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Adolescent Work and Alcohol Use Revisited: Variations by Family Structure*

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Abstract

Previous research finds adolescent work hours to be associated with increased alcohol use. Most studies, however, fail to account for possible selection effects that lead youth to both work and substance use. Using data from the first two waves of the National Longitudinal Study of Adolescent Health ($N = 12,620$), a fixed effects regression method is employed to control for stable between-person differences neglected by previous studies. Results show little relationship between work hours and alcohol use when controlling for individual heterogeneity. Results reveal variations, however, by family structure, with work hours being negatively associated with alcohol use among those from single-parent households. Although exhibiting significant main effects, family and peer processes fail to account for differences by family structure.

Keywords: adolescent work; alcohol use; family structure; fixed effects

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Engagement in some part-time work is a near expected component of adolescence for many youth (Mortimer, Staff, & Oesterle, 2003). Policy and academic research regarding the benefits and drawbacks of adolescent work have swung widely over the past several decades. On the one hand, adolescent work may take time away from school work and other positive activities, expose youth to older and/or delinquent peers, detract from relationships and monitoring by parents, and lead to premature entrances into adult roles. On the other hand, adolescent work may confer benefits to youth in terms of the structuring of free time and development of discipline, confidence, and other work-related skills (see review by Mortimer et al., 2003).

Most studies to date have found substance use to be associated with intense work during adolescence (Bachman & Schulenberg, 1993; Mortimer, Finch, Ryu, Shanahan, & Call, 1996; Steinberg & Dornbusch, 1991). At the same time, some have questioned whether this association is merely correlational (Apel et al., 2007; Apel, Bushway, Paternoster, Brame, & Sweeten, 2008; Apel, Paternoster, Bushway, & Brame, 2006; Paternoster, Bushway, Brame, & Apel, 2003). In other words, there may be unobserved characteristics of youth that lead to both their work intensity and substance use.

In addition to concerns regarding the causal nature of the association, others have questioned whether work is detrimental for all youth, or whether the effects are mediated or moderated by family processes (e.g., Longest & Shanahan, 2007). For example, one mechanism thought to underlie the relationship between work and substance use is a decrease in parental monitoring. Longest and Shanahan (2007) found that differences in

parent closeness, monitoring, and parent-child discussions partly mediated the relationship between intense work and alcohol and marijuana use. Cross-sectional data limitations, however, precluded their analysis of within-person changes in work and substance use. Also not yet considered is whether the association between work and alcohol use varies by family structure, which is strongly suggested by considerable differences in both substance use and family processes across two-parent and single-parent families (Hoffman, 2002; Hoffman & Johnson, 1998; Thomas, Farrell, & Barnes, 1996).

This study makes two important contributions to the literature. First, it examines the relationship between amount of hours worked per week and alcohol use using fixed effects models that control for stable unobserved differences between youth, and that focus attention on within-person changes in both work and alcohol use. Secondly, it considers whether the relationship between work hours and alcohol use is moderated by family structure, and is mediated by within-person changes in family processes. These questions are assessed using data from the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative and longitudinal sample of students in the United States.

Background

Adolescent Work and Substance Use

Studies of the relationship between adolescent work and substance use frequently focus on the amount of hours worked per week, with the relationship found to be strongest for those working the most hours (Paschall, Flewelling, & Russell, 2004; Steinberg & Dornbusch, 1991; Valois et al., 1999). For example, among adolescents in

grades 9 – 12, Valois et al. (1999) found that work hours was associated with higher substance use, but only for youth working more than 15 hours a week. Those working 1 – 14 hours per week were no different from the non-working. Similarly, Paschall et al. (2004) found a positive relationship between long work hours and heavy drinking; but compared to adolescents who did not work at all, those who worked up to ten hours a week reported slightly lower levels of drinking.

