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CePoD Working Paper # 09-103

Who Has the Time?: The Relationship between Household Labor Time and Sexual Frequency

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February 2009

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Abstract

Motivated by the trend of women spending more time in paid labor and the general speed up of everyday life (Gleick, 1999; Schor, 1991), we explore whether the resulting time crunch affects sexual frequency among married couples. While prior research has examined the associations between relationship quality and household labor and time use, few have examined a dimension of relationship quality that requires time: sexual frequency. We test three hypotheses using the National Survey of Families and Households (NSFH). Our results contradict the hypothesis that time spent on household labor reduces the opportunity for sex. We find support for a “multiple spheres” hypothesis suggesting that both women and men who “work hard” also “play hard.” Our results show that women and men who spend more hours in housework and paid work report more frequent sex.

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Introduction

In both academic and popular circles, much attention has been paid to a perceived time crunch and general speed up of everyday American life (Hochschild, 1997; Gleick, 1999; Schor, 1991). However, debate has ensued over whether this time crunch is perceived or real. Researchers have debated whether we are actually working more (for a review see Jacobs & Gerson, 2004) or whether we actually have more leisure time compared to the prior generation (Robinson & Goodbey, 1999; Sayer, 2005). While this larger debate is beyond the scope of the present study, two long-term trends have been reported by researchers studying Americans' time use. First, because they are postponing full-time employment and retiring earlier, men are spending less time in paid employment (Jacobs & Gerson, 2004), and women, especially married women and mothers, are spending more time in paid employment. Second, women have decreased the time they spend on household labor, while men, to a lesser extent, have increased the time they spend on housework (Bianchi, Milkie, Sayer, & Robinson, 2001).

In this research, we extend previous research on two strands of empirical research. The first research strand examines the association between the time spent on household labor and several measures of marital quality including perceived fairness of the division of labor and marital happiness (Blair & Johnson, 1992; Greenstein, 1996b; Pina & Bengston, 1993; Sanchez, 1994; Sutor, 1991; Voydandoff & Donnelly, 1999). For example, Greenstein (1996b) finds that for both wives and husbands, greater time spent on housework is associated with lower perceived fairness in the division of labor but finds no significant effect of housework time on marital happiness. Voydandoff & Donnelly (1999) find a small significant effect of time spent on

housework on marital happiness, but the effect of perceived fairness is much larger. Thus, there is little support that time spent on housework directly affects marital happiness.

The second research strand focuses on predicting sexual frequency (an alternative dimension of marital quality) with variables including measures of employment, and perceptions of marital happiness and fairness (Call, Sprecher, & Schwartz, 1995; Hyde, et al., 1998; Rao & DeMaris, 1995). For example Call et al., 1995 report that marital happiness is the second most important predictor of sexual frequency. Further, Rao & DeMaris, (1995) find that women partner's positive reports of equity in the division of labor are associated with more frequent sex. However, no studies, to date, have examined the relationship between household labor time and sexual frequency. This is an important omission because relationship fairness and happiness are not time dependent, while sexual frequency is a dimension of relationship quality that requires time.

This study also provides an empirical test of theoretical debates about human energy, time, and multiple roles. On the one side, sociologists and psychologists have articulated a claim that economic and familial pursuits – including sexuality—are necessarily in competition. This scarcity approach assumes that time and energy spent on economic pursuits must be stolen from time spent in erotic and/or familial relationships (for a review, see Marks, 1977). Alternatively, other sociologists including Durkheim (1953) have articulated an expansion approach in which time spent in group or family activities energizes and enriches humans, rather than draining or curtailing energy (Marks, 1977).

In this research, we explore these debates by considering the effects of multiple roles both inside and outside the home on frequency of sexual relations. Specifically, we examine the association between household labor time and sexual frequency, net of time spent in paid employment and presence of children, variables tested in previous literature that may limit sexual

frequency. We chose to study these associations for several reasons. First as mentioned previously, the specific association between time spent on household labor and sexual frequency has not been examined to date and we believe that this association may yield a better test of theory as both require time and energy to complete. In the language of the scarcity or time availability theory: time and energy expended on household labor may diminish spouses' time and energy for sexual activity. Thus, one might expect that the association between household labor hours and sexual frequency will be stronger, unlike the relationship between household labor hours and relationship happiness, which has generally been weak -- (Greenstein, 1996b; Pina & Bengston, 1993; Voydandoff & Donnelly, 1999) as both household labor and sexual frequency require time and energy to complete.

Second, a recent study reports that the division of household labor and sexual frequency are two of the most often cited subjects of marital disagreements. The study found that balancing job and family and frequency of sexual relations were ranked as the first and second most problematic issues among a national sample of young married couples (Risch, Riley, & Lawler, 2003).

The salience of these two areas of disagreement suggests humans experience conflict between the demands of multiple roles of modern life. For example, researchers have theorized how conflict may emerge as couples attempt to manage the demands of multiple roles within intimate relationships. They argue that roles are hierarchically arranged according to their importance within an individual's identity (Stryker & Stratham, 1985). For example, previous literature suggests that husbands and wives redistribute their time to focus on the family activities they deem most important, i.e. caring for and spending time with children (Yeung, Sandberg, Davis-Kean, & Hofferth, 2001). However, we don't know if women and men curtail other aspects of their relationship—such as sexual activity—when they face time constraints

stemming from balancing housework, child care, and working for pay. Our focus on the relationship between sexual frequency and time spent on household labor is made further salient in an era of high labor force participation among married mothers. For example, Hochschild (1989, 1997) has described the “time bind” faced by dual-earner couples and how couples’ negotiations over their division of labor influence their marital satisfaction.

