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The Indirect Effects of Parent Psychopathology on Offspring Affective Disorder Through Difficulty During the Leaving Home Transition

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Abstract

The current study examined risk for young adult affective disorder in the children of parents with alcohol use disorders (AUDs), and tested whether negative experiences during the leaving home transition mediated this effect. Using multiple reporter data from a high-risk community sample, the current study included 346 emerging adults ($M = 21.97$ years old; 49% female, 72% non-Hispanic Caucasian, and 47% with at least one alcohol-disordered parent) from a large metropolitan area. We found that offspring of parents with AUDs were more likely to have negative experiences during the leaving home transition, which in turn predicted increased risk of affective disorders in adulthood. Parents with alcohol disorders may attempt to limit their children's independence from the family of origin or fail to appropriately scaffold their leaving home transition, which is an important developmental task, placing children of alcohol-disordered parents at greater risk of affective disorders in adulthood.

Keywords

transitions to adulthood; depression; family relationships; parenting; longitudinal

In recent years, there has been a trend to delay the acquisition of adult roles—in terms of work and family—until the mid to late 20s. “Emerging adulthood” (Arnett, 1998, 2000), the period between the late teens and mid-20s, is unique because individuals have typically moved out of the homes of their families of origin but have not yet fully committed to adult responsibilities, meaning that they have greater freedom to engage in more independent exploration (Arnett, 2000, 2004). Family factors appear to be related to the ease with which individuals navigate this period of exploration, which in turn, is important for later mental health. More specifically, research suggests that parents with mental health problems affect the ease with which emerging adults establish distance from their families of origin, and instead of encouraging autonomy, place greater burden on offspring who are contemplating leaving the home for the first time (Hussong & Chassin, 2002; Radke-Yarrow, Zahn-Waxler,

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Declaration of Conflicting Interests

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Richardson, Susman, & Martinez, 1994). The current study tests whether parental alcohol and affective disorders prospectively predict offspring difficulty during the leaving home transition, which may in turn increase risk for later affective disorder diagnosis.

The Effects of Relationships With Caregivers on the Leaving Home Transition

Although the leaving home transition is generally a positive experience for emerging adults and their families, there is a lot of variability in how families navigate this change (Arnett, 2007; Bloom, 1987; Flanagan, Schulenberg, & Fuligni, 1993). Relationships between the individual and his or her caregivers influence the ease with which transitions out of the home occur. Attachment work has demonstrated that individuals develop from their caregiving relationships early representations of the availability of others and the view that they are competent explorers of their environments (Ainsworth, 1979; Bowlby, 1973). Self-confidence to explore new environments seems especially important during emerging adulthood—when individuals leave the home and begin living more independently from their families of origin. During emerging adulthood, individuals also establish more mature relationships with their parents (Aquilino, 1997; Thornton, Orbach, & Axinn, 1995), expand their social networks, and take on additional responsibilities that they did not have as children or adolescents (Furman, Brown, & Feiring, 1999; Seiffge-Krenke, 2003). Although exciting, this time of increasing psychological and physical distance from parents is likely stressful for emerging adults (Seiffge-Krenke, 2010), so caregivers' role as an extended "secure base" (Bowlby, 1973) may allow individuals to pursue more independence, knowing that their parents will be an emotional support on which they can lean if needed. However, the task of achieving an adaptive balance between closeness and autonomy is not always an easy one for emerging adults or their parents, and its success largely depends on the parents' ability to exercise the appropriate amount of control and also support the offspring in becoming a separate adult (Schulman & Ben-Artzi, 2003). Parental control and autonomy support during the leaving home transition may manifest as parents helping to plan for the offspring's move, reaching agreements about living arrangements, clarifying that they (the parents) do not feel abandoned, and communicating that this is an appropriate developmental step.

Although there is some research generally suggesting that aspects of the parent–child relationship are related to the ease with which offspring navigate the leaving home transition, there is much less research examining how parent psychopathology or impairment influences this process. Studies have documented that caregivers with mental health problems are more withdrawn from their offspring (Nelson, Hammen, Brennan, & Ullman, 2003), and show less sensitivity and more hostility toward them (Elgar, Mills, McGrath, Waschbusch, & Brownridge, 2007). They also act in more rejecting ways toward their offspring (Marchland & Hock, 1998), using more psychological control and engaging in more conflict with them (Cummings, Keller, & Davies, 2005), compared to parents without mental health problems.