Some researchers, however, contend that the relationship between adolescent work and substance use is spurious, driven by unobserved factors and other pre-existing conditions (Bachman & Schulenberg, 1993; Jessor & Jessor, 1977; Newcomb & Bentler, 1988). For example, Newcomb and Bentler (1988) argue that some adolescents simply “grow up” quicker than others due to biological or social determinants, taking on adult-like behaviors such as employment, alcohol use, and greater independence from parents. From this perspective, the relationship between work intensity and substance use may be spurious, with both resulting from early transitions into adulthood. In this same vein, several studies have suggested that working many hours in adolescence is simply one component of a precocious transition to adulthood, and might be better described as a symptom of other problem behaviors rather than a cause (Bachman & Schulenberg, 1993; McMorris & Uggen, 2000; Mihalic & Elliott, 1997; Paschall et al., 2002; Safron et al., 2001; Staff & Uggen, 2003).

In addition, other research suggests that family socioeconomic status and other measurable demographic characteristics may account for the association between workforce participation and alcohol use (Bachman & Schulenberg, 1993; Mihalic & Elliott, 1997; Paschall et al., 2002; Paschall et al., 2004). For instance, Bachman and

Schulenberg (1993) report a strong correlation between work hours and substance use; however, once background and educational factors were controlled, the correlations diminished considerably. Likewise, Mihalic and Elliott (1997) found that background factors such as sex, social class, and ethnicity were associated with workforce participation, and when controlled, explained part of the association between work and substance use.

Recent work using unique measures and statistical methods specifically designed to address selection issues have further called into question the causal nature of the relationship between adolescent work and substance use (Apel et al., 2007, Apel et al., 2008; Apel et al., 2006; Paternoster et al., 2003). In a longitudinal study taking advantage of data on prior developmental trajectories of substance use and problem behavior, Apel et al. (2007) found no overall relationship between work, substance use and problem behavior. Other studies utilizing fixed effects models to control for unobserved, time invariant characteristics have found little or no effect of work hours on substance use among adolescents (Apel et al., 2008; Paternoster et al., 2003).

Given these findings it is likely that selection processes and other background factors account for some of the association between adolescent work and alcohol use. In this analysis, we partly address the selection issue using fixed effects models (Allison, 2005). By focusing on within-person changes in both work hours and alcohol use, fixed effects models hold constant any stable unobserved factors that may be driving the associations observed in previous studies.

Family Structure and Processes

Background variables may also moderate the association between work and substance use. One factor likely to differentiate the experiences of adolescents who are just entering the workplace is family structure. Previous studies have found that adolescents from single-parent and or blended families engage in higher levels of substance use than youth from two-biological-parent families (Ellickson, Tucker, Klein, & McGuigan, 2001; Hoffman, 2002; Hoffman & Johnson, 1998; Longest & Shanahan, 2007; Thomas et al., 1996). Adolescents from two-biological-parent families have also been found to experience higher levels of parental closeness and monitoring – dimensions of family process which have been found to mediate the relationship between family structure and delinquency (Amato & Keith, 1991; Cernkovich & Giordano, 1987; Crawford & Novak, 2008; Demuth & Brown, 2004). Research also suggests that youth from two-parent families are less exposed to delinquent or substance-using peers, and less susceptible to peer pressure than are youth from single or blended families (Eitle, 2005; Steinberg, 1987).

With respect to the relationship between work and substance use, one of the mechanisms is thought to involve a decreasing influence of parents, as working adolescents gain some financial independence as well as greater freedom from direct parental monitoring (Longest & Shanahan, 2007; McMorris & Uggen, 2000). Research has demonstrated that adolescents who work report poorer relationships with parents, lower levels of parental monitoring and involvement, and greater independence from parents compared to non-working adolescents (Largie, Field, Hernandez-Reif, Sanders, & Diego, 2001; Longest & Shanahan, 2007; Manning, 1990; McMorris & Uggen, 2000; Paschall et al., 2002; Shanahan, Elder, Burchinal, & Conger, 1996; Steinberg &

Dornbusch, 1991). From a social control perspective (Hirschi, 1969), working adolescents engage in delinquency because they experience weaker parental bonds compared to non-workers, especially those working more hours.

