MOTHER-DAUGHTER ATTACHMENT AND DRUG ABUSE AMONG LATINAS IN THE UNITED STATES

Mario De La Rosa, Frank R. Dillon, N. Emel Ganapati, Patria Rojas, Elsa Pinto, Guillermo Prado

Although the risks and protective processes influencing substance use behaviors of adult Latinos have been increasingly examined in the literature, substance abuse among adult Latinas remains a relatively understudied area. This study examined associations between mother-daughter attachment and substance abuse among 158 Latina mothers and their adult daughters (N = 316). Dyads of mothers and daughters were categorized into four groups: (a) mother/daughter both drug or alcohol abusers (Dyad 1), (b) mother abuser and daughter non-abuser (Dyad 2), (c) mother non-abuser and daughter abuser (Dyad 3), and (d) mother/daughter both non-abusers (Dyad 4). Dyad 1 participants reported lower levels of attachment to each other than all other types of dyads. Participants born in the U.S. reported more substance abuse than their non-U.S. born counterparts. Future longitudinal research is recommended to determine the presence of a mother-daughter attachment threshold that, if established early and maintained, may act as a protective mechanism against the intergenerational co-occurrence of substance abuse among adult Latinas.

INTRODUCTION

At the onset of the twenty-first century, substance use among Latina/os in the United States was identified as an escalating health disparity problem (Grant et al., 2004). While Latina/o alcohol use rates remain consistent, illicit drug-use rates have
increased since 2002 (Substance Abuse & Mental Health Services Administration, 2008). In response to this emerging public health problem, the risks and protective processes affecting drug-use behaviors of adult Latina/os have been increasingly examined in the literature (e.g., Alegria et al., 2007, 2008; Canino, 2004; Canino, Vega, Scribney, Warner, & Alegria, 2008; Rivera et al., 2008).

Studies of adult Latino substance use have consistently described differences in substance use between U.S. - and foreign-born Latino/as. U.S.-born Latina/os typically report a higher prevalence of substance abuse or dependence when compared to immigrants (Alegria et al., 2007, 2008; Canino et al., 2008; Grant et al., 2004; Vega, Alderete, Kolody, & Aguilar-Gaxiola, 1998). The use and preference for the English versus Spanish language (particularly among family members), a theorized indicator of greater acculturation to U.S. culture, is another consistent correlate of substance abuse among Latina/o samples (Canino et al., 2008; Epstein, Botvin, & Diaz, 2001; Finch, Boardman, Kolody, & Vega, 2000; Marsiglia & Waller, 2002). Gender differences have also emerged as a regular finding in epidemiological studies of Latina/o adult substance use. Women generally report lower rates of substance use and abuse in the U.S., and this trend is especially apparent in the Latino/a community (Alvarez, Jason, Olson, Ferrari, & Davis, 2007; Canino et al., 2008).

However, studies with clinical samples indicate that Latinas in substance-abuse treatment do not appear to differ from their male counterparts in substance use rates across a range of drugs (alcohol, cannabis, heroin), and actually report more cocaine use than Latino men (Alvarez, Olson, Jason, Davis, & Ferrari, 2004). Moreover, Latinas in substance-abuse treatment report more severe medical, psychological, and employment problems than their male counterparts. Thus, a greater understanding of the potential determinants of problematic substance use among adult Latinas, a vulnerable and understudied population, is needed (Volkow, 2006). The present study aims to address this need and contribute to the recent advances in understanding adult Latina substance use by investigating differences in mother-daughter attachment between substance abusing and non-abusing Latina mother-daughter dyads.

Attachment has been defined as a consistent emotional bond that an individual experiences toward significant others such as family, friends, and other important people in his or her life. It is considered an important factor in psychosocial well-being (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969/1982, 1973). Secure attachment to parents, friends, and others in adolescents and young adulthood is associated with psychological adjustment, well-being, school achievement, and self-esteem (Armsden & Greenberg, 1987; Buhrmester, 1990; Bukowski, Hoza, & Boivin, 1993; Hartup, 1996; Nickerson & Nagle, 2004). The concept of attachment was expanded to older age groups by Armsden and Greenberg (1987) who conceptualized
attachment beyond childhood to consist of mutual trust, communication, and closeness with others across all stages of development. They developed the Inventory of Parent and Peer Attachment (IPPA) to assess individuals’ perceptions of positive and negative affective and cognitive dimensions of relationships with others along these three hypothesized dimensions of secure attachment. Studies involving the IPPA have indicated salient correlates of attachment in adolescents and young adults (Collins & Steinberg, 2006). For example, female adolescents and young adults with eating disorders report less trust of their mothers and communicate less with peers than participants without an eating disorder. The IPPA also has been used in investigations of attachment among Latino populations (e.g., Avila, Maldonado, Saldarriaga, Vega, & Diaz, 2004; Santisteban, Dillon, Mena, Estrada, & Vaughan, 2005). The current study applies the Armsden and Greenberg conceptualization and definition of attachment in studying the association between mother-daughter attachment and substance abuse among adult Latinas.

