

**Nine to Five No More?**  
**The Persistence of Nonstandard Work Schedules Within Families**

Katrina Leupp, *University of Washington*

Sabino Kornrich, *University of Sydney*

Julie Brines, *University of Washington*

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*\*Manuscript prepared for presentation at the annual meeting of the Population Association of America, 2010. Please direct all correspondence to Katrina Leupp, [katrinam@u.washington.edu](mailto:katrinam@u.washington.edu), University of Washington, Department of Sociology, Box 353340, Seattle, WA 98195.*

*The widespread prevalence of employment outside of the standard workday interrupts family meals, childcare, and sleep routines for a sizable portion of Americans, complicating their attempts to manage work and family demands. This study uses three waves of data from the National Survey of Families and Households to examine the prevalence and persistence of nonstandard employment schedules. By analyzing the work hours of dual-earner married couples at three time points, this study investigates families' risk of experiencing shift work by socio-demographic characteristics. Our findings indicate that these nonstandard work arrangements among dual earners are widespread, and for many, fairly persistent, even when a restrictive definition of nonstandard scheduling is used. We find little evidence that these arrangements were used to address childcare dilemmas in the late 1980s and 1990s, but strong evidence of the role of education in stratifying risks of nonstandard employment among dual earner couples in recent decades.*

## **I. Introduction**

Family life in the United States today seems busier than ever (cf. Schor 1992; Bianchi 2006). Women's mass entrance into the paid labor force during the second half of the twentieth century increased couples' total hours in employment, leading to more complex decisions about how to simultaneously schedule work and family life. In addition to devoting more time to paid work, married women and men today are likely to work outside of the "traditional" nine to five job worked Monday through Friday. At the close of the 20th century, nearly one sixth of employees worked during evenings or nights, and roughly one third of workers worked during weekends (Presser 2003, Beers 2000). Among dual-earner couples with children, existing reports suggest that over one-third have at least one partner employed in night, evening, or rotating schedules (Presser 2004).

While existing research has examined the prevalence of nonstandard schedules, we know little about secular trends in nonstandard work arrangements among dual-earner couples, or about the persistence of these arrangements within families. Is employment outside of the standard Monday through Friday daytime hours a temporary condition that families adjust to, or even strategically adopt, for a short period of time, or are some workers – and families – perpetually stuck in nonstandard schedules? Current Population Survey Data indicate that nonstandard employment schedules peaked in the early 1990s (U.S. Department of Labor 2005), but annual measures do not reflect changes in the prevalence of nonstandard employment schedules within families. The increased use of part-time, temporary, and contract workers in recent decades (Kalleberg 2000), paired with high rates of maternal employment, suggests that families are increasingly at risk of having a worker in nonstandard employment hours.

The high prevalence of nonstandard work schedules means that a number of researchers have begun to investigate the correlates and consequences of nonstandard or “shift” work (e.g. Presser 2000, 2003, Davis et al 2008, Perrucci et al 2007, Strazdins et al 2006, White & Keith 1990). Many of those employed outside of the standard workday do not actively seek out this type of schedule. CPS data, for example, show that the majority of shift workers would prefer to work other hours, and that their employment schedules are driven by “the nature of the job” (U.S. Department of Labor 2005). Moreover, participation in shift work is not uniformly distributed across the working population: women, and those with lower levels of education and occupational prestige, are among those most likely to experience shift work (McMenamin 2007). Although the effects of nonstandard employment are not entirely detrimental, most studies report that this form of employment has negative effects on marital stability, and mental and physical health (Perrucci et al. 2007; Presser 2000). Moreover, nonstandard employment generates

negative spillover between work and family responsibilities, where spillover is defined as physical or psychological impacts that arise in one domain but carry over into another (Davis et al. 2008).

The effects of long-term exposure to nonstandard work arrangements are not yet well understood (Perrucci et al. 2007). This is particularly true of our understanding of the consequences of persistent nonstandard employment on family life among dual-earner couples. Existing research documents relationships at one point in time between nonstandard work schedules and determinants and outcomes of interest. However, patterns of persistent nonstandard work – exposure to non-standard hours over several points in time – may differ substantially in both their distribution and their consequences. Thus, an analysis of the persistence of married couples’ exposure to shift work is essential for evaluating the implications of these “new” employment schedules for demographic trends in health, marriage, and parents’ time with children.

