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I, Jerren C Weekes M.A., hereby submit this original work as part of the requirements for the degree of Master of Arts in Psychology.

It is entitled:

The Relation of Race/Ethnic-Matching to the Engagement, Retention, and Treatment Outcomes of Adolescent Substance Users

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**The Relation of Race/Ethnic-Matching to the Engagement, Retention, and Treatment
Outcomes of Adolescent Substance Users**

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Abstract

This study examined the relation of race/ethnic-matching (i.e., matching therapist and client based on self-reported race/ethnicity [REM]) to the treatment outcomes of 471 Hispanic, African American, and White adolescents in substance abuse treatment. Additionally, exploratory analyses were conducted to examine family functioning as a moderator variable between racial/ethnic match and treatment outcomes. Logistic and multiple regression analyses revealed that REM, alone, did not significantly predict the treatment outcomes of the African American and White adolescents. However, REM predicted an increase in the externalizing behaviors (e.g., non-compliance, aggression, hyperactivity) and substance use of Hispanic adolescents 12 months post baseline assessment. Family functioning moderated the relationship between REM and treatment engagement for African American adolescents. As family functioning worsened, African American adolescents who were matched had a higher likelihood of treatment engagement. Implications for substance abuse treatment with ethnic minority adolescents and future race/ethnic-matching research are provided.

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The Relation of Race/Ethnic-Matching to the Engagement, Retention, and Treatment Outcomes of Adolescent Substance Users

Adolescent substance use is a major public health concern with pervasive societal, financial, and health consequences. Many substance abuse treatments are effective in lowering adolescent use (Deas & Thomas, 2001) and reducing the likelihood of detrimental consequences of use. However, data from the Substance Abuse and Mental Health Services Administration (SAMHSA) suggest that many adolescents fail to receive needed substance abuse treatment. For example, 90.6 % of the 1.5 million youth (ages 12-17) who needed alcohol treatment between 2003 and 2004 failed to receive the treatment (SAMHSA, 2006). Eighty-seven percent of the 1.4 million youth who needed treatment for illicit substance use did not receive treatment (SAMHSA, 2006). These statistics demonstrate a substantial discrepancy between the need for and receipt of substance abuse treatment for adolescent users in the United States.

The limited receipt of substance abuse treatment among U.S. adolescents, while concerning overall, is particularly disconcerting for African American and Hispanic adolescent users. African American and Hispanic adolescents face greater risk of incurring consequences of substance use, such as HIV/AIDS (National Institute of Allergy and Infectious Diseases, 2008), delinquency (Barnes, Welte, & Hoffman, 2002), and incarceration (Fellner, 2009), yet have lower rates of treatment entry and completion than non-Hispanic White adolescents (Heflinger, Chatman, & Saunders, 2006; Pumariega, Glover, Holzer, & Nguyen, 1998). Adolescent minority users, much like their White counterparts, also incur additional consequences of substance use such as poor educational attainment (King, Meehan, Trim, & Chassin, 2006), substance dependence during adulthood (Gil, Wagner, & Tubman, 2004), and adult psychiatric illness (Brook, Richter, & Rubenstone, 2000). Taken together, these findings highlight a critical need

for research evaluating factors that increase treatment use and reduce substance use among adolescent users, particularly African American and Hispanic adolescent users.

Cultural Adaptation of Adolescent Substance Abuse Treatments

Currently, mainstream empirically based treatments tend to be developed from a Euro-American cultural perspective and are deemed effective largely based on data from middle class, English speaking, White participants (Huey & Polo, 2010; Miranda, Nakamura, & Bernal, 2003). Nevertheless, therapists use these interventions with ethnic minority adolescents who have significantly different life experiences and perhaps cultural values than White Americans. Treatments that lack cultural sensitivity can decrease ethnic minority commitment to, and perceived relevance of, psychotherapy and may result in treatment attrition (Barnett & Bivings, n.d.; Thompson et al., 2004). However, culturally adapting substance use treatments (i.e., altering treatment components to be more culturally relevant for minority users [Resnicow, Soler, Braithwaite, Ahluwalia, & Butler, 2000]) may increase cultural sensitivity and beneficially impact the treatment use and outcomes of ethnic minority adolescents (Domenech Rodriguez, Baumann, & Schwartz, 2011; Miller, Southam-Gerow, & Allin Jr, 2008). Culturally adapting substance abuse treatments is recommended due to differences in prevalence rates, risk factors, and predictors of substance use across ethnic/racial groups (Resnicow et al., 2000).

Racial/Ethnic-Matching as a Cultural Adaptation

The assignment of clients to counselors of the same self-reported race/ethnicity, hereafter referred to as race/ethnic matching (REM), is a form of cultural adaptation that seemingly fits within two prominent theoretical frameworks. According to Resnicow and colleagues (2000), *surface structure modification* involves altering interventions/treatments so that they *appear* more culturally relevant for African Americans, and thus increases the acceptability of the

intervention. This may include matching aspects of mental health interventions to fit African American culture (e.g., using African American treatment staff). Similarly, Bernal and Saez-Santiago (2006) published a theoretical model to guide the development and evaluation of treatments used with Hispanic clients. Bernal proposed several dimensions clinicians should consider, one of which takes into account the impact racial similarity or dissimilarity has on treatment for Hispanic clients (i.e., the “persons” dimension). Additionally, REM seems consistent with the Hispanic cultural concept of *personalismo*-the preference for relationships with members of the in-group or “those with whom one identifies or considers part of the same ethnic group” (Marin, 1989, p. 414; Schwartz, 2009).

REM fits nicely within the theoretical frameworks proposed by Resnicow et al. (2000) and Bernal & Saez-Santiago (2006) and may increase the cultural sensitivity of a treatment for African American and Hispanic substance using adolescents. While REM may not address core treatment content, it potentially removes barriers that contribute to poor engagement/ retention, and treatment outcomes among ethnic minority youth. The most significant of these barriers is cultural dis/mistrust (Whaley, 2001). Cultural dis/mistrust stems from the fear of being misdiagnosed or misunderstood by a non-racially similar clinician who may lack cultural knowledge and competence (Thompson et al., 2004). Racial/cultural dissimilarity coupled with cultural dis/mistrust can lead to poor treatment engagement (Gil, Wagner, Tubman, 2004; Whaley, 2001), poorer communication, understanding, and rapport between therapist and client (Sue & Sue, 1977).