Peer Influences

At the same time that the influence of parents is waning, adolescent work is thought to also increase the role of peer influences (Ploeger, 1997). Of course, peer influences in adolescence may be positive, negative, or neutral, depending upon the contents and contexts of peer interactions. Delinquency research tends to emphasize the role of interactions with delinquent peers, and unstructured socializing with peers that occurs outside the purview of adults.

Compared to non-workers, working adolescents have been found to be more likely to have delinquent peers, to be exposed to normative definitions of alcohol use by peers, and to engage in unstructured socializing (Paschall et al., 2002, Ploeger, 1997; Safron, Schulenberg, & Bachman, 2001). Thus, from a social learning perspective (Burgess & Akers, 1966; Sutherland, 1947), working adolescents may engage in higher levels of delinquency because the formal workplace exposes them to older and/or delinquent peers, who promote favorable definitions of alcohol use, and may also provide access to under-age drinkers.

Drawing upon the routine activities perspective (Cohen & Felson, 1979), others argue that unstructured socializing with peers outside the supervision of adults is particularly conducive to youth problem behavior. With respect to delinquency, Osgood and Anderson (2004) found that time spent in unstructured socializing was not only strongly associated with delinquency, but also explained differences in delinquency

across groups of adolescents. Earlier work by Osgood and colleagues (Osgood, Wilson, Bachman, O'Malley, & Johnston, 1996) using fixed effects models, found that unstructured activities were associated with a wide range of delinquent outcomes, including crime, heavy drinking, and illicit drug use. From this perspective, working adolescents engage in delinquency more than non-workers because of increases in the opportunity for unstructured socializing with co-workers.

Moderation by Family Structure

To recap, working youth likely spend less time at home under parental supervision, in school, or in other adult monitored extra-curricular activities, and more time in settings where they may be exposed to older youth and to adults who are on different socioeconomic trajectories. But this is an “on average” argument that does not recognize that the family, peer, and community contexts of youth likely differ significantly prior to the onset of work. Returning briefly to the selection issue, these and other unobserved factors may be largely responsible for the purported positive relationship between work and substance use. But moving beyond the issue of selection, these pre-existing factors may change the meaning or consequences of work.

If prior to working, youth vary considerably in levels of parental monitoring, unstructured socializing with peers, and other risk factors, then some youth may already be at an elevated risk for alcohol use. Drawing upon the previously discussed research, we tentatively hypothesize that family structure will moderate the associations between adolescent work and alcohol use. To the extent that work represents a loosening of parental monitoring and control over youth, and an increase in unstructured socializing with peers, it may be youth from two-biological-parent households that have the most to

lose when entering the labor force. Conversely, to the extent that youth in single-parent families are already more likely to use alcohol, and to be outside the purview of parents, then entrance into work may represent little change, if not an increase in adult monitoring from managers and co-workers. At the same time, we recognize that an alternative and competing hypothesis is also plausible. Namely, due to the greater parental resources within two-parent families, they may be better able to intervene should they perceive their children to have experienced an increase in such risks.

Fixed effects regression models are ideally suited to examining both the issue of selection into work, and possible moderation of associations by family structure. By focusing on the role of within-person changes in work and alcohol use, fixed effects models essentially control for stable differences between persons that may be associated with entry into work and alcohol use. Additionally, fixed effects regression models allow us to incorporate interactions between within-person changes in work and family structure to assess variations across family types in the associations between work and alcohol use.

Method

Sample and Procedures

This study used data from the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative sample of students in grades 7 – 12 in the United States. We employed data from the first two waves of in-home interviews conducted in 1994 – 5 (Wave I), and 1996 (Wave II). The original sampling frame included youth attending 145 junior and high schools. Students were stratified by grade and sex and randomly selected to participate in the longitudinal sample. All together,

20,745 students were interviewed at Wave I, with a response rate of 78.9 percent. In-home interviews were conducted one year later with nearly 15,000 of the same students. However, respondents that were high school seniors at Wave I, and had since graduated, were not retained at Wave II. Of those eligible, the response rate at Wave II was 88.2 percent. Our analytic sample was 12,620 adolescents. The in-home interviews were conducted via Computer-Assisted Personal Interviewing (CAPI) and Audio Computer-Assisted Self Interviewing (ACASI), the latter of which was used for the more personal questions, including substance use.