Supportive parent-child relations play a powerful role in the lives of Latina/os (De La Rosa & White, 2001; Gonzalez Castro et al., 2007). Latino parent-child relationships often remain salient well into adulthood. Healthy family connections and cohesiveness have been associated with Latina/o adult functioning and wellness across the lifespan. Various health domains have been linked to healthy relations between Latino family members and other support systems. Psychological distress has often been reported as inversely related to family cohesion among aggregate samples of Latinos (Gil, 1996; Gil & Vega, 1996; Rivera et al., 2008; Vega, Kolody, & Valle, 1986). Yet, differences in the direction and strength of this association have been found among Latino ethnic subgroups (Rivera et al., 2008). No link was determined between family cohesiveness and distress among Mexican and Puerto Rican participants. In addition, a significant positive relationship was found between cohesiveness and psychological stress among Cuban participants. Nonetheless, better relationships with family and friends have been suggested to inversely affect depression levels among an aggregate sample of Latinos (Plant & Sachs-Ericsson, 2004). Similarly, family connectedness recently emerged as a salient protective factor of dysphoria among predominantly Mexican-American, female adolescents in the Los Angeles area (Locke, Newcomb, Duclos, & Goodyear, 2007). HIV/AIDS risk behaviors also have been linked with family neglect in a community sample of young Latino males in the Los Angeles area (Locke, Newcomb, & Goodyear, 2005). Finally, stress levels were inversely related to family functioning among a predominantly Cuban-American sample of dementia caregivers (Mitrani et al., 2006). In the current study, it is expected that mother-daughter attachment will be inversely linked to substance abuse among Latina mothers and their daughters.
The present study was guided by the Bogenschneider (1996) ecological risk/protective model. This model is based on Bronfenbrenner’s (1986) ecological theory of human development and on Lerner’s (1995) theory of developmental contextualism. These theoretical perspectives suggest that family relations represent the primary context for human development over the lifespan (Szapocznik & Coatsworth, 1999). Parents and other family members have the longest history with the individual and play major roles in shaping patterns of development (Perrino, González-Soldevilla, Pantin, & Szapocznik, 2000). These influences extend well beyond childhood and adolescence, such that family influences continue to be important in adulthood (Fergusson, Boden, & Horwood, 2007; Overbeek, Stattin, Vermulst, Ha, & Engels, 2007). For instance, adult children and their parents—especially mothers and daughters—have been shown to influence one another’s behavior considerably throughout the lifespan (Fingerman, Chen, Hay, Cichy, & Lefkowitz, 2006). Thus, the quality of Latina adult mother-daughter relationships may be a protective factor in the development of substance abuse.

Seminal studies of mother-daughter substance abuse have involved samples of African-American adult women (Sterk, Dolan, & Hatch, 1999; Sterk, Elifson, & Theall, 2000), Latina or African-American adolescents (Brook, Whiteman, Balka, Win, & Gursen, 1997; Johnson & Young, 2002; Staples & Mirande, 1980; Szapocznik, Kurtines, & Fernandez, 1980; Thornberry, Krohn, & Freeman-Gallant, 2006), and White, non-Latina women (Rossi & Rossi, 1990; Yu & Perrine, 1997). Conflictual and problematic parent-child relationships invariably have been associated with substance abuse across these studies. Yet, no studies, to our knowledge, have described the role of the adult Latina mother-daughter relationships on both mother and daughter substance abusing behaviors, despite the theorized importance of parent-child relations in their lives.

The Present Study

This study investigated the relationship between mother-daughter attachment and substance abuse among adult, Latina mothers and their daughters. We recruited four types of mother-daughter dyads: (a) mother/daughter both drug or alcohol abusers (Dyad 1), (b) mother abuser and daughter non-abuser (Dyad 2), (c) mother non-abuser and daughter abuser (Dyad 3), and (d) mother/daughter both non-abusers (Dyad 4). Daughters and mothers who were substance abusers (Dyad 1) were hypothesized to report the least attachment in comparison to daughters and mothers from all other dyad groups because the presence of recent substance abuse in both dyad members is posited to occur with low levels of current mother-daughter attachment. Additionally, we planned to statistically control for the presence of potential confounding, demographic differences between dyads. We assessed participants’ age, nativity, receipt of financial, emotion, or legal assistance with
immigration, family of origin socioeconomic status, personal income, educational level, and employment status. These demographic variables have been found to relate with Latina substance-using behaviors (Warner et al., 2006).

Participants’ age of onset of alcohol and illicit drug use were also analyzed to determine if length of substance use in their lives is related to their current attachment levels. A positive relationship between age of onset of use and current mother-daughter attachment levels would indicate that (a) earlier substance use by mothers may be linked with lower attachment to daughters as adults (as reported by mothers and daughters) and (b) earlier substance use by daughters may be linked with lower attachment to mothers (as reported by mothers and daughters).

Finally, the relationship of Latino parents who leave their children behind when immigrating to the U.S. has been suggested to disrupt attachment substantially, even when children eventually rejoin their parents (Suárez-Orozco & Suárez-Orozco, 2001). Thus, we statistically controlled for the occurrence of separation of daughters from mothers during their lives when examining the association between mother-daughter attachment and substance abuse.

