance and includes attributions to genetics and/or physical injury disability. Factor-based scores for subsequent analyses were generated by summing the raw values of individual attribution items.

Clinical and Demographic Characteristics

The Spearman correlation between income and education was significant, $\pi = .34, p < .001$. This was also the case within each ethnic group individually: among European Americans, $\pi = .31, p < .001$, among African Americans, $\pi = .56, p = .011$, and among those in the Other group, $\pi = .59, p = .012$. There were no significant differences among ethnic groups in terms of clinical characteristics (Table 2).

Ethnic Differences in Patient Characteristics

Results from GLM analyses examining patient characteristics are presented in Table 2. The ethnic groups included in our analyses did not differ with regard to mean severity of depression, age, or level of impairment in functioning.

Ethnic Differences in Attributions and Treatment Expectancy

Among parents, ethnic groups differed in the degree to which they attributed their adolescent's emotional and behavioral problems to physical factors, $F(2, 233) = 5.45, p < .01$, with European Americans being more likely to attribute adolescent problems to physical or biological causes than African Americans, $t(233) = 3.26, p < .01$. The GLM did not indicate significant group differences for external circumstances, family, or community factor-based scores (see Table 2). In regard to differences in treatment expectancies, an ethnic group difference emerged for parental expectancies for CBT, $F(2, 233) = 3.25, p < .05$, with African American parents endorsing higher expectations of CBT than both European American parents, $t(233) = -2.15, p < .05$, and parents in the Other category, $t(233) = 2.44, p < .05$. Among parents there were no significant ethnic differences in expectancy for FLX or COMB. There were no ethnic differences in adolescent treatment expectancies. Means and standard deviations for treatment expectancy by ethnic group are presented in Table 3.

Next, we evaluated the effects of parent education, income, and their interaction. These results are presented in Table 4 and Table 5. Controlling for parent education, income, and their interaction, ethnic differences remained in attributions for the physical factor, $F(2, 230) = 4.79, p < .01$. Once again, European American parents remained more likely to attribute their adolescent's problems to physical factors than African American parents, $t(233) = 3.05, p < .01$. In terms of treatment expectancy, controlling for parent education, income, and their interaction, ethnic differences remained in parents' expectations of CBT, $F(2, 230) = 3.58, p < .05$, with European American parents endorsing lower expectancies than African American parents, $t(233) = -2.27, p < .05$, and African American parents endorsing higher expectancies than parents in the Other group, $t(230) = 2.55, p < .05$. Parent education level did significantly contribute to the model, $F(1, 230) = 3.92, p < .05$. In addition, the effects of income, $F(1, 230) = 3.18, p = .08$, and the interaction of education by income, $F(1, 230) = 3.65, p = .06$, approached significance.

DISCUSSION

In this study, we examined ethnic differences in (1) parents' attributions regarding their adolescent's behavioral and emotional problems, as well as (2) ethnic differences in parents' and adolescents' treatment expectancies. Our findings indicate that European American parents were more likely to attribute their adolescent's problems to a physical factor than African American parents. Parents' attributions for their adolescent's problems did not differ between

ethnic groups for any of the other identified factors. With regard to group differences in treatment expectancies, African American parents reported higher expectations for CBT than European American parents and parents in the Other ethnicity category. Parent expectancies did not differ for other treatment modalities and we did not detect group differences in adolescent expectancies for any of the forms of treatment.

Our findings are generally consistent with prior research suggesting that European American parents may believe biological or physical factors play a greater role in the etiology of their child's illness than African American parents (Bussing et al., 1998, 2003; Yeh et al., 2004). Although it is possible that the relationship between ethnicity and beliefs about the etiology of mental illness may differ as a function of disorder type, the tendency for European American parents to endorse physical and biological etiologies more frequently than African American parents may contribute to discrepancies in mental health service utilization. Our findings suggest that African American parents may be more likely to seek out psychotherapy if they perceive the cause of their child's emotional and behavioral problems to stem from nonphysical factors. Similarly, to the extent that parents believe that the cause of their child's depression is physical in nature, they may be more likely to seek services that include a medication component, particularly services in traditional medical settings.