This paper is the first in a series that will investigate trends in the prevalence, persistence, and consequences of nonstandard employment arrangements among dual earner couples in the U.S. In this paper, we broaden understandings of the persistence of nonstandard schedules, estimating the effect of socio-demographic characteristics on couples’ risk of experiencing a nonstandard employment schedule at three points during their childrearing years. Next, we consider the persistence of families’ exposure to nonstandard employment schedules over the same 15-year period. Doing so will offer a better picture of how much nonstandard work families experience throughout the course of their lives and which families experience nonstandard work.

We use data from Waves 1-3 of the National Survey of Families and Households (NSFH) to accomplish these aims. Although other longitudinal surveys (such as the PSID and NLSY)

furnish data on nonstandard work schedules, the NSFH is the only panel study that provides measures of physical and mental health, marital quality, quality of parent-child interactions, and other outcomes that permit a more thorough exploration of the consequences of nonstandard employment for dual-earner couples and their children. NSFH data have been used in the past to examine the impact of these arrangements on marriage and family life (Presser 2000, 2003), but the impact on working families of *persistent* exposure to nonstandard employment remains unknown. The analysis presented in this paper takes the first step toward closing this gap.

## **II. Consequences of Nonstandard Employment Schedules**

Although researchers have investigated how women's employment has altered family life, much of the discourse on work and family implicitly assumes that most dual-earner couples have jobs that keep them "at work" during similar hours, and likewise have overlapping shares of time (mostly during evenings and weekends) available for unpaid family work or leisure. This assumption is embedded in concerns that range from the "second shift" of housework and childcare that employed parents do, presumably during evenings and weekends (Hochschild 1989; Milkie et al. 2009), to the challenges faced by employed "soccer moms/dads" who (it is assumed) struggle with daytime work schedules that limit their ability to accommodate children's after-school activities (Arendell 2001; Belkin 2008; Lareau 2003). In the popular press, emerging language about egalitarian couples who "co-work" and "co-parent" portrays an image of working parents, often professionals, whose employment schedules largely overlap (for recent examples, see Loh 2010; Mantell 2010).

Yet for the past three decades, differing employment schedules between spouses have limited family interaction time for a sizable portion of Americans (Staines & Pleck 1983; Nock &

Kingston 1984; Blair 1993; Lesnard 2008). Using 1977 data, Nock & Kingston (1984) estimated that 20 percent of dual-earner American couples experienced off-scheduling between spouses' paid work hours by over eight hours per day. More recently, Hamermesh (2002) finds that the number of hours married couples share outside of both spouses' employment schedules declined between the 1970s and 1990s, especially among couples with low earnings. For these and other dual-earner couples with non-overlapping employment schedules, the loss of time jointly "available" for family activities might have multiple, enduring effects on marital and family well-being.

The loss of couples' jointly available time is especially salient given the positive effects shared family time may have on family solidarity. For example, Berger and Kellner (1964) argue that discussion builds and maintains solidarity between couples. In addition, some family scholars have argued that the increasing prevalence of dual-earner couples represents a shift in marriage away from a model emphasizing joint production and the complementary inputs of wives and husbands (Becker 1991) to a model emphasizing gains from joint consumption of household public goods based on shared interests in leisure (Lam 1998; Lundberg and Pollak 2007). Accordingly, White and Keith (1990) find that nonstandard employment schedules, which likely reduce the amount of time couples have for joint leisure or the enjoyment of children, decrease overall marital quality. Similarly, Strazdins and colleagues (2006) find that in families with children, employment during nonstandard hours decreases family functioning and well-being for parents and children.

Nighttime employment hours in particular increase marital instability and feelings of stress generated by conflicts between work and family-care responsibilities. Among married couples with children, there is a six-fold increase in the risk of divorce when men work nights and

couples have been married less than five years (Presser 2000). Similarly, working a night shift increases the frequency of marital disagreements and the perceived likelihood of separation, especially for women, parents of teenage children, and individuals with spouses working night shifts (Davis et al. 2008). Nighttime employment also increases negative work-family spillover, particularly for women, parents, and white-collar workers (Davis et al, 2008; Grosswald 2003). For example, such women might have negative interactions with their spouse or children after a stressful day at work. While effects are largely negative, night shifts increase aspects of positive work-family spillover among women and white-collar workers, such as learning a skill at work that is useful in family care (Davis, et al 2008).

