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Mutual Influences Between Parental Psychological Distress and Alcohol Use and Child Problem Behavior in a Cohort of Urban African Americans

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Abstract

Parental psychological distress, parental alcohol involvement, and child/adolescent behavior problems frequently occur together with deleterious effects on individuals and families. Extant evidence suggests that parental and child problems are related; however, less is known about the patterns and directions of their relationships over time, particularly among African Americans. This study examined mutual influences between parental psychological distress and alcohol use, and child/adolescent problem behavior over a 10-year period ($N = 459$), using data from a prospective cohort study of urban African Americans. Using structural equation modeling, we found statistically significant effects between young adult parents' alcohol use and later adolescent problem behavior, as well as child problem behavior and parental alcohol use 10 years later, even after taking into account potential extraneous influences. Findings also demonstrated continuity in parental and child behaviors over time, and several contemporaneous associations. These findings have potential implications for intervention planning among African American families.

Keywords

African Americans; psychological distress; alcohol use; child and adolescent problem behavior; longitudinal research

Parental psychological problems and substance involvement and child/adolescent problem behaviors occur frequently in families (Hawkins & Monahan, 2009; McKee, Colletti, Rakow, Jones, & Forehand, 2008; Smith, 2004; Substance Abuse and Mental Health Services Administration, 2009) and can have numerous deleterious effects, such as impaired or ineffective parenting, heightened parental/family stress, marital discord, and child health and adjustment problems (Berg-Nielsen, Vikar, & Dahl, 2002; Connell & Goodman, 2002; Cummings, Keller, & Davies, 2005; Donenberg & Baker, 1993; Osborne & Berger, 2009). Data from national and community-based samples suggests that anywhere from 20% to 35% of mothers (e.g., Civic & Holt, 2000; Harnish, Dodge, & Valente, 1995; Smith, 2004) and 5.4% to 36% of fathers (Bronte-Tinkew, Moore, Matthews, & Carrano, 2007; Carro, Grant,

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Gotlib, & Compas, 1993; Davis, Caldwell, Clark, & Davis, 2009) experience symptoms of depression. Parental depression may have lasting negative consequences on health and well-being of children, including development of psychological problems and substance dependence, impaired social functioning, and poor physical health in adulthood (Beardslee, Versage, & Gladstone, 1998; Weissman et al., 2006).

Evidence also suggests that parents/guardians of young and adolescent children may engage in risky patterns of alcohol use. For example, a recent survey of Australian households revealed that among parents who used alcohol, 24% engaged in heavy drinking (>2 drinks on any day), and 21% were involved in binge drinking (>4 drinks on any occasion) at least two to three times per month (Maloney, Hutchinson, Burns, & Mattick, 2010). Furthermore, data combined from year 2002 to 2007 indicates that close to 7.3 million children in the United States lived with at least one parent who met criteria for abuse of or dependence on alcohol (Substance Abuse and Mental Health Services Administration, 2009). Relative to children of parents with no alcohol problems, children of parents abusing or dependent on alcohol may be at increased risk for drug and alcohol problems, psychological problems, unemployment, poor social functioning, and increased mortality later in life (Chassin, Pitts, DeLucia, & Todd, 1999; Christoffersen & Soothill, 2003; Domenico & Windle, 1993).

In addition to parental problems occurring at high rates, children also have significant rates of maladaptation. Child and adolescent behaviors problems include aggression, defiance, noncompliance, destructive and disruptive behaviors, and other conduct problems (Denham et al., 2000; Hinshaw, Morrison, Carte, & Cornsweet, 1987; McKee et al., 2008). Reports of point prevalence for behavior problems in both community- and primary care-based samples of children vary considerably with estimates ranging from 3.7% to 27% (e.g., Harnish et al., 1995; Lavigne et al., 1996; Luoma et al., 2001). Children and adolescents from socioeconomically disadvantaged urban areas may be at even higher risk for development of problem behaviors (Black & Krishnakumar, 1998; Loeber, Burke, Lahey, Winters, & Zera, 2000).