**METHOD**

**PARTICIPANTS**

Participants were 158 self-identified Latina mother-daughter dyads (total $N = 316$) categorized into four groups: (a) Dyad 1 = drug-abusing mothers and daughters ($n = 80$); (b) Dyad 2 = abusing mothers and non-abusing daughters ($n = 38$); (c) Dyad 3 = non-abusing mothers and abusing daughters ($n = 102$); and (d) Dyad 4 = non-abusing mothers and daughters ($n = 96$). In terms of the occurrence of separation of daughters from their mothers, 16.5% ($n = 52$) of daughters reported being raised by relatives other than their mothers for a majority of their lives. A majority of mothers were born outside of the U.S. (84.2%, $n = 133$). Thirty-one percent of mothers emigrated to the U.S. from Cuba ($n = 49$) and 18.4% from Colombia ($n = 29$). Approximately half (46%) of daughters ($n = 72$) were born in the U.S. About 15% of daughters ($n = 24$) were born in Cuba, and 9.5% of daughters ($n = 15$) were born in Colombia. The remainder of mothers and daughters were born in other Central and South American countries. Table 1 summarizes additional mother and daughter demographic variables (age, nativity, receipt of financial, emotion, or legal assistance with immigration, family of origin socioeconomic status, personal income, educational level, and employment status) across dyad types.

**PROCEDURES**

This study was approved by, and conducted in compliance with, the Institutional Review Board at a large southeastern university. The criteria for inclusion of mothers and daughters were: (a) consent to be interviewed for at least 2-3 hours, (b) being 18
years old or older, (c) self-identifying as Latina, (d) living in Miami-Dade County, Florida, and (e) being willing to provide two telephone numbers to researchers for correspondence during participation in study. All potential participants were able to provide two telephone numbers to assist in scheduling assessment interviews.

Mothers and daughters were classified into the four dyads based on whether they qualified as abusers of alcohol, marijuana, cocaine, heroin, ecstasy, and/or prescription drugs. For the purpose of the current study, alcohol abusers were defined in terms of at least one heavy drinking occasion per month (adapted from Naimi et al., 2003)—at least 4–5 glasses of wine, 3–4 cans / bottles of beer, or 3–4 four-ounce drinks of hard liquor per occasion—during the 12 months prior to assessment. Illicit drug abusers were defined as participants who reported at least 3 days per week of marijuana use, 2 days per week of cocaine use, one or more occasions of heroin use per week, and/or at least 3 ecstasy use occasions per month during the 12 months prior to assessment. Abuse of prescribed medication was measured by asking participants whether they had taken medicine without a doctor’s authorization, in larger amounts than prescribed, or for longer periods than prescribed, in the 12 months prior to assessment (adapted from Turner et al., 2001).

All study participants were recruited for a one time face-to-face interview. Given the fairly low representation of drug and alcohol abusers in the general population, different strategies were used to recruit substance abusing and non-abusing participants. Recruitment efforts aimed to obtain approximately 40 dyads from each dyad type to ensure sufficient statistical power for planned comparisons. When approximately 40 dyads were obtained for a specific dyad type, recruitment efforts shifted from non-abusing to abusing venues to obtain the targeted sample. Non-abusing Latinas were recruited to participate through announcements at community health fairs, health clinics, radio announcements on local Spanish-language stations, and advertisements on local television channels. Substance abusing participants were recruited through announcements posted at local drug court programs and substance abuse support groups such as Narcotics Anonymous (NA) and Alcoholics Anonymous (AA) meetings as well as through advertising in a local alternative newspaper and on an FM radio station.

Interviews were conducted in either Spanish or English (participant choice) by one of eleven trained and supervised female interviewers using a structured questionnaire. Thirty-five percent ($n = 112$) of interviews were conducted in English and 65% ($n = 208$) were conducted in Spanish. All but one interviewer was Latina and bilingual in English and Spanish. The non-Latina interviewer was Haitian-American, and conducted interviews with English speaking participants. Eight interviewers were Master’s-level graduate students and three were Bachelor’s-level assessors. Interviewer training and supervision entailed more than four hours
of didactic training using a training manual developed to instruct interviewers about each of the measures in the study questionnaire. Interviewers also received intensive supervision by the study director throughout the course of the interviews to ensure data quality. Interviews were periodically audio-recorded and reviewed by the study director for completeness and accuracy.

All measures within the questionnaire were pilot-tested to ensure that they were culturally and linguistically sensitive to Latino culture and to women. Measures not available in Spanish were translated into Spanish and back translated in accordance to protocol of the Institutional Review Board and Office of Sponsored Research Administration at a large southeastern university. The questionnaire took 2-3 hours to complete. The interviews took place at locations convenient to participants. The majority of interviews took place in participants’ homes (69%) and at university offices (19%).