In contrast to Hochschild’s time bind concept, the expansion hypothesis suggests that multiple roles provide individuals with more resources to mitigate stress from any one role (Marks, 1977). For example, Hyde, DeLamater, & Hewitt (1998) tested whether wives’ employment “enhanced” sexual frequency, arguing that women’s employment increases women’s power and economic status in family relationships, and decreases their likelihood of depression, all of which should improve marital quality. They find that employment status had no effect on frequency of sexual relations among a sample of married couples, even when dual-earners worked more than 45 hours outside the home. However, no study has tested whether time spent in household work has an effect on sexual frequency, as women who do more housework may have less power and earnings and possibly higher rates of depression. Last, our research may shed light on the role that gender plays as women may place more importance on and spend more time on housework and child care than their husbands do, while men may place more importance on sexual frequency than their wives do.

In sum, this research examines whether these multiple demands on women’s and men’s time influences their time and energy availability for an important dimension of relationship satisfaction: sexual frequency. We extend previous research on sexual frequency, paid work, and perceptions of household labor (Rao & DeMaris, 1995; Hyde, et al., 1998) by examining the relationship between sexual frequency and the hours spent on household labor using a national sample of married couples.

Theoretical Issues

As we previously summarized, although many researchers have examined the relationship between time spent on household labor and measures of marital quality as well as measures of marital quality on sexual frequency (Blair & Johnson, 1992; Greenstein, 1996b; Sanchez, 1994; Pina & Bengston, 1993; Voydandoff & Donnelly, 1999) no research to date has examined the direct effect of housework time on sexual frequency. Filling this gap in the literature is important because previously studied measures of relationship equity and happiness are not time dependent, while sexual frequency is a time dependent dimension of relationship quality. One might expect that the association between household labor hours and sexual frequency to be stronger, unlike the relationship between household labor hours and relationship happiness, which has generally been weak, (Greenstein, 1996b; Pina & Bengston, 1993; Voydandoff & Donnelly, 1999) because both household labor and sexual frequency incorporate an element of time.

Sexuality is an important dimension of marital relationship quality (Yeh, Lorenz, Wickrama, Conger, & Elder, 2006). A healthy sex life is viewed by many as an important barometer of relationship quality, yet estimates of exactly how much sex is enough are elusive as frequency may vary widely for a given couple depending on their family and work contexts (Call et al. 1995) and personal preferences. Little research has focused on how sexual activity represents nearly the sole activity couples do alone and how this high level of intimacy may create and reaffirm a couple's sense of interconnectedness and commitment.

The literature on marital sexuality has a long history and has primarily focused on sexual frequency. The dominance of scholarly interest in sexual frequency likely stems from the association of coitus with both fertility and with relationship satisfaction, as well as consistency in research showing declines with age and marital duration (Terman, 1938; Kinsey, Martin, &

Pomeroy, 1948, Kinsey, Pomeroy, Martin, & Gebhard, 1953; Clark, & Wallin, 1964; Jasso, 1985; Laumann, Gagnon, Michael, & Michaels, 1994). In addition, the emphasis on frequency of sex may be due to the fact that it is a quantifiable act. Husbands' and wives' responses to questions seeking to quantify weekly or monthly sexual frequency likely have less variability compared with other more subjective phenomenon such as marital satisfaction or reported fairness (author citation). While individuals may apply different evaluative standards when making subjective assessments of their marital quality, we speculate that coitus is a better defined phenomenon, with less inter-subjective variability in definition. Spouses should know what sex is and when they have it. Also, given that coitus occurs only between the two parties being surveyed, agreement should be relatively high. Questions about sex typically specify sexual activity with the marital partner, and thus respondents are unlikely to include extramarital sexual activity in their responses.

Last, sexual frequency -- although not a full measure of the broad spectrum of marital sexual activity -- dominates marital sexual activity. For example, according to Laumann et al. (1994) 95 percent of married couples reported having vaginal intercourse during their last act and 80 percent of women and 85 percent of men report that they prefer vaginal intercourse over other sexual acts.

Researchers have gained confidence that reports of sexual frequency are valid and fairly reliable. This confidence comes from a set of empirical observations. First, frequency distributions seem reasonable and consistent across data sets that use varying collection procedures such as time diaries, national surveys, and new collection methods via the internet (Christopher & Sprecher, 2000). In addition, some expected correlates of coital frequency are confirmed with these data. Several consistent predictors of sexual frequency have been identified, across decades and datasets. For instance, higher age and longer marital duration are consistently

associated with lower sexual frequency lending even more validity to this variable (Michael, Gagnon, Laumann, & Kolata, 1994; James, 1974; Jasso, 1985; Rao & DeMaris, 1995; Udry, 1993; Udry & Morris, 1978; Westoff, 1974; Greenblat, 1983; Udry, Deven, & Coleman, 1982). With the advent of new national datasets, identification of additional correlates of sexual frequency is possible (Call, et al., 1995; Christopher & Sprecher, 2000).

In addition to being a relatively reliable variable, with a consistent set of correlates, many studies of sexual frequency also find that couples who report higher rates of sexual frequency also report having happier marriages (Blumstein & Schwartz; 1983; Call et al., 1995; Doddridge, Laumann et al., 1994; Schumm, & Bergen, 1987; Edwards & Booth, 1994; Rao & DeMaris, 1995). For example Call et al., 1995 report that marital happiness is the second most important predictor of sexual frequency. Further, Rao & DeMaris, (1995) explore the effect of perceived relationship equity in the division of household labor on sexual frequency, and find that women partner's positive reports of equity are associated with more frequent sex. Call et al. (1995) also find that the presence of younger children impinged upon sexual frequency, based on the idea that children require a lot of time, but did not directly test if hours spent on child care reduced sexual frequency. Thus, more research is needed to identify additional correlates of sexual frequency, to understand the complex associations among these correlates, and the larger contexts within which couple relations occur including family and work status, especially given the large influx of married mothers into the labor force since the 1970s.