The effects of parents' nonstandard schedules on children are less clear, as effects are dependent upon the age and gender of children, and the gender of the parent working a particular shift (Presser 2003). Whereas mothers who work evenings spend less time per day in routine childcare compared to mothers who work days, fathers who work evenings spend *more* time performing child-care tasks than fathers with daytime schedules (Wright et al. 2008), suggesting that parents who work nonstandard hours embrace a less traditional division of childrearing labor. Furthermore, parents who work nonstandard schedules appear to have greater availability during the high-risk afternoon hours when children are out of school than do parents working standard schedules (Wright et al. 2008). Notably, all working parents have increased their time with children in recent decades (Bianchi 2006; Sayer et al. 2004). Sayer, Bianchi and Robinson (2004) argue that in light of increased hours of employment, the relatively high level of parent-child time observed in the late 1990s suggests that parents have adjusted their behavior and reduced personal leisure time to compensate for increased employment. Similarly, shift workers may also prioritize time with children and adjust behavior accordingly, perhaps mitigating the

effect of nonstandard employment schedules on children. However, for couples with non-overlapping schedules, any adjustment in favor of parent-child time is likely to come at a much steeper cost against the couples' time together – either with or without children present. Because couples who spend less time together face an elevated risk of divorce, any advantages that accrue to children could potentially be offset by ensuing negative effects were the parents to divorce.

A careful analysis of shift work should acknowledge the possibility that some individuals prefer nonstandard schedules, or that families use off-scheduling as a way to manage family care demands. Some parents of young children report using shift work to accommodate childcare needs, trading alternate work and childcare hours with a spouse or relative (Presser 1988). 2004 CPS surveys find that 15.9 percent of night and 11 percent of evening workers reported choosing their hours to facilitate child and family care. In a sample of 93 couples utilizing father-care, Glass (1998) found that while finances were not the motivating factor for fathers' provision of childcare during their wives' employment hours, father-care did reduce childcare costs by about half. Yet despite estimated cost savings, researchers should avoid the assumption that couples *choose* nonstandard schedules to manage childcare. Some couples that use off-scheduling to accommodate childcare might prefer to work synchronized schedules, but are unable to afford paid childcare.

Choice and schedule control have emerged as central elements for understanding the nature of shift work. Of those employed nights and evenings, only 21 and 15.9 percent, respectively, prefer nonstandard hours. In contrast, 54.6 percent of survey respondents who work nonstandard shifts reported that their employment schedule is due to “the nature of the job” (U.S. Department of Labor 2005). Moreover, schedule flexibility and control are disproportionately available to those in managerial or professional occupations (Jacobs & Gerson 2004, McMenamin 2007),



suggesting that both the quantity and quality of shift work varies by socio-economic class. Indeed, annual employment data indicate that shift work is concentrated within lower socio-economic status jobs, including service (50.6 percent of workers work nonstandard schedules), restaurant (26.2 percent), and production, transportation, and material moving occupations (26.2 percent) (U.S. Department of Labor 2005). Paired with the tendency for spouses to have similar educational backgrounds (Schwartz & Mare 2005), the heterogeneity of shift work by class suggests that the risk of nonstandard employment hours is correlated between spouses. Thus, we expect that longitudinal analysis of couple dyads will indicate that the persistence of shift work and off-scheduling are characterized by an even higher degree of class-heterogeneity than analyses of individual workers alone might suggest.

In the analysis that follows, we examine the prevalence and persistence of nonstandard employment in a sample of dual-earner couples observed at three time points – the late 1980s, the early-to-mid 1990s, and the early 2000s. The employment behavior of this sample of couples is tracked over time in two meaningful respects: at the couple level, over a period that roughly corresponds with the norms of family formation, and at a secular level, spanning the growth and proliferation of jobs in the “24/7” global economy that feature nonstandard work hours (Presser 2003). By investigating patterns of prevalence and persistence in nonstandard employment using both a more expansive definition of this type of work (including evening and weekend hours), and one restricted to those schedules (*viz.*, night and rotating employment) most closely associated negative consequences for well-being, we aim to build a descriptive framework for understanding how “new” forms of employment not only complicate work and family demands, but create new patterns of stratification that differentiate the experiences of today’s working couples.

### III. Data & Methods

#### *Sample*

We study temporal patterns in dual-earner couples' exposure to nonstandard employment schedules using data from Waves 1-3 of the National Survey of Families and Households (NSFH). The National Survey of Families and Households first interviewed a cross section of American households between 1987 and 1988, and completed subsequent follow-up interviews between 1992-1994, and 2001-2002. NSFH data is well suited for studying dual-earner couples because it provides longitudinal employment data for *both* spouses: the household's primary respondent and his/her spouse (the secondary respondent). The Wave 3 NSFH sample was limited to primary respondents over the age of 45 or those with a child between the ages of 18 and 33 in 2001, and their spouses from Wave 1 irrespective of union status. The Wave 3 NSFH sampling limitations are acceptable for this study given our interest in married couples' exposure to nonstandard work scheduling over their course of their childrearing years. In order to generate a consistent sample over time, we select only those respondents from Waves 1 and 2 who would be eligible for Wave 3: married respondents over age 30 at Wave 1 or those with children between the ages of 5 and 18. Additionally, we limit the sample to couples with primary respondents under the age of 50 at Wave 1 in order to maximize eligibility for labor force participation.