Measures

Work hours. The number of hours worked was based on the question “How many hours do you spend working for pay in a typical non-summer week?” This variable was measured continuously, with responses ranging from 0 – 145 at wave one and 0 – 164 at wave two. It is unlikely that responses of 145 and 164 hours per week are accurate. We thus deleted the few outliers that exceeded 60 hours. Supplemental analyses incorporating these extreme outliers were conducted and produced similar results.

Fixed effects models require within-person changes in work hours. Examination of mean levels of work suggested considerable change, as average work hours increased from 6.12 hours per week at Wave I to 9.01 hours per week at Wave II. Although there was a significant increase in work hours between waves, most adolescents reported working less than part time. In fact, just under half (49.59 percent) of the adolescents reported they did not work at all at Wave I and just over one third (40.24 percent) reported not working at Wave II. Of those who reported working at Wave I, 42.05 percent reported working between 1 and 20 hours per week, 7.74 percent reported

working between 21 and 40 hours per week, and 0.62 percent reported working between 41 and 60 hours per week. At Wave II, 45.25 percent reported working between 1 and 20 hours per week, 13.25 percent reported working between 21 and 40 hours per week, and 1.25 percent reported working between 41 and 60 hours per week.

Alcohol use. Research on adolescent alcohol use typically distinguishes between frequency of use and the amount of alcohol consumed at any given time. Alcohol use frequency was based on adolescent answers to the question: “During the past 12 months, on how many days did you drink alcohol?” This variable was measured on a seven-point scale that included the following: “never;” “1 or 2 days;” “once a month or less;” “2 or 3 days a month;” “1 or 2 days a week;” “3 to 5 days a week;” and “everyday or almost everyday.” A little over half of the respondents reported “never” consuming alcohol in the past 12 months at both Wave I (55.51 percent) and Wave II (55.01 percent). Due to the right skewed distribution of the data, we took the log transformation of alcohol use.

To capture high amounts of alcohol consumption or binge drinking, we used adolescent answers to the question: “Over the past 12 months, on how many days did you drink five or more drinks in a row?” As with our measure for drink frequency, this variable was also measured on a seven-point scale ranging from “never” to “everyday or almost everyday.” With the majority of adolescents reporting “never” drinking five or more drinks in a row in the past month at both Wave I (75.79 percent) and Wave II (71.23 percent), we again used the log transformation of binge drinking.

Family structure. Family structure was measured by creating dummy categories for adolescents living with both biological parents (56.3 percent) and in other family types (43.7 percent), which included respondents living with one biological parent and a

step-parent (14.39 percent), with a single parent (26.04 percent), and in other arrangements (3.23 percent). Since the vast majority of these family structures did not change between waves (Brown 2006), and we were primarily concerned with family structures prior to changes in work, we treated them as time-invariant at Wave I.

Parental supervision. Following Demuth and Brown (2004), we also incorporated family processes at both waves that may potentially mediate associations between work hours and alcohol use. A measure for parental supervision was created by summing responses from questions about how often parents are home when they: go to school; return from school; and go to bed. Each question ranged from 0 to 4. Since youth from two-parent families could report responses for both the resident mother and resident father, we took only the higher score. The measure ranged from 0 to 12.

Parental involvement. A parental involvement measure was developed by taking the sum of responses from the following activities respondents had done with each parent or parental figure in the household within the past four weeks: gone shopping; played a sport; worked on a project from school; gone to a religious service or church-related event; and gone to a movie, play, museum, concert, or sports event. As before, we used the higher score for those from two-parent families. The involvement measure ranged from 0 to 5. As participation in one type of activity may take away from time available for other activities, the individual items were not necessarily correlated.