According to prior research, REM can affect treatment use for ethnic minority adolescents. Specifically, matched adolescents stay in treatment longer (Erdur, 2003), drop out of treatment less (Hall, Gueterman, Lee, & Little, 2002; Yeh, Eastman, & Cheung, 1994), and

attend more treatment sessions (Yeh et al., 1994). These findings are consistent with adult literature in which REM increases service utilization (Fujino, Okazaki, & Young, 1994) enhances the client-therapist working alliance, and increases perceived counselor effectiveness and benefit of therapy (e.g., Farsimadan et al., 2007) for several ethnic minority groups (i.e., Asian, Hispanic, African American/Black).

Literature on REM and Adolescent Substance Abuse Treatment

To date, only two published REM studies are available that included adolescent substance users in their samples. The first study (Halliday-Boykins, Schoenwald, & Letourneau, 2005) investigated the impact of racially matching adolescent caregivers with therapists in Multisystemic Therapy (a family based intervention for youth with behavioral problems). The predominantly White sample consisted of 18.6% African Americans and 4.5% Hispanics. Halliday-Boykins and colleagues found that youth whose caregivers were racially/ethnically matched with the therapist had a greater reduction in symptoms, increased retention, and greater likelihood of meeting treatment goals than those who were not racially/ethnically matched ($p < .05$). While the findings show the beneficial effects of REM, the findings were not analyzed separately for the substance users, who comprised 32% of the total sample.

In a subsequent study, Flicker, Waldron, Turner, Brody, and Hops (2008) were the first to specifically examine the impact of REM on adolescent substance use outcomes. The sample consisted of 86 Hispanic and White substance using youth in Functional Family Therapy. REM did not affect treatment use and substance use outcomes for the White adolescents in this study. However, analyses revealed that Hispanic youth in matched dyads decreased their substance use more than Hispanic youth with White therapists. This finding illustrates the utility and relation of REM to substance use outcomes for Hispanic adolescent substance users.

Gaps in the Literature

As discussed, literature on the effects of REM on treatment use and outcomes for substance using adolescents, particularly African American and Hispanic adolescents is scarce. Due to the paucity of literature on this issue, several remaining questions need to be addressed. Addressing gaps in the literature can help answer the questions of when (i.e., in what contexts, with what racial/ethnic groups, and with what variables) and how (i.e., through what moderator/mediator variables) REM influences the treatment of adolescent substance users. This study will address the following gaps in the literature.

First, published studies specifically assessing the relationship between REM and treatment use (i.e., engagement and retention) and outcomes (e.g., substance use and externalizing behaviors) for African American substance using youth are not available. Flicker et al. (2008) conducted the first REM study with substance using adolescents but limited their study to Hispanic and White substance using adolescents. The shortage of REM studies with adequate number of African American substance using adolescent participants, if any, makes it difficult to generalize prior findings and deduce the specific impact of REM on treatment outcomes in this particular subset of the population.

Second, Flicker and colleagues (2008) included the Child Behavior Checklist of internalizing and externalizing behaviors (i.e., aggressive, hyperactive, non-compliant, or under controlled behaviors) in their study, but did not assess REM in relation to this outcome. Adolescent externalizing behaviors and substance use often co-occur, are thought to have a common etiological connection (Krueger et al., 2002), and are common mental health issues for adolescents (Loeber & Stouthamer-Loeber, 2008). As such, research is also needed to assess the impact of REM on externalizing behaviors among substance abusing adolescents.

Third, the two prior studies (i.e., Flicker et al., 2008; Halliday-Boykins et al., 2005) examined REM within the highly effective treatment modality of family therapy (Szapocnik et al., 2007), yet did not thoroughly assess the ability of family related variables (i.e., family functioning) to moderate the REM-treatment outcomes relationship. Literature supports the integral role family functioning plays in initiation and maintenance of adolescent substance use behaviors, and the bidirectional relationship between adolescent substance use behaviors and family functioning (Stewart & Brown, 1993). Additionally, dysfunctional family dynamics may interfere with treatment implementation and thus treatment effectiveness. Examining family functioning as a moderator variable is important because family functioning has moderated adolescent responses to treatment in prior research (e.g., Fenny et al., 2009).

Family functioning may moderate the relationship between REM and treatment outcomes for substance using adolescents. For example, REM may be less important in treatment with families who enter therapy with little dysfunction, few presenting problems, and thus a greater ability to engage in treatment. However, REM may be a more important factor in treatment with dysfunctional families with multiple issues and greater difficulty engaging into treatment. Research is needed to address this under-investigated, yet highly relevant, issue.

To date, inconsistencies in the literature (Weekes, 2010) and unaddressed questions make it difficult to conclude whether REM improves substance abuse services for adolescent, particularly ethnic minorities. Although numerous investigations of REM among adult psychotherapy clients (e.g., Farsimadan et al., 2007; Fujino, Okazaki, & Young, 1994) exist, few investigations using child/adolescent samples (e.g., Jerrell, 1998) are available. Even fewer studies examine the relation of REM to engagement, retention, and treatment outcomes, specifically for Hispanic and African American substance using adolescents, exist. Given the

gaps in the literature, this study will be the first to (1) specifically examine the relation of REM to treatment entry, treatment retention, externalizing behaviors, and substance use outcomes, (2) utilize a sample of African American, Hispanic, and non-Hispanic White substance using adolescents, and (3) evaluate family functioning as a moderator variable between REM and treatment outcomes.

Current Study

Utilizing the theory of *surface modification* (proposed by Resnicow et al., 2000), and Bernal's theoretical framework for culturally centering interventions (Bernal & Saez-Santiago, 2006), this study examined the ability of REM to improve the engagement, retention, and treatment outcomes (i.e., substance use and externalizing behaviors) of substance using adolescents. The current study is one of few to investigate the impact of REM on adolescent substance use outcomes and the first to assess family functioning as a moderator variable.

This study has two aims. The *first aim* is to determine whether REM significantly influences the engagement, retention, and treatment outcomes for the African American, Hispanic, and White participants. It is hypothesized that adolescent substance users who have therapists of the same race will have higher engagement, higher retention, less externalizing behaviors, and less substance use at follow-up compared to non-matched adolescents. The *second aim* is to determine if the effect of REM on treatment outcomes varies with the (pre-treatment) functioning of the family. It is hypothesized that baseline family functioning will moderate the relationship between REM and the externalizing behaviors, substance use, and particularly, the engagement and retention outcomes.