Because current research suggests that among dual-earner households, nonstandard employment schedules have the greatest effects on couples with children (Presser 2000), we focus our study on dual-earner couples. We sample all households that are headed by dual-earner, married couples for our examination of the prevalence of nonstandard employment schedules and families' risk of experiencing nonstandard employment schedules at separate

survey waves. In our analysis of the *persistence* of nonstandard employment schedules, we limit our sample to households present in all three waves of the study, selecting couples where both spouses are employed during at least two survey rounds. Nonstandard employment schedules undoubtedly affect cohabiting couples. However, high rates of union dissolution among cohabiting couples in the United States (Smock 2000) and evidence that solidarity between cohabitators differs from solidarity between married individuals (Brines and Joyner 1999), leads us to suspect that cohabitators participate in nonstandard work arrangements for very different reasons than do married couples; we therefore exclude the former from this analysis.

[Table 1 about here]

### *Analysis Plan*

This study first measures the frequency of evening, night, weekend, and rotating-schedule nonstandard work among couples at Waves 1 through 3. Secondly, we estimate the effect of socio-demographic variables on couples' risk of experiencing either a night or rotating nonstandard employment schedule at each time point using a logit model. Next, the study describes the persistence of nonstandard employment among families over time by tracking their movement in and out of experiencing night or rotating employment. Finally, it considers the effect of socio-demographic variables on the persistence of nonstandard employment among families using a multinomial logit model.

### *Measures*

**Nonstandard employment:** In this study, nonstandard employment is conceptualized as employment that occurs outside of the Monday through Friday, daytime hours of 5 am and 6 pm.

The specification of 5 am to 6 pm as “normal” employment hours is generated from the NSFH questionnaires used in Waves 2 and 3, as respondents were asked a series of questions about whether they worked certain hours in Waves 2 and 3. In Wave 1, primary respondents and spouses were not asked dichotomous questions about their employment hours but instead provided reports of the times they usually started and stopped working, with separate reports for each day of the week. Using this employment time grid, Wave 1 dummy variables for night, evening, weekend, and rotating schedules analogous to the dummy variables drawn from Wave 2 and 3 data.

We limit the analysis of nonstandard employment hours to main jobs only in order to improve the consistency of respondents among primary respondents and spouses. In all waves, primary respondents were separately questioned about their first and second jobs. In contrast, spouses were not asked separate questions regarding first and second jobs. In Waves 2 and 3, spouses report a significantly lower rate of working second jobs than do primary respondents, suggesting that the questionnaire design may have contributed to under-reporting of second jobs among spouses.

**Night & Evening Shifts:** Night and evening work are measured as mutually exclusive categories. Night work includes all respondents (primary and spouse) who report working between the hours of midnight and 5 am. Evening work includes all respondents who report working between the hours of 6 pm and midnight. In a minority of cases, workers report working both evening and night hours, most likely because their employment schedule spans midnight. Because the aforementioned research indicates that night work is particularly detrimental to family functioning, workers reporting both weekend and evening hours are measured as night workers.

**Weekend Shift:** This category includes any respondent who reports working on Saturdays or Sundays. Weekend shift workers may also be categorized as having a rotating, evening, or night shift.

**Rotating Shift:** Rotating shifts especially complicate childcare arrangements for dual-earner parents, and are associated with high levels of stress (Glass 1998, Presser 2000). Rotating shift workers include workers whose shifts rotate among day, night, and evening shifts, and those whose hours are consistent but have rotating days of employment.

**Presence of Children:** Parents of young children may use nonstandard employment schedules to accommodate childcare, while parents of older children may be disinclined to adopt nonstandard employment hours when they diminish shared family time. The effects of having a child under age 5, and a child under age 18 are estimated using dummy variables.

**Age:** In the logit models measuring the risk of nonstandard employment schedules, we estimate the effect of the average age of spouses on the likelihood of nonstandard employment hours. For the multinomial model measuring the persistence of nonstandard employment schedules, we use a dummy variable equal to one if the spouses' average age is over 40 years.

**Second Earner:** A dummy variable to control for the presence of a second earner is included since the sample includes couples where a partner does not hold a job at one of the three time points. In such instances, the partner may be unemployed or out of the labor force.