Although each of these problems is concerning on its own, even more troubling is the evidence of pronounced associations between parental psychopathology and child/adolescent behavior problems (Chassin et al., 1999; Connell & Goodman, 2002; Elgar, Mills, McGrath, Waschbusch, & Brownridge, 2007). One orientation in the current research considers parental psychological problems and substance use disorders as potentially important factors affecting child development (Smith, 2004; Velleman & Templeton, 2007). For example, parental depression has been implicated as a risk factor for child maladjustment and conduct problems, such as aggression and delinquency (Connell & Goodman, 2002; Cummings et al., 2005; Downey & Coyne, 1990; Munson, McMahon, & Spieker, 2001). Additionally, several studies have identified parental problem drinking and alcohol abuse/dependence as predictors of problem behaviors in childhood and adolescence (Chassin et al., 1999; Edwards, Eiden, Colder, & Leonard, 2006; Lee & Cranford, 2008; Sher, 1997).

Less frequently explored trend in parent-child influences involves the potential effect of child problem behavior on psychological health and substance use among parents (Pelham &

Lang, 1993; Pelham et al., 1997). Extant evidence suggests that parents of children with behavioral problems may be particularly vulnerable to depression, anxiety, and distress, as well as alcohol use compared with parents of children without problem behaviors (Johnston & Mash, 2001; Pelham & Lang, 1993). Most compelling evidence for this influence comes from experimental studies involving interactions between both parents and nonparents and child confederates trained to exhibit either normal or problem behaviors typically associated with attention-deficit hyperactivity, conduct, and/or oppositional defiant disorders (e.g., Lang, Pelham, Johnston, & Gelernter, 1989; Pelham et al., 1997). These studies found that adults interacting with problem behavior children tended to have higher depression, anxiety, and distress scores, as well as more ad lib alcohol consumption (Lang et al., 1989; Pelham et al., 1997).

Taken together, the evidence suggests potential reciprocal effects between parents' psychological distress and alcohol use, and child/adolescent behavior problems (Johnston & Mash, 2001; Pelham & Lang, 1993). The family systems perspective (e.g., Stern & Walker, 2001) and the transactional model (Sameroff, 1995; Sameroff & Fiese, 2000; Spagnola & Fiese, 2007) theoretically support this pattern of effects, by emphasizing the bidirectional nature of influences among family members. With roots in general systems theory, the family systems perspective emphasizes reciprocal effects between behavior and the context in which it occurs, thus focusing on the interaction and mutual influences within families (Chibucos, Leite, & Weis, 2005; Stern & Walker, 2001). Family system can be viewed as a dynamic structure of interconnected and interdependent individuals, where behavior of one member may affect the behavior of other members in a reciprocal or circular pattern of influences (Chibucos et al., 2005; McHale & Sullivan, 2008). The evidence from the extant literature lends support to a dynamic model of reciprocal exchanges between parents and their children in the context of parental alcohol use and psychological functioning, and child behavior. For example, children who exhibit problem behaviors may lead parents to consume alcohol and develop psychological problems, due to increased stress and decrease in parenting competence and self-efficacy (Garstein & Sheeber, 2004; Harrison & Sofronoff, 2002; Johnston & Mash, 2001; Pelham et al., 1997). In turn, parental alcohol use and use disorders, and psychological problems such as depression, may disrupt family relations and environment, impair parenting behaviors, and promote negative or abusive family interactions, potentially leading to adjustment and behavior problems among children (Downey & Coyne, 1990; Eiden, Edwards, & Leonard, 2007; Elgar et al., 2007; Goodman & Gotlib, 1999; Johnson, Sher, & Rolf, 1991; Pelham & Lang, 1993).

