I Just Want to Be Left Alone: Daily Overload and Marital Behavior

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Stressful, busy days have been linked with increases in angry and withdrawn marital behavior. The process by which stressors in 1 domain, such as work, affect an individual's behavior in another domain, such as the marital relationship, is known as spillover. Using 56 days of daily diary reports in a diverse sample of 47 wives and 39 husbands, this study examined associations between daily experiences of overload and 3 marital behaviors: overt expressions of anger, disregard of the spouse's needs ("disregard"), and reductions in affection and disclosure ("distancing"). Two potential mechanisms by which daily overload spills over into marital behavior were examined: negative mood and the desire to avoid social interaction. Among husbands, negative mood mediated the association between overload and angry behavior. Associations between overload and wives' angry behavior, as well as overload and husbands' and wives' disregard of their partners' needs, were mediated by both negative mood and the desire to withdraw socially. Desire to withdraw, but not negative mood, mediated the association between overload and distancing behavior among husbands and wives. In addition, associations between marital satisfaction and spouses' typical marital behavior, as well as behavioral responses to overload, were examined. Husbands' and wives' average levels of expressed anger and disregard, and husbands' distancing, were associated with lower marital satisfaction in 1 or both partners. Both spouses reported lower marital satisfaction if husbands tended to express marital anger, disregard, or distancing on busy,

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Every day, intimate partners actively work to shield their relationship from the negative impact of demands on their time and energy. Resource theories have suggested that people have finite reserves of the time and energy required to meet daily demands at home and at work, and that they experience stress when they feel that these resources are being depleted (Hobfoll, 2002). Accordingly, there is robust evidence of spillover between stressful daily

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experiences and relationships at home. *Spillover* describes the process by which stressors in one domain, such as work or household chores, exert short-term influences on an individual's behavior in another domain, such as interactions with family members (Repetti, 1987). Experiences of being overloaded, fatigued, or busy during the day are associated with increased distress (Chan & Margolin, 1994; ten Brummelhuis, Haar, & van der Lippe, 2010; Williams & Alliger, 1994) and negative marital interactions (Crouter, Bumpus, Head, & McHale, 2001; Crouter, PerryJenkins, Huston, & Crawford, 1989; Doumas, Margolin, & John, 2003; Schulz, Cowan, Pape Cowan, & Brennan, 2004; Story & Repetti, 2006) at home.

Most spillover research has examined workload related to paid employment. Both professional and family responsibilities, however, contribute to conflict between work and home domains (Michel, Kotrba, Mitchelson, Clark, & Baltes, 2011) and to daily negative mood (Jones & Fletcher, 1996). Irrespective of employment status, low energy has been shown to contribute to marital withdrawal (Doumas, Margolin, & John, 2008). An overloaded day is defined in this study as fast-paced, overwhelming, and tiring, regardless of cause—that is, demands could be related to employment, housework, family responsibilities, and so on. Associations between this broader conceptualization of overload and marital interaction would support a conceptualization of spillover as a phenomenon that generalizes beyond the effects of job stressors.

Daily diary studies have identified two primary effects of overload on couples' behavior: elevated levels of irritable and angry behavior directed toward spouses (Bolger, DeLongis, Kessler, &

Wethington, 1989; Crouter et al., 2001, 1989; Doumas et al., 2003; Repetti, 1989; Schulz et al., 2004; Story & Repetti, 2006) and social withdrawal (Crouter et al., 1989; Doumas et al., 2003; Repetti, 1989; Schulz et al., 2004; Story & Repetti, 2006). Definitions of angry behavior have been fairly consistent across studies, involving reports of arguments and criticism (Bolger et al., 1989; Repetti, 1989; Schulz et al., 2004) and other expressions of anger (Doumas et al., 2003). At times, however, reports of behavioral changes at home are conflated with internal emotional states (e.g., one marital conflict scale included angry or resentful feelings toward partners; Crouter et al., 2001). Similarly, marital researchers have used the term withdrawal to describe a wide range of observed behaviors and internal cognitive and affective processes, including lack of eye contact during a videotaped marital discussion (Paley et al., 2005), self-reported or naturalistic recordings of socially withdrawn behavior (e.g., reducing time spent in conversation with the spouse; Repetti, 1989; Wang, Repetti, & Campos, 2011), and self-reported desire to spend time alone or feeling distant from one's spouse (Doumas et al., 2003).

Findings based on such diverse operationalizations can be complicated to compare across studies and make it difficult to differentiate the effects of stress on withdrawal- or anger-related behavior versus affect and cognition. Internal experiences do not directly cause specific behavior; rather, indirect interactions between emotions, thoughts, and behavior are based on individual learning histories and active and passive choices (Baumeister, Vohs, De-Wall, & Zhang, 2007). One goal of the current study was to clearly differentiate between behavioral, emotional, and cognitive responses to daily experiences of overload to better assess observable effects of spillover on couples' interactions. Here we tested, in addition to angry behavior (e.g., engaging in an argument) as a potential behavioral outcome of spillover, two different behavioral components of marital withdrawal: conscious disregard (e.g., ignoring a spouse's wishes or needs) and distancing (e.g., decreasing affectionate contact or disclosure).