**Total Hours of Employment:** Subjects who work a high number of hours per week may report that they work some evenings even though they are primarily employed during daytime hours. To reduce the possibility of these workers biasing estimates, two dummy variables are included to indicate if the wife or husband works over 50 hours per week.

**Lowest Grade Completed:** Educational level is measured based on the educational level of the spouse with the least education. We use the lowest, rather than highest, level of education between spouses because nonstandard employment is more heavily concentrated in low-skill jobs (U.S. Department of Labor 2005). The following education dummy variables are included as covariates: 1) less than high school (referent), 2) high school diploma, 3) some college, and 4) college or graduate school. Additionally, we include two dummy variables indicating if the wife or husband has a higher level of education, where couples with the same level of education serve as a referent.

#### **IV. Results**

##### **The Prevalence of Nonstandard Employment Schedules**

Table 2 shows the prevalence of evening, night, weekend, and rotating employment schedules among dual-earner couples during the period of family formation, as well as the prevalence of off-scheduling. The results are striking: they indicate that over the past three decades, in a sample of dual-earner couples, the *majority* of families experienced some type of nonstandard employment schedule, characterized by time devoted to employment outside of the hours of 5 am to 6 pm, Monday through Friday, or by a non-fixed schedule. During Wave 1, 1987-1988, 70 percent of couples had at least one spouse working a night, weekend, rotating, or evening shift. By Wave 2, (1992-1994) an overwhelming 90 percent of families had at least one spouse involved in some type of nonstandard employment hours. This figure increased slightly by Wave 3 (2001-2002), to 92 percent. The sharp increase in nonstandard employment schedules between Waves 1 and 2 among dual-earner couples is consistent with individual-level data reporting a peak of nonstandard employment in 1991 (U.S. Department of Labor 2005). Nonstandard

employment among individuals declined slightly in the late 1990s and early 2000s (U.S. Department of Labor 2005). The Wave 2 and 3 rates of nonstandard schedules in our sample suggest a plateau in nonstandard employment hours over the last two decades among dual-earner couples. Of shift types, the highest proportion of families experience weekend employment, which peaks at 88.7 percent at Wave 3. The second most common type of nonstandard shift is evening employment, which hovers around 63 percent during Waves 2 and 3.

[Table 2 about here]

Couple-level analyses indicate that families' rates of experiencing shift work exceed individuals' rates of nonstandard employment schedules. This is true for families' experience of *any* nonstandard employment schedule and for specific shifts. For example, upwards of 70 percent of families experienced nonstandard employment at Wave 1, 53 and 45 percent of primary respondents or their spouses, respectively, engaged in any type of nonstandard employment. Similarly, at Wave 1, 29 percent of primary respondents and spouses were employed during the weekends, compared to the 46 percent of families that had at least one parent working on a Saturday or Sunday.

The surprisingly high rates of nonstandard employment schedules among dual-earner couples with children over the past three decades present several possible implications for the effect of nonstandard employment on family well-being. On the one hand, the high prevalence of nonstandard employment may indicate a need for increased attention to the role of employment schedules in shaping family outcomes. Yet on the other, nonstandard employment may be so

diffuse that the negative effects of nonstandard employment schedules are felt across socio-economic groups.<sup>1</sup>

Given the high level of prevalence of any type of nonstandard employment among families, in subsequent analyses we limited the operationalization of nonstandard work to include night and rotating employment only. The night shift was selected because night employment is particularly associated with adverse effects on health (for a review, see Perrucci et al 2007), and marital stability (Davis et al, 2008; Grosswald 2003; Presser 2000). Rotating employment was chosen for its negative effects on parenting (Strazdins et al 2006), and the difficulty it poses for establishing childcare. At all three waves, night employment among couples is the least common among families, hovering at approximately 20 percent, followed by rotating employment, which ranges from 27 percent (Wave 2) to 37 percent (Wave 1) of sampled families.

[Table 3 about here]

Our results suggest that education became protective against working a night or rotating shift in the early 1990s. At Wave 1, the coefficients are not significant. By Wave 2, educational level has an increasingly protective effect against night and rotating employment. Relative to having less than a high school diploma, completing high school is negatively correlated with nonstandard employment (though not significant). Controlling for other characteristics, having some college or a bachelor's degree are both significant: families where both parents have at least some college are 65 percent less likely to experience night or rotating employment than are families where neither parent graduated from high school. A bachelor's degree is even more protective, reducing the risk of nonstandard work by 81 percent. By Wave 3, the effect of having

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<sup>1</sup> A third possibility, to be explored in an upcoming paper by the authors, is that the effects of nonstandard employment vary substantially by socio-economic stratum.



a high school diploma, some college, or a college degree are all still negative. Only college is significantly protective, reducing the likelihood of night or rotating employment by over 150 percent, holding other covariates constant.