It has been argued that increases in women's labor force participation have curtailed women's available time to meet the demands of families and relationships, which remain largely the purview of women (Hochschild, 1989). Over time women have decreased the time they spend on household labor, while to a lesser extent, men have increased the time they spend on housework, (Bianchi et al., 2001; Sayer; 2005). On average, wives perform about twice as much

household work as their husbands (Bianchi et al., 2001; Blair & Johnson, 1992; Ferree, 1991; Hochschild, 1989; Shelton, 1990). In sum, although wives' employment significantly reduces their own housework hours and increases their husbands' housework hours (Bianchi et al., 2001), women still spend more time in household labor and paid labor combined, and they have less free time compared with their male counterparts (Sayer, 2005).

Prior research also demonstrates that employed mothers may adjust (i.e. decrease) their sleep and leisure time to spend more time with their children (Bianchi, 2000) and that men and women redistribute their time to focus on important family activities, such as caring for young children (Call et al., 1995). What remains unknown, however, is whether women and men might curtail other relationship activities—such as sexual activity—in the face of time spent doing housework, caring for children, and working for pay. In contrast, we also don't know if power and confidence gained from employment enhances women's marital relationships. The findings of the few prior studies on the association of married women's employment with sexual frequency are mixed. Westoff (1974) finds that career-oriented women had the most frequent sex. In contrast, later research tested whether employment status influences sexual frequency and find no variability in sexual frequency by husbands' or wives' employment status (Call et al., 1995; Hyde et al., 1998). No research to date has tested whether time in unpaid work by both husbands and wives affects sexual frequency. In this paper, we focus on the relationship between time spent on housework and sexual frequency by testing three main hypotheses which we outline below.

Time Availability, Gender Ideology, or Multiple Spheres? Based on previous theoretical research on multiple roles and empirical research on the division of household labor and time use more generally, we propose three alternative hypotheses about the link between household labor time and the frequency of sexual relations.

Time Availability. According to the time availability approach, the division of household labor within a family results from different constraints on each family member's time. This approach assumes that human time and energy are scarce and finite (Coser, 1974, Marks, 1977). Time devoted to one sphere of life -- for example sexual relations or family work -- necessarily constrains available time for other pursuits including economic ones. The approach has been used primarily to consider how paid employment constrains wives' and husbands' available time for household labor (Coverman 1985; England & Farkas 1986). Call et al. (1995) have persuasively argued that sexual frequency might be attributed to particular life changes that are associated with decreased or increased opportunities for sex. These so-called opportunity variables, including time spent in paid labor, caring for young children, school enrollment, or balancing complicated schedules, may minimize the time or energy available for sex. Consistent with the opportunity hypothesis, they find that the presence of young children significantly decreases sexual frequency. However, neither school enrollment, nor full-time employment was related to sexual frequency. In fact, in alternate model specification, full-time employment was positively associated with sexual frequency.

Research by Hyde, et al., (1998) conceptualizes multiple demands as not only having a time component, but also a psychic component. Based on the expansion approach they argue that success in one role might balance out or enhance another role: sexual outcomes. They test whether multiple role demands -- specifically employment status -- negatively affect couple's sexual frequency and satisfaction. They find no effect of employment status on sexual frequency. An additional possibility is that individuals have an underlying trait of being a high energy go getter that may result in high involvement across multiple roles.

Additional research using the time availability approach has also failed to fully explain variation in the time spent in household labor. Significant gender differences persist despite

increases in women's labor force participation. For example, although wives' employment significantly reduces their own housework hours and increases their husbands' housework hours, women still spend about twice as much time on household labor as men (Bianchi et al., 2001). In addition, they spend more time in household labor and paid labor combined and have less free time compared with their male counterparts (Sayer, 2005). Researchers have argued that household labor allocations are influenced by partners' resources including earnings (Blair & Lichter, 1991; Kamo, 1988). In sum, time alone cannot explain the division of housework (Greenstein, 2000). Thus, while the time availability hypothesis finds some support, it may be insufficient for a full understanding of the relationship between time use and sexual frequency.

Gender Ideology. Even if there is a significant relationship between housework time and sexual frequency, it might not be due solely to time availability. Instead, gender ideology might explain the relationship between the division of labor and sexual frequency. Gender ideology entails beliefs or attitudes about the proper roles of men and women in relationships and in society and may range from traditional to egalitarian. Previous studies establish that gender role ideology influences the time spent in housework. Husbands and wives who hold traditional gender ideologies, for example, the belief that housework is women's work, exhibit a more traditional division of household labor (Barnett & Baruch, 1987; Coltrane & Ishii-Kuntz, 1992; Perry-Jenkins & Crouter, 1990; Sanchez, 1994).

We hypothesize that the relationship between household labor and sexual frequency is not attributable to time availability but rather to more traditional gender ideologies. Since women with more traditional attitudes spend more time on housework they would have less time for sex. Alternatively, women who are traditional might have more sex because they believe it is part of their marital duties. Researchers also find that egalitarian attitudes, particularly among wives, are associated with additional relationship outcomes including lower marital happiness (VanYperen

& Buunk, 1994). If we find that traditional gender role attitudes are linked to housework and to sexual frequency, then there may not be a direct relationship between housework and sexual frequency. In other words, the relationship could be spurious. Thus, it is important to consider the role of gender ideology when considering the relationship between time spent on housework and sexual frequency.