Parental Alcohol Use Disorders (AUDs) and Affective Disorders and the Leaving Home Transition

Research suggests that parents with AUDs and affective disorders may impose on their offspring to a greater extent than other caregivers. For example, children of depressed parents are more likely to show care-taking behaviors when exposed to sadness in their mothers, compared to children of parents who were not depressed (Radke-Yarrow et al., 1994), although not all studies have replicated this finding (Champion et al., 2009). Additionally, parents with AUDs have been reported to depend on their offspring to provide them with emotional (i.e. support) and instrumental caretaking (i.e. helping with household chores) more than other caregivers (Broszormenyi-Nagy & Spark, 1973; Burnett, Jones, Bliwise, & Ross, 2006; Jurkovic, 1997). Therefore, because parents with affective disorders or AUDs may be more dependent on their children, they may be less likely to help guide and support the emerging adult's navigation of the leaving home transition.

Emerging adults with depressed or alcohol-disordered parents may feel ambivalent about initiating the leaving home transition. They may believe that they need to take care of their families, and thus be reluctant to leave home. However, they may also feel more urgency to escape the conflict they are experiencing at home (Hussong & Chassin, 2002; Kane & Garber, 2004). Hussong and Chassin (2002) found that children of parents with AUDs and affective disorders experienced more family conflict and disorganization, and were more likely to leave the home because they were unhappy, compared to children of parents without an AUD or affective disorder diagnosis.

The Leaving Home Transition and Risk for Later Affective Disorder

Research has generally found a significant link between the ease with which individuals transition to adulthood and later mental health, although the evidence is somewhat mixed. Individuals who were more successful at gaining independence from their parents (e.g., more likely to spend time with peers and/or a romantic partner, pursuing post-high school education) in the transition to adulthood were more likely to report greater subjective well-being (self-esteem, self-efficacy, and social support) both concurrently (Schulenberg, Bryant, & O'Malley, 2004) and 1 year later (Kins & Beyers, 2010), although some also failed to find this relation (Galambos, Barker, & Krahn, 2006). Moreover, emerging adults who left their homes because they were unhappy were found to be at risk for increased internalizing and externalizing symptoms (Hussong & Chassin, 2002). However, because these data were cross-sectional, those with more symptoms might have been more likely to leave their homes because they were unhappy.

Although there appears to be an association between the leaving home transition and subjective well-being in general, and internalizing symptoms more specifically, no study to date has prospectively examined whether difficulty during the leaving home transition predicts increased risk of clinical affective disorders. Because of the importance of establishing a new balance of closeness to and individuation from the family of origin during emerging adulthood, it may be that difficulty finding this balance is associated not only with internalizing symptoms (as Hussong & Chassin, 2002 found) but also with a more clinically meaningful outcome signifying greater impairment, namely, affective disorder diagnosis.

The current study is the first to prospectively examine whether those who have conflicts with family members about the leaving home transition and feel that they are abandoning their caregivers when they leave, and show increased risk for later affective disorder.

Effect of Parental Alcohol Use and Affective Disorders on Offspring Affective Disorder

Offspring of parents with AUDs and affective disorders are not only at risk for tumultuous transitions out of the home, but they are also at heightened risk for affective disorder diagnoses (Chassin, Pitts, DeLucia, & Todd, 1999; Hammen & Brennen, 2003; Moss, Vanyukov, Majumder, Kirisci, & Tarter, 1995; Pettit, Olino, Roberts, Seeley, & Lewinsohn, 2008), but see Reich, Earls, Frankel, and Shayka (1993) for an exception. Although it appears that parent affective disorder is a unique predictor of offspring depression over and above co-occurring psychopathology, research is mixed about whether parental AUD uniquely affects offspring internalizing problems, over and above parent depression, anxiety and Antisocial Personality Disorder (i.e., ASPD; Chassin et al., 1999; Clark, Cornelius, Wood, & Vanyukov, 2004). The current study adds to existing literature by testing whether parental AUDs and affective diagnoses are unique predictors of affective disorder diagnoses, and whether this relation is, in part, explained by negative experiences during the leaving home transition.

Current Study

The current study adds to the existing literature by examining the relations among parental AUD, parent affective disorder, offspring negative experiences during the leaving home transition, and offspring later diagnosis of affective disorder. The current study expands on Hussong and Chassin (2002) by prospectively predicting clinical diagnosis of affective disorder and testing whether this relation is explained by a latent variable capturing negative experiences during the leaving home transition. The current study is the first to our knowledge to test the unique prospective effects of parental AUD and parent affective disorder on negative experiences during the leaving home transition and young adult affective disorders. We hypothesized that children of parents with AUDs and affective disorders would experience more negative experiences during the leaving home transition, which would subsequently predict future onset of an affective disorder during young adulthood.