MEASURES

DEMOGRAPHICS

A demographics form asked participants to report their nativity (“Where were you born?”), their assistance with immigration (“Did someone help you in coming to the United States? Yes or No”), their socioeconomic status of family of origin (“When you were growing up, compared to other families in your community, would you say your family was: 1 = Poorer than most, 2 = About the same as the others, 3 = Richer than most?”), their current personal income during the year prior to assessment (“What was your personal income last year: 1 = $0 to 4,999, 2 = $5,000 to 9,999, 3 = $10,000 to 14,999, 4 = $15,000 to 19,999, 5 = $20,000 to 24,999, 6 = $25,000 to 29,999, 7 = $30,000 to 34,999, 8 = $35,000 to 39,999, 9 = $40,000 to 49,999, 10 = $45,000 to 49,999, 11 = $50,000 or more?”), their education level (“What was the last grade you completed in school: 1 = less than high school, 2 = high school diploma or equivalent, 3 = post high school training, 4 = bachelor’s degree, 5 = graduate degree?”), their employment status (“Are you currently employed: Yes or No?”), and the occurrence of mother-daughter separation.

ATTACHMENT

A 25-item version of the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) was used to assess attachment between mothers and daughters. Mother and daughter participants were asked to indicate their agreement with each item using a 5-point Likert scale ranging from “Almost never or never true” to “Almost always or always true.” Sample items include “My mother (daughter) accepts me as I am” (trust scale) and “If my mother (daughter) knows something is bothering me, she asks me about it” (communication scale).
Internal consistency and test-retest reliability coefficients for the IPPA have been acceptable in prior research (Adam & Chase-Lansdale, 2002). However, because the IPPA was originally developed with adolescent and young adult samples, we conducted a confirmatory factor analysis to ensure that the previously reported IPPA subscales / factors (i.e., communication, trust, and alienation) were appropriate for the present sample of adult Latinas. A confirmatory factor analysis of the three-factor model produced an inadequate fit to the data. We evaluated the three-factor measurement model using the comparative fit index (CFI), for which values above .90 reflect adequate fit (Kline, 2005) and values above .95 represent excellent fit (Tomarken & Waller, 2005), and the root mean square error of approximation (RMSEA), for which values below .08 represent adequate fit (Quintana & Maxwell, 1999) and values below .05 represent excellent fit (Hancock & Freeman, 2001). The chi-square value (272 df) was 630.87 (p < .0001), comparative fit index (CFI) values was .89, and root mean square error of approximation (RMSEA) value was .07. One of the original subscales (alienation) also yielded inadequate evidence of internal consistency in the current sample (e.g., Cronbach’s alpha coefficient of .68). It was therefore possible that the scoring algorithm for the IPPA was not appropriate for this sample. As a result, we analyzed a factor solution where all of the items patterned onto a single factor. This solution provided an adequate fit to the data, $\chi^2 (268) = 587.52, p < .0001$; CFI = .91; RMSEA = .06. Therefore, a total attachment scale score was used in the current study. We calculated the total attachment scale score by first reverse scoring the alienation scale items and summing these reverse-scored items with items from the other 2 subscales (communication and trust). Cronbach’s alpha coefficients for the total scale score were 0.93 for the total sample, 0.93 for the daughter sample, and 0.92 for the mother sample in the current study.

**Alcohol Use**

The alcohol consumption items from the Health and Daily Living Form (Billings, Cronkite, & Moos, 1983) were used to assess participant alcohol use frequency during the 12 months prior to assessment and, in part, to determine dyad membership (based on use rates 12 months prior to assessment). The questions used in the current study assessed how frequently participants consumed alcohol (i.e., alcohol frequency) in the 3 and 12 months prior to assessment, using an 8-point Likert scale ranging from 1 (never uses) to 8 (uses every day).

**Illicit Drug Use**

The Drug Use Frequency (DUF) measure (O’Farrell, Fals-Stewart, & Murphy, 2003) was used to assess the frequency of drug use among the participants during the 12 months prior to assessment and, in part, to determine dyad membership (based on use rates 12 months prior to assessment). The DUF also was used to assess illicit
drug use and non-medical use of prescription drugs (e.g., sedatives) in the 3 and 12 months prior to assessment. The DUF measure assesses frequency of use for each separate illicit and prescription drug (sedatives, hypnotics or tranquilizers, cannabis, stimulants, heroin, opioids, cocaine, PCP, hallucinogens, inhalants, others) using an 8-point Likert scale ranging from 1 (never uses) to 8 (uses every day). Past research (O’Farrell et al., 2003) indicates that DUF scores on this measure correlate closely ($r = .87$) with collateral reports of drug-use frequency and with self-reports on other drug and alcohol use measures ($r$ values ranged from .83 to .98).

**Age of Alcohol and Illicit Drug Use Onset.**

Questions asking participants’ ages of onset of alcohol and illicit drug use were taken from a survey designed for young adults (Life Course and Health Research Center, 1997).

**Data Analytic Plan**

Preliminary data analyses included calculating frequency distributions for all continuous variables to determine if they violated the assumption of normality. Next, to explore for potential confounding variables, analyses of variance (ANOVA) and chi-square difference tests were performed to test for differences in demographic variables across the four dyads. For variables where the omnibus ANOVA was significant, least significant difference (LSD) pair-wise comparisons were conducted to identify significant differences between dyads.

To test our main hypotheses, we constructed a path model consisting of hypothesized predictors of mother and daughter attachment. The path model allowed us to test all hypothesized associations while modeling the interrelated mother-daughter variables in a single analysis using MPlus (Muthén & Muthén, 2007) statistical software.