Method

Participants

The current study is a secondary analysis of existing data from a NIDA Clinical Trials Network (NIDA CTN-0014) funded study evaluating Brief Strategic Family Therapy (BSFT) vs. Treatment as Usual (TAU). The sample of 471 adolescents included 110 African American, 213 Hispanic, and 148 non-Hispanic Whites. All were enrolled in treatment at one of eight sites participating in the national study sponsored by the NIDA CTN. The eight sites were located in Arizona, Ohio, Florida (Jacksonville, and Miami), Puerto Rico, North Carolina, California, and Colorado. Adolescents who were between the ages of 12-17, self-reported use of some illicit substance 30 days prior to enrollment, had family willing to participate in family therapy and resided in the local area of their local respective treatment center were eligible to participate in the study. In the original study (Robbins et al., 2009), there were 480 participants. However, nine of those participants self-identified as 'other' or did not indicate a race/ethnicity. As a result, they were not included in this secondary analysis.

A total of 49 therapists were recruited to participate in the original study (Robbins et al., 2009). Twenty (41%) were randomized to BSFT, and 29 (59%) were randomized to TAU. Thirty-seven (76%) of the therapists were female and 12 (24%) were male. The mean age of the therapists was 40.37 (SD = 10.78). Only the therapists who self-identified as non-Hispanic White (n=27 [55%]), non-Hispanic Black/African American (n=9 [18%]), or Hispanic (n=11, [22%]) were included in this secondary analysis. Two therapists were excluded because they either self-reported as Asian or did not report race/ethnicity.

Variables/Measures

Demographic data. A demographic form was included into the test battery to characterize the sample. This self-report form included information about participant age, gender, self-reported race/ethnicity, and participant substance use.

Engagement/Retention. The total number of sessions delivered to each participant was assessed monthly via therapist interviews. Therapists reported on both the recommended amount of sessions and the actual amount of sessions delivered to participants during each month. Total treatment dose was the sum of all therapy sessions delivered to participants. Consistent with the main study (Robbins et al., 2009), participants were considered ‘engaged’ if they attended two or more sessions, and ‘retained’ if they attended eight or more sessions of treatment.

Drug use. The Timeline Follow Back (TLFB) and substance use assays were used to measure adolescent drug use. The TLFB is a self-report measure that uses a timeline (calendar) based interview to assess a user’s pattern and frequency of drug use over a specified period of time (Sobell & Sobell, 1996). Though originally developed to assess alcohol use, the TLFB has high reliability, validity, and agreement with urine assays for substance users. Thus, it is an appropriate assessment measure for substance using populations (Fals-Stewart, O’Farrell, Freitas, McFarlin, & Rutigliano, 2000). In the present study, the TLFB was administered at all assessment points (baseline through 12 follow-up time points) and provided information on daily drug use for each day since the last assessment. The dependent measure in this study was the percentage of drug use days at the last follow-up point.

Substance abuse assays (i.e., urine screens) are a biochemical method that accurately identifies recent substance use. Urine specimens for drug screens were obtained at all assessment points. Results from the urine screens were used to assess the accuracy of self-report data gathered from the TLFB interview.

Externalizing behaviors. Three measures were used to assess adolescent externalizing behaviors- The National Youth Survey Self-Report Delinquency Scale, The Youth Self Report (YSR), and the Diagnostic Interview Schedule for Children-Predictive Scales (DISC-PS). The

National Youth Survey Self-Report Delinquency Scale (Elliot, Ageton, Huizinga, Knowles, & Cantor, 1983) is a 23-item self-report assessment of adolescent delinquent behaviors. The items were scored to yield a Total Delinquency Variety Score, which was used in the present study as an indicator of an adolescent's externalizing behaviors (e.g., delinquency, aggression, hyperactivity, non-compliance). In this sample, Cronbach alphas for the Delinquency subscale were .84, .75, and .83 for the Hispanics, African Americans, and Whites, respectively (Feaster et al., 2010).

The YSR was used to assess self-reported problematic behaviors. The 32 –item Externalizing Scale was used as an indicator of externalizing behaviors within the present study. Items were endorsed based on a 3-point Likert scale (2- very often true, 1- somewhat true, and 0- not true) and responses were summed to create a total score. This measure had high internal consistency in this sample, as indicated by Cronbach alphas that ranged from .86 to .89 for ethnic/racial groups present in this study (Feaster et al., 2010).

The parent and adolescent scale of the DISC-PS was the third measure of externalizing behaviors. This scale is comprised of 25 parent and 15 adolescent items assessing both Oppositional Defiant Disorder and Conduct Disorder (Lucas et al., 2001). Cronbach alphas scores for the parent report of Conduct Disorder and Oppositional Defiant Disorder were above .73, indicating acceptable internal consistency. Cronbach alpha scores for the adolescent report of Conduct Disorder and Oppositional Defiant Disorder were lower than those obtained from the parent scale, yet still acceptable. Alpha scores for the Conduct Disorder scale and the Oppositional Defiant Disorder scale ranged from .55-.69 and .65-.66, respectively, for the Hispanic, African American, and White participants (Feaster et al., 2010).

Family functioning. Two measures were used to assess family functioning- the Parenting Practices Questionnaire (PPQ) and the Family Environment Scale (FES). The PPQ is a family functioning measure that consists of a 31-item parent report and 30-item adolescents report on the following four areas of functioning: Positive Parenting (6-items), Discipline Effectiveness (5-items), Avoidance of Discipline (7-items), and Monitoring (12 items for adolescents/13 items for parents). According to published guidelines, items were scored and summed to create total scores for the parent and adolescent reports. In this sample, Cronbach alpha scores of internal consistency ranged from .66 to .89 for the racial/ethnic groups (Feaster et al., 2010).

The FES, developed by Moos and Moos (1986), assessed familial cohesion and conflict. In this study, parent and adolescent report were obtained for both the Cohesion and Conflict subscales (18 items total). The adolescent Cronbach alpha scores for the Conflict and Cohesion subscales ranged from $\alpha = .66-.74$, and $\alpha = .60-.75$, respectively. Cronbach alphas scores for the parent items on the Conflict and Cohesion subscales range from $\alpha = .72-.75$, and $\alpha = .74-.79$, respectively (Feaster et al., 2010).

Racial/ethnic match (REM). Based on the therapist and client self-reported ethnicity, two groups were created. Those assigned to a therapist who indicated that s/he was of the same racial/ethnic group as his/her client were considered matched. Those assigned to a therapist who indicated that s/he was a race/ethnicity other than his/her respective client were considered unmatched.

Procedure

Participants were recruited from eight different outpatient community treatment facilities located around the country. Following screening, consent, and baseline assessment, participants

were randomized to BSFT or TAU via an urn randomization algorithm (Robbins et al., 2009; Stout, Wirtz, Carbonari, & DelBoca, 1994) to ensure that the treatment groups were balanced based on race and level of drug use. Therapists were also randomly assigned to either BSFT or TAU. Appropriate Institutional Review Board approval was obtained for this secondary data analysis.