Multiple Spheres. Last, we propose a third potential hypothesis, based on previous theoretical and empirical work suggesting a tendency toward being a “high achiever” across multiple spheres. In contrast to time availability theory (with its underlying assumptions of time and energy scarcity) individuals find time for multiple activities both inside and outside the home. For example, Hochschild’s (1989) description of a supermom, who does it all, captures this multiple sphere achiever ideal: “She strides forward, briefcase in one hand, smiling child in the other” (Hochschild, 1989:1). Although many of the women Hochschild interviewed laughed at the depiction, many were working full-time, raising children, and still doing most of the housework themselves. Using similar reasoning, Hyde et al. (1998) tested the scarcity versus an “enhancement” hypothesis, to explore whether dual-earner couples who have experienced a first birth might experience lower sexual frequency. Although they did not find support for either hypothesis, this may have been due to their relatively small sample size and the specific details of the sample -- couples who had recently given birth.

In addition, they do not consider whether selection plays a role in success across multiple roles. More recent research on time use among adolescents finds evidence for a group of “superkids.” Adolescents who devote longer hours to paid work and extracurricular activities also spend more time on housework (Author citation, 2004). This research suggests that there may be an underlying trait toward being an achiever across multiple spheres. Thus, according to the old adage, individuals who “work hard” also “play hard.” In other words, there are groups of

individuals who “do it all” and other groups who do not. According to this multiple spheres hypothesis, we would expect that husbands and wives who spend more hours on housework and paid work hours may also have more frequent sexual activity.

We expand previous research by testing a set of hypotheses using a large nationally representative data set of wives and husbands. Based on the time availability approach, we will examine whether increased time spent in household labor and paid employment will curtail available time for sexual activity. Partners may simply not find the time to have sex if they devote long hours to household labor, raising young children, or to their paid jobs. Further, we will test whether the relationship between housework time and sex is attenuated when we consider gender ideology. Last, we will test the multiple spheres hypothesis by examining if increased time spent on housework and paid work increases sexual frequency. Support for the multiple spheres hypothesis would be consistent with a selection explanation, in which individuals who are active in one domain of activity also active in other sets of behaviors.

Further, we hypothesize that the relationship between household labor time and sexual frequency will vary by gender. This is especially important given that early theoretical work failed to build gender into predictions about how time and energy devoted to different spheres varies for women and men (Baruch, Beiner, & Barnett, 1987). For instance, previous research on the division of household labor finds that gender is a key predictor of time spent on housework and child care (Blair & Johnson, 1992; Author citation, 1998; Sanchez, 1994; Twiggs, McQuillan, & Ferree, 1999). Thus, we expect the association between household work time and sexual frequency may be stronger for women than for men. We also expect that because men spend longer hours in paid labor, a stronger relationship could exist between paid work time and sexual frequency for men compared with women.

Data and Methods

To test our three hypotheses, we use the National Survey of Families and Households (NSFH) to assess whether time spent on household labor is associated with sexual frequency. The NSFH is ideal for measuring sexual frequency. Some of the previous research on sexual frequency has relied on small, non-representative, or convenience samples (Blumstein & Schwartz, 1983; James, 1974; Kinsey et al., 1948, Kinsey, et al., 1953). The NSFH is a nationally representative survey that collects reports of sexual frequency from both husbands and wives. NSFH data were collected from a randomly selected adult in each household surveyed and from the respondent's spouse or partner. Respondent data were collected through both face-to-face interviews and self-administered questionnaires; spouses and partners were asked to complete a shorter, less detailed questionnaire (Sweet, Bumpass & Call, 1988). Our analysis is based on the total sample of 6877 marital unions in the NSFH at wave 1. We take advantage of the couple data by including measures of variables for both partners. Although the NSFH includes cohabiting couples, in our analysis, we only focus on married couples. This focus is based on the fact of fewer cohabiting couples in the NSFH, and because the literature shows that cohabitators are very different from married couples on a broad range of behaviors and outcomes (Smock, 2000). Thus, combining cohabitators with married couples would be unwise, and there are too few cohabitators to conduct a parallel separate analysis with equal statistical power to the married sample.

Dependent variable: Sexual frequency. Our outcome is the couple's frequency of sexual intercourse. Although subject to social desirability bias (Leridon, 1996), researchers have gained confidence that reports of sexual frequency are valid and fairly reliable (Author citation, 1994). as respondents have been willing to provide answers and frequency distributions seem consistent with distributions obtained using other data collection procedures such as diaries or interviews (Kinsey et al., 1948; 1953). And last, several expected correlates of sexual frequency are found

across studies using alternative data collection techniques. For instance, mean sexual frequency declines with age and marital duration (Laumann, Gagnon, Michael, & Michaels 1994, Udry, 1982; Kinsey et al. 1948; 1953).

Recall is one potential problem with these retrospective reports of sexual frequency. For example, Udry (1993) has argued that the use of a diary for data collection is superior to retrospective reports, especially when trying to map out the rhythmic aspects of coitus. He contends that respondents answer the retrospective question concerning *monthly* coital frequency by looking back over the past week, counting how often they had intercourse and then multiplying that number by 4. Although retrospective recall of sexual frequency will contain measurement error, this error is most likely to introduce Type II error (failing to reject the null when the null hypothesis is false), thus making our estimates of effects more conservative.

The NSFH question on sexual frequency asks married respondents, “About how often did you and your husband/wife have sex during the past month?” Because the NSFH interviews partners of respondents, answers to these questions are also available from the partners. We take the average of both partners’ responses because previous researchers using the NSFH find little difference between husbands’ and wives reports of sexual frequency (Author citation, 1994). Similarity in responses is high in our sample: the correlation between partners was $r = .70$, and the average monthly difference in partners’ reports is less than .20 times per month. Given this high level of agreement, we believe that the respondents’ answers are reasonable assessments of sexual frequency.