Since mother and daughter age and nativity significantly differed across dyads (described below), they were entered in the path model, along with dyad type and separation status. Dyad type was entered in the model using dummy coded variables for Dyads 2-4, with Dyad 1 (substance abusing mothers and daughters) as the reference group. We evaluated the adequacy of the path model using the same fit criteria described in evaluating the attachment scale measurement model described earlier (i.e., the chi-square value, CFI, and RMSEA indices).
RESULTS

PRELIMINARY RESULTS

Frequency distributions for continuous variables were examined to determine whether they violated the assumption of normality. All continuous variables appeared to be normally distributed.

DEMOGRAPHIC DIFFERENCES ACROSS DYADS

MOTHER AND DAUGHTER AGE BY DYAD TYPE

As reported in Table 1, mothers and daughters from Dyad 1 (mother/daughter both drug or alcohol abusers) were significantly younger than daughters from Dyad 3 (mother non-abuser and daughter abuser) and from Dyad 4 (mother/daughter both non-abusers). Mothers and daughters from Dyad 2 (mother abuser and daughter non-abuser) were also significantly younger than daughters from Dyad 4 (mother/daughter both non-abusers) and Dyad 3 (mother non-abuser and daughter abuser).

MOTHER AND DAUGHTER NATIVITY BY DYAD TYPE

Results also showed that the percentage of U.S.-born versus immigrant daughters also differed by dyad type (see Table 1). Dyads in which one or both members were substance abusing were more likely to have at least one U.S.-born member compared to dyads in which both members were non-substance abusing.

No significant differences were found between dyads for mothers’ or daughter’s assistance with immigration, socioeconomic status of family of origin, current personal income, education level, and employment status.

PATH MODEL

A bivariate correlation matrix, including means and standard deviations for variables involved in the path model is presented in Table 2. Results from the path model are shown in Figure 1, and are summarized below. The path model provided an adequate fit to the data, \( \chi^2 (4) = 4.18, p = .38; \) CFI = .99; RMSEA = .02.

ATTACHMENT TO DAUGHTER

Results indicated mother-reported predictor variables (nativity, age, age of alcohol and illicit drug use onset, separation from daughter, dyad type) accounted for 16% of variability in mother attachment to daughter \( (p < .01) \). Substance abusing mothers with an abusing daughter (Dyad 1) reported less attachment to their daughters than mothers from all other dyad types. The occurrence of separation from daughter, age of mother, nativity of mother, as well as mother/daughter age of alcohol and illicit drug use onset did not significantly associate with mothers’ reports of their attachment to daughters.
### Table 1. Demographic Summary Across U.S. Latina Mother-Daughter Dyads

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Dyad 1: Mother and Daughter Abusers (n=40)</th>
<th>Dyad 2: Mother Abusers, Daughter Non-Abusers (n=10)</th>
<th>Dyad 3: Mother Non-Abusers, Daughter Abuser (n=31)</th>
<th>Dyad 4: Mother and Daughter: Non-Abusers (n=48)</th>
<th>Group Comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
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</tr>
<tr>
<td>Mothers' Age M (SD)</td>
<td>46.67 (7.57)</td>
<td>47.35 (8.10)</td>
<td>55.43 (10.28)</td>
<td>55.40 (9.16)</td>
<td>$F(3, 157)=10.46, p &lt; 0.001, \chi^2 = .17$</td>
</tr>
<tr>
<td>Daughters' Age M (SD)</td>
<td>23.42 (3.96)</td>
<td>24.58 (7.34)</td>
<td>28.86 (9.45)</td>
<td>30.67 (9.31)</td>
<td>$F(3, 157)=4.96, p = .01, \chi^2 = .09$</td>
</tr>
<tr>
<td><strong>Birthplace</strong></td>
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<tr>
<td><strong>Mother</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caribbean</td>
<td>a = 15</td>
<td>a = 7</td>
<td>a = 20</td>
<td>a = 23</td>
<td>$\chi^2(3, N=158) = 12.26, p &lt; .01$</td>
</tr>
<tr>
<td>Central America</td>
<td>a = 9</td>
<td>a = 6</td>
<td>a = 6</td>
<td>a = 4</td>
<td></td>
</tr>
<tr>
<td>South America</td>
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<td>a = 6</td>
<td>a = 18</td>
<td>a = 19</td>
<td></td>
</tr>
<tr>
<td>U.S.</td>
<td>a = 11</td>
<td>a = 7</td>
<td>a = 7</td>
<td>U.S.</td>
<td></td>
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<tr>
<td><strong>Daughter</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Caribbean</td>
<td>a = 4</td>
<td>a = 4</td>
<td>a = 10</td>
<td>a = 14</td>
<td>$\chi^2(3, N=158) = 14.16, p &lt; .01$</td>
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<tr>
<td>Central America</td>
<td>a = 9</td>
<td>a = 6</td>
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<td>South America</td>
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<td><strong>Assistance with Immigration</strong></td>
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<td>Mother</td>
<td>Yes = 8</td>
<td>Yes = 5</td>
<td>Yes = 15</td>
<td>Yes = 16</td>
<td>$\chi^2(3, N=120) = 0.73, p = .87$</td>
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<tr>
<td>No</td>
<td>n = 20</td>
<td>n = 5</td>
<td>n = 29</td>
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<tr>
<td><strong>Daughter</strong></td>
<td>Yes = 4</td>
<td>Yes = 5</td>
<td>Yes = 15</td>
<td>Yes = 16</td>
<td>$\chi^2(3, N=86) = 2.49, p = .48$</td>
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<tr>
<td>No</td>
<td>n = 12</td>
<td>n = 5</td>
<td>n = 22</td>
<td>n = 25</td>
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<tr>
<td><strong>Family of origin socioeconomic status</strong></td>
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<tr>
<td>Mother (SD)</td>
<td>1.97 (0.74)</td>
<td>1.79 (0.65)</td>
<td>2.02 (0.62)</td>
<td>2.13 (0.67)</td>
<td>$F(1, 157) = 1.16, p = .33, \chi^2 = .01$</td>
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<tr>
<td>Daughter (SD)</td>
<td>1.98 (0.53)</td>
<td>1.89 (0.57)</td>
<td>2.06 (0.54)</td>
<td>2.04 (0.50)</td>
<td>$F(1, 157) = 0.56, p = .45, \chi^2 = .01$</td>
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<td><strong>Familial Income-Pair Year</strong></td>
<td></td>
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<tr>
<td>Mother (SD)</td>
<td>3.43 (2.34)</td>
<td>2.84 (1.80)</td>
<td>2.81 (2.34)</td>
<td>2.71 (2.20)</td>
<td>$F(2, 157) = 0.89, p = .43, \chi^2 = .01$</td>
</tr>
<tr>
<td>Daughter (SD)</td>
<td>3.40 (2.00)</td>
<td>2.42 (1.80)</td>
<td>3.51 (2.24)</td>
<td>3.59 (2.35)</td>
<td>$F(2, 157) = 1.67, p = .21, \chi^2 = .01$</td>
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</tbody>
</table>