Treatments.

Brief Strategic Family TherapyTM (BSFT). BSFT is a manualized treatment that targets adolescent behavioral issues including substance abuse. BSFT has been demonstrated to decrease substance use and problem behaviors in Hispanic (Santisteban et al., 1997; Santisteban et al., 2003) and African American youth (Santisteban et al., 1997). In this study, BSFT consisted of 12 -16 sessions that were each one to two hours in length. The sessions were delivered over a four month period.

In order for participating therapists to be certified as BSFT practitioners, those randomized to this condition had to undergo extensive didactic training and supervision (144 hours over a five-month period) prior to receiving clients. Therapists were evaluated based on their adherence to BSFT practices and their case formulation abilities. Once the therapists demonstrated competence, they received certification documenting their ability to implement BSFT (Robbins et al., 2009).

Treatment as usual (TAU). TAU differed at each treatment center involved in the clinical trial. Therapists in TAU provided at least one session a week, along with ancillary services (e.g., case management). The therapy sessions consisted of individual and/or group therapy, but did not involve a manualized family based intervention. In order to provide equal

treatment dosage for clients assigned to either condition, both BSFT and TAU had to consist of 12-16 therapy sessions over a three to four month period.

Data Analysis

Composite scores for family functioning and externalizing behaviors were created in an effort to collapse the multiple scores from the family functioning and externalizing measures into total composite scores for each variable. To create the composite scores, Z-scores were obtained for each scale and the scores were summed to obtain the total composite scores (Feaster et al., 2010). This method (i.e., the use of Z-scores) ensured that (1) each measure was based on the same metric and (2) each scale contributed equally to the total composite score for the externalizing and family functioning variables. The measures/subscales included in the composite score for family functioning include the adolescent and parent reports on the FES and the Parenting Practices Questionnaire. The measures/subscales included in the composite score for externalizing behaviors include the adolescent and parent reports on the NYS, YSR, and DISC-PS.

Based on the intent- to-treat design, data from all the African American, Hispanic, and White participants (N = 471) were used in the analyses. Basic descriptive analyses and normality tests were conducted. Separate logistic regression and multiple regression analyses were conducted to assess the study hypotheses for each racial/ethnic group. The drug use, engagement, and retention variables were dichotomized (i.e., yes used/engaged/retained = 1; no used/not engaged/not retained = 0) for logistic regression analysis. The family functioning and externalizing variables remained continuous variables in the multiple regression analyses. Control variables (i.e., treatment type) were added to the regression models as appropriate. The second hypothesis was evaluated by including an interaction term (i.e., family

functioning*REM) to the models to assess whether family functioning moderated the effect of REM on the outcomes of interest. All analyses were conducted in the Statistical Analysis Software version 9.1 (SAS, 2010).

Results

Preliminary Analyses

The mean age of the participants was 16.01 (SD = 1) and the majority of the participants were male (n = 377 [79%]). As previously mentioned, 44% of the sample (n = 213) was Hispanic, 30% (n = 148) were White non-Hispanic, and 23% 110 was African American. Of the participants, 44% (n = 94) of the Hispanic, 44% (n = 48) of the African American, and 76% (n = 112) of the White youth were matched with therapists of the same self-reported race/ethnicity. Additional demographic information has been previously reported (Robbins et al., 2010). Table 1 summarizes the percentage of adolescents in each racial group who met criteria for substance abuse and/or dependence. The baseline means and standard deviations for the additional outcome variables (i.e., engagement, retention, externalizing, family functioning) can also be found in Table 1.

First Aim/Hypothesis

The first hypothesis was that substance using adolescents in racially/ethnically matched dyads would have better outcomes than adolescents in non-matched dyads. This hypothesis was not supported by the results of the multiple and logistic regression analyses. First, analyses revealed that REM alone did not significantly predict engagement, retention, or treatment outcomes for the African American and White substance using youth ($p > .05$). Second, REM significantly predicted externalizing and substance use outcomes for the Hispanic adolescents but was associated with an increase in externalizing behaviors ($\beta = .25$, $t(155) = 2.24$, $p = .03$)

and substance use (OR= 1.18, 95%CI= 1.37 – 7.62) at the last follow-up point (see Table 2 and Table 3). As such, matching did not improve treatment outcomes for the Hispanic, African American, or White youth.

Second Aim/Hypothesis

The second hypothesis was that family functioning would moderate the relationship between REM and the outcome variables. Family functioning moderated the relationship between REM and the engagement outcome for the African American ($p = .02$ [see Table 4 and Figure 1]) adolescents. Specifically, African American adolescents who were racially matched in treatment were more likely to be engaged as family functioning decreased when compared to African American adolescents who were not matched (OR = 1.53, 95%CI = .57- 4.09, $p \leq .01$). The moderation hypothesis was not supported for the retention, externalizing, and substance use outcome variables for the African American adolescents ($p > .05$). Additionally, the moderation hypothesis was not supported for any outcome variable among the White and Hispanic participants ($p > .05$).

Discussion

This study examined the relationship between REM and treatment engagement, retention, substance use, and externalizing behaviors among substance using adolescents. The first aim of this study was to determine whether REM improved engagement, retention, and treatment outcomes of substance abusing adolescents. The second aim was to determine if the effects of REM on the outcome variables varied based on family functioning.

The first hypothesis was that adolescent substance users who had therapists of the same race/ethnicity would have higher engagement, higher retention, fewer externalizing behaviors, and less substance use than non-matched adolescents. However, the results did not support this

hypothesis. Controlling for treatment type, REM alone did not significantly relate to the engagement, retention, externalizing, or drug use outcome variables for the African American or White adolescents.

The finding that REM was not significantly associated with treatment outcomes among White substance using adolescents is consistent with previous literature (e.g., Flicker et al 2008; Hall et al., 2002; Yeh et al., 1994). Perhaps REM is not a significant factor in treatment for White substance using adolescents because issues of race/ethnicity are not as salient to these youth as they may be to ethnic minority youth. Additionally, other therapist characteristics, perhaps therapist's gender or age, may be more important than to White adolescents.