Mechanisms of Transfer From Overload to Behavior

This study examines two potential mechanisms by which marital behavior may change in the context of daily overload. First, the negative mood spillover hypothesis asserts that internal states of irritability and tension that result from exposure to a stressor persist across social contexts and increase the likelihood of angry behavior in subsequent settings (Story & Repetti, 2006). Mediators of reductions in affection and disregard of a partner's needs in response to overload are less well understood; evidence for the role of negative mood has been mixed (Schulz et al., 2004; Story & Repetti, 2006). Lack of energy, fatigue, and exhaustion have been proposed as alternative mediators, predicting conflict, feelings of distance from the spouse, and decreased involvement in household tasks over and above persistent negative mood (Crouter et al., 1989; Doumas et al., 2003). Last, self-regulatory depletion, defined as feeling preoccupied and tired and having exerted high levels of willpower during the day, has also been described as a potential mediator of spillover (Buck & Neff, 2012).

We propose that the belief that one does not have the energy to engage with family members and the associated desire to spend time alone (the *desire to withdraw*) may contribute to behavior change on overloaded days, even after controlling for the effects of

negative mood. In diary studies, wanting to be left alone to recuperate is frequently incorporated into withdrawal measures, making it difficult to determine whether this internal experience may relate to actual behavior. One goal of this study was to clarify the spillover process by differentiating thoughts and perceptions from emotional states and from behavior in the daily measures and statistical models. In addition, both negative mood and desire to withdraw were examined as separate potential mediators of spillover to marital interaction: We tested the unique, independent contributions of these two variables by including them together in the same spillover models. Doing so helped contextualize studies that have separately identified negative mood, fatigue, self-regulatory depletion, and cognitive processes as contributors to spillover and thus has offered more clarity about the spillover process.

Long-Term Outcomes of Anger and Withdrawal as Responses to Overload

The daily repetition of hostile or withdrawing behavior can contribute to chronic marital problems. Marital discord shows both short- and long-term negative effects on husbands' and wives' emotional distress, physical health, and relationships (Fincham, 2003). Similarly, social withdrawal disrupts marital relationships. A demand-withdraw pattern, in which one partner requests action from another partner, who responds with avoidance, is frequently cited among factors that lead to marital dissatisfaction (Benson, McGinn, & Christensen, 2012). Laboratory studies have reported associations between withdrawal behaviors during marital interactions (e.g., stonewalling and unresponsiveness, which we describe as "conscious disregard") and marital dissatisfaction (Gottman & Krokoff, 1989; Heavey, Christensen, & Malamuth, 1995; Story & Bradbury, 2004). In addition, lack of intimacy (including low self-disclosure) contributes to marital dissatisfaction (Roberts, 2000) and is among the most frequently cited motivations for entering marital therapy (Benson et al., 2012). In sum, high average levels of angry marital behavior, as well as chronic nonresponsiveness and lack of intimacy—the two withdrawal behaviors examined in this study—predict marital problems.

Although repeated expressions of marital anger or withdrawal are linked with long-term relationship dissatisfaction, such behavior may be less problematic—or possibly even "adaptive"—when enacted in the context of a stressful, busy day. For example, individuals may respond differently to negative affect when they are aware that their partners are experiencing high levels of stress (Thompson & Bolger, 1999). Additionally, daily diary studies have shown that husbands exhibit higher rates of marital withdrawal concurrently with declines in marital anger following stressful workdays, implying a possible adaptive role of withdrawal in reducing conflict (Repetti, 1989; Schulz et al., 2004). Similarly, although fathers were less emotionally involved and warm after demanding workdays, they were also less likely to discipline children or express negative affect (Repetti, 1989, 1994; Repetti & Wood, 1997). These data, though limited, suggest that social withdrawal may sometimes protect families from active discord; perhaps social withdrawal that is a response to stress does not have the same negative impact on marital quality as does more habitual withdrawal that is not tied to daily experiences of stress. Thus, this study aimed to replicate findings that marital satisfaction is associated with average levels of angry, dismissive, or distancing

behaviors and tested whether self-reported marital quality differs according to the way spouses behave on stressful, busy days.

The Current Study

Naturalistic repeated-measures designs offer several benefits over traditional cross-sectional and laboratory-based methodologies for studying daily spillover processes. First, daily diaries capture processes as they unfold, without imposing restrictions on interaction length, discussion topics, or other determinants of behavior. Second, reports of stressors, affective responses, and behaviors are assessed within hours of occurrence, which reduces some of the recall biases associated with more traditional self-report. Third, the statistical techniques utilized here allow for the comparison of participants' mood and behavior on days when they have experienced overload to their typical mood and behavior (i.e., intraindividual variability). In other words, day-to-day changes in the variable of interest are based on individuals' own internal representations of the constructs (Almeida, McGonagle, & King, 2009).