We multiply the monthly response by 12 so that sexual frequency is measured on a yearly basis so it could be compared with prior findings in the literature (Laumann et al., 1994; Smith, 1994b). In addition, we transform this frequency measure with a logarithmic function by adding 1 and taking the natural log. We use this log transformation on for two reasons. First, from a

theoretical perspective, the transformation is appropriate because some research indicates a threshold level of sexual intimacy that affects happiness (Blanchflower & Oswald, 2004). In other words, additional sexual activity at higher levels is not as important as increases in sexual frequency at lower levels. It is reasonable to believe this threshold relationship applies to other associations, such as housework. Second, from an empirical perspective, we use a log transformation because the sexual frequency measure is skewed. The skewness coefficient is 1.86, which is above the .8 or 1.0 level that many analysts use as a guide for designating skewed distributions (Peat & Barton, 2005; Lewis-Beck, 1995). The log transformation compresses the distribution at the higher range more than at the lower range, decreasing the skewness of the distribution.

Independent variables: We choose our set of predictors based on previous research and our hypotheses. Most importantly we test a new predictor variable of sexual frequency: time spent on 9 household tasks during the previous week. These include hours spent in the last week 1) preparing meals, 2) washing dishes, 3) cleaning house, 4) shopping, 5) washing/ironing, 6) paying bills, 7) driving other household members to work, school, or other activities, 8) performing outdoor tasks, and 9) doing auto maintenance. Both partners are asked how much time they devoted to these activities, and logged measures for both partners' hours are included in the models. We also test additional variables examined in previous research that affect sexual frequency: hours per week spent in paid work, which is logged in the analyses, and if the household has young children (ages 0 - 4) or older children (ages 5 - 18). Our sample also includes couples without children. In addition, we include a measure of gender ideology for each partner.

Gender ideology is included because we expect that more traditional women likely spend more time on household labor, and may have higher sexual frequency because they believe it is essential to being a traditional wife. This measure is a summed scale of five questions that assesses

the level of agreement with statements such as, “It is much better for everyone if the man earns the main living and the woman takes care of the home and family.” The measure is coded so that higher values represent more traditional gender ideologies.

Controls: Age of each partner and relationship duration as reported by the respondent are included given the consistent findings that older age and longer relationship duration are associated with less coital frequency. Lower coital frequency occurs among older couples and those in longer marital unions (James, 1974; Jasso, 1985; Rao & DeMaris, 1995; Udry, 1993; Udry & Morris, 1978; Westoff, 1974). Declines in sexual frequency by age and marital duration are attributed to the aging process and include increases in illness and decreases in male physical ability and male and female hormone levels, but cannot adequately explain the pattern of the decline (Greenblat, 1983; Udry, Deven, & Coleman, 1982). For example, research suggests that much of the decline occurs early in marriage (even in the first year) and is attributed to habituation, which is defined as the loss of interest or novelty of a sexual partner (James, 1974; 1981).

We also include control variables previously shown to be correlated with sexual frequency, including religion, race/ethnicity, couple income, education level, relationship satisfaction, and self-rated health (Call et al., 1994; Michael et al., 1994). Because prior work has found differences in sexual frequency by religious affiliation (Call et al., 1995), we include the religion of the couple. We measure whether both partners are 1) Protestant, 2) Catholic, or 3) some other religion, including couples who are in interfaith marriages. The race/ethnicity of the couple is coded as 1) both non-Hispanic white, 2) both non-Hispanic black, 3) both Hispanic, or 4) both other race/ethnicity, including interracial couples. Income is measured as the couple’s total income, including investments, as reported by the respondent. Because this measure is skewed, we use a log transformation. Education of the partners is coded with dummy variables

using credential points (Boylan, 1993): less than high school, high school, some college, and college degree and above.

Relationship happiness has been shown to be positively correlated with sexual frequency (Blumstein & Schwartz, 1983; Edwards & Booth, 1994; Sprecher, 2002), and we include this measure as a control. Respondents were asked, “Taking things all together, how would you describe your marriage?” Responses were on a seven point scale, from 1) “very unhappy” to 7) “very happy.”

We also include a measure of health. Research finds that poor physical health interferes with both the ability to perform manual household labor and engage in sexual activity (Channon & Ballinger, 1986; Heiman, 2000; Laumann, Paik, & Rosen, 1999). The overall health measure asked, “Compared with other people your age, how would you describe your health?” Respondents replied on a 1 to 5 scale, from very poor to excellent.

Our analytic strategy is to use linear regression to model sexual frequency with household tasks, gender ideology, time intensive variables including paid labor time, presence of children, and controls as predictors. We introduce our models in successive steps. We estimate the relationships between control variables and sexual frequency, followed by a model that adds time spent on household tasks. Next, we add measures representing gender ideology and time spent in paid labor and presence of children. If these measures reduce the association between household tasks and sexual frequency, then this is evidence that these measures help explain the relationship between household labor time and sexual frequency.

An additional methodological concern in our analysis is missing data. There are many ways to handle missing data, and Call et al. (1995) try numerous strategies for dealing with missing reports of sexual frequency. A commonly accepted practice is to use multiple imputation techniques (Allison, 2001), which are becoming more frequent in family research (Lamb, 2007;

Reynolds & Aletraris, 2007; Neblett, 2008; Holley, Yabiku, & Benin, 2006). In contrast to single imputation or mean substitution, multiple imputation methods recognize the uncertainty of imputing missing information. Rather than using one imputed value, multiple imputation methods use several plausible values from a distribution. Thus, instead of one dataset, several datasets are created, each having slightly different values for the imputed cases. The critical assumption for using multiple imputation techniques is that the data are missing at random (MAR), conditional on other non-missing attributes in the dataset. Although this assumption cannot be tested, the assumption can be strengthened by including all relevant predictors in an imputation model. In our multiple imputation approach, we created 10 complete datasets. We then analyzed the imputed datasets with complete-data methods. The results of these complete-data analyses were combined to arrive at a single estimate that properly incorporates the uncertainty in the imputed values. We used SAS 9.1 software to create the multiply-imputed datasets, conduct the analyses, and combine the output from the multiple analyses.