REM was not a significant predictor of treatment entry, retention, substance use, and externalizing behaviors of African American adolescents. This finding is not consistent with previous research in which racially matched African American adolescents had significantly lower odds, compared to unmatched adolescents, of dropping out of treatment (Hall et al., 2002; Jerrell, 1998; Yeh et al., 1994). Of note, the samples in prior studies were mixed in terms of diagnosis (the samples included youth with psychotic disorders, mood disorders, substance use disorders, and personality disorders) and did not predominantly consist of substance using adolescents. The findings of the current study suggest that REM may not be a substantial enough cultural adaptation to influence treatment outcomes for African American substance abusing adolescents.

Perhaps cultural adaptations that target and modify core treatment components may be more beneficial for African American substance abusing adolescents. For example, deep structure modification, the second approach in Resnicow's (2000) model for culturally adapting treatments for African Americans, involves "incorporating the cultural, social, historical,

environmental, and psychological forces that influence the target health behavior in the proposed target population” (Resnicow et al., 2000, p. 273). According to Resnicow and colleagues (2000), surface structure modification determines intervention feasibility and receptivity, whereas deep structure modification determines program impact and salience. Future research should assess the impact of deep structure modifications on treatment outcomes for African American adolescents and assess whether or not both surface and deep structure modification is necessary to best address the needs of this population.

Although REM did not significantly relate to treatment outcomes among African American or White adolescents, REM significantly related to increased drug use and externalizing behaviors for Hispanic adolescents 12 months post-baseline assessment. This finding is quite paradoxical and is not consistent with previous REM literature. Flicker et al. (2008) found that ethnically matched Hispanic adolescents were more likely than unmatched adolescents to decrease their substance use at follow-up, rather than increase their use. Although this finding is inconsistent with the literature, several factors may help explain this finding.

First, research indicates that “Anglo-oriented-Latinos” may be ambivalent regarding preferences for a therapist of the same ethnic group (Gamst, Dana, Der-Karabetian, Aragon, Arellano, & Kramer, 2002). However, less acculturated Hispanic clients have shown a strong preference for therapists of the same culture in previous research (Gamst, Dana, Der-Karabetian, & Kramer, 2004). It is possible that differences in level of acculturation between Hispanic adolescents and ethnically similar therapists could have resulted in a perceived lack of *cultural* similarity by the clients (Karlsson, 2005). This may have influenced the therapeutic alliance and adolescent adherence to, and perceived relevance of, treatment.

Although the matched Hispanic adolescents in this study were paired with therapists based on ethnicity, it is possible that they were unmatched on other characteristics. For example, therapists and clients may have differed on their country of origin. Country of origin is a key differentiating factor among Hispanics due to the vast diversity that exists. Although the Hispanic adolescents in this study were matched with therapists based on ethnicity, they were not matched by country of origin. As a result, significant cultural differences may have existed in the therapeutic dyads. In addition, the Hispanic adolescents and therapists may not have been matched on language ability which has been demonstrated to affect the relationship between REM and treatment outcomes for Hispanics/Latinos in prior research (Gamst et al., 2004; Yeh et al., 1994).

Second, therapist adherence to a treatment protocol (i.e., the degree to which interventions are implemented as planned [Waltz, Addis, Koerner, & Jacobson, 1993, p. 620]) is highly important and can influence treatment fidelity (Szapocznik & Williams, 2000). It is possible that cultural familiarity in matched therapeutic dyads could have resulted in a modified implementation of interventions and low therapist adherence in this study. One example of this is the occurrence of informal conversations in treatment (i.e., non-treatment related discussions).

In a recent study, Bamatter and colleagues (2010) assessed the occurrence and impact of informal conversations in therapy with Hispanic/Latino clients. Informal conversations negatively correlated with counselor treatment adherence and counselor ability to maintain therapeutic structure in treatment sessions. Additionally, informal conversations were least likely to occur in non-ethnically matched dyads. Bamatter's findings seem to suggest that informal conversations do take place in racially/ethnically matched therapy dyads and can affect treatment fidelity. As previously mentioned, more research is needed to clarify these findings and elucidate

the relationship between REM and substance use and externalizing outcomes for Hispanic adolescents in matched therapeutic dyads.

The second hypothesis was that baseline family functioning would moderate the relationship between REM and treatment outcomes. In this study, baseline family functioning significantly moderated the relationship between REM and treatment engagement among the African American adolescents. As family functioning worsened, matched African American adolescents had a higher likelihood of engaging in treatment compared to unmatched adolescents. African American families with increased conflict may have greater difficulty than African American families with minimal conflict in engaging in treatment and establishing therapeutic alliances with therapists. The findings of this study suggests that REM be beneficial as it potentially counteracts the negative impact of poor family functioning on treatment engagement and may help foster positive relationships between therapist and client, thus beneficially impacting treatment engagement.

A moderation effect was not found between REM and the retention, substance use, and externalizing outcome variables for the African American adolescents. Additionally, moderation effects were not found between REM and any outcome variables among the White or Hispanic adolescents in this study. As such, family functioning only moderated the relationship between REM and treatment engagement among the African American adolescents.

Implications for Clinical Practice and Research

This study has several implications for clinical practice with, and future research on, African American, Hispanic, and White substance using adolescents. First, REM did not significantly predict any of the treatment use or treatment outcome variables for the White adolescents. This finding is consistent with literature and suggests that other methods of

enhancing treatment use and outcomes should be explored for these youth. Perhaps other forms of surface modification may be more associated with treatment outcomes for White substance abusing adolescents (e.g., gender matching). Future studies should be explore this issue further.

Second, given that REM alone did not beneficially relate to treatment use and outcomes among African American and Hispanic adolescents, it is possible that REM is not an adequate cultural adaptation to treatment for ethnic minority substance abusers overall. As proposed by Resnicow (2000), deep structure modification influences a program's salience and impact. As such, therapists and treatment designers should seek ways to include core cultural values of ethnic minority substance abusers into treatment. Second, the findings of this study also seem to suggest that, particularly for African Americans with poor family functioning, therapists in cross-racial dyads may need to work harder to engage these adolescents into treatment. Though potentially uncomfortable, addressing racial dissimilarity and other cultural barriers to treatment may have a positive effect on treatment with ethnic minority clients (Knox, Burkard, Johnson, Suzuki, & Ponterotto, 2003).

Ethnic minority representation among psychology professionals in agencies across the United States is scarce (APA, 2008). As such, REM in and of itself may not be a cultural adaptation with great feasibility. However, REM research is a pathway to clearer understanding of the therapeutic dynamics needed to provide better psychotherapeutic services to ethnic minorities. The first step, and seemingly where this body of literature largely remains, is to understand (1) if REM is beneficial to ethnic minorities, (2) which ethnic minority subgroups it benefits and (3) whether therapist characteristics contribute to the effects of REM on treatment for ethnic minorities. Additionally, it is important to consider other client characteristics (e.g., family functioning) that influence whether REM is beneficial. The second step should be a

translational approach that transfers what is learned from REM studies to training programs so that non-minority therapists can learn to implement culturally relevant practices with their minority clients in treatment.