Prior work has suggested that parents' treatment outcome expectancies may differ as a function of ethnic background (Nock&Kazdin, 2001). We were surprised, as such, not to find more robust group differences in parent expectancies. Differences between our findings and those reported by Nock and Kazdin may be related to the differences in the presenting concerns of the youth in each sample. Whereas Nock and Kazdin evaluated expectancies among parents of youth with externalizing disorders, we focused on expectancies for treatment of an internalizing disorder, namely, depression. It is possible that parents' beliefs differ as a function of the disorder in question. This possibility is worthy of attention in future studies. In addition, it should be noted that families in the TADS were made aware of empirical support for the effectiveness of medications and psychosocial interventions for depression among youth as part of the informed consent procedure. This may have played a role in our null results for group differences in treatment expectancies in this sample.

Limitations

In the present investigation, all participants had sought treatment for depression and had consented to the study with awareness that they may be randomized to a condition including medication. This represents a restriction of range, as relations between ethnicity, attributions, and treatment expectancies may be found to differ within a sample that includes those who have not sought services. In future work, it will be informative for investigators to follow Yeh and colleagues' (2005) lead in linking attributions and treatment expectancies to help-seeking behaviors. Doing so will be crucial in determining whether differences in parent etiological beliefs do, in fact, relate to discrepancies in utilization of mental health services between ethnic majority and minority youth.

It should also be noted that the response format of the CAIA was forced choice using one of three responses—"vague or indefinite," "partially responsible," or "completely responsible." Respondents did not, therefore, have the option to indicate "unsure" or "not responsible." Our data only reflect the beliefs of individuals making an attribution regarding their adolescent's distress. Accordingly, we cannot distinguish between situations in which participants did not respond to particular items because they did not believe the item played a role in the etiology of their child's illness from situations in which they did not respond for other reasons (e.g., noncompliance, unwillingness to acknowledge particular attributions). In addition, other measures of attributions exist and the use of such measures may lead to different and more

specific results. Lastly, the inclusion of more father figures, as opposed to our sample of primarily mother respondents, may yield different findings.

In spite of these limitations, our investigation highlights ethnic differences in attitudes and expectations in a randomized controlled trial of treatments for adolescent depression, controlling for the influences of income and education, assessing an ethnically diverse sample, and using psychometrically strong measures that address conceptually meaningful factors.

Clinical Implications and Future Directions

Overall, clinicians would do well to attend to each patient and family's understanding of the etiology of their problems and treatment expectancies, regardless of ethnic background, in order to inform effective treatment planning.

Additional work is needed to explicate reasons for discrepancies in utilization of mental health services between ethnic minority and majority youth. Indeed, given that minorities may be less likely to seek treatment for mental health services (U.S. Department of Health and Human Services, 2001), our findings must be replicated in a sample not already seeking services. Moreover, researchers should evaluate ethnic differences in unselected clinic samples and among at-risk community youth who are not currently receiving treatment. Attempts should also be made to include larger samples of minorities, as well as minorities for whom English is not the primary language.

Our findings suggest that ethnic differences exist in the ways that parents understand the causes of their adolescent's emotional and behavioral problems, and in parent and adolescent expectancies regarding the likely benefit of treatment for depression. Continuing to advance our understanding of these factors will be particularly useful because, in contrast to many client characteristics that cannot be changed, expectancies and attributions about illness can be targeted in outreach and educational programs (Dew & Bickman, 2005; Tinsley, Bowman, & Ray, 1988)

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TABLE 1

Child & Adolescent Impact Assessment Etiological Attribution Factors

Attribution	External Factors	Family Factors	Community Factors	Physical Factors
God's will	0.80	-0.12	-0.04	-0.14
Chance/Bad luck	0.75	0.20	-0.03	0.22
Child's friends/peers	0.62	0.21	0.21	0.11
Self (e.g. parent/caretaker)	0.07	0.76	-0.06	-0.11
Child	0.13	0.71	0.20	-0.06
Neighborhood/community	0.02	-0.27	0.77	-0.27
School	0.19	0.20	0.60	0.21
Previous traumatic experience	-0.07	0.21	0.53	0.26
Genetics	-0.03	-0.10	0.05	0.77
Physical injury/disability	0.12	-0.05	0.06	0.54

Note. Principal components analysis with varimax rotation. Boldface indicates factor loadings > 0.45.