Results

(Table 1 here)

Table 1 displays descriptive statistics for the variables in our analysis. We briefly note some patterns in variables most closely related to our hypotheses. Couples' sexual frequency in our sample averaged 82.7 times per year, which is similar to prior studies (Laumann, et al., 1994; Smith, 1994b). This translates into sexual frequency reports of approximately 1.6 times per week. The standard deviation of sexual frequency is 72.6 times per year. Although this is very large relative to the mean, large variability has been reported for sexual frequency in other national samples (Call, Sprecher, & Schwartz, 1995; Tanfer & Cubbins, 1992). This variability results from the large diversity in sexual behavior that exists in the general population.

Our results show significant and large differences by gender in the average number of hours spent on household tasks each week. On average, wives spent 41.8 hours weekly on household tasks, while their husbands spent 23.4 hours on the same tasks. Thus, wives spent nearly twice as much time on housework compared to their husbands. Husbands were slightly more traditional on the gender ideology scale, averaging 13.3 on the 25 point scale compared to 12.3 for wives. We also find that 26% of couples had at least one child age 0 - 4, and 41% had a child age 5 - 18.

In contrast to the findings for household tasks, husbands spent more time in paid work outside the home than wives—33.8 versus 19.7 hours. Thus, wives in our sample devote 61.4 hours per week to paid and unpaid work combined, while husbands spent 57.1 hours on home and paid labor, a difference of 4 hours.

(Table 2 here)

In Table 2, we present the results of the multivariate models. Recall that we used multiple imputation to handle missing data. The results presented here are the combination of 10 linear regression models of 10 datasets. Once the results of the 10 models have been combined, the interpretation is identical to that of complete-data models (Allison, 2001).

In Model 1, we estimate the effects of hours spent on household tasks and control variables on yearly sexual frequency. Effects of the control variables are generally similar to what has been found in the literature. For both wives and husbands, age has a significant negative effect on sexual frequency (Udry et al, 1982). Relationship duration also significantly dampens sexual frequency. Significant positive effects are found for husbands' and wives' self-rated health and relationship happiness. Among religious groups, Catholics report significantly lower sexual frequency than the reference group (Protestants). Lastly, there were some significant associations among demographic background variables: wives with college degrees

report lower sexual frequency, while couples with higher income report higher sexual frequency. African American couples in our sample report higher sexual frequency than non-Hispanic White couples.

The results also show a significant positive association between hours spent on household tasks and sexual frequency. For both men and women, greater time spent doing household labor is associated with higher sexual frequency. Since both the independent (housework hours) and dependent (yearly sexual frequency) variables are logged, these coefficients can be interpreted in relation to percent change in the independent variable. For example, a 1% increase in wives' weekly hours on housework is associated with a .11% increase in yearly sexual frequency. For men, the coefficient is smaller, though still significant: a 1% increase in husbands' weekly hours in housework results in a .06% increase in the couple's yearly sexual frequency.

Although the magnitude of these effects appears small, there is large variation in housework performed by men and women. Consider the predicted values in sexual frequency for two couples, both of whom have sample average values for all independent variables in the model, except for housework. In the first couple, the wife does 16 hours and the husband does 2 hours of housework (each one standard deviation below the mean). In the second couple, the wife does 68 hours and the husband does 45 hours (each one standard deviation above the mean). The difference in predicted yearly sexual frequency between these couples is 15 times—or about 1.3 additional times per month for the second couple. Differences also appear if more moderate contrasts are made: one couple whose housework is $\frac{1}{2}$ standard deviation below the mean (29 hours for the wife, 13 for the husband) and a second couple who is $\frac{1}{2}$ standard deviation above the mean (55 hours for the wife, 34 for the husband). Here, the second couple's predicted yearly sexual frequency is about 6.1 additional times per year. Thus, the magnitude of these coefficients and their predicted impact with reasonable values of housework is meaningful.

Note that this positive association between household tasks and sexual frequency persists even in the presence of several controls that might be related to both housework and sexual frequency. Most prominent of these controls is self-rated health, because poor health might interfere with the ability to perform manual household labor and engage in sexual activity. Although self-rated health has the expected positive and significant association with sexual frequency, household labor hours remain significant. In our measurement of household tasks, we used the summary measure of total hours in household labor across nine individual tasks. This summary measure had an alpha of .76 for wives and .78 for husbands, and thus we believe it reliably captures an underlying dimension of household labor measured by the nine task items.

Contrary to expectations, the effects of housework on reported sexual frequency do not vary significantly by gender. Although the coefficient for women's housework (.111) is slightly larger than men's housework (.064), a test for the difference of these coefficients is not significant ($p=.21$; analysis not shown). Thus, even though Table 1 shows that wives do more hours of housework overall, the relationship between housework and sexual frequency is similar for husbands and wives in our sample.

We hypothesized that gender ideology might explain associations between household labor and coital frequency. More traditional women might be more likely to do more household labor, and they might have higher sexual frequency because they believe it is part of their role as a traditional wife. This possibility is examined in Model 2 where we add our gender ideology scale. Recall that this scale is coded such that higher values represent more traditional gender beliefs. Gender ideology for husbands and wives has an effect in the expected direction—with more traditional women and men having higher sexual frequency—but these effects are not significant, nor do these measures greatly reduce the association between housework and sexual

frequency. Thus, there is little support for the hypothesis that the observed association between women's housework and sexual frequency may be spurious due to gender ideology.

In Model 3, we test the time availability hypothesis. This hypothesis proposes that sexual frequency should decrease if men and women have extensive time demands in other domains of life, such as working in the paid labor force or caring for young children. In other words, sexual frequency, household tasks, labor force participation, and childcare are all competing activities. If individuals who do more household tasks have higher sexual frequency, this relationship might be explained by the fact that these same individuals have lower demands in the paid labor force or the care of children. Therefore, including these other time opportunity variables may explain the effect of household tasks on sexual frequency.