Parental monitoring. A count of parental monitoring activities was based on summing responses to questions about whether parents or parental figures in the household let respondents make their own decisions about the following: the time they must be home on weekend nights; the people they hang around with; what they wear;

how much television they watch; which television programs they watch; what time they go to bed on week nights; and what they eat. The measure ranged from 0 to 7.

Parental closeness. Finally, parental closeness was measured by taking the sum of the following responses about each parent or parental figure in the household: how close do you feel to your mother/father; most of the time your mother/father is warm and loving to you; you are satisfied with the way your mother/father and you communicate with each other; and overall, you are satisfied with your relationship with your mother/father. Each question ranged from 0 to 4. The higher score was again taken for youth from two-parent households. The parental closeness measure ranged from 0 to 16 and yielded a Cronbach's alpha of 0.86 for both waves.

Unstructured Socializing with Peers. Peer influence was measured as the amount of time respondents report "hanging out with peers" in the past week. This variable was measured on a four-point scale, with response categories ranging from "not at all" to "five or more times." Nearly half reported hanging out with peers five or more times in the past week at both Wave I (40.3 percent) and Wave II (42.1 percent).

Analytic Strategy

We assessed the association between work hours and alcohol use using fixed effects regression models (Allison, 2005). Fixed effects regression models focus attention on associations between within-person changes, between waves, in both work hours and alcohol use. Youth who reported no changes in work hours or alcohol use between waves essentially drop out of the models. Thus, youth who did not work or drink at either wave, as well as those who worked or drank at the exact same levels at both waves, contributed no variation to the analysis. Descriptive statistics, however, suggested considerable

change in both working (65.28 percent experienced change) and drinking (45.48 percent) between waves. By focusing on within-person changes, the fixed effects regression models controlled for the influence of unobserved time-invariant factors, as their effects should be captured by the stable or non-changing respondents who drop out of the model. Fixed effects regression was thus a particularly valuable modeling strategy given that prior research and theory indicates that the relationship between adolescent work hours and substance use may be driven by stable demographic characteristics (Apel et al., 2008; Bachman & Schulenberg, 1993; Jessor & Jessor, 1977; Newcomb & Bentler, 1988; Paternoster et al., 2003).

To examine how the relationship between work hours and alcohol use differs across subgroups (i.e., family structure), the models included interactions between subgroup indicators and the work hour variables just described. To consider whether the relationship between work and alcohol use may be mediated by family processes and peers, we added measures of within-person changes in these variables to the fixed effects regression models.

Results

Table 1 shows means by each household type for both waves of data. Youth in stepfamily households report working more hours than those from other household types. Youth from each household type report increases in hours worked between waves. Looking at the drinking measures, youth living in two-biological-parent households report lower levels of drinking compared to those from other household types. In general, our family process measures indicate that youth from two-biological-parent households report higher means for parental supervision, involvement, monitoring, and closeness

across waves. Conversely, and consistent with our speculations about pre-existing differences, youth from single parent families appear most disadvantaged, in terms of having the highest levels of drinking, and the lowest levels of parental monitoring, supervision, and closeness at Wave I.

< Table 1 About Here >

Table 2 contains the results of our fixed effects regression models of the relationships between work hours, drink frequency and binge drinking. Model 1 for each outcome considers the effect of within-person changes in work hours for all respondents (i.e., ignoring potential differences in associations across subgroups). Recalling that both outcomes are log-transformed, the coefficients can be interpreted as the percent change in each outcome associated with a one-hour change in work. The near zero and non-significant coefficient indicates that, across all youth, within-person changes in work hours are not associated with within-person changes in drink frequency. Considering binge drinking, model 1 shows a similar non-significant relationship with work hours. These findings are consistent with previous research suggesting that much of the relationship between work and substance use is associated with stable differences between workers and non-workers in adolescence. At the same time, however, it may conceal differences in the relationship across subgroups.