Method

Participants

Participants ($n = 346$) were drawn from a larger longitudinal study of familial alcoholism. Because of the interest in focusing on the years during which substance use is likely to onset, and also in examining longer term adult substance use outcomes, the original study had three annual waves of data collection and three additional follow-ups separated by 5 years. The present study utilized data from Waves 1 (1988), 4 (1995–1999), and 5 (2000–2004) of the larger study. At Wave 1, the total sample consisted of 454 “target” adolescents between the ages of 11 and 15 and their parents; 246 adolescents had at least one biological parent with an alcohol disorder who was also a custodial parent, and the remaining 208

adolescents were demographically matched controls without any parents with an alcohol disorder. Sample retention was excellent at all follow-ups (91–99% across waves). Beginning at Wave 4, biological siblings within the same age range (age-eligible siblings) were interviewed in addition to the original 454 adolescents (targets) in order to increase sample size (total $N = 733$ at Wave 4; $N = 762$ at Wave 5).

At Wave 4, participants responded to several measures regarding the leaving home transition. Given that the goal of the current study was to examine the effects of parental alcoholism and affective disorder on offspring affective disorder through negative experiences during the leaving home transition, participants were excluded from the current study if they were not interviewed at Wave 4 (when the leaving home transition was assessed), or if they responded “no” when asked, “have you ever lived away from your parents” ($n = 253$; 34.5%). Because it has been reported that less than 3% of children leave the parental home before age 15 (suggesting that such early transitions may be partially non-normative; Goldscheider, Thornton, & Young-DeMarco, 1993), participants were also excluded if they reported leaving home for the first time at an age younger than age 15 ($n = 15$; 3.1% of those who had lived away from home). Participants who were not living with at least one biological parent prior to leaving home for the first time were also excluded ($n = 32$, 4.4% had not lived with at least one biological parent prior to leaving home). Finally, in order to establish temporal precedence when predicting risk for adult (Wave 5) affective disorder, participants who already met lifetime criteria for an affective disorder at Wave 4 (i.e., when variables regarding the leaving home transition were assessed) were excluded from analyses. These exclusion criteria resulted in a total sample of 346 participants from 266 unique families (51% male; 47% children of alcoholics [COA]; 72% non-Hispanic Caucasian; 25.5% Hispanic; 2.5% other ethnicities). The average age of participants in the current sample was 21.97 at Wave 4 ($SD = 2.18$; an age by which about 55% of emerging adults will have left the home, U.S. Census Bureau, 2010), and 27.32 at Wave 5.

Analyses examined differences between the 346 participants included the present study and the 387 participants who were excluded for the reasons stated above. Included and excluded participants did not significantly differ in parent alcoholism, parent affective disorder, gender, or ethnicity. However, excluded participants were significantly more likely to be younger in age ($t = -9.47$, $p < .001$) compared to included participants, likely reflecting our exclusion of participants who had not lived away from home.

Recruitment

Alcoholic families were recruited using court records, health maintenance organization wellness questionnaires, and community telephone surveys. To qualify, parents had to live in Arizona, be of non-Hispanic Caucasian or Hispanic ethnicity, and be born between 1926 and 1960. Matched non-alcoholic families (matched on child’s age, family composition, ethnicity, and socioeconomic status [SES]) were recruited by using reverse directories to find families living in the same neighborhoods as the COA families.

Recruitment Biases—The two primary sources of potential recruitment biases for the longitudinal study were selective contact and refusal to participate. Potential participants

who were and were not successfully contacted did not differ in alcoholism indicators, but those who were not contacted were more likely to be younger, from court sources, Hispanic, unmarried, and had a lower SES rating associated with their residence. Individuals who refused to participate were more likely than were participants to be Hispanic and married, but did not differ from participants in age, sex, SES, or alcoholism. See Chassin, Barrera, Bech, & Kossak-Fuller (1992) for a complete description of sample recruitment and representativeness.

Procedure

Data were collected in-person using computer-assisted interviews, or via telephone for families who located out of the geographic region. To encourage self-disclosure, family members were interviewed simultaneously in separate rooms and a Department of Health and Human Services Certificate of Confidentiality was used to emphasize confidentiality.

Measures

Table 1 presents descriptive statistics for all continuous variables included in the present study. Table 2 presents correlations among all study variables.

Gender—Gender was coded 1 for females ($n = 168$, 49%) and 0 for males ($n = 178$, 51%).

Ethnicity—Ethnicity was coded 1 for non-Hispanic Caucasians ($n = 249$; 72%) and 0 for other ethnicities ($n = 97$; 28%). Of the participants who were not non-Hispanic Caucasian, a majority (93.1%) were Mexican American.