For 56 consecutive days, husbands and wives rated their workload, negative mood, and desire to withdraw at home and their behavior with their spouses. Participants also completed a single-administration questionnaire assessing the quality of their relationship. The following research questions were addressed:

Research Question 1: Are previous spillover findings replicated with a more general measure of overload, predicting same-day angry behavior, disregard, and distancing in marital interactions?

Research Question 2: Do desire to withdraw and negative mood mediate the effects of overload on same-day angry, disregarding, or distancing behavior? Are these marital behaviors differentially associated with the two proposed mediators?

Research Question 3: How is a cross-sectional measure of marital satisfaction linked with one's own and one's spouse's (a) average levels of anger, disregard, and distancing over the course of 56 days? and (b) average tendency to report increases in anger, disregard, and distancing when experiencing higher overload over the course of 56 days?

Method

Participants

Couples with at least one child between the ages of 8 and 13 were recruited through schools, community centers, medical clinics, and direct mailings. Flyers described "a study of daily life and health" briefly outlined study procedures and advertised the compensation provided. Though the study did not exclude same-sex cohabiting parents, only heterosexual parents participated. At least one parent and one child in the target age range were required to participate. The assessment of salivary cortisol necessitated screening participants for several mental and physical health problems.

Participants reported being in a "marriage" or a "marriage-like relationship" with an average length of 16.25 years (SD = 6.05); for brevity, we refer to participants as "husbands" and "wives."

The sample included 38 couples in which both husbands and wives participated and 10 individuals (nine wives, one husband) who reported on interactions with their nonparticipating spouse. Wives' mean age was 43.29 years (SD = 6.31, n = 47); husbands' mean age was 43.67 (SD = 8.1, n = 39). Self-reported ethnicity was 45% non-Hispanic White, 22% Latino/Hispanic, 17.5% African American, 12.5% Asian, 1.5% Native American, and 1.5% "Other" (primarily mixed ethnicity). Median self-reported individual annual income fell within the \$32,000-64,000 tax bracket (range was from below \$8,725 to above \$171,850); 3.5% of participants had up to a high school degree, 32.5% some college, 40% an associate's or bachelor's degree, and 24% a graduate degree. Participants worked an average of 36.8 hr per week (SD =13.3; full-time: 45% of wives, 78% of husbands; part-time: 21% of wives, 13% of husbands); 34% of wives and 8% of husbands were not employed (e.g., unemployed or homemaker).

Procedure

Trained graduate and undergraduate research assistants visited families' homes to obtain informed consent and train participants on study procedures. Participants used personalized passwordprotected web pages to access diaries and additional one-time questionnaires completed through SurveyMonkey.com. Though not required, all families had home Internet connections; paper diaries and electronic date-time stamps were provided in case of technical difficulties. One-time questionnaires were completed in blocks prior to and during diary collection. The first Saturday following the home visit was the first of 56 consecutive days of diary collection. Participants were asked to complete diaries at night before going to bed. Compliance (defined as diary completion prior to 9 a.m. the next day) was measured via electronic time stamp. If a participant did not complete three consecutive days of diaries, staff members contacted the family to troubleshoot. Parents earned up to \$200 for completion of the daily diary and questionnaire portions of the study, including \$5 gift card rewards on weeks with 100% diary compliance. The study procedures were approved by University of California, Los Angeles's Institutional Review Board.

Measures

Daily diaries. The analyses utilize couples' daily reports of overload, marital behaviors (angry marital behavior, disregard, and distancing), and two mediators (desire to withdraw and negative mood). On average, wives completed 95% of the 56 diaries (M = 53.17, SD = 6.43) and husbands completed 94% (M = 52.56, SD = 7.87), and 98% of the completed diaries were compliant (completed before 9 a.m. the next morning; Reynolds, Robles, & Repetti, 2016). We estimated daily diary scale reliability at both the between-persons (R_{KF}) and the within-person (R_C) level using a generalizability theory framework (Cranford et al., 2006). The reliability of average scale ratings from all items across all days (R_{KF}) ranged from .98 to 1.00 for all measures described next. R_C represents the reliability of detecting systematic changes within respondents.

Daily overload. Following the prompt "Thinking about the entire day, including when you were at work and when you were at home, describe your total workload," participants completed

five items adapted from Repetti's (1989) busy day at work scale ("It was a very busy day," "I felt like I barely had a chance to breathe," "There were more demands on my time than usual," "I could have used more time for a break," and "It was a fairly slow day," reverse-scored). Items were rated on a scale of 1 (completely inaccurate) to 4 (completely accurate). Scores from our sample (wives' M=2.14, SD=.78, $R_C=.85$; husbands' M=2.09, SD=.67, $R_C=.84$) were comparable to those in a previous study assessing job-related workload (M=2.19, SD=.83; Saxbe, Repetti, & Nishina, 2008).