Future investigators can advance REM research to the next level by moving in several new directions. First, there is a major need for original REM studies that include cultural/ethnic identity measures, acculturation measures, and therapeutic alliance measures. The inclusion of these measures can aid in the integrity of REM research and can better address the issue of cultural match rather than using race/ethnicity as a proxy for it. Second, future studies need to assess additional moderator variables such as age, gender, treatment readiness, amount of prior treatments received, SES, and referral source (e.g., court mandated). This will help identify the variables that influence the relationship between REM and treatment outcomes. Third, future studies need to replicate and expound on the current findings, particularly for Hispanic adolescents for which the findings were paradoxical.

This study has several strengths. The main strength of this study is that it is the first to assess the impact of REM on adolescent substance use, externalizing behavior outcomes, and treatment engagement/retention in a sample with adequate numbers of Hispanic and African American substance using adolescents. Given the current mental health disparity and lack of treatment entry/ completion of ethnic minority adolescents, research such as this is needed to assess strategies for increasing the cultural sensitivity of substance abuse treatments. Second, this study expanded the work of Flicker et al. (2008) by assessing the extent to which REM affects externalizing behaviors amongst substance users. Third, this study used sophisticated analyses to examine the moderator effects of family functioning on treatment use and treatment outcomes among adolescent substance users.

An additional strength was the large sample ($N = 471$), diverse racial/ethnic composition of the sample, and use of separate analytic models for each racial/ethnic group. Oftentimes research involving ethnic minorities utilize statistical practices that collapse ethnic minorities into one group for analysis. That is not best practice (Burlew, Feaster, Brecht, & Hubbard, 2009) as it ignores the heterogeneity between and among ethnic minority groups, thus making it difficult to deduce the relevance of the findings as it specifically relates to particular subgroups (Okazaki & Sue, 1995).

Although this study has several strengths, an important limitation need to be mentioned. Archival data were used in this study which did not allow for an assessment of key variables in relation to REM, such as the cultural identity or acculturation of clients and therapists. Racial identity and acculturation have related to REM in previous research (e.g., Parham & Helms, 1981). Although it would have been best practice to evaluate measures of cultural identity, such as acculturation and racial/ethnic identity (Sue, 1992) in conjunction with matching based on self-reported race/ethnicity, it was not possible in this secondary data analysis. In light of the unique and paradoxical findings, particularly for the Hispanic adolescents, the inclusion of racial identity and acculturation measures (amongst other measures of therapeutic alliance and therapist cultural competence) may have helped to explain the findings obtained in this study. Future research should seek to include measures that address the deeper issue of cultural match between client and therapist and move away from using REM as a cultural match proxy.

Conclusions

In summary, results from this study revealed that the surface structure modification of REM may not be sufficient for culturally adapting treatment protocols for substance abusing adolescents overall. This is particularly the case for Hispanic substance abusing adolescent.

Although further study is needed, the findings of this study indicate that REM is counterproductive for Hispanic adolescents and associated with an increase in externalizing behaviors and substance use. However, the results of this study also indicate that REM may prove helpful in engaging African American adolescents from families with considerable conflict and a lack of cohesion into treatment. Additional moderator variables such as age, gender, treatment readiness, amount of prior treatments received, SES, and referral source (e.g., court mandated) should be explored in future research. This will help identify the variables that influence the relationship between REM and treatment outcomes. Overall, the findings of this study suggest that (1) REM may be a helpful treatment strategy for specific subgroups of substance abusing adolescents (i.e., African American adolescents in poorly functioning families) and (2) other forms of treatment adaptation, such as deep structure modification, may be necessary and should be explored in future research.

References

- American Psychological Association. (2009). 2008 survey of psychology health service providers. Center for Workforce Studies. Retrieved from <http://www.apa.org/workforce/publications/08-hsp/index.aspx>.
- Bamatter, W., Carroll, K. M., Anex, L. M., Paris, M. Jr, Ball, S. A., Nich, C., ... Martins, S. (2010). Informal conversations in substance abuse treatment sessions with Spanish-speaking clients. *Journal of Substance Abuse Treatment*, 39, 353-363.
- Barnes, G. M., Welte, J. W., & Hoffman, J. H. (2002). Relationship of alcohol use to delinquency and illicit drug use in adolescents: Gender, age, and racial/ethnic differences. *The Journal of Drug Issues*, 32, 153-176.
- Barnett, J. E., & Bivings, N. D. (n.d.). Culturally sensitive treatment and ethical practice. Retrieved from <http://www.apadiv31.org/Coop/CulturallySensitiveTreatmentandEthicalPractice.pdf>.
- Bernal, G., & Sáez-Santiago, E. (2006). Culturally centered psychosocial interventions. *Journal of Community Psychology*, 34, 121-131.
- Brook, J. S., Richter, L., & Rubenstein, E. (2000). Consequences of adolescent drug use on psychiatric disorders in early adulthood. *Annals of Medicine*, 32, 401-407.
- Burlew, A. K., Feaster, D., Brecht, M., & Hubbard, R. (2009). Measurement and data analysis in research addressing health disparities in substance abuse. *Journal of Substance Abuse Treatment*, 36, 25-43.
- Deas, D., & Thomas, S. E. (2001). An overview of controlled studies of adolescent substance abuse treatment. *American Journal on Addictions*, 10, 178-189.