Overall, Model 3 does not support the time availability hypothesis. The addition of other time-intensive activities, such as paid work hours and child care, do not explain the relationship between household tasks and sexual frequency: the coefficients for household work do not decrease in Model 3 compared to previous models. In fact, the results in Model 3 generally contradict the availability hypotheses. Time in the paid labor force is positively associated with sexual frequency—men and women who spend more hours at work report more sex, lending support for the expansion hypothesis. As reported in prior literature (Call et al. 1995), the presence of young children is a deterrent to sex, while older children are positively associated with sexual frequency. Because we also proposed that multiple time demands may interact with each other, we also tested interactions of household work and children, and household work and paid labor. These interactions, however, were not significant ($p > .40$, results not shown).

In Model 4, we present a combined model that includes both gender ideology and time availability variables. Overall, the results are largely unchanged from the prior models, and the positive associations between women's and men's housework hours and sexual frequency

remain. In sum, these findings support our alternative hypothesis – that individuals may be achievers across multiple spheres. Those who are active in multiple spheres may be a select group of individuals who participate extensively in multiple domains of life.

Conclusion

We have examined the relationship between sexual frequency and time spent on household tasks, net of time spent in paid work, presence and age of children, and additional control variables. We presented three hypotheses regarding the relationship between these two variables. First, according to the time availability perspective, we expected more hours on housework would reduce the time available for sex. Second, we suggested that the relationship between time spent on housework and sexual frequency might be explained by the gender ideology of respondents. And last, we described a “multiple spheres” hypothesis to suggest that individuals excel across multiple spheres i.e. those who work hard in one sphere --household labor -- play hard in other spheres (have more frequent sex).

Our findings suggest that time availability approach does not explain the relationship between time spent on housework and sexual frequency. The results show that both women and men who spend more hours on household labor report more frequent sex than those who devote less time to household labor. These results are in direct contradiction to the time availability hypothesis, thus undermining the underlying assumption of the scarcity approach – that human time and energy is finite, and that participation in multiple roles necessarily leads to role conflict and strain.

We do find support for our alternative “multiple spheres” hypothesis -- that individuals who “work hard” also “play hard.” For both women and men in our sample, those who spend more time on household labor report more frequent sex. Even after controlling for time spent in

paid labor, the positive association between hours spent on housework with sexual frequency remains, and paid work hours are also positively associated with sexual frequency.

How we explain this important finding of this research is that despite multiple time constraints, busy couples do not appear to curtail sexual activity in the face of time spent despite the dual demands of family and work. First, our results correspond with previous research findings that the labor force demands on women do not negatively impact a couple's sexual frequency or sexual satisfaction (Hyde et al. 1998). Our findings do lend support for the expansion approach as articulated by Marks (1977). He posits a number of reasons why individuals would want to commit to a “cluster of performances” across multiple spheres. One is simply the spontaneous enjoyment of a performance in one or more spheres. A second reason involves spontaneous loyalty to those would be pleased by engagement in these activities (Marks, 1977). These two concepts appear to explain engagement in sex. Marks' (1977) two additional reasons seem to well describe commitment to household labor as both the anticipation of a perceived reward – including approval and favorable self-image - and avoidance of perceived disapproval and stigma. These concepts underlie why women—despite working full-time—perform more household labor than their husbands yet report that such a division is fair to both partners (author citation).

This finding suggests that busy people do not compromise their sex life —rather it seems to be a priority. We speculate that even if women and men adjust their schedules to prioritize having sex, these adjustments do not involve reducing housework or their labor force commitments. Additional research is needed to identify how both women may prioritize their time in the face of multiple roles.

We also hypothesized that gender ideology may explain the relationship between household labor and sexual frequency. We hypothesized that an underlying more traditional

gender ideology might explain both why women spend more time on housework and why they have more frequent sex -- because they believe these activities are essential to being a traditional wife. However, gender ideology does not explain the statistical relationship between time spent on housework and frequency of sex. Whether an individual holds a more traditional or a more liberal ideology about the appropriate roles of women or men has little effect on the positive relationship between household labor time and sexual frequency.

This suggests that as life gets busier and time gets tighter, a select group of “go getter” individuals can successfully balance multiple time commitments. They devote their time to paid work and housework, while maintaining an active sexual life. In sum, the much lamented speed up of every day life and resulting time crunch does not have adverse effects on sexual frequency among some married and cohabiting couples.

It is important to underscore that our findings hold for both women and men in our cross sectional analysis. We expected that the relationship between household work hours and sexual frequency would be stronger for women because women spend more time on housework. We also expected that the relationship between paid work time and sexual frequency might be greater for men as they devote longer hours to their paid jobs. However, our findings are inconsistent with these hypotheses, as we find no gender differences in the positive relationship between either housework or paid work with sexual frequency. Both men and women appear to be able to multitask across multiple spheres. This questions the notion of specialization of family activities, in which partners specialize in separate, often gendered tasks (Becker, 1991). Our findings add to the growing body of research suggesting that gender differences have been overinflated (Hyde, 2005) and that women’s and men’s roles are becoming more similar (Sayer, 2005). In sum, the few gender differences we do find are not consistent.

One limitation of our study is that we measure only sexual frequency, and we lack a measure of sexual satisfaction or the quality of these sexual events. Although frequency and satisfaction are likely to be highly correlated, it may be possible that time demands change the nature of sexual activities between partners. For example, with increasing time demands in other areas of life, sexual events may be just as frequent as before, but they might be shorter in duration. This may impact the overall quality and satisfaction of sexual relations between partners. Future research can improve upon current studies by utilizing richer measurement of both sexual activities as well as the quality of couples' multiple roles in addition to measures of time and frequency of activities across multiple spheres.