Paid employment hours. Participants estimated the hours they worked at a paying job each day: *None* (59% of all responses), $<4 \, hrs$ (4%), $4-6 \, hrs$ (6%), $7-9 \, hrs$ (23%), $10-12 \, hrs$ (6%), and $>12 \, hrs$ (2%). This variable is used to control for daily occupational time demands before testing the proposed psychological mediator variables.

Daily marital behavior. Eleven daily diary items assessing marital behavior (adapted from the Adult Home Data Questionnaire; Timmons & Margolin, 2015) constituted three subscales: angry marital behavior, conscious disregard for partner, and marital distancing. Items were rated on a 1 (not at all) to 3 (a lot) scale unless otherwise specified. An additional item, "I hit, pushed or shoved my partner," received a near-zero rate of endorsement and is not included in any of the subscales described next.

Four items assessed *angry marital behavior* expressed toward spouses ("I expressed anger or irritation at my partner," "I nagged my partner," "My partner and I disagreed about a child-related issue," and "My partner and I disagreed about an issue unrelated to children"). The average wife's mean daily rating was 1.10 (SD = .19), where 73.8% of ratings $1 [not \ at \ all]$; $1 [not \ at \ all]$; $1 [not \ at \ all]$ and the average husband's was 1.07 (SD = .16), 1.08% = 1; 1.08% = .08%.

Marital disregard was defined as conscious inaction or indifference in response to the spouse's needs. Two items measured disregard: "I ignored my partner's wishes or needs" and "I took my partner's feelings lightly." The average wife's mean daily rating was 1.08 (SD = .12, 89.2% = 1; $R_C = .75$), and the average husband's was 1.06 (SD = .13, 93.2% = 1; $R_C = .91$).

For *marital distancing*, affection, conversation, and disclosure were assessed by two items ("My partner and I kissed and hugged each other" and "My partner and I had good conversations") rated on the 1 (*not at all*) to 3 (*a lot*) scale described earlier, and three items ("Please rate the degree to which you disclosed each of the following to your partner today: Facts and information, Thoughts, and Feelings") rated on a 1 (*not at all*) to 5 (*extremely*) scale; these were recoded on a 1–3 scale (5=3,4=2.5, etc.). All ratings were reverse-scored so that higher values reflect increased distancing. The average wife's mean daily distancing score was 2.02 ($SD=30,2.9\%=1;R_C=.72$), and the average husband's was 1.99 ($SD=.27,3.0\%=1;R_C=.67$).

To further establish discriminability among the three marital behavior scales, multilevel models tested same-day associations between anger and disregard, anger and distancing, and disregard and distancing. Because participants' status as "wife" or "husband" was nonrandom, a three-level multilevel model in which days were nested within participants who were nested within couples was collapsed into a two-level (days nested within couples) model and adjusted according to the guidelines described in Bolger and Laurenceau (2013) for distinguishable dyadic diary data (see the Results section). Angry behavior and disregard were

correlated on a day-to-day basis in both wives (B = 0.27, SE = .04, df = 44, t = 7.13, p < .001) and husbands (B = 0.38, SE = .06, df = 34, t = 5.84, p < .001). Angry behavior and distancing were not associated in wives (B = -0.03, SE = .03, df = 44, t = -0.95, p = .35) or husbands (B = -0.01, SE = .03, df = 34, t = -0.35, p = .73), nor were disregard and distancing (wives: B = 0.04, SE = .03, df = 34, t = 1.21, p = .23; husbands: B = 0.06, SE = .04, df = 25, t = 1.66, p = .11).

Daily mediators. To assess desire to withdraw, the prompt "Overall, when I was with my family today . . ." was followed by two items ("I would have preferred more time to be alone" and "I was too tired to interact with my family") rated on a 1 (completely inaccurate) to 4 (completely accurate) scale. The items were adapted from the Marital Withdrawal Scale ($\alpha = .61-.88$; Story & Repetti, 2006). The average wife's mean daily rating was 1.58 (SD = .70, 50.6% = 1; $R_C = .63$), and the average husband's was 1.38 (SD = .56, 63.4% = 1; $R_C = .65$).

For negative mood, participants rated how accurately eight items described how they felt that day (sad, unhappy, on edge, tense, angry, hostile, stressed, and overwhelmed) on a 1 (completely inaccurate) to 4 (completely accurate) scale, which were averaged to create a daily negative mood score. The scale has previously shown good internal reliability (Cronbach's alpha = .87–.93; Cohen, Doyle, Turner, Alper, & Skoner, 2003). In the current study, the average wife's mean negative mood was 1.46 ($SD = .33, 34.0\% = 1; R_C = .82$), and husband's was 1.34 ($SD = .34, 46.4\% = 1; R_C = .85$).

Marital satisfaction. The 32-item Couples Satisfaction Index (CSI; Funk & Rogge, 2007) is a self-report marital satisfaction measure developed using item response theory. Each participant was asked to complete the CSI as part of a block of online questionnaires prior to the 56-day diary collection period. For the purposes of this study, only CSI scores from respondents who coparticipated with their spouses were utilized (n=76). The median completion time was 2 days prior to the diary start date; 10 of these 76 participants completed the CSI after the first diary week (range = 24 days prior to 90 days after diary initiation).