Transactional models also focus on bidirectional influences between parents and children, with a pronounced emphasis on development of and changes in those influences over time (Sameroff, 1995; Sameroff & Fiese, 2000; Spagnola & Fiese, 2007). In this perspective, parents and children affect one another through a series of transactions that may become routinized over time (Spagnola & Fiese, 2007). Just like the family systems perspective, the transactional models are flexible in their application and have been proposed to explain reciprocal influences between parents and children in the context of wide range of behaviors and functioning, such as parental interaction styles and child feeding difficulties (Spagnola & Fiese, 2007), maternal negativity and child externalizing behavior (Zadeh, Jenkins, & Pepler, 2010), and parenting stress and child behavior problems (Neece, Green, & Baker,

2012). However, because empirical tests of transactional models are rare (Gross, Shaw, & Moilanen, 2008; Zadeh et al., 2010), evidence regarding their efficacy in explaining mutual influences between parental psychological problems and alcohol use, and child/adolescent behavior problems is relatively limited (e.g., Gross et al., 2008; Johnston & Mash, 2001; Pelham & Lang, 1993). Thus, further examinations of influences between parental psychopathology and child/adolescent behavior guided by the perspectives capturing mutual influences in longitudinal contexts are needed.

Results of some studies suggest that African American children and adolescents may be at higher risk for development of problem behaviors relative to their White counterparts (e.g., Bird et al., 2001; Morenoff, 2005; Rouse, Fantuzzo, & LeBoeuf, 2011). Among African Americans, substance use and psychological problems may become more pronounced throughout adulthood compared with trends observed among Whites (Ensminger et al., in press; Jagger, 2011; Kandel, Chen, Warner, Kessler, & Grant, 1997; Ma & Shive, 2000). Thus, examination of mutual influences between parental and child problems over time among members of this racial/ethnic group may be particularly important for informing prevention and intervention efforts involving African American parents and children.

The purpose of this study was to examine how parental psychological distress and alcohol use relate over time to child/adolescent problem behavior in a cohort of urban African Americans followed prospectively. Specifically, we hypothesized that (a) higher levels of child problem behavior leads to greater alcohol use and psychological distress among parents in midlife and (b) greater alcohol use and psychological distress among parents in young adulthood leads to higher levels of adolescent behavior problems.

Method

The Woodlawn Study

Data for the current study came from the Woodlawn Study, a prospective cohort study of urban African Americans from the Woodlawn community located on the south side of Chicago. The study began in 1966–1967, with an assessment of virtually all first-grade children attending nine public and three parochial schools in Woodlawn ($n = 1,242$; only 13 families declined participation). After the first-grade assessment, the participants were reassessed in adolescence (1975–1976, age 15–16 years), young adulthood (1992–1993, age 32–33 years), and midlife (2002–2003, age 42–43 years). The young and mid adult interviews, which provided cases for the current analysis, were designed to collect diverse and comprehensive data on psychological functioning, substance use, family and childrearing, as well as myriad of social measures. The sample used in the current analysis ($n = 459$) was limited to those participants who reported having a child between the ages of 4 and 15 years living in the household at the time of their young adult interview (see Figure 1). Of the 459, 382 were reinterviewed in midlife; missing data techniques account for those not reinterviewed at age 42 to 43 years, as described below.

Attrition

Attrition analyses previously conducted on the Woodlawn Study data (e.g., see Doherty, Green, & Ensminger, 2008; Ensminger, Juon, & Fothergill, 2002; Ensminger, Smith, Juon, Pearson, & Robertson, 2009) compared participants who had at least one adult interview ($n = 1,054$) with those who did not ($n = 188$). The results revealed no statistically significant differences on important variables such as gender, socioeconomic status, early childhood behavior, adolescent drug use, problem behavior, and self-reported delinquency, as well as lifetime depressive disorder, and neighborhood characteristics. However, compared with those not interviewed in either adult assessment, the cohort members interviewed in adulthood were more likely to have completed high school and to have a criminal record for violent or drug-related crime. In addition, they were less likely to have lived in poverty in childhood or adolescence. Participants who were deceased by midlife and thus not interviewed during that time were more likely to be male, to have not completed high school, to have a criminal record for violent crime, and to have smoked heavily during adolescence. Further attrition analyses were conducted specifically for the selected sample ($n = 459$) of respondents with a child in the household during the young adult interview, considering the following key study-relevant variables: gender, young adult alcohol use, young adult psychological distress, young adult poverty status, high school dropout, young adult neighborhood characteristics (drug trafficking and gangs), and young adult household composition (spouse/partner in the household). Participants who completed the midlife interview ($n = 382$) did not differ significantly from those who were not interviewed in midlife ($n = 77$) on any of these variables.