TABLE 2
Ethnic Differences in Attributions and Pre-Treatment Characteristics

Informant	Variable	European American (n = 199)	African American (n = 20)	Other (n = 17)	F-value	p-value
Parent	External Factors	4.51 (1.42)	4.85(1.42)	4.18(1.42)	1.04	0.354
	Family Factors	3.13 (0.94)	2.90 (0.94)	3.12(0.94)	0.55	0.576
	Community Factors	4.02 (1.00)	4.10 (1.00)	3.94(1.00)	0.12	0.888
	Physical Factors	3.10 (0.78)	2.50 (0.78)	2.94(0.78)	5.45	0.005
Adolescent	CDRS-R	60.46(10.62)	61.05(12.53)	60.18(10.44)	0.03	0.966
	RADS ^a	80.54(13.60)	80.45(13.55)	73.29(11.37)	2.28	0.105
	CGAS	49.71 (7.96)	47.00 (7.38)	49.94 (9.53)	1.06	0.348
	CGI-S	4.82 (0.82)	4.40 (0.75)	4.76 (0.97)	2.40	0.093
	Age	14.47 (1.52)	14.75 (1.48)	14.82 (1.91)	0.64	0.528

Note. Parent variables are least square means and standard deviations (SD) from a General Linear Model (GLM). Adolescent variables are unadjusted means and standard deviations (SD) from a GLM. These results do not include parent income and education as covariates. Factor-based scores are derived from the exploratory principal components analysis of the Child and Adolescent Impact Assessment (CAIA) attribution items. CDRS = Children's Depression Rating Scale - Revised. RADS = Reynolds Adolescent Depression Scale. CGAS = Children's Global Assessment Scale. CGI-S = Clinical Global Impression Severity scale.

^a n = 198 for pre-treatment RADS.

TABLE 3
Treatment Expectancy Ratings by Ethnic Group and Treatment Modality

Treatment Modality	Informant	European American (n = 199)	African American (n = 20)	Other (n = 17)	F-value	p-value
CBT	Parent	1.61 (0.67)	1.95 (0.67)	1.41 (0.67)	3.25	0.040
	Adolescent	1.38 (0.86)	1.50 (0.86)	1.47 (0.86)		
Medication	Parent	1.69 (0.69)	1.65 (0.69)	1.47 (0.69)	0.26	0.772
	Adolescent	1.52 (0.81)	1.65 (0.81)	1.59 (0.81)		
Medication + CBT	Parent	2.56 (0.58)	2.40 (0.58)	2.71 (0.58)	0.79	0.457
	Adolescent	2.10 (0.87)	2.10 (0.87)	2.06 (0.87)		

Note. Least square means and standard deviations (SD). CBT = cognitive behavioral therapy.

TABLE 4*F*-statistics for Ethnic Differences in Attributions Adjusting For Parent Education and Income

Attribution Factor	Ethnicity	Parent Education	Family Income	Education × Income
External Factors	1.17	0.12	0.36	0.02
Family Factors	0.62	0.23	0.15	0.08
Community Factors	0.09	0.00	0.18	0.27
Physical Factors	4.79 ^{**}	1.37	1.30	1.25

Note. Cell values represent *F*-statistic values for Type III Sum of Squares. Results from General Linear Models.

**
p = .01.

TABLE 5
F-Statistics for Ethnic Differences in Treatment Expectancies Adjusting for Parent Education and Income

Treatment Group	Informant	Ethnicity	Parent Education	Family Income	Education × Income
CBT	Parent	3.58*	3.92*	3.18	3.65
	Adolescent	0.43	0.10	0.40	0.02
Medication	Parent	0.73	0.43	0.69	0.47
	Adolescent	0.40	0.00	0.10	0.00
Medication + CBT	Parent	0.92	3.17	2.88	1.88
	Adolescent	0.07	1.07	1.58	0.72

Note. Cell values represent *F*-statistic values for Type III Sum of Squares. Results from General Linear Models.

* $p < .05$.