Items such as "I have a warm and comfortable relationship with my partner" were rated on a 6-point scale (0 to 5) with varying response options (e.g., *Not at all true* to *Completely true*, *All of the time* to *Never*, etc.). Higher scores indicate a more satisfying relationship. The CSI has been shown to differentiate between distressed and nondistressed relationships, have high convergent validity with other relationship satisfaction measures, and have high internal consistency ($\alpha = .98$; M = 121, SD = 32; Funk & Rogge, 2007). In the current study, interitem reliability was high ($\alpha = .97$, n = 76). Among the coparticipating respondents, wives' mean score was 118.04 (SD = 28.87, n = 38), and husbands' was 124.00 (SD = 22.37, n = 38), with no significant differences between spouses' ratings t(82) = 1.53, p = .13.

Results

Due to the nesting of 56 consecutive days of responses within 86 participants (all of whom were in cohabiting relationships but not all of whom were coparticipating with their spouses), multilevel models were used to examine daily level associations among overload, marital behavior, desire to withdraw, and mood. Within-subject variation

(participants' daily diary responses) is represented at Level 1. Between-subjects variation is represented at Level 2.

Participants rated several of the daily diary variables (notably, angry marital behavior and disregard) as not present on most days (see the Method section). Multilevel models allow for examining associations between slight daily changes in ratings, capitalizing on even minor deviations from the reporter's own average responses. Increases in these variables do not, however, generally indicate high between-subjects levels of overload, marital conflict, avoidance, and so on. Analyses with outcome variables transformed to address nonnormality showed the same results, so non-transformed models are reported here for ease of interpretation.

Same-Day Associations Between Overload and Marital Behavior

Dyadic multilevel models similar to those described in the Method section testing associations among the three marital behaviors were used to examine same-day associations between experiences of overload and marital behaviors using SAS/STAT software. "Wife" and "husband" models were combined by suppressing the model's intercept and by separating the variability associated with the predictor (overload) into a Level 2 betweensubjects average value (each participant's average level of overload across 56 days) and a Level 1 within-subject daily variation from that participant-level average. Husband and wife dummy codes produced separate fixed effects for wives and for husbands while controlling for the interdependency of reports made by spouses from the same family (when relevant). The variance structure was adjusted to allow autocorrelation of each individual's diary ratings from one day to the next. In this sample equation, overload predicted daily angry behavior:

$$\begin{split} \text{Angry marital behavior} &= \text{Wife} + [\text{Wife} \times \text{Overload}(\text{within})] \\ &+ [\text{Wife} \times \text{Overload}(\text{between})] + \text{Husband} \\ &+ [\text{Husband} \times \text{Overload}(\text{within})] \\ &+ [\text{Husband} \times \text{Overload}(\text{between})] + \text{Error} \end{split}$$

The fixed effects of interest are Wife \times Overload(within) and Husband \times Overload(within), which test the change in angry behavior associated with a same-day one-unit increase in workload. Random slopes for overload were included in the models with angry and distancing behavior as the outcome variables but not in the disregard model (random slopes prevented model convergence). Increases in workload did not predict same-day angry behavior in husbands (B = .00, SE = .01, df = 38, t = 0.43, p = .67) or wives (B = .01, SE = .01, df = 46, t = 0.69, p = .50). Overload did, however, predict same-day disregard in wives, B = .02, SE = .01, df = 4042, t = 2.56, p = .01 (marginally in husbands, B = .02, SE = .01, df = 4042, t = 1.78, p = .07), and distancing in both wives (B = .03, SE = .01, df = 46, t = 2.65, p = .01) and husbands (B = .03, SE = .01, df = 38, t = 2.91, p = .01).

To control for the potential influence of differences in the daily balance of work and family time that might affect the experience of workload and marital behavior, the models were adjusted to control for weekends (a dummy variable to capture the different balance of leisure/family time often associated with weekends) and the number of paid employment hours reported by the participant each day. Adding those two variables precluded dyadic model convergence, so we ran separate multilevel models for husbands and wives. The primary difference between the dyadic results described earlier and the separated husband and wife analyses presented in Table 1 is that in the latter, workload did significantly increase the likelihood of husbands' and wives' angry marital behavior. The middle and bottom panels of Table 1 show that results for workload and wives' disregard and distancing and husbands' distancing, and the marginal effect of overload on husbands' disregard, remained consistent even after adding the control variables.