Measures

Nearly all key variables of interest selected for the study were latent constructs composed of more than one indicator. One exception was alcohol use in young adulthood, which was a single indicator (manifest variable).

Child Problem Behavior—During the young adult interview, participants who had a child living in their household were initially asked to identify a child who was 7 years old (15.5%). If no 7-year-old child could be identified, the participants were asked if they had a child between the ages of 8 and 15 years living in the household (63.5%). Next, participants were asked about a child between the ages of 4 and 6 years (21.0%). As soon a child was identified, measures of that child's delinquent and aggressive behaviors were assessed. From these questions, we created a problem behavior latent construct based on the existing literature (e.g., Brook, Zhang, Balka, & Brook, 2012; Hinshaw et al., 1987; von Stumm et al., 2011), as well as exploratory factor analysis. Childhood problem behavior construct was composed of seven indicators assessing a range of delinquent and aggressive behaviors including fighting, destroying things, lying, arguing, cheating, bullying, and disobeying ($\alpha = .73$). The item assessing the overall problem behavior (fails to obey, destroys things, lies) was measured on a 6-point scale 1 = *not at all* to 6 = *very, very much*. The range of responses for the remaining six items were measured on a scale of 1 = *not often* to 3 = *often*. Higher values indicate greater problem behavior among children.

Adolescent Problem Behavior—In midlife, the respondents were asked the same questions about the behavior of their children. At the time of the mid adult interview, an attempt was made to follow-up on the child identified during the participants' young adult interview. Among participants who were available to complete the midlife assessment, all but three children identified in young adulthood were reassessed regarding their behavior in parents' midlife. The indicator variables selected to comprise the latent construct of adolescent problem behavior were identical to those selected in childhood (during parents' young adult assessment; $\alpha = .77$).

Young Adult Parents' Psychological Distress and Alcohol Use—Young adult psychological distress construct was based on an existing scale (Petersen & Kellam, 1977) that assessed the degree to which the respondents feel nervous, tense, under pressure, tight inside, tense in new situations, startle easily, and have hands that sometimes shake (1 = *not at all* to 6 = *very, very much*; $\alpha = .83$). Young adult alcohol use was a manifest variable, assessing how many drinks a person had on days when they were drinking the most in the past year (0 = *none* to 4 = *>10 drinks*).

Midlife Parents' Psychological Distress and Alcohol Use—Items comprising the latent construct of psychological distress in midlife were identical to those collected in young adulthood ($\alpha = .86$). In midlife, alcohol use was a latent construct composed of two indicators assessing past year frequency of use (0 = *never* to 5 = *nearly daily*), and the most alcohol consumed per day in the past year (range = 0–12 drinks).

Control Variables—To better isolate the relationships between the key variables of interest, several control variables were included in the model based on the existing literature (e.g., Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000; Flouri, 2010; McLoyd, 1990; Osborne & Berger, 2009; Swahn & Bossarte, 2009). These measures included the following: (a) participant's gender (1 = *female*, 2 = *male*); (b) poverty level (0 = *not poor*, 1 = *poor*) in young and mid adulthood—this variable was computed using income information provided by the respondents during their young adult and mid adult interviews, given the appropriate, time-specific definition of the 100% federal poverty threshold; (c) household composition (spouse/partner in the household; 0 = *yes*, 1 = *no*) in young adulthood and midlife—this variable was created using information provided by the respondents during their young and mid adult interview regarding individuals who reside in respondents' households; (d) neighborhood factors (0 = no gang or drug trafficking problems in the neighborhood, 1 = *either problem*, 2 = *both problems*) in young and mid adulthood—to maintain consistency between young and mid adulthood, and due to differing response formats, all nonbinary variables assessing the presence of/problems with drug trafficking and/or gangs were collapsed into a binary format and summed.