The relationship between a spouse working long hours and the couple's risk of nonstandard employment varies by gender. In Wave 1, families are significantly more likely to experience night or rotating work when the husband works over 50 hours per week. At Wave 3, families have a significantly reduced chance of experiencing a rotating or night shift if wives are employed over 50 hours per week. The role of gender in reversing the effect of a parent working long hours is consistent with earlier studies finding that the effects of parents' nonstandard employment vary by gender. Women who work more than 50 hours per week may be more inclined than men working long hours to confine their employment times to daytime hours to maintain synchronization with the schedules of children's activities.

Though our study does not set out specifically test if parents used nonstandard employment to manage childcare, we find minimal evidence that parents use night or rotating employment to accommodate childcare needs, as the coefficients for the presence of children are non-significant. In some ways, this is unsurprising given that rotating schedules may hinder childcare arrangements. Notably, by Wave 3 our sample has aged so that only a small percentage of couples have children under the age of 5; an analysis of recent data sampling parents of younger children might yield different results.

### **The Persistence of Nonstandard Employment Schedules**

[Table 4 About Here]

Table 4 shows the pattern of nonstandard employment among families across the three waves, and indicates a high degree of variability in employment schedules over time. While a sizable proportion, 29 percent, of couples in the sample are not engaged in rotating or night employment at any of the three waves, the majority (61 percent) of families transition in and out of rotating or night schedules. On the one hand, couples may move in and out of nonstandard employment schedules to adapt to changes in their families' needs over the course of their childrearing years. Yet on the other, the high rate of movement in and out of these nonstandard shifts requires families to adapt their childcare, shared mealtime, and bedtime routines to changing employment schedules. Given that only 21 percent of night shift workers do so by preference (U.S. Bureau of Labor Statistics), the high rates of schedule variation elicit concern.

[Table 5 about here]

To further understand variation in the persistence of nonstandard employment among dual-earners, we examine the effects of socio-demographic characteristics on families' degree of exposure to night or rotating employment over the three NSFH waves. We consider families who experience nonstandard employment at two waves to have moderately persistent exposure, and those who experience nonstandard employment at all three waves to have completely persistent exposure to this type of employment. Families who either never experience night or rotating work during the three time points, or who only experience night or rotating work at one time point are the referent category. We then use a multinomial logit analysis to examine the determinants of different pathways. The results of the multinomial logit model, shown in Table 5, indicate that socio-demographic characteristics have a stronger impact on families' risk of moderate exposure to nonstandard scheduling (compared to little or none) than on exposure that persists over all three waves. The lesser effects on the risks of the latter suggest that the

employment decisions of couples with one spouse in night or rotating employment across time periods are at least partially governed by processes not captured in our model, such as a preference for night employment or occupational demands.

The effects of socio-demographic characteristics on the persistence of families' exposure to nonstandard employment shed some light on which families are most likely to experience rotating or night employment throughout their childrearing years. In particular, our analyses suggest that education inhibits moderately persistent night or rotating employment. Yet at the same time, the effects of many socio-demographic variables on the risk of nonstandard employment are not significant. The pattern of results observed across waves suggests that for the time period in question (late 1980s to early 2000s), certain ascriptive characteristics, such as race or ethnic identity or age, earlier associated with differential risks of secondary-sector or “marginal” employment (Doeringer and Piore 1971), do not sort dual-earner spouses in our sample into experiencing *persistent* night or rotating shift work. Rather, achieved characteristics – namely, educational credentials – appear to become increasingly important for placing one or both partners at risk of this type of employment over the long-term.

As in analyses of the risk of nonstandard employment, education reduces the likelihood of experiencing persistent night or rotating employment. In particular, a college degree, relative not graduating high school, has a significant, negative effect on both moderate and complete persistence of exposure to nonstandard employment. Notably, the negative effect of college is almost twice as large for moderately persistent nonstandard schedules as for completely persistent nonstandard schedules. Somewhat surprisingly, the inhibiting effect of both spouses having at least some college on moderate exposure to nonstandard employment does not differ greatly from the negative effect of having at least a high school education. Yet notably, the some

college category includes families where the spouse with the lowest level of education has a post-secondary credential other than a bachelor's degree, such as an associate nursing degree. Thus, nonstandard work hours may be higher among couples with some college because their degrees may prepare graduates for jobs with high rates of nonstandard employment hours.