Note: a1= Poorer than most, 2=About the same as others, 3=Richer than most. b1=$0 to 4999, 2=$5000 to 9999, 3=$10000 to 14999, 4=$15000 to 19999, 5=$20000 to 24999, 6=$25000 to 29999, 7=$30,000 to 34,999, 8=$35,000 to 39,999, 9=$40,000 to 49,999, 10=$45,000 to 49,999, 11=$50,000 or more. c1=less than high school, 2=high school diploma or equivalent, 3=post high school training, 4=bachelor’s degree, 5=graduate degree
Results indicated daughter-reported predictors (nativity, age, age of alcohol and illicit drug use onset, separation from mother, dyad type) were related to attachment to mother, accounting for 20% of variability, \( p < .01 \). In general, younger daughters reported more attachment to their mothers. Daughters who were not separated from their mother during childhood or adolescence reported more attachment to mother. Substance abusing daughters with an abusing mother (Dyad 1) reported less attachment to their mothers than all other dyad types. Nativity of daughter as well as mother / daughter age of alcohol and illicit drug use onset did not significantly associate with daughters’ reports of their attachment to mother.

**Correlations in Path Model**

Several mother and daughter reported predictors as well as the attachment criterion variable were correlated in the model. Mother age of alcohol use onset was not related with daughter age of alcohol use onset. However, mother age of illicit drug use onset was positively linked to daughter age of onset: Mothers who reported beginning to use illicit drugs later in their lives were associated with
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FIGURE 1. A PATH MODEL OF U.S. LATINA MOTHER-DAUGHTER ATTACHMENT

* $p < .05$, ** $p < .01$. $n = 158$, $\chi^2 (4) = 4.18$, $p = .38$; CFI = 0.99; RMSEA = 0.02. Coding for Mother-Daughter Separation is 1 = Raised by relatives other than mother, 2 = Raised by relatives and mother, 3 = Raised by mother only. Coding for Nativity is 0 = U.S. born, 1 = non-U.S. born. Coding for Dyad Type variables is 1 = Specified Dyad Type, 0 = Dyad 1 (Substance Abusing Mothers, Daughters).
daughters who also reported later use. Mothers’ reports of attachment to their
daughters positively related with daughters’ reports of attachment to their mothers.
Mothers’ and daughters’ ages was also correlated, with older daughters tending to
have older mothers. Similarly, as one would expect, mothers who were U.S. born
tended to have daughters who were U.S. born.

**DISCUSSION**

Substance abusing mothers and daughters from a community sample of adult
Latinas reported lower levels of attachment than three mother-daughter dyad
types which varied in substance-abuse status. Lower levels of attachment among
substance abusing mothers and daughters persisted after controlling for demographic
and contextual variables, including mother’s and daughter’s age, nativity, and
mother-daughter separation during the daughter’s development. The results not
only document the attachment that daughters report to their mothers, but also the
attachment mothers have with their daughters, and the link between both these
processes and mother and daughter substance abuse.