Cognitive and Affective Mechanisms

Next, we examined potential mechanisms by which specific marital behaviors are associated with daily workload. Self-reported desire to withdraw and negative mood were examined simultane-

Table 1
Multilevel Models Testing the Direct Effect of Overload on Marital Behavior

Variable	Wives					Husbands				
	В	SE	z	р	95% CI	В	SE	z	p	95% CI
Angry marital behavior										
Intercept	1.05	.02	44.34	<.001	[1.01, 1.10]	1.05	.02	47.04	<.001	[1.01, 1.09]
Overload	.03	.01	2.35	.019	[.00, .05]	.02	.01	2.41	.016	[.00, .04]
Hours worked	.00	.00	00	.999	[01, .01]	01	.00	-2.28	.022	[02,00]
Weekend	.08	.01	6.07	<.001	[.05, .10]	.03	.01	2.47	.013	[.01, .05]
Marital disregard										
Intercept	1.01	.02	54.44	<.001	[.97, 1.05]	1.00	.02	43.37	<.001	[.95, 1.05]
Overload	.03	.01	2.67	.008	[.01, .05]	.03	.02	1.72	.085	[00, .06]
Hours worked	.00	.00	.02	.982	[01, .01]	00	.00	62	.534	[01, .01]
Weekend	.03	.01	2.50	.012	[.01, .05]	.02	.01	1.49	.138	[01, .05]
Marital distancing										
Intercept	1.94	.06	35.22	<.001	[1.83, 2.05]	1.88	.05	39.50	<.001	[1.78, 1.97]
Overload	.04	.02	2.17	.030	[.00, .07]	.04	.01	2.58	.010	[.01, .06]
Hours worked	.02	.01	2.48	.013	[.00, .03]	.03	.01	4.99	<.001	[.02, .04]
Weekend	08	.02	-5.01	<.001	[11,05]	03	.02	-1.97	.049	[07,00]

Note. CI = confidence interval.

ously in a multilevel mediation model to control for overlap between the two mediators. The models used an adaptation of a restricted maximum-likelihood multilevel mediation program (ml_mediation; Ender, 2011) for Stata 12 (StataCorp, 2011), which was altered to include random slopes for overload and to allow for two mediators to be tested simultaneously. Distinguishable dyadic multilevel models failed to converge, so wives' and husbands' data were again examined separately for a total of six mediation models (wives' and husbands' angry behavior, disregard, and distancing).

As depicted in Figure 1, each mediation model consisted of four steps. First, direct associations between daily workload and the marital behavior outcome (the c pathway in Figure 1) are presented in Table 1. The second pathway, between overload and the desire to withdraw mediator (a_1) , and the third pathway, between overload and negative mood (a_2) , were examined while controlling for the other mediator. As shown in Table 2, overload predicted both desire to withdraw and negative mood, even when controlling for the other mediator. Fourth, the simultaneous effects of overload and both mediators on the behavioral outcome (anger, disregard or distancing) were examined (pathways b_1 , b_2 and c'). To obtain confidence interval estimates of the indirect effects, the results were bootstrapped as recommended by Pituch, Stapleton and Kang (2006). Completed replications ranged from 473 to 500 across the six models.

The four steps resulted in estimations of total, direct, and indirect mediation effects in each of the four models. The bootstrapped effects of the mediation models are presented in the top panel of Table 3. The indirect effects show that both negative mood and desire to withdraw were mediators of the effects of daily overload on angry behavior in wives, but only negative mood was a mediator for husbands' angry behavior. Both negative mood and desire to withdraw served as mediators for disregard, in both husbands and wives (see the middle panel of Table 3). Last, desire to withdraw was a significant mediator of overload's effect on mar-

ital distancing for both husbands and wives, but negative mood was not (see the bottom panel of Table 3).

Associations Between Marital Satisfaction and Marital Behaviors

Marital satisfaction should be reflected in behaviors such as responsiveness to each other's feelings, expressions of affection and anger, disclosure, and conflict. Associations were examined between marital satisfaction and (a) participants' average reports of engaging in each of the three marital behaviors and (b) participants' overall tendencies to report more angry behavior, disregard, and distancing on days when overload ratings were higher. In the first set of analyses, multiple regression actor-partner interdependence models (APIMs; Kashy & Kenny, 2000) tested associations between marital satisfaction and husbands' and wives' typical marital behavior. APIMs allow for the examination of bidirectional effects by testing the effect of the wife's average behavior on her own (wife-as-actor effect) and her husband's (wife-as-partner effect) satisfaction, and the husband's average behavior's effect on his own (husband-as-actor) and his wife's (husband-as-partner) satisfaction, in a single between-subjects regression model. Because data from both members of the couple are required for APIMs, only reports from the 38 couples in which both spouses participated in the study were included.

Table 4 presents the APIM results in which average angry behavior, disregard, and distancing predicted marital satisfaction. The H \rightarrow H coefficient indicates the husband-as-actor effect on the husband's own marital satisfaction, H \rightarrow W the husband-as-partner effect on the wife's satisfaction, and so on. For example, for the H \rightarrow H effect, a one-unit higher average angry marital behavior score (compared with the average husband's average angry behavior score) would correspond with a 98.90-unit lower marital satisfaction score relative to the

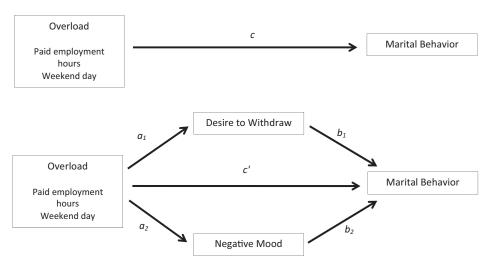


Figure 1. Schematic diagram of the mediation model. Direct association between overload and marital behavior (angry marital behavior, disregard or distancing): Pathway c. Association between overload and marital behavior, mediated by desire to withdraw and negative mood: Pathways c' (direct effect of overload on marital behavior), a_1 and a_2 (associations between overload and desire to withdraw and negative mood, respectively), b_1 and b_2 (associations between desire to withdraw and negative mood, respectively, and marital behavior outcomes).