< Table 2 About Here >

Next, in Model 2, we consider variation in the associations between work hours and alcohol use across family types by introducing interaction terms for within-person changes in work hours and household types, with youth from two-parent-biological households as the excluded contrast group. A similar pattern is observed for both

outcomes, though is slightly more pronounced in the case of drink frequency. The non-interacted coefficient for work hours captures the association between work and alcohol use for youth in two-biological-parent families. Its non-significance indicates that there is no relationship between work hours and drinking for youth from two-biological-parent families. The interaction term for youth living with a single parent, however, is statistically significant and negative, indicating that within-person changes in work hours are associated with decreases in drinking for these youth. The interaction terms associated with youth living in stepfamilies and other family types are of the same sign as single-parent youth, but are of lower magnitudes and not statistically significant.

To aid interpretation of the interaction for drink frequency, we graph the association for youth from single-parent families relative to those in two-biological family types in Figure 1. As the graph illustrates, changes in work hours are associated with substantial decreases in drinking for youth from single-parent families. For example, a twenty hour increase in work hours is associated with only a 5 percent decrease in drink frequency for youth not in two-biological-parent families.

< Figure 1 About Here >

To further examine why the fixed effects regression associations between work hours and alcohol use vary across family types, Model 3 introduces within-person changes in family process variables such as supervision, involvement, monitoring, and closeness, as well as within-person changes in unstructured time spent with peers. As a whole, within-person changes in these family process variables are found to be significantly associated with changes in alcohol use in expected ways (although only marginally so in several cases). Inclusion of these process variables, however, does not

attenuate the pattern of associations between within-person changes and alcohol use across two-biological-parent and other family types. Nor was mediation suggested by supplemental analyses following the procedures outlined by Muller, Judd, & Yzerbyt (2006) for exploring “mediated moderation.” Incorporation of additional interactions between family types and the family process variables did not attenuate the pattern of differences previously reported.

Discussion

Consistent with previous research we find little effect of work hours on alcohol use once time-invariant and other variables are controlled (Apel et al., 2008; Paternoster et al., 2003). Unlike prior research, however, we find overall support for our main hypothesis that the effect of work hours on alcohol use varies by family structure. Specifically, our results indicate that adolescent work is associated with decreases in alcohol use among youth from single-parent families. Our results, however, do not support the hypothesis that family and peer processes would account for these differences in the relationship between work and alcohol use by family type. While several of our measures for family and peer processes exhibited significant relationships with alcohol use, significant differences remain between youth from two-biological-parent and single-parent households.

That increases in work are actually beneficial to youth from single-parent households is perhaps the most important finding of the study. These results are consistent with prior research finding adolescent work to be less detrimental or even beneficial to those from disadvantaged backgrounds (Breslin & Adlaf, 2005; Leventhal, Graber, & Brooks-Gunn, 2001; Staff & Mortimer, 2007; Steinberg & Dornbusch, 1991). Youth from single-parent

families are already at a higher risk of alcohol use (Hoffman, 2002; Thomas et al., 1996). They enter work already disadvantaged by a relative lack of parental monitoring, and greater exposure to delinquent peers in their neighborhoods. Given these pre-existing risk factors, increases in work for these youth might actually produce increased adult monitoring and decreased exposure to deviant peers, or at worst no change in such risk factors.

Our inclusion of family and peer process measures, however, failed to attenuate this difference in the association of work hours with drinking by family type. Future research is needed to better understand this moderating relationship. It may be that other factors, not captured by Add Health measures of parent and family processes, might account for such differences, such as the quantity of time spent with parents (Warr, 1993) or the number of adults in the home (Eitle, 2005). It is also possible that among at-risk youth work accelerates the desistance process irrespective of family or peer processes. For instance, working substantial hours in adolescence may provide an important temporal structure to the lives of at-risk youth, simply diminishing the free time that might otherwise be spent in delinquent activities for high-risk youth. Moreover, working substantial hours likely strengthens social bonds to conventional routes to success, thus providing youth with an incentive to refrain from delinquency. Finally, future research should examine changes in access to non-parental adult mentoring that might be provided by adolescent work