Parental Alcoholism—Parents' self-reported lifetime¹ DSM-III diagnoses of alcohol disorder (abuse or dependence) were assessed at Wave 1 using the computerized Diagnostic Interview Schedule (DIS, Version 3; Robins, Helzer, Croughan, & Ratcliff, 1981). For non-interviewed parents, lifetime alcoholism diagnoses were established using Family History-Research Diagnostic Criteria (FH-RDC, Version 3; Endicott, Andreason, & Spitzer, 1975) based on spousal report. Parental alcoholism was coded 1 for participants who had at least one biological parent with an alcohol disorder who was also a custodial parent ($n = 164$; 47%) and 0 for those with no biological or custodial parents with an alcohol disorder ($n = 182$; 53%).

Parent Affective Disorder—Parents' lifetime DSM-III diagnoses of affective disorder (major depression or dysthymia) were assessed at Wave 1 by direct interview using the CDIS-III (Robins et al., 1981). Parent affective disorder was coded 1 for the 41 (12%) participants who had a parent with an affective disorder at Wave 1, and was coded "0" for the 305 (88%) participants who had no parents with an affective disorder.

Difficulties Leaving Home—At Wave 4, mothers, fathers, and young adults responded to 3 items assessing the extent to which there were difficulties, problems, and conflicts about

¹Additional analyses tested current (past-year) parent alcoholism and parent alcoholism within the past 3 years at Wave 1 as predictors, rather than lifetime parent alcoholism. Results were nearly identical to those reported below, and there were no substantive differences.

the young adult leaving home. These items were adapted from Moore's (1987) scale and referred to when the young adult first left home (e.g., "When I first left home, there were difficulties with my leaving home"). Parents who had multiple children participating in the study who had moved away from home responded to these items separately for each child. Responses ranged from 1 (*strongly agree*) to 5 (*strongly disagree*) and were reverse coded so that high scores indicated higher levels of difficulties during the leaving home transition. Intercorrelations among mother, father, and young adult reports were .47, .38, and .39 (all p s < .001; see Table 2). Cronbach's α was .87 for mother report, .86 for father report, and .86 for young adult report.

Problematic Circumstances Leaving Home—At Wave 4, mothers, fathers, and young adults responded to 3 items assessing the extent to which there were problematic circumstances during the leaving home transition (leaving home not planned in advance, disagreement about the timing of leaving home, disagreement about where the young adult was going to live). Parents also responded to an additional item assessing whether the young adult was the right age to leave home. These items were written by project staff and referred to when the young adult first left home (e.g., "When I first left home, my parents and I agreed that it was the right time for me to move away from home"). Parents who had multiple children participating in the study who had moved away from home responded to these items separately for each child. Responses ranged from 1 (*strongly agree*) to 5 (*strongly disagree*), such that high scores indicated more problematic circumstances during the leaving home transition. Inter-correlations among mother, father, and young adult reports were .54, .58, and .57 (all p s < .001; see Table 2). Cronbach's α was .88 for mother report, .84 for father report, and .80 for young adult report.

Parents' Perceptions of Abandonment During the Leaving Home Transition—At Wave 4, mothers and fathers responded to 3 items assessing the extent to which they felt abandoned by the emerging adult when he or she first left home (felt deserted by emerging adult, felt emerging adult did not care for him or her anymore, felt emerging adult did not take an interest in him or her anymore). These items were adapted from Moore's (1987) scale and referred to when the emerging adult first left home (e.g., "When [emerging adult] first left home, I felt that he/she didn't care for me anymore"). Parents who had multiple children participating in the study who had moved away from home responded to these items separately for each child. Responses ranged from 1 (*strongly agree*) to 5 (*strongly disagree*), and were reverse coded such that high scores indicated high levels of abandonment. Mother and father reports of abandonment were significantly correlated ($r = .45$, $p < .001$). Cronbach's α was .92 for mother report and .95 for father report.

Young Adult Affective Disorder Diagnosis—The computerized Diagnostic Interview Schedule (CDIS-III-R; Robins, Helzer, Cottler, & Golding, 1989) was used to assess participants' lifetime affective disorder diagnosis (depression or dysthymia) at Wave 5. Adult affective disorder diagnosis was coded 1 for participants who met lifetime criteria for an affective disorder at Wave 5 ($n = 62$; 19% of interviewed participants) and 0 for participants who did not meet lifetime criteria for an affective disorder at Wave 5 ($n = 258$; 81% of interviewed participants). There were 26 (7.5%) participants in the present study

who were not interviewed at Wave 5, and are thus missing data on the adult affective disorder variable.