Table 2
Overload Predicts Desire to Withdraw (Controlling for Negative Mood) and Negative Mood (Controlling for Desire to Withdraw)

			Wiv	ves			Husbands				
Variable	В	SE	z	p	95% CI	В	SE	z	p	95% CI	
Desire to withdraw											
Intercept	.80	.08	10.05	<.001	[.64, .95]	.77	.08	10.23	<.001	[.62, .92]	
Overload	.17	.03	5.22	<.001	[.11, .24]	.15	.04	3.88	<.001	[.07, .22]	
Negative mood	.25	.04	6.75	<.001	[.18, .32]	.25	.05	5.10	<.001	[.15, .35]	
Hours worked	.02	.01	1.30	.194	[01, .05]	00	.01	17	.864	[02, .02]	
Weekend	.01	.02	.28	.777	[04, .05]	.00	.02	.02	.986	[04, .05]	
Negative mood											
Intercept	.83	.06	14.67	<.001	[.72, .94]	.90	.05	18.09	<.001	[.81, 1.00]	
Overload	.15	.02	8.43	<.001	[.12, .19]	.13	.02	6.51	<.001	[.09, .17]	
Negative mood	.18	.03	6.59	<.001	[.13, .23]	.13	.03	4.46	<.001	[.07, .19]	
Hours worked	.00	.01	.15	.878	[02, .02]	00	.01	76	.448	[02, .01]	
Weekend	01	.02	59	.553	[05, .02]	04	.02	-2.52	.012	[08,01]	

Note. CI = confidence interval.

sample's average. In more realistic terms, a 1 SD higher average angry behavior score (for husbands, 0.16 points) corresponded with a 15.82-point lower marital satisfaction score.

Average angry behavior was associated with lower marital satisfaction, marginally so for the link between wives' angry behavior and husbands' marital satisfaction (see Table 4, top panel). Husbands' and wives' disregard was associated with lower marital satisfaction for their partners, and wives' marginally with their own satisfaction; husbands' disregard was not associated with husband satisfaction (see Table 4, middle panel). Last, husbands' average marital distancing corresponded with their own lower satisfaction scores and marginally with their wives' lower satisfaction, but

there was no significant effect of wives' marital distancing on either spouse's satisfaction (see Table 4, bottom panel).

A second set of APIMs examined how an individual's tendency to experience changes in each of the three marital behaviors with increases in daily workload was associated with marital satisfaction. Scores representing this tendency were calculated using empirical Bayes' (EB) estimates derived from the multilevel models described in the first step of the mediation models (see pathway c in Figure 1 and Table 1). EB estimates are calculated as between-subjects weighted sums of the models' intercept and slope estimates. They indicate the average magnitude of each individual's change in marital behavior associated with each one-unit increase in daily over-

Table 3

Effect of Overload on Marital Behavior, Mediated by Desire to Withdraw and Negative Mood (Bootstrapped Effect Size Estimates)

	Wives						Husbands				
Variable	В	SE	z	p	95% CI	В	SE	z	p	95% CI	
				An	gry behavior						
Indirect effects of:				•	5 7						
Desire to withdraw	.00	.00	2.08	.037	[.00, .01]	.01	.01	.80	.421	[01, .03]	
Negative mood	.03	.00	7.65	<.001	[.02, .03]	.00	.00	2.39	.017	[.00, .01]	
Total indirect effect	.03	.00	8.32	<.001	[.02, .04]	.02	.00	4.58	<.001	[.01, .03]	
Direct effect	00	.01	27	.784	[02, .01]	.02	.00	5.38	<.001	[.02, .03]	
Total effect	.03	.01	3.38	.001	[.01, .05]	02	.01	-1.78	.075	[03, .00]	
					Disregard						
Indirect effects of:											
Desire to withdraw	.00	.00	2.41	.016	[.00, .01]	.01	.00	2.46	.014	[.00, .01]	
Negative mood	.01	.00	4.29	<.001	[.01, .02]	.01	.00	3.27	.001	[.01, .02]	
Total indirect effect	.02	.00	4.73	<.001	[.01, .02]	.02	.00	3.96	<.001	[.01, .03]	
Direct effect	.00	.01	.27	.786	[02, .02]	00	.01	14	.889	[02, .02]	
Total effect	.02	.01	2.33	.020	[.00, .03]	.02	.01	1.82	.069	[00, .04]	
				I	Distancing						
Indirect effects of:					8						
Desire to withdraw	.01	.00	3.33	.001	[.00, .02]	.01	.00	2.77	.006	[.00, .02]	
Negative mood	.00	.00	.81	.416	[00, .01]	.00	.00	1.48	.140	[00, .01]	
Total indirect effect	.01	.00	3.14	.002	[.01, .02]	.01	.00	3.38	.001	[.01, .02]	
Direct effect	.03	.01	2.09	.037	[.00, .05]	.03	.01	2.30	.022	[.01, .06]	
Total effect	.04	.01	3.35	.001	[.02, .06]	.05	.01	3.38	.001	[.02, .07]	

Note. CI = confidence interval.