Analytical Procedure

To investigate the mutual influences between parents and children over time, we employed structural equation modeling using IBM AMOS 20.0. We first examined the validity of the measurement model including factor loadings for all latent constructs. Next, we constructed and tested the structural model that allowed us to examine cross-lagged relationships while

controlling for selected immutable characteristics and contextual variables. The control variable *parents' gender* was linked in the structural model to parental psychological distress and alcohol use in young and mid adulthood, and to child and adolescent problem behavior. Variables *poverty level*, *household composition*, and *neighborhood factors* assessed in parents' young adulthood were linked to young adult parents' psychological distress and alcohol use, as well as child problem behavior. Similarly, *poverty level*, *household composition*, and *neighborhood factors* assessed in parents' midlife were linked to mid adult parents' psychological distress and alcohol use, as well as adolescent problem behavior. Control variables *poverty level*, *household composition*, and *neighborhood factors* assessed among young adult parents were correlated with the same variables assessed in the following parental life stage (midlife). The model fit was assessed using the ratio of the chi-square to the degrees of freedom (CMIN/DF) and the root mean square error of approximation (RMSEA). Acceptable fit of the model to the data was defined by CMIN/DF between 2 and 5 and RMSEA of .05 or less (Bollen & Long, 1993). Maximum likelihood estimation, which takes into account sample size differences among the constructs, was employed to address missing data, reduce bias, and increase efficiency of the obtained estimates (Arbuckle, 1996; Graham, 2009).

Results

Table 1 shows means and standard deviations for each indicator variable, as well as factor loadings for each of the indicators on their respective latent construct. All factor loadings were significant ($p < .001$). The sample used for the analysis was majority (70.2%) female. In young adulthood, 41.1% of participants qualified as poor (based on 100% federal poverty threshold), and 49.5% had no spouse or partner in the household. In midlife, 27.3% of participants qualified as poor, and 55.6% had no spouse or partner in the household.

Figure 2 depicts the structural paths between the key variables of interest, including the significant correlations and path coefficients. The CMIN/DF was 2.18 and RMSEA was .05, indicating an acceptable model fit. Detailed results on the cross-lagged paths, including unstandardized and standardized coefficients, appear in Table 2. Examining the mutual influences, we found a significant effect of parental alcohol use on child/adolescent problem behavior. Specifically greater child behavior problems predicted higher parental alcohol use 10 years later ($\beta = .166, p = .006$), and greater young adult parents' alcohol use predicted higher levels of adolescent problem behavior ($\beta = .124, p = .026$). In contrast, both cross-lagged paths linking child/adolescent behavior problems and parental psychological distress were not statistically significant (using $p < .05$ criteria). However, it is worth noting that the effect of child problem behavior on midlife parents' psychological distress approached statistical significance ($\beta = .126, p = .052$).

There was also a notable stability over the 10 years in child behavior problems ($\beta = .382, p < .001$), parental psychological distress ($\beta = .262, p < .001$), and parental alcohol use ($\beta = .377, p < .001$). Additionally, young adult parents' psychological distress was positively related to child problem behavior ($r = .161, p = .011$). The association between young adult parents' alcohol use and child problem behavior approached statistical significance ($r = .108, p = .053$). In parents' midlife, both psychological distress and alcohol use were significantly

associated with adolescent problem behavior ($r = .278, p < .001$ and $r = .256, p < .001$, respectively).

Discussion

The current study examined the relationships over 10 years between parental alcohol use and psychological distress, and child/adolescent behavior. In this cohort of urban African Americans, we found evidence of reciprocal effects between parental alcohol use and child/adolescent problem behavior. The finding of mutual influences over time suggests that greater behavior problems among children may increase parental alcohol use 10 years later. Conversely, greater alcohol consumption among young adult parents seems to increase adolescent problem behavior over a period of 10 years. These reciprocal effects were present even after taking into account the contemporaneous associations between the two behaviors, their continuity over time, and other potential contextual influences, such as parents' gender, poverty, household composition, and neighborhood factors. Our findings align with previous evidence suggesting that both children's problem behavior may affect parental alcohol use (Lang et al., 1989; Pelham et al., 1997) and that parental alcohol use and use disorders may lead to offspring's problem behavior (Chassin et al., 1999; Edwards et al., 2006; Lee & Cranford, 2008; Pelham & Lang, 1993; Sher, 1997). However, unlike much of the previous work, our study captured mutual influences between parental alcohol use and child/adolescent problem behavior simultaneously, making a stronger contribution to our understanding of potential causality. Being able to demonstrate the presence of such mutual influences over a 10-year period lends support to a potentially lasting nature of effects that parents and children have on one another, beyond brief or contemporaneous associations.