- Dobalian, A., & Rivers, P. (2008). Racial and ethnic disparities in the use of mental health services. *The Journal of Behavioral Health Services and Research*, 35(2), 128-141.
- Domenech-Rodriguez, M. M, Baumann, A. A., & Schwartz, A. L. (2011). Cultural adaptation of an evidence based intervention: From theory to practice in a Latino/a community context. *American Journal of Community Psychology*, 47 (1), 170-86.
- Elliott, D. S., Ageton, S. S., Huizinga, D., Knowles, B. A., & Canter, R. J. (1983). *The Prevalence and Incidence of Delinquent Behavior: 1976-1980*. Boulder, CO: Behavioral Research Institute.
- Erdur, O., Rude, S. S., & Baron, A. (2003). Symptom improvement & length of treatment in ethnically similar and dissimilar client-therapist pairings. *Journal of Counseling Psychology*, 50(1), 52-58.
- Fals-Stewart, W., O'Farrell, T. J., Freitas, T. T., Mcfarlin, S. K., & Rutigliano, P. (2000). The timeline followback reports of psychoactive substance use by drug-abusing patients: Psychometric properties. *Journal of Consulting and Clinical Psychology*, 68, 134–144.
- Farsimadan, F., Draghl-Lorenz, R., & Ellis, J. (2007). Process and outcome of therapy in ethnically similar and dissimilar therapeutic dyads. *Psychotherapy Research*, 17, 567-575.
- Feaster, D. J., Robbins, M. S., Henderson, C., Horigian, V., Puccinelli, M. J., Burlew, A. K., & Szapocznik, J. (2010). Equivalence of family functioning and externalizing behaviors in adolescent substance users of different race/ethnicity. *Journal of Substance Abuse Treatment*, 38 (supplement 1), s113-s124.
- Feeny, N. C., Silva, S. G., Reinecke, M. A., McNulty, S., Findling, R. L., Rhode, P., ... March, J. S. (2009). An exploratory analysis of the impact of family functioning on treatment for

- depression in adolescents. *Journal of Clinical Child and Adolescent Psychology*, 38 (6), 814-825.
- Fellner, J. (2009). Race, drugs, and law enforcement in the United States. *Stanford Law & Policy Review*, 20(2), 257-291.
- Flaskerud, J. H., & Liu, P. Y. (1991). Effects of an Asian client-therapist language, ethnicity and gender match on utilization and outcome of therapy. *Community Mental Health Journal*, 27(1), 31-42.
- Flicker, S. M., Waldron, H. B., Turner, C. W., Brody, J. L., & Hops, H.(2008). Ethnic matching and treatment outcome with Hispanic and Anglo substance-abusing adolescents in family therapy. *Journal of Family Psychology*, 22(3), 439-447.
- Fujino, D. C., Okazaki, S., & Young, K. (1994). Asian-American women in mental health system: An examination of ethnic and gender match between therapist and client. *Journal of Community Psychology*, 22, 164–176.
- Gamst, G., Dana, R. H., Der-Karabetian, A., Aragon, M., Arellano , L. M., Kramer, T. (2002). Effects of Latino acculturation and ethnic identity on mental health outcomes. *Hispanic Journal of Behavioral Sciences*, 24, 479–504.
- Gil, A. G., Wagner, E. F., & Tubman, J. G. (2004). Associations between early-adolescent substance use and subsequent young-adult substance use disorders and psychiatric disorders among a multiethnic male sample in South Florida. *American Journal of Public Health*, 94, 1603–1609.
- Hall, J., Guterman, D. K., Lee, H. B., & Little, S. (2002). Counselor–client matching on ethnicity, gender, and language: Implications for counseling school-aged children. *North American Journal of Psychology*, 4, 367–380.

- Halliday-Boykins, C. A., Schoenwald, S. K., & Letourneau, E. J. (2005). Caregiver-therapist ethnic similarity predicts youth outcomes from an empirically based treatment. *Journal of Consulting & Clinical Psychology, 73*(5), 808-818.
- Heflinger, C. A., Chatman, J., & Saunders, R. C. (2006). Racial and gender differences in utilization of Medicaid substance abuse services among adolescents. *Psychiatric Services, 57*, 504-511.
- Huey, S. J., Jr. & Polo, A. J. (2010). Assessing the effects of evidence-based psychotherapies with ethnic minority youths. In J. R. Weisz & A. E. Kazdin (Eds.), *Evidence-based psychotherapies for children and adolescents* (2nd ed.) (pp. 451-455). New York: Guilford Press.
- Jerrell, J. (1998). Effects of ethnic matching of young clients and mental health staff. *Cultural Diversity and Mental Health, 4*, 297-302.
- Karlsson R. (2005). Ethnic matching between therapist and patient in psychotherapy: An overview of findings, together with methodological and conceptual issues. *Cultural Diversity and Ethnic Minority Psychology, 11*, 113–129.
- King, K.M., Meehan, B.T., Trim, R.S., & Chassin, L. (2006). Marker or mediator? The effects of adolescent substance use on young adult educational attainment. *Addiction, 101*, 1730–1740.
- Knox, S., Burkard, A. W., Johnson, A. J., Suzuki, L. A., & Ponterotto, J. G. (2003). African American and European American therapists' experiences of addressing race in cross-racial psychotherapy dyads. *Journal of Counseling Psychology, 50*, 466–481.

- Lucas, C.P., Zhang, H., Fisher, P.W., Shaffer, D., Regier, D.A., Narrow, W.E., ... Friman, P. (2001). The DISC Predictive Scales (DPS): efficiently screening for diagnoses. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40(4), 443–449.
- Marin, G. (1989). AIDS prevention among Hispanics: Needs, risk behaviors, and cultural values. *Public Health Reports*, 704, 411-415.
- Marsh, J. C., Cao, D., Guerrero, E., & Shin, H. C. (2009) Need-service matching in substance abuse treatment: Racial/ethnic differences. *Evaluation and Program Planning*, 32, 43–51.
- Miller, L. M., Southam-Gerow, M. A., & Allin, R. B., Jr. (2008). Who stays in treatment? Child and family predictors of youth client retention in a public mental health agency. *Child Youth Care Forum*, 37 (4), 153-170.
- Miranda J., Nakamura R., Bernal G. (2003). Including ethnic minorities in mental health intervention research: a practical approach to a long-standing problem. *Culture, Medicine, and Psychiatry*, 27, 467–86
- Moos, R. H., & Moos, B. S. (1981). *Family Environment Scale*. Palo Alto, CA: Consulting Psychologists Press.
- National Institute of Allergy and Infectious Diseases. (2008). HIV infection in adolescents and young adults in the U.S. Retrieved from <http://www.niaid.nih.gov/topics/HIVAIDS/Understanding/Population%20Specific%20In%20formation/Pages/hivadolescent.aspx>.
- Okazaki, S. & Sue, S. (1995). Methodological issues in assessment research with ethnic minorities. *Psychological Assessment*, 7(3), 367-375.