For our sample, couples with children under the age of 5 in Wave 1 are at significantly greater risk for both fully persistent and moderately persistent nonstandard employment schedules. In contrast, having a child under the age of 18 does not significantly predict the persistence of nonstandard employment. The significant effect of young children on the persistence of nonstandard schedules departs from earlier analyses of the risk of nonstandard employment at each wave, in which the effect of children was consistently non-significant. Given that we control for parents' average age, and that children under the age of 5 in Wave 1 get older as survey rounds progress, the negative effect of having young children at Wave 1 suggests several possibilities. First, adopting nonstandard employment shifts while children are young, perhaps to manage childcare, may make it easier to maintain (or resume) nonstandard employment in later years, as childrearing routines are established that "fit" nonstandard work schedules. Secondly, there may have been a period effect: couples with children born in the mid 1980s -- a decade of expanding nonstandard employment opportunities—may be especially prone to have one or both spouses hold jobs with nonstandard hours across at least two NSFH waves.

## **V. Conclusion**

This study aimed to improve demographers' understandings of the prevalence and persistence of nonstandard employment schedules among families headed by dual-earner, married couples. In contrast with a view of work that defines hours outside of weekday daytime hours as

“nonstandard” or “atypical,” our results indicate that over the past three decades, a majority of sampled families had at least one spouse hold a job associated with evening, night, weekend, or rotating employment hours. The surprisingly high rate of families’ exposure to *any* type nonstandard employment -- upwards of 90 percent in the early 1990s and 2000s, led us to focus further analyses on a more restrictive categorization of nonstandard employment schedules. Despite our relatively restrictive definition, at least one spouse had to work between midnight and 5 am or did not have set work hours or days, we still found a strikingly large number of couples who experienced work schedules that past research has indicated are particularly detrimental to family well-being. Again, we find that the prevalence of exposure to rotating or night employment schedules at the family-level is greater than the prevalence of night and rotating employment schedules among individuals. Furthermore, the likelihood of exposure is even greater when examining families’ over time: 70% of couples experienced these types of nonstandard employment hours at some point over the 15 year period we examine.

While the prevalence of nonstandard employment is widespread, those families where both parents have at least a college education are the least likely to experience persistent night or rotating employment across survey waves. In our sample, the protective effect of education emerges at survey waves 2 and 3, suggesting that nonstandard employment has become more common among families with members whose low educational levels engender disadvantage in the labor market. Paired with our finding that other expected predictors of nonstandard employment have a limited or non-significant effect on families’ exposure to night and rotating employment, the significant and negative effects of education call for further investigation into the relationships among education, nonstandard employment schedules, and socio-economic stratification.

In recent years demographers and scholars of stratification have drawn attention to the ways in which the rise of women's employment has contributed to an increasing divergence among American families in regards to earnings, employment, and family formation patterns (McLanahan 2004, Western, Bloom & Percheski 2008). Of all family types, married-couple families are associated with the greatest socio-economic gains for children and spouses alike (McLanahan 2004). Yet our analysis indicates that even among the select group of married couple, dual-earner families, there is still considerable variation in the risk of nonstandard employment schedules. In sum, this study suggests that employment schedules may be another arena of disadvantage among families.

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**Table 1: Sample Characteristics**

	<i>Wave 1</i>	<i>Wave 2</i>	<i>Wave 3</i>	<i>Persistence Sample, Wave 1 Characteristics</i>
Black	8.0%	7.2%	7.0%	4.6%
Latino	5.3%	4.5%	3.7%	2.7%
Other Race	2.8%	2.4%	1.6%	2.2%
Child 5 Years or Younger	30.3%	15.0%	3.4%	28.2%
Child 18 Years or Younger	66.7%	63.7%	35.5%	69.19%
Average Age	38.1	43.5	51.1	38.47%
Education Level of Least Educated Spouse < High School Diploma	8.9%	8.1%	3.2%	5.7%
High School	48.2%	46.1%	40.9%	46.6%
Some College	23.0%	25.2%	29.8%	24.9%
College	19.9%	20.6%	26.2%	22.8%
Husband has Highest Educational Level	28.4%	28.2%	25.0%	31.1%
Wife has Highest Educational Level	20.1%	21.1%	20.5%	16.9%
Husband Employed >50 Hours per Week	24.3%	43.9%	93.5%	34.9%
Wife Employed >50 Hours per Week	4.4%	34.4%	74.4%	17.0%
Dual Earner at all 3 Waves	NA	NA	NA	40.9%
N	1872	1696	823	895