Recall that participants who met criteria for an affective disorder at Wave 4 were removed from the current study in order to establish temporal precedence when predicting risk for lifetime affective disorder at Wave 5. Therefore, our adult affective disorder measure reflects the development of an affective disorder between Waves 4 and 5.

Results

Zero-Order Correlations

Zero-order correlations among all study variables are presented in Table 1. Parental alcoholism was significantly associated with higher levels of all reports of difficulties leaving home, problematic circumstances leaving home, and perceptions of abandonment, with the exception of father report of difficulties leaving home (which was marginally significant; $p = .053$). Parental alcoholism was also significantly associated with leaving home at a younger age ($r = -.13$, $p = .013$). Parental affective disorder was significantly associated with mothers' reports of difficulties leaving home, problematic circumstances leaving home, and perceptions of abandonment ($ps < .01$), as well as with father report of difficulties leaving home and emerging adult report of problematic circumstances leaving home ($ps < .01$).

Correlations also showed that adult affective disorder onset was significantly related to higher levels of all reports of difficulties leaving home, problematic circumstances leaving home, and perceptions of abandonment ($ps < .05$), with the exception of mother report of abandonment. Children of parents with affective disorders ($p < .1$)—but not AUDs—were at risk of developing affective disorder in young adulthood.

Measurement Model

All data analyses for the present study were conducted using MPlus version 6.11 (Muthén & Muthén, 1998–2011). Prior to estimating the primary model, a measurement model was estimated in which negative family experiences during the leaving home transition was specified as a second-order latent factor that was indicated by three first-order latent factors: difficulties leaving home, problematic circumstances leaving home, and parents' perceptions of abandonment during the leaving home transition. We chose to test a model in which these three domains were indicators of a latent negative experiences during the leaving home transition factor because we did not have theories about how the three domains would differentially relate to parent psychopathology or offspring affective disorder. Difficulties leaving home and problematic circumstances leaving home each had three manifest indicators: mother report, father report, and young adult report. Parents' perceptions of abandonment during the leaving home transition had two manifest indicators: mother report and father report. Residual covariances were specified among manifest indicators that had the same reporter in order to account for common variance that was due to reporter effects (e.g., mother's report of difficulties leaving home was allowed to co-vary with mother's

report of problematic circumstances leaving home and mother's perception of abandonment during the leaving home transition).

The maximum likelihood estimator with robust standard errors (MLR) was used to estimate the measurement model, given that all indicators were continuous and that participants were nested within families. The MLR estimator computes parameter estimates for continuous outcomes/indicators with standard errors that are robust to non-normality and nonindependence of observations. Model fit was estimated with the MLR chi-square statistic, comparative fit index (CFI), root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR).

Results from the measurement model are presented in Figure 1. Note that all coefficients presented in Figure 1 are standardized. The model was a good fit to the data, robust $\chi^2(10) = 7.04$, $p = .72$, CFI = 1.00, RMSEA = .00, SRMR = .016.² All factor loadings were significant (all $ps < .001$). All specified residual covariances were significant ($ps < .001$), with the exception of the covariance between emerging adult-report of difficulties leaving home and emerging adult report of problematic circumstances leaving home.

Model Specification

Structural equation modeling was used in order to test whether the indirect effects of parental alcohol or affective disorder on offspring affective disorder through negative family experiences during the leaving home transition was significant. The measurement model described above (see Figure 1) was incorporated into our larger model, with negative family experiences during the leaving home transition specified as a second-order latent variable (difficulties leaving home, problematic circumstances leaving home, and parents' perceptions of abandonment during the leaving home transition were specified as first-order latent indicators). Adult affective disorder was specified as a categorical endogenous variable.

Because adult affective disorder was a binary dependent variable, the primary models used the weighted least squares estimator with mean and variance adjustments (WLSMV), which computes ordinary least squares (OLS) parameter estimates for continuous outcomes and probit parameter estimates for categorical outcomes. Missing data on endogenous variables were estimated as a function of the observed exogenous variables under the missingness at random assumption (Schafer & Graham, 2002). Note that there were no missing data on exogenous variables. Because participants were nested within families, standard errors were adjusted for nonindependence of observations based on the "sandwich formula" (Freedman, 2006). Model fit was estimated with the robust WLSMV chi-square statistic, CFI, RMSEA, and the weighted root mean square residual (WRMR).