In examining the impact of work in adolescence, it is also important to take into consideration the varying social pathways that adolescents are following. For some youth, stable characteristics may reflect larger processes of social stratification, with higher levels of work and alcohol use in adolescence following a gradual process of disillusionment with educational careers among working class or more disadvantaged youth (Carr & Kefalas,

2009; MacLeod, 2008; Willis, 1981). For other youth, sustained levels of work and alcohol use may reflect the need within disadvantaged families for youth to contribute to the household economy (Elder 1974). We also note Mortimer and colleagues' research suggesting a variety of benefits to stable but lower intensity work (Mortimer, 2003; Mortimer et al., 1996).

Several study limitations should be kept in mind when interpreting these results. The fact that the time frame of this fixed effects analysis covers just two waves separated by a single year works against observing a great deal of within-person change. To illustrate, there might be some youth who begin working and maintain the same level of work for several years, and for whom work does cause higher levels of sustained alcohol use. Within the framework of our fixed effects analysis such observations would contribute no within-person variation, as within the one year window of observation they do not exhibit changes in work or alcohol use. Future research with a longer time span might yield different results regarding the relative roles of time-varying and time-invariant factors. Additionally, being a school-based sample Add Health does not include adolescents who have dropped out of school. Although these adolescents constitute a fairly small group, they may be those most likely to work full-time and consume alcohol more frequently compared to adolescents in school. Moreover, although the fixed effects approach controls for stable, time-invariant characteristics, it cannot control for time-varying unobserved factors, or for stable factors that have differing effects over time. Finally, measures of adolescent work in Add Health do not allow us to capture the nature or quality of the work, which previous research suggests is a critical moderator of the consequences of adolescent work (e.g., Staff & Uggen, 2003).

Despite these limitations, our study contributes to the literature in important ways. Most importantly, our results indicate that the association of work hours and alcohol use varies across family structure, and that work may actually decrease drinking for youth in single-parent households. Our findings also raise questions about policies that restrict the amount of hours adolescents can work. If working many hours per week decreases drinking for some adolescents, perhaps policies that restrict the amount of hours adolescents may work need to be directed at particular groups of at-risk adolescents.

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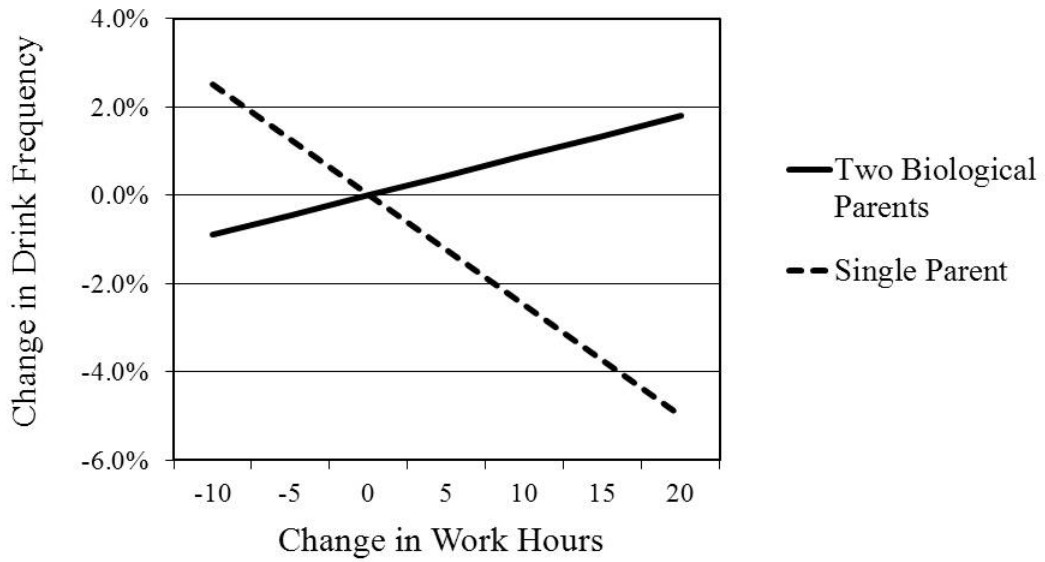
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Figure 1

Association Between Changes in Work and Drink Frequency by Family Type



Note: The line representing youth living with two biological parents is not statistically different from zero.