The evidence for reciprocal effects between parental psychological distress and child/adolescent behavioral problems was less clear. While these outcomes were significantly associated within each life stage, the longitudinal associations were not consistent. We found a marginally significant ($p = .052$) prospective association between child problem behavior and midlife parents' psychological distress. The association between young adult psychological distress and adolescent problem behavior was small and not significant in the adjusted model. These findings are somewhat surprising given the support in the extant literature for both the effects of parental psychological problems on child behavior (Connell & Goodman, 2002; Cummings et al., 2005; Downey & Coyne, 1990; Elgar et al., 2007) and of child behavior on parental psychological functioning (Harrison & Sofronoff, 2002; Lang et al., 1989; Pelham et al., 1997). Much of the previous work, particularly those studies examining or reviewing the effect of parental psychological problems on child behavior focused on depression (e.g., Cummings et al., 2005; Downey & Coyne, 1990; Elgar et al., 2007), which may be especially likely to affect parenting behaviors and family environment (Downey & Coyne, 1990; Elgar et al., 2007). As such, it is possible that the symptoms of psychological distress examined in the current study, which predominantly assessed anxious mood, were not clinically severe enough to have lasting influences on children's behavior. On the other hand, pronounced distressing effects of child problem behavior on parents demonstrated in experimental studies (e.g., Pelham et al., 1997) may be more likely to last beyond the present, thus helping to explain our finding of stronger prospective association between child behavior and midlife parents' psychological distress.

Although not the main focus of this article, our findings also included strong continuity between earlier parental psychological distress, parental alcohol use, and child problem behavior, and later problems in these three areas. This is consistent with the reports from existing studies, which suggest continuity in child problem behavior over a period of time as short as 2 years to as long as 10 years (e.g., Denham et al., 2000, Olson, Bates, Sandy, & Lanthier, 2000). Here we demonstrated continuity over a 10-year period. Previous studies using Woodlawn data (e.g., Green, Zebrak, Roberston, Fothergill, & Ensminger, 2011) found strong continuity for psychological distress and substance use in adulthood among a full cohort the Woodlawn Study participants. Results of the current study provide further evidence that these behaviors and problems show remarkable stability across time even among a subset of participants who were custodial parents.

Aside from mutual influences between parents and children, and the stability in child and parental behaviors/problems over time, the current study also found within-life stage associations between young adult parents' psychological distress and child behavior, and midlife parents' psychological distress and alcohol use and adolescent behavior. These findings are consistent with the associations between parental psychopathology and child/adolescent behavior reported or reviewed by others (e.g., Civic & Holt, 2000; Connell & Goodman, 2002; Sher, 1997; Velleman & Templeton, 2007; Weitzman, Rosenthal, & Liu, 2011). Uncovering similar contemporaneous associations in a cohort of urban African Americans suggests that, just as in the case of effects over time, findings on parent and child influences in predominantly White or mixed samples may be equally relevant among African American families.

Despite the strengths of the longitudinal design spanning 10 years in the lives of an African American cohort, our study has several limitations that should be considered when interpreting the results. The use of a neighborhood-based cohort of urban African Americans may limit the generalizability of the findings to broader populations; however, our findings were largely consistent with the existing evidence, with a contribution of extending the effects over a longer period than has been demonstrated previously. Second, using only two waves of measurement to examine stability and change in behavioral trends limited our ability to assess reciprocal influences beyond one-time cross-lagged paths. Third, both parental and child problem and behavior measures were provided by the parents and are subject to reporting bias. Mothers' psychological problems, particularly depression, have been shown to affect the reports of their children's behavior (e.g., Garstein, Bridgett, Dishion, & Kaufman, 2009), in what is known as the depression-distortion hypothesis (Richters & Pellegrini, 1989). Although the effect of depression-distortion hypothesis cannot be excluded in the current study, we found a nonsignificant relationship between young adult parents' psychological distress and child/adolescent behavior 10 years later, suggesting that such effect may not be a major concern in this case. Future work in this area should include behaviors reported by children in addition to parents' reports about their children. Having the two sources of reports on child behavior would allow for evaluating concordance between children's self-reports and reports by the parents, which can help with identifying and potentially mitigating reporting biases.