²Note that we used a correlated trait-correlated uniqueness (CTCU) approach to specify our measurement model, which has been criticized for potentially leading to biased estimates of trait variance when method (i.e., rater) effects are correlated (Conway, Lievens, Scullen, & Lance, 2004). When we attempted to estimate a correlated trait-correlated method (CTCM) model, which allows for correlated method effects, we failed to find an admissible solution (a common problem with CTCM models). However, according to Conway et al. (2004), when a CTCU model has good model fit, as is the case in the present study, the intermethod correlations are likely to be low and the CTCU method is likely to yield unbiased results.

A model including direct and indirect effects (see Figure 2) was conducted with paths specified from parental alcoholism and parental affective disorder to negative family experiences during the leaving home transition (i.e., the *a* path in a mediational model), a path from negative family experiences during the leaving home transition to adult affective disorder (i.e., the *b* path in a mediational model), and a path from parent alcoholism to adult affective disorder (i.e., the *c'* path in a mediational model). The model included three covariates: gender, ethnicity, and age at the leaving home transition (i.e., age when the participant first left home). Paths were specified from gender and ethnicity to both negative family experiences during the leaving home transition and adult affective disorder. There was also a path from age at the leaving home transition to negative family experiences during the leaving home transition.

Results of Model: Covariate Effects

Examining the effects of the covariates on negative experiences during the leaving home transition revealed significant unique effects of ethnicity (such that Hispanics and other minority ethnicities had more negative leaving home transitions compared to non-Hispanic Caucasians; $\beta = -.40$, $SE = .11$, $p < .001$) and age at the leaving home transition (such that participants who left home at a younger age had more negative leaving home transitions; $\beta = -.18$, $SE = .03$, $p < .001$). The unique effect of gender on negative experiences during the leaving home transition was nonsignificant ($\beta = .12$, $SE = .09$, $p = .152$), meaning that males and females did not significantly differ in their risk for negative leaving home transitions while controlling for the other predictors. Neither ethnicity nor gender³ had significant unique effects on risk of adult affective disorder.

Results of Model: Hypothesized Direct and Indirect Effects

Figure 2 presents results from the mediational model with covariates. The model was an acceptable fit to the data, robust $\chi^2(53) = 73.31$, $p = .03$, CFI = .97, RMSEA = .03, WRMR = .68. Results indicated that both parental alcoholism ($\beta = .40$, $SE = .11$, $p < .001$) and parental affective disorder ($\beta = .27$, $SE = .14$, $p = .048$) significantly increased risk for negative experiences during the leaving home transition while controlling for the effects of gender, ethnicity, and age during the leaving home transition. Negative experiences during the leaving home transition subsequently increased risk for future onset of an affective disorder diagnosis ($\beta = .46$, $SE = .15$, $p = .003$), while controlling for parent alcoholism, parent affective disorder, ethnicity, and gender. The direct effect of parental alcoholism on adult affective disorder (i.e., the *c'* path) was nonsignificant ($\beta = .01$, $SE = .18$, $p = .978$), as was the effect of parent affective disorder on adult affective disorder ($\beta = .21$, $SE = .25$, $p = .400$).

To test the significance of the indirect effect of parent alcoholism on young adult affective disorder via increased negative family experiences during the leaving home transition, we used the product of the coefficients approach to mediation (MacKinnon, Lockwood, & Williams, 2004). We calculated 95% asymmetric confidence intervals for the indirect effect

³The lack of gender difference in risk of adult affective disorder may be because the subsample for the present study excluded participants who already met lifetime criteria for an affective disorder at Wave 4. Indeed, in the overall sample, females were more likely to have an adult affective disorder compared to males ($r = .17$, $p < .001$).

using MacKinnon, Fritz, Williams, and Lockwood's (2007) PROD-CLIN program, given that the distribution of the product is often skewed and is not always symmetric. PRODCLIN takes the non-normal shape of distribution of the product into account when calculating confidence limits (whereas the MODEL INDIRECT command in MPlus assumes that the indirect effect is normally distributed), thus providing a more accurate estimate of the upper and lower critical values.

Results indicated that the indirect effect of parent alcoholism on young adult affective disorder via negative experiences during the leaving home transition was significant (95% confidence interval [CI] [.06, .35]).⁴ We also used PRODCLIN to test the significance of the indirect effect of parent affective disorder on emerging adult affective disorder via negative experiences during the leaving home transition. Although the confidence interval of the indirect effect included zero at an α level of .05 [.00, .29], the CI did not include zero [.01, .27] at an α level of .10. Therefore, we conclude that this indirect effect was marginally significant ($p < .1$).