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Table 1: Descriptive Statistics

Variable	Mean	Std. Dev.
Couple's sexual frequency (yearly)	82.73	72.59
Wives' hours housework	41.75	26.01
Husbands' hours housework	23.36	21.27
Wives' gender ideology	12.33	2.88
Husbands' gender ideology	13.31	2.76
Couple has child age 0-4	.26	.44
Couple has child age 5-18	.41	.49
Wives' paid work hours	19.68	19.36
Husbands' paid work hours	33.77	20.67
Controls		
Wives' age	41.48	15.25
Husbands' age	44.18	15.65
Wives' education		
Less than High School Degree	.21	.41
High School Degree	.39	.49
Some College	.22	.41
College Degree	.19	.39
Husbands' education		
Less than High School Degree	.24	.43
High School Degree	.32	.46
Some College	.22	.41
College Degree	.22	.42
Couple's income, in thousands	41.59	45.61
Race/Ethnicity		
Couple both White	.77	.42
Couple both African American	.11	.32
Couple both Hispanic	.06	.24
Couple both other race/interracial	.05	.22
Religion		
Couple both Protestant	.44	.50
Couple both Catholic	.19	.39
Couple both other religion	.37	.48
Relationship duration (years)	17.21	15.15
Wives' relationship happiness	6.01	1.29
Husbands' relationship happiness	6.09	1.20
Wives' self-rated health	4.04	.81
Husbands' self-rated health	4.03	.85

N=6877 couples

Table 2: Effect of Housework, Gender Ideology, and Time Opportunity
on Couples' Logged Sexual Frequency at NSFH Wave 1 and Wave 2

Variable	1	2	3	4
Wives' hours housework, logged	0.111*** (3.905)	0.097*** (3.363)	0.120*** (3.930)	0.109*** (3.545)
Husbands' hours housework, logged	0.064** (2.678)	0.066** (2.737)	0.066** (2.697)	0.068** (2.740)
Wives' traditional gender ideology		0.011 (1.455)		0.014 (1.859)
Husbands' traditional gender ideology		0.013 (1.643)		0.013 (1.680)
Couple has child age 0-4 (1=yes)			-0.285*** (-5.792)	-0.288*** (-5.822)
Couple has child age 5-18 (1=yes)			0.229*** (6.005)	0.220*** (5.876)
Wives' paid work hours, logged			0.028* (2.527)	0.034** (3.086)
Husbands' paid work hours, logged			0.045** (2.966)	0.045** (2.984)
Controls				
Wives's age	-0.022*** (-5.135)	-0.022*** (-5.272)	-0.021*** (-4.992)	-0.021*** (-5.141)
Husbands' age	-0.018*** (-4.562)	-0.018*** (-4.585)	-0.017*** (-4.499)	-0.018*** (-4.519)
Wives' education				
High School Degree §	-0.015 (-0.287)	-0.011 (-0.206)	-0.037 (-0.715)	-0.034 (-0.653)
Some College §	-0.030 (-0.468)	-0.016 (-0.249)	-0.048 (-0.755)	-0.035 (-0.540)
College Degree §	-0.164* (-2.128)	-0.137 (-1.757)	-0.165* (-2.161)	-0.137 (-1.774)
Husbands' education				
High School Degree §	-0.028 (-0.480)	-0.027 (-0.457)	-0.045 (-0.780)	-0.044 (-0.761)
Some College §	-0.046 (-0.739)	-0.042 (-0.674)	-0.069 (-1.128)	-0.065 (-1.069)
College Degree §	-0.062 (-0.877)	-0.056 (-0.792)	-0.074 (-1.078)	-0.067 (-0.973)
Couple's income, logged	0.045* (2.183)	0.049* (2.395)	0.009 (0.394)	0.012 (0.555)
Race/Ethnicity				
Couple both African American †	0.159* (2.573)	0.161** (2.597)	0.111 (1.791)	0.111 (1.797)
Couple both Hispanic †	-0.084 (-0.975)	-0.120 (-1.394)	-0.129 (-1.491)	-0.167 (-1.950)
Couple both other race †	-0.046 (-0.592)	-0.058 (-0.759)	-0.074 (-0.967)	-0.088 (-1.165)

Table 2 (continued): Effect of Housework, Gender Ideology, and Time Opportunity
on Couples' Logged Sexual Frequency at NSFH Wave 1 and Wave 2

Variable	1	2	3	4
Religion				
Couple both Catholic ‡	-0.103* (-1.996)	-0.093 (-1.823)	-0.094 (-1.857)	-0.083 (-1.667)
Couple both other religion ‡	-0.027 (-0.719)	-0.019 (-0.488)	-0.012 (-0.317)	-0.003 (-0.066)
Relationship duration (years)	-0.009*** (-3.589)	-0.009*** (-3.719)	-0.009*** (-3.655)	-0.009*** (-3.772)
Wives' relationship happiness	0.119*** (8.079)	0.118*** (8.024)	0.126*** (8.426)	0.125*** (8.369)
Husbands' relationship happiness	0.133*** (7.515)	0.132*** (7.383)	0.138*** (7.782)	0.137*** (7.646)
Wives' self-rated health	0.108*** (4.569)	0.110*** (4.613)	0.102*** (4.298)	0.104*** (4.343)
Husbands' self-rated health	0.084*** (3.838)	0.085*** (3.860)	0.076*** (3.493)	0.077*** (3.500)
Intercept	2.707*** (12.401)	2.432*** (9.491)	2.542*** (11.261)	2.219*** (8.425)
R-Squared	.28	.29	.30	.30
N	6877	6877	6877	6877

† Reference is both White

‡ Reference is both Protestant

§ Reference is less than high school degree

Coefficients are linear regression estimates, with t-statistics in parentheses

*p<.05, **p<.01, ***p<.001, two-tailed tests