Table 4
Regressions: Associations Between Marital Satisfaction and
Average Levels of Angry Marital Behavior, Disregard,
and Distancing

t p 95% CI	t	SE	В	Variable
behavior	behavior	Angry		
				Actor
-2.46 .016 [-179.1, -18.7]	-2.46	40.20	-98.90	$H \rightarrow H$
-2.82 .006 [-148.7, -25.6	-2.82	30.87	-87.11	$W \rightarrow W$
				Partner
-1.93 .057 [-154.8, 2.4]	-1.93	39.43	-76.18	$W \rightarrow H$
-2.41 .019 $[-167.9, -15.7]$	-2.41	38.16	-91.80	$\mathbf{H} \to \mathbf{W}$
regard	regard	Dis		
. og ar a	regura	210		Actor
-1.39 .170 [-94.2, 16.9]	-1.39	27.86	-38.62	$H \rightarrow H$
-1.76 .082 [-101.4, 6.3]	-1.76	26.99	-47.54	$W \rightarrow W$
2 , , , , ,				Partner
-2.59 .012 [-146.6, -19.0	-2.59	32.01	-82.81	$W \rightarrow H$
-2.92 .005 $[-133.5, -25.2]$	-2.92	27.16	-79.36	$\mathbf{H} \to \mathbf{W}$
ancing	ancing	Dist		
amering		210		Actor
-1.92 .059 [-96.7, 1.86]	-1.92	24.72	-47.42	$H \rightarrow H$
.13 .897 [-43.8, 49.8]		23.48	3.04	$W \rightarrow W$
2				Partner
00 .998 [-47.7, 47.6]	00	23.91	05	$W \rightarrow H$
-2.19 .032 $[-102.3, -4.7]$	-2.19	24.47	-53.50	$\mathbf{H} \to \mathbf{W}$
.13 .897 [-43 00 .998 [-47	.13 00	23.48 23.91	05	$\begin{array}{c} \text{Partner} \\ W \to H \end{array}$

Note. CI = confidence interval; $H \to H$ = husband-as-actor effect on the husband's own marital satisfaction; $W \to W$ = wife-as-actor effect on the wife's own marital satisfaction; $W \to H$ = wife-as-partner effect on the husband's satisfaction; $H \to W$ = husband-as-partner effect on the wife's satisfaction.

load, adjusted according to the sample's distribution. Husbands' and wives' EB estimates were included as predictors of their own and their spouses' marital satisfaction (see Table 5).

Husbands' (but not wives') tendency to express anger on higher workload days was associated with lower marital satisfaction scores among both spouses. Husbands' tendency to respond to busy days with disregard were associated with lower marital satisfaction among their wives, but wives' tendency to respond to stress with disregard was not associated with their own or their spouses' satisfaction. Husband's (but not wives') distancing responses to overload predicted lower satisfaction (marginally for husbands, significantly for wives).

Discussion

All three marital behaviors examined in this study—angry behavior, disregard, and distancing—increased on days when participants reported being busier than normal. These findings replicate past research showing same-day spillover of work stress, workday pace, and job-related fatigue to expressions of marital anger and social withdrawal (Crouter et al., 1989; Repetti, 1989; Schulz et al., 2004; Story & Repetti, 2006). This study builds on that research by generalizing the effects of job-related overload on marital behavior to the effects of daily demands more generally. Whereas past studies have specifically examined role conflict between work and family demands (e.g., Crouter et al., 2001), this study supports findings that exhaustion, negative emotions, and

stress are more generally the constructs of interest when examining spillover from daily experiences into marital interactions (Doumas et al., 2003, 2008).

This study measured two forms of behavioral withdrawal (disregard and distancing) separately from cognitive and affective experiences that are frequently included in withdrawal measures. The data supported the differentiation of the two marital withdrawal behaviors: Disregard and distancing did not tend to cooccur on the same day, indicating that they represent two different constructs. Moreover, they were differentially predicted by the desire to withdraw and negative mood on more highly demanding days, suggesting that disregard and distancing arise in different emotional and cognitive contexts.

Mediators of Spillover

We tested two mediators of spillover: a negative emotional state and a desire to withdraw (a wish for alone time and feeling that one's energy levels were not sufficient to interact with family members). Although negative mood alone accounted for the