In this examination we were not able to explore the possibility that the finding of significant reciprocal relationships between parental alcohol use and child/adolescent problem behavior may be indicative of some underlying genetic propensity for engaging in antisocial behavior (Lang et al., 1989; Lytton, 1990). The genetic and environmental influences are not necessarily mutually exclusive, but may interact with one another over time (Lytton, 1990). Thus, future studies should explore this possibility. Lastly, despite efforts to locate and follow-up as many participants as possible, the Woodlawn Study has been subject to attrition, analyses of which revealed some differences between participants who were interviewed compared with those not interviewed in adulthood. For example, participants who were deceased by midlife were more likely to be male and to have dropped out of high school. Thus, our results may be more generalizable to women and to those who completed high school. Despite some loss to follow-up, close to 85% of the original cohort provided data through at least one adult assessment, and the attrition analyses revealed no significant differences between participants who completed at least one adult interview and those who did not, on most variables examined. In an effort to address missing data, we employed maximum likelihood estimation for its ability to reduce potential bias (Arbuckle, 1996; Graham, 2009).

The finding of mutual influences between parental alcohol use and child/adolescent problem behavior, in addition to their continuity over time, has intervention implications. Interventions for children who exhibit problem behavior may affect not only subsequent behavior problems in adolescence but also later alcohol use among parents. In turn, interventions targeting alcohol use among young parents with children may have implications for adolescent problem behavior, as well as parents' alcohol use in midlife. Ideally interventions may want to target both of these behaviors simultaneously to have the greatest impact.

Future research should examine the trends in parent-child influences using multiple waves of measurement and various sources of reports for child/adolescent behaviors. Subsequent studies should also explore potential mechanisms explaining these relations. Such evidence would further enhance the ability to target and tailor interventions with children and families.

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Figure 1.
Assessment dates and numbers of the Woodlawn Study participants selected for the current analysis.

Figure 2.

Structural model depicting cross-lagged, longitudinal, and contemporaneous associations among the key variables of interest, controlling for parental gender, poverty, household composition, and neighborhood factors. *Note.* Numbers represent correlation coefficients (r) for bidirectional arrows and standardized regression weights (β) for directional paths. Significant correlations and paths ($p < .05$) are bolded. $^+p < .1$.

Table 1

Means and Standard Deviations for the Observed Variables and Standardized Factor Loadings for the Indicator Variables on Their Respective Latent Constructs.

Latent constructs and observed indicators	<i>M, SD</i>	Standardized factor loading
Young adulthood		
<i>Child problem behavior</i>		
Fights, disobeys, destroys things, lies (1–6)	1.78, 1.08	.71
Cheats (1–3)	1.18, 0.43	.52
Lies (1–3)	1.65, 0.58	.57
Argues (1–3)	1.80, 0.69	.46
Bullies, acts cruel, or mean (1–3)	1.28, 0.52	.58
Disobeys (1–3)	1.41, 0.56	.57
Breaks/destroys things deliberately (1–3)	1.11, 0.38	.43
<i>Parental psychological distress (1 – 6)</i>		
I feel nervous	1.68, 1.04	.72
I feel under pressure	2.11, 1.36	.80
I feel tense	1.86, 1.19	.85
My hands sometimes shake	1.41, 1.04	.40
New situations make me tense	1.98, 1.17	.55
I feel tight inside	1.50, 1.02	.62
I startle easily	1.59, 1.16	.45
<i>Parental alcohol use</i>		
Maximum alcoholic drinks per day past year (0–4)	1.04, 1.24	n/a
Midlife		
<i>Adolescent problem behavior</i>		
Fights, disobeys, destroys things, lies (1–4)	1.43, 0.96	.67
Cheats (1–3)	1.18, 0.44	.57
Lies (1–3)	1.56, 0.60	.55
Argues (1–3)	1.70, 0.66	.60
Bullies, acts cruel, or mean (1–3)	1.21, 0.47	.58
Disobeys (1–3)	1.30, 0.52	.73
Breaks/destroys things deliberately (1–3)	1.07, 0.30	.47
<i>Parental psychological distress (1 – 6)</i>		
I feel nervous	1.69, 1.16	.78
I feel under pressure	2.20, 1.52	.75
I feel tense	2.03, 1.40	.79
My hands sometimes shake	1.43, 0.97	.65
New situations make me tense	2.03, 1.30	.58
I feel tight inside	1.53, 1.04	.69
I startle easily	1.64, 1.14	.54
<i>Parental alcohol use past year</i>		
Frequency (0–5)	1.52, 1.56	.91