Table 1**Means by Family Structure (standard errors in parentheses)**

Variable	Biological parents (<i>n</i> = 6,955)		Stepfamilies (<i>n</i> = 1,877)		Single parents (<i>n</i> = 3,353)		Other families (<i>n</i> = 435)	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
Supervision	10.14 (0.05)	9.98 (0.06)	9.84 (0.08)	9.74 (0.08)	8.83 (0.10)	8.80 (0.10)	10.36 (0.22)	10.12 (0.19)
Involvement	2.23 (0.04)	2.02 (0.04)	1.78 (0.05)	1.52 (0.05)	1.56 (0.04)	1.45 (0.04)	1.41 (0.09)	1.30 (0.08)
Monitoring	2.08 (0.06)	1.70 (0.05)	2.00 (0.07)	1.63 (0.06)	1.91 (0.07)	1.50 (0.07)	1.94 (0.14)	1.38 (0.13)
Closeness	14.22 (0.05)	13.78 (0.05)	13.67 (0.11)	13.23 (0.09)	13.16 (0.10)	12.94 (0.10)	13.43 (0.26)	13.33 (0.20)
Hang with friend	1.97 (0.02)	2.06 (0.02)	2.01 (0.04)	2.12 (0.03)	2.01 (0.03)	2.06 (0.03)	1.96 (0.08)	2.05 (0.07)
Work hours	5.95 (0.37)	8.75 (0.50)	7.24 (0.47)	10.64 (0.62)	5.87 (0.43)	8.59 (0.50)	6.21 (0.81)	9.49 (1.00)
Drink frequency	0.89 (0.04)	1.06 (0.04)	1.07 (0.06)	1.18 (0.06)	1.14 (0.05)	1.16 (0.05)	1.10 (0.10)	1.13 (0.12)
Binge drinking	0.51 (0.03)	0.70 (0.04)	0.64 (0.05)	0.79 (0.05)	0.71 (0.05)	0.76 (0.05)	0.68 (0.09)	0.83 (0.13)

Note: Descriptive statistics are weighted using the Add Health project longitudinal weights.

Table 2**Fixed Effects OLS Regression Estimates for Adolescent Drink Frequency and Binge Drinking (standard errors in parentheses)**

Variable	Drink Frequency			Binge Drinking		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Work hours	- 0.0003 (0.0004)	0.0009 (0.0006)	0.0008 (0.0006)	- 0.0006 (0.0004)	0.0004 (0.0006)	0.0004 (0.0006)
Work hours*Stepfamilies		- 0.0010 (0.0012)	- 0.0010 (0.0012)		- 0.0016 (0.0011)	- 0.0017 (0.0011)
Work hours*Single parents		- 0.0034*** (0.0010)	- 0.0031** (0.0010)		- 0.0027** (0.0009)	- 0.0026** (0.0009)
Work hours*Other families		- 0.0005 (0.0022)	- 0.0000 (0.0022)		- 0.0001 (0.0020)	- 0.0001 (0.0021)
Parental supervision			- 0.0063** (0.0023)			0.0003 (0.0022)
Parental involvement			- 0.0055 (0.0042)			- 0.0071† (0.0039)
Parental monitoring			- 0.0060† (0.0032)			- 0.0070* (0.0039)
Parental closeness			- 0.0042* (0.0022)			0.0015 (0.0020)
Hanging with peers			0.0342*** (0.0045)			0.0226*** (0.0042)
<i>N</i>	12,620	12,620	12,620	12,620	12,620	12,620

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.