The importance of mother-daughter attachment in our findings is consistent
with other studies, suggesting that Latina mothers and daughters often forge deep
lifelong bonds, in which they rely heavily on one another for emotional, financial,
and situational support over the lifespan (Villanueva Dixon, Graber, & Brooks-Gunn,
2008). In addition, previous studies have explored the influence of parent-child
attachment on the substance-using behaviors of the child, but not vice versa (Brook
et. al, 1997, Thornberry et al., 2006). By assessing mother and daughter attachment
and substance abuse, we documented an association between attachment and
substance abuse, and its importance in both dyad members’ lives. The validity of the
association was also strengthened by the use of multiple reporters. The results offer
new knowledge concerning the association between adult Latina mother-daughter
attachment and substance abuse, as well as potential implications for substance-
abuse treatment providers working with Latino families should mother-daughter
attachment serve as a protective factor for substance use disorders.

Several demographic differences were found across dyad types. Mother’s and
daughter’s age and nativity significantly differed across dyads. The finding that
younger mothers were more likely to engage in substance abuse is consistent with
studies indicating that the highest rate of substance use among women occurs at
earlier ages (National Institutes of Health [NIH], 2000). The age-related findings
for daughters across dyads were less consistent. While daughters in the mother/
daughter substance-abusing dyad (Dyad 1) were younger than daughters in a
mother/daughter non-substance abusing dyad (Dyad 4), they were also younger than
substance-abusing daughters with non-abusing mothers (Dyad 3). Furthermore, non-
abusing daughters in Dyad 2 were younger than non-abusing daughters in Dyad 4.
Thus, age differences between dyads may be more a result of sampling than solely age-based differences in substance abuse among the daughters.

U.S. born nativity was positively associated with substance abuse in Latina adults. This finding reflects the nativity health paradox or the positive association between U.S. immigrant status and better overall health despite comparatively low socioeconomic status and stress (Turner, Lloyd, & Taylor, 2006; Vega et al., 1998). While the mechanisms of this paradox are not entirely established, it is theorized that protective aspects of the Latino culture are lost or diminished through the acculturation process (Scribner, 1996). For instance, the social support from family may be higher among immigrant Latinas in the current study, contributing to an ability to better cope with stressors and avert substance abuse (Escobar, 1998; Turner et al., 2006). The importance of extended family ties in Latino culture as well as the strong identification and attachment of individuals with their families is known as familismo or familism (Marin & VanOss Marin, 1991). Unfortunately, the current study did not include a measure of familism or overall family cohesiveness and functioning. Future studies are encouraged to include measures of overall family functioning even when a specific family dyad is the focus of the study. Furthermore, the strong stigma against women who use drugs and alcohol found in the Latino culture may be associated with the lower levels of substance abuse among immigrant Latinas in comparison to U.S. born Latinas (Warner et al., 2006). That is, this stigma may dissipate as Latinas acculturate to U.S. society.

Correlations between mother and daughter reports of age of substance use onset, demographic variables, and attachment yielded notable findings. Mother-daughter age of illicit drug use onset was positively correlated, suggesting intergenerational transmission of this risk behavior among dyad members. This finding has been reported in other studies of parent-child risk behaviors (Lau, Quadrel, & Hartman, 1990; Sterk et al., 2000). Although mother reports of attachment were higher than daughter reports of attachment to mothers, their reports were highly correlated, suggesting a general agreement between dyad members about the quality of their relationship. Future studies could examine whether or not discrepancies in reports of adult mother-daughter attachment relates with substance use and other health-risk behaviors. Past research has focused on youth, and suggests that discrepancies in parent-child reports of child behavior problems are related to higher levels of externalizing problems in children (Ferdinand, van der Ende, & Verhulst, 2004). Another study found that more positive reports of parenting made by children relative to their parents were linked with higher levels of social competence and lower levels of internalizing problems about a year later (Guion, Mrug, & Windle, 2009).

As hypothesized, substance-abusing daughters with a substance-abusing mother (the reference group) differed from all other dyad groups in mother and daughter
reported attachment levels. These differences persisted even when controlling for separations between the mothers and daughters, which interestingly appeared to significantly impact daughters’ reports of attachment to mothers, but not mothers’ attachment to daughters after separation. The lower levels of attachment observed among the substance abusing mother-daughter dyad is consistent with research suggesting that inadequate relationships between parents and child might influence not only substance abusing behaviors in Latino/a adolescents, but among adults as well (e.g., Barrett & Turner, 2006; Caspers, Yucuis, Troutman, & Spinks, 2006). Latina adults who report low levels of attachment to their substance-using mothers or daughters are substance abusers more often than Latinas with close relationships with their mothers or daughters, regardless of whether their mother or daughter abuses substances or not.