Discussion

The purpose of the present study was to examine whether children of parents with AUDs and affective disorders were at increased risk of negative experiences during the leaving home transition, and to determine whether more negative experiences during the leaving home transition subsequently increased risk for later affective disorder. Results demonstrated that over and above covariates, children of parents with alcohol disorders and affective disorders were significantly more likely to have negative leaving home experiences, which in turn prospectively predicted young adult affective disorder onset. Additionally, the indirect effects of parental alcoholism and affective disorder diagnosis on young adult affective disorder through negative leaving home experiences were significant or marginally significant.

These results suggest that the offspring of parents with AUDs and affective disorders are at risk for experiencing difficulty during the transition out of the family of origin. They also suggest that during the transition to emerging adulthood, feelings of ambivalence about increasing the physical distance between individuals and their families of origin may have detrimental effects on later mental health. The emerging adult's leaving home can be a stressful time for individuals and their families, and difficulty negotiating this transition appears to confer prospective risk for later adult affective disorders.

Research on child rearing in the homes of parents with affective and AUDs suggests that these caregivers tend to be less emotionally sensitive with their children (Eiden, Edwards, & Leonard, 2007), more rejecting of them and less positive toward them (Leonard et al., 2000; Marchland & Hock, 1998), compared to parents without such diagnoses. Additionally, parents' ability to offer support and warmth affects the ease with which their offspring

⁴Note that a separate model that included only the effect of parental alcoholism on young adult affective disorder (i.e., the c path) indicated that the total effect of parent alcoholism on adult affective disorder was nonsignificant ($\beta = .22$, $SE = .16$, $p = .17$). However, note that the test of the indirect effect is a different test than the test of a total effect. It is now established that it is possible to have a significant indirect effect without a significant overall relation (MacKinnon, Krull, & Lockwood, 2000; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; MacKinnon, Fairchild, & Fritz, 2007).

transition out of the home (Schulman & Ben-Artzi, 2003), and individuals who feel that they have hurt or deserted the family by leaving the home may be at increased risk for feelings of guilt and depression (Bloom, 1987). Because both parental affective and AUDs increased the probability of negative leaving home experiences, which conferred risk for later affective disorder, we conclude that these difficulties during emerging (i.e., negative leaving home experiences) and young adulthood (i.e., affective disorder) result from parental psychopathology in general, and not one type of parent mental health problem specifically.

An additional important finding was that age at leaving home significantly influenced risk for more negative leaving home transitions, such that those who left home at a younger age were at increased risk. This finding is consistent with literature showing that individuals who leave home earlier are more likely to believe they are abandoning their mothers and fathers, and also report more conflicts with their families, compared to those who leave their families of origin at an older age (Hussong & Chassin, 2002). One potential explanation is that children of parents with mental health problems, especially alcohol disorders, may be more likely to display disinhibited behavior that might contribute to both their leaving home at an earlier age and having more difficulty during the leaving home transition.

Additionally, ethnicity predicted negative experiences during the leaving home transition, such that those who were non-Hispanic Caucasian had more positive transitions. The vast majority of participants who were not non-Hispanic Caucasian were Mexican American (93.1%). Difficulties in the leaving home transitions for Mexican American emerging adults may reflect the fact that there may be a stronger sense of commitment, obligation, and responsibility among families members, such that the family unit is more important than any individual (Hurtado, 1995). There is also research to suggest that Mexican American families are marked by less independence and more cohesion than their Caucasian counterparts (McEachern & Kenny, 2002). Therefore, there might be greater conflict and stronger feelings of parental abandonment in Hispanic families in which emerging adults want to move out of the home. Indeed, other analyses of these data have found that emerging adults who were Latino experienced more difficulty and more feelings of abandonment during their transitions out of the home, compared to Caucasians.

Some limitations to the current study should be noted. First, we focused solely on negative experiences during the leaving home transition as one factor through which parental alcoholism and affective disorder might confer risk for adult affective disorder. However, there may be many other variables that may also at least partially explain this relation. Similarly, there are several potential confounding variables that may also explain the relations observed. For instance, genetic influences may have significantly increased risk for both negative leaving home transitions and risk for future affective disorders. Specifically, research has found that parents with affective disorders pass on genetic risk for affective disorders to their children (Sullivan, Neale, & Kendler, 2000). Similarly, those prone to experiencing more intense and frequent negative emotions may be at increased risk of alcohol use problems (Sher, 1991). Therefore, it may be that in the current study, children of parents with affective disorder diagnoses and/or AUDs are at higher genetic risk for internalizing problems, and may report more difficulty with the transition out of the home and a higher likelihood of developing an affective disorder.