**Table 2: Percentage & Frequency Experiencing Nonstandard Employment Hours**

	<i>Weekend</i>	<i>Evening</i>	<i>Night</i>	<i>Rotating</i>	<i>Night or Rotating</i>	<i>Any Nonstandard Hours</i>
<b>WAVE 1</b>						
Couple	46.36% (864)	30.75% (574)	17.30% (409)	37.86% (707)	46.40% (875)	70.77% (1322)
Respondent	28.54% (528)	19.74% (366)	9.95% (185)	28.57% (521)	33.83% (630)	53.28% (975)
Spouse	29.24% (511)	15.61% (276)	9.07% (160)	15.60% (278)	21.70% (399)	44.93% (809)
<b>WAVE 2</b>						
Couple	86.98% (1475)	62.33% (1057)	24.13% (409)	27.59% (468)	40.29% (683)	90.86% (1540)
Respondent	67.30% (1140)	39.44% (668)	12.67% (215)	14.72% (249)	22.38% (379)	72.53% (1229)
Spouse	63.35% (1072)	40.56% (687)	13.31% (225)	16.62% (281)	24.46% (414)	70.28% (1190)
<b>WAVE 3</b>						
Couple	88.70% (720)	63.06% (525)	23.33% (178)	28.07% (223)	39.61% (314)	92.10% (757)
Respondent	66.58% (546)	40.94% (343)	12.33% (100)	15.54% (123)	22.56% (158)	71.88% (589)
Spouse	67.24% (525)	43.31% (345)	12.50% (88)	16.54% (129)	23.77% (180)	73.28% (579)

**Table 3: Logit Results, Families' Risk of Experiencing a Night or Rotating Schedule**

<i>Covariates</i>	<i>Wave 1</i>		<i>Wave 2</i>		<i>Wave 3</i>	
	Estimate	s.e.	Estimate	s.e.	Estimate	s.e.
Intercept	.411	.451	1.124*	.597	1.979	1.164
Black	.044	.196	.177	.229	.695	.442
Latino	-.258	.254	-.047	.282	-.729	.607
Other Race	.062	.330	.459	.379	.976	.629
Child 5 Years or Younger	.101	.127	.043	.172	.141	.468
Child 18 Years or Younger	.056	.110	-.111	.147	-.138	.191
Average Age	-.019	.009	-.018	.167	-.029	.018
Education						
<High School (referent)	----		----		----	
High School	.007	.198	-.345	.223	-.933	.514
Some College	.048	.210	-.655**	.237	-.679	.522
College	-.168	.244	-.818**	.277	-1.554**	.561
Husband has Highest Educational Level	-.031	.133	-.253	.152	-.232	.218
Wife has Highest Educational Level	.155	.150	-.200	.167	-.332	.244
Husband Employed >50 Hours per Week	.337**	.115	.010	.143	.545	.358
Wife Employed >50 Hours per Week	.171	.240	-.351*	.152	-.480**	.184
N	1624		1266		692	

**Table 4: Exposure Trajectories: Experience of Night & Rotating Schedules**

	<i>Wave 1</i>	<i>Wave 2</i>	<i>Wave 3</i>	<i>Percent</i>	<i>Total</i>
<i>Exposure</i>	Yes	Yes	Yes	12.2%	102
	Yes	Yes	No	10.0%	84
	Yes	No	Yes	7.3%	61
	Yes	No	No	16.3%	137
	No	Yes	No	6.3%	53
	No	Yes	No	9.2%	77
	No	No	Yes	9.5%	80
	No	No	No	29.2%	245
N=839					

**Table 5: Multinomial Logit Results, Persistence of Nonstandard Schedules**

<i>Characteristics at Wave 1</i>	<i>1 or 2 Experiences of Nonstandard Schedules</i>		<i>3 Experiences of Nonstandard Schedules</i>	
	Coefficient	s.e.	Coefficient	s.e.
Intercept	1.470	.910	2.116	.826
Black	.441	.309	.108	.254
Hispanic	-.235	.392	.003	.378
Other Race	.852*	.375	.724*	.330
Child 5 Years or Younger	.407**	.143	.317**	.114
Child 18 Years or Younger	-.104	.144	-.050	.133
Average Age over 40	.174	.153	.153	.143
Education				
<High School (referent)	---	---	---	---
High School	-.616*	.301	-.394	.254
Some College	-.658*	.309	-.295	.262
College	-1.320***	.356	-.786**	.311
Husband has Highest Ed. Level	-.242	.161	-.162	.147
Wife has Highest Ed. Level	-.306	.204	-.324	.184
Husband Employed >50 Hours Per Week	.416**	.138	.138	.126
Wife Employed >50 Hours Per Week.	-.287	.444	.458	.422
Dual Earner at 3 Waves	.508***	.137	.320**	.126
N	791			