Surprisingly, we did not find a relationship between age of illicit drug use and alcohol use onset and attachment. Daughters from Dyad 1 (mother-daughter both substance abusers) reported a younger age of illicit drug use onset than all other participants. Similarly, mothers from Dyad 2 (mother-abuser and daughter-non-abuser) reported a younger age of illicit drug use onset. Non-abusing mothers and daughters (Dyad 4) reported significantly older ages of first use of illicit drugs and alcohol than all other participants. Thus, earlier onset of drug use was associated with substance abuse later in life. This finding is identical to past studies indicating age of onset as a predictor of subsequent development of substance use disorders over the lifespan (Anthony & Petronis, 1995; Chen, O’Brien, & Anthony, 2005; Grant & Dawson, 1998; Janson, 1999; King & Chassin, 2007). Yet, earlier onset of substance use by mothers was not associated with lower attachment to daughters as adults (as reported by mothers and daughters). In addition, earlier substance use by daughters was not related to lower attachment to mothers (as reported by mothers and daughters). Age of first use may have been too oblique of an indicator of current, problematic use to capture a relationship between onset of use and current mother-daughter attachment. Participants’ age of onset may have sometimes represented drug and alcohol experimentation, rather than the actual onset of a chronic heavy-use pattern or substance abuse and/or dependence. Therefore, participants’ age of onset may not have related with their adult mother-daughter attachment in the same way that their current substance abuse affected their current attachment levels. Unfortunately, we cannot determine the temporal relationship between mother-daughter attachment and onset of substance use because we do not have a measure of attachment at the time of, or prior to, substance use onset. Nevertheless, the lack of an association may suggest that a long-standing lack of attachment between mothers and daughters may determine mother-daughter adult substance abuse more so than long-standing substance use affects attachment.
Longitudinal research is needed to address the temporal order of attachment and substance abuse in the lives of Latina mothers and daughters. When both dyad members are abusers (Dyad 1), substance abuse may deteriorate mother-daughter attachment levels and obstruct the emergence of protective cultural and familial dynamics and values. Alternatively, it is possible that the development of mother-daughter attachment was hindered among this dyad type due to unassessed factors, leaving them vulnerable to the development of substance abuse. Future studies of the rate of change of mother-daughter substance-abuse behaviors and attachment levels using longitudinal methods that go beyond the exploratory, cross-sectional nature of the current study will help address these questions.

The findings are consistent with the Bogenschneider (1996) ecological risk / protective theoretical framework and with Lerner’s (1995) developmental-contextual perspective. As described in the introduction of this article, the family represents the primary context for human development over the lifespan in these models (Szapocznik & Coatsworth, 1999). The role of familial factors, such as attachment, appears foremost in exposing or protecting Latina women from substance abusing behaviors. Additional longitudinal research study is needed to investigate if mother-daughter attachment is, in fact, a mediator for the transmission of substance abusing behaviors from Latina mothers to daughters. Future research also needs to account for additional social-ecological factors (Szapocznik & Coatsworth, 1999) potentially contributing to their substance abuse while concurrently considering the influence of mother-daughter attachment over time.

The present findings should be interpreted in light of several important limitations. First, the cross-sectional design used does not permit causal inferences to be drawn. As previously noted, longitudinal research is needed to determine the directionality between Latina mother-daughter attachment and substance abuse. Second, efforts were undertaken to include participants from major Latino subgroups in the U.S. However, some groups (e.g., Mexican and Puerto Rican) were not well represented due to their underrepresentation in the Miami Dade County area in general. According to 2003 U.S. Census data (U.S. Census Bureau, 2007), Latino subgroups in Miami-Dade County constituted 60.97% of the total county population. The percentage of each subgroup was estimated as Cuban (30.98%), Other Latino (23.35%), Puerto Rican (4.07%), and Mexican (2.57%). Thus, the current sample was only representative of Latinas living in Miami-Dade County and not in the entire United States. Future studies are needed with nationally representative samples to enhance the generalizability of the present results. Third, substance use behaviors are especially stigmatized among Latinas, which often inhibits their discussing and revealing personal information with others including family (Larkey et al., 2002). Although assessors were trained to detect inconsistencies in participants’ responses,
and to address such inconsistencies during the interview in a clinically and culturally sensitive manner, socially desirable responding may have occurred.

Latino family level influences on substance abuse and other health-risk behaviors continue to be critical content areas in the development of effective substance-abuse prevention and family therapy. Family therapy that fosters attachment and other prevention efforts may help substance-abusing Latina mothers and daughters by encouraging them to work together to prevent the further development of substance-abuse behavior in their family. Family therapy and prevention programs that focus on aspects of Latino family attachment (e.g., communication, trust, and closeness) should be expanded to not only focus on the attachment of children to parents, but also consider the attachment of adult children and parents. Furthermore, future studies need to investigate the substance abusing behaviors and attachment levels of Latino fathers and daughters, as well as, mothers and sons, and fathers and sons. Attachment to other important individuals in these women’s lives (e.g., extended family, friends) should also be considered in future research as salient protective factors. Inclusion of attachment to others will enable future researchers to determine if mother-daughter attachment is central to the respondents, or if there are other attachments that influence substance use. Furthermore, the current study considers attachment as consisting of trust, communication, and closeness. Future studies are needed to consider dysfunctional types of attachment (e.g., enmeshment [Minuchin, 1978]), and related implications for substance abuse and other health-risk behaviors. Future studies are also needed to develop psychometrically sound, multidimensional attachment measures for use with diverse adult populations.

This study is the first of its type to collect information on the intergenerational substance use of Latina mothers and daughters. While the study is preliminary in nature, its results serve as a platform for future research regarding substance abuse and attachment among Latina mothers and daughters. The next generation of studies will lead to a greater understanding of the determinants of the onset and progression of substance use among Latinas. The result will be the continued development of family-based substance-abuse prevention and treatment programs that are based on sound empirical information concerning Latinas in the U.S.

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