- Parham, T. A. & Helms, J. E. (1985). The relationship of racial identity attitudes to self-actualization and affective states of black students. *Journal of Counseling Psychology*, 32, 431–440.
- Pumariega, A., Glover, S., Holzer, C., & Nguyen, N. (1998). Utilization of mental health services in a tri-ethnic sample of adolescents. *Community Mental Health Journal*, 34(2), 145-156.
- Resnikow, K., Soler, R., Braithwait, R. L., Ahluwalia, J. S., & Butler, J. (2000). Cultural sensitivity in substance abuse prevention. *Journal of Community Psychology*, 28, 271–290.
- Robbins, M. S., Szapocznik, J., Horigian, V. E., Feaster, D. J., Puccinelli, M., Jacobs, P., ... Bringham, G. (2009). Brief strategic family therapyTM for adolescent drug abusers: A multi-site effectiveness study. *Contemporary Clinical Trials*, 30 (3), 269-278.
- Substance Abuse and Mental Health Services Administration. (2006). Substance use treatment need among adolescents: 2003-2004. Retrieved from <http://www.oas.samhsa.gov/2k6/youthTXneed/youthTXneed.htm>.
- Santisteban, D. A., Coatsworth, J. D., Perez-Vidal, A., Kurtines, W. M., Schwartz, S. J., LaPerriere, A., & Szapocznik, J. (2003). Efficacy of brief strategic family therapy in modifying Hispanic adolescent behavior problems and substance use. *Journal of Family Psychology*, 17(1), 121–33.
- Santisteban, D.A., Coatsworth, J.D., Perez-Vidal, A., Mitrani, V., Jean-Gilles, M., & Szapocznik, J. (1997). Brief structural strategic family therapy with African-American and Hispanic high risk youth. *Journal of Community Psychology*, 25, 453–471.

- SAS software, Version 9.1 of the SAS System for Windows. (2010). Cary, NC, SAS Institute Inc.
- Schwartz, A. L. (2009). Latinos' collectivism and self-disclosure in intercultural and intracultural friendships and acquaintanceships. *All Graduate Theses and Dissertations*. Paper 475. Retrieved from <http://digitalcommons.usu.edu/etd/475>.
- Sobell, L.C., & Sobell, M.B. (1996). *Alcohol Timeline Followback (TLFB) Users Manual*. Toronto: Addiction Research Foundation.
- Stewart, M. A., & Brown, S. A. (1993). Family functioning following adolescent substance abuse treatment. *Journal of Substance Abuse*, 5(4), 327-339.
- Stout, R. L., Wirtz, P. W., & Carbonari, J. P., & Del Boca, F. K. (1994). Ensuring balanced distribution of prognostic factors in treatment outcome research. *Journal of Studies on Alcohol and Drugs*, 12, 70–75.
- Sue, D. W. & Sue, D. (1977). Barriers to effective cross-cultural counseling. *Journal of Counseling Psychology*, 24(5), 420-429.
- Szapocznik, J., Prado, G., Burlew, A. K., Williams, R., & Santisteban, D. (2007). Drug abuse in African American and Hispanic adolescents: Culture, development, and behavior. *Annual Review of Clinical Psychology*, 3, 77–105.
- Szapocznik, J. & Williams, R. A. (2000). Brief strategic family therapy: Twenty-five years of interplay among theory, research and practice in adolescent behavior problems and drug abuse. *Clinical Child and Family Psychology Review*, 3, 117–134.
- Thompson, V. L. S., Bazile, A., & Akbar, M. (2004). African Americans' perceptions of psychotherapy and psychotherapists. *Professional Psychology: Research & Practice*, 35, 19–26.

- Waltz, J., Addis, M. E., Koerner, K. & Jacobson, N. S. (1993). Testing the integrity of a psychotherapy protocol: Assessment of adherence and competence. *Journal of Consulting and Clinical Psychology, 61*, 620-630.
- Weekes, J. C. (2010). Race-Matching in psychotherapy: Findings, inconsistencies, and future directions *Graduate Student Journal of Psychology, 12*, 8-13.
- Whaley, A. L. (2001). Cultural mistrust: An important psychological construct for diagnosis and treatment of African Americans. *Professional Psychology: Research and Practice, 32*(6), 555-562.
- Yeh, M., Eastman, K., & Cheung, M. K. (1994). Children and adolescents in community health centers: Does the ethnicity or the language of the therapist matter? *Journal of Community Psychology, 22*, 153–163.

Table 1. *Clinical Characteristics Based on Adolescent Self-Report*

	African American	Hispanic	White
Drug Abuse/Dependence, %			
Any Drug Abuse/Dependence	50%	77%	73%
Marijuana Abuse	28%	23%	28%
Marijuana Dependence	24%	51%	51%
Other Substance Dependence	4%	16%	20%
Externalizing, M (SD)			
Externalizing (YSR)	15.24 (8.83)	18.45 (9.38)	20.30 (9.50)
Oppositional Defiant Disorder	2.45 (1.83)	2.94 (1.85)	3.51 (1.90)
Conduct Disorder	1.16 (1.32)	1.72 (1.76)	1.49 (1.6)
Family Functioning, M (SD)			
Positive Parenting	12.87 (3.36)	12.42 (3.36)	12.54 (3.01)
Cohesion	6.76 (1.77)	6.43 (2.14)	5.84 (2.38)
Conflict	3.70 (2.20)	3.62 (2.21)	4.14 (2.49)

Table 2. *Predictors of Hispanic Externalizing Behaviors*

	<i>B</i>	S.E	F	R ²
Baseline Family Functioning	-.24*	.11		
Externalizing Behaviors	.47**	.06		
BSFT	.31**	.11		
REM	.25*	.17		
Baseline Family Functioning*REM				
	-.14	.11		
Constant	-.64**	.09		
Model			18.55	.38

* $p \leq .05$; ** $p \leq .01$

Table 3. *Predictors of Drug Use among Hispanic Substance Using Adolescents*

	B	S.E	Wald	OR	95% C. I.
Baseline Family Functioning	1.02*	.53	3.73	1.98	[.99, 3.96]
Baseline Drug Use	-1.51**	.44	11.33	.22	[.09, .53]
REM	1.18**	.44	7.28	3.24	[1.37,7.62]
Baseline Family Functioning* REM	-.98	.68	2.35	3.32	[1.20, 9.18]
BSFT	.13	.43	.10	1.14	[.49, 2.65]

* $p \leq .05$; ** $p \leq .01$

Table 4. *Predictors of Engagement among African American Substance Using Adolescents.*

	<i>B</i>	S.E	Wald	OR	95% C. I.
Baseline Family Functioning	1.38	.46	9.01	2.53	1.38-4.63
REM	.68	.49	1.91	1.98	.75-5.19
Baseline Family Functioning* REM	-1.76**	.68	6.77	1.53	.57-4.09
BSFT	1.38**	.48	8.38		

* $p \leq .05$; ** $p \leq .01$

Figure 1. The moderation effects of family functioning on the relationship between REM and treatment engagement for African American adolescents.