Despite these limitations, the current study makes important contributions to understanding the long-term effects of the leaving home transition on adult mental health, with results indicating that the indirect effects of parental AUD and affective disorder on young adult affect disorder through difficulty during the leaving home transition were significant or marginally significant. Findings suggest that offspring who have conflicts with their parents about leaving home do not agree on the circumstances surrounding leaving home, and have parents who feel abandoned as they attempt to establish independence away from their family of origin, may experience adjustment problems during emerging adulthood that may lead to an adult affective disorder. Our study suggests that offspring of parents with an AUD or an affective disorder are at particularly high risk for experiencing problems as they transition out of the home, which then increases later risk for affective disorders in young adulthood. Intervention efforts aimed at helping families with parent mental health problems to successfully navigate emerging adults' leaving home transitions may help reduce risk of affective disorders during young adulthood.

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Figure 1.

Results of measurement model.

* $p < .05$. ** $p < .01$. *** $p < .001$. All factor loadings are standardized. Robust $\chi^2(10) = 7.04$, $p = .72$, comparative fit index (CFI) = 1.00, root mean square error of approximation (RMSEA) = .00, standardized root mean square residual (SRMR) = .016.

Figure 2.

Results of model with covariates.

* $p < .05$. ** $p < .01$. *** $p < .001$. Path coefficients are unstandardized. Standard errors are presented in parentheses. Paths pertaining to hypotheses for indirect effects are in boldface. Note that adult affective disorder is dichotomous. Robust χ^2 (53) = 73.31, $p = .03$, comparative fit index (CFI) = .97, root mean square error of approximation (RMSEA) = .03, weighted root mean square residual (WRMR) = .68.

Table 1

Descriptive Statistics for Continuous Variables.

	Minimum	Maximum	<i>M</i>	<i>SD</i>
Age at leaving home transition	15	25	18.34	1.53
Mom report: difficulties leaving home	1.00	5.00	2.14	1.15
Mom report: problematic circumstances	1.00	5.00	2.33	1.10
Mom's perception of abandonment	1.00	5.00	1.79	1.00
Dad report: difficulties leaving home	1.00	5.00	2.15	0.97
Dad report: problematic circumstances	1.00	5.00	2.37	0.92
Dad's perception of abandonment	1.00	5.00	1.84	0.93
Young adult report: difficulties leaving home	1.00	5.00	2.31	1.05
Young adult report: problematic circumstances	1.00	5.00	2.44	1.06

Table 2

Correlations Among Study Variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Gender (1 = <i>female</i> 0 = <i>male</i>)	—												
2. Ethnicity (1 = <i>non-Hispanic Caucasian</i> 0 = <i>other ethnicity</i>)	-.024	—											
3. Parent Alcoholism (1 = <i>yes</i> , 0 = <i>no</i>)	-.042	-.116*	—										
4. Parent Affective Disorder (1 = <i>yes</i> , 0 = <i>no</i>)	-.016	.070	.171**	—									
5. Adult Affective Disorder (1 = <i>yes</i> , 0 = <i>no</i>)	.076	.021	.078	.107 [†]	—								
6. Age at leaving home transition	-.056	-.045	-.0134*	-.088	-.091	—							
7. Mom report: difficulties leaving home	.090	-.019	.266***	.204***	.178**	-.327***	—						
8. Mom report: problematic circumstances	.047	-.168**	.253***	.215***	.187**	-.300***	.698***	—					
9. Mom's perception of abandonment	.097	-.077	.228***	.169**	.084	-.322***	.680***	.658***	—				
10. Dad report: difficulties leaving home	-.007	-.162*	0.123 [†]	.132*	.197**	-.250***	.465***	.429***	.348***	—			
11. Dad report: problematic circumstances	.088*	-.230***	.215**	-.002	.136*	-.212**	.500***	.542***	.470***	.602***	—		
12. Dad's perception of abandonment	.007	-.194**	.221***	.060	.146*	-.199**	.387***	.394***	.455***	.657***	.587***	—	
13. Young adult report: difficulties leaving home	.138*	-.141**	.272***	.053	.190**	-.245***	.381***	.405***	.293***	.394***	.381***	.328***	—
14. Young adult report: Problematic circumstances	.000	-.211**	.244***	.153*	.182**	-.208***	.452***	.583***	.433***	.464***	.569***	.434***	.463***

Note. *n* = 346, although exact *n* varies across reporter.

$\cdot 90' > d$
 $\cdot 100' > d$
 $\cdot 10' < .01$
 $\cdot 50' > d$
 $\cdot$

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