Latent constructs and observed indicators	<i>M, SD</i>	Standardized factor loading
Amount per day (0–12)	1.11, 1.88	.82

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Table 2

Unstandardized and Standardized Paths for Parental Alcohol Use, Parental Psychological Distress, Child Problem Behavior, and the Control Variables.

Paths	<i>B</i> (<i>SE</i>)	β
Child problem behavior → Midlife parents' alcohol use	1.588 (0.582) **	.166
Child problem behavior → Midlife parents' psychological distress	0.475 (0.244) ⁺	.126
Child problem behavior → Adolescent problem behavior	0.885 (0.186) ***	.382
Young adult parents' alcohol use → Adolescent problem behaviors	0.037 (0.017) *	.124
Young adult parents' alcohol use → Midlife parents' alcohol use	0.469 (0.067) ***	.377
Young adult parents' psychological distress → Adolescent problem behavior	0.018 (0.042)	.025
Young adult parents' psychological distress → Midlife parents' psychological distress	0.304 (0.077) ***	.262
Parents' gender → Child problem behavior	−0.057 (0.020) **	−.160
Parents' gender → Young adult parents' alcohol use	0.617 (0.123) ***	.226
Parents' gender → Young adult parents' psychological distress	−0.140 (0.059) *	−.122
Parents' gender → Adolescent problem behavior	−0.052 (0.047)	−.063
Parents' gender → Midlife parents' alcohol use	0.614 (0.175) ***	.181
Parents' gender → Midlife parents' psychological distress	−0.102 (0.072)	−.077
Young adult parents' poverty level → Child problem behavior	0.064 (0.019) ***	.194
Young adult parents' poverty level → Young adult parents' alcohol use	0.287 (0.117) *	.113
Young adult parents' poverty level → Young adult parents' psychological distress	0.048 (0.054)	.045
Midlife parents' poverty level → Adolescent problem behavior	−0.006 (0.046)	−.008
Midlife parents' poverty level → Midlife parents' alcohol use	0.548 (0.174) **	.158
Midlife parents' poverty level → Midlife parents' psychological distress	0.042 (0.073)	.031
Young adult parents' household composition → Child problem behavior	−0.010 (0.017)	−.031
Young adult parents' household composition → Young adult parents' alcohol use	0.193 (0.113) ⁺	.077
Young adult parents' household composition → Young adult parents' psychological distress	0.033 (0.052)	.031
Midlife parents' household composition → Adolescent problems behavior	−0.006 (0.041)	−.008
Midlife parents' household composition → Midlife parents' alcohol use	0.115 (0.151)	.037
Midlife parents' household composition → Midlife parents' psychological distress	0.032 (0.064)	.026
Young adult parents' neighborhood factors → Child problem behavior	−0.025 (0.020)	−.069
Young adult parents' neighborhood factors → Young adult parents' alcohol use	−0.015 (0.131)	−.005
Young adult parents' neighborhood factors → Young adult parents' psychological distress	−0.013 (0.061)	−.011
Midlife parents' neighborhood factors → Adolescent problem behavior	0.047 (0.028) ⁺	.092
Midlife parents' neighborhood factors → Midlife parents' alcohol use	−0.006 (0.104)	−.003
Midlife parents' neighborhood factors → Midlife parents' psychological distress	0.073 (0.045)	.087

⁺ $p < .1$.

* $p < .05$.

** $p < .01$.

 $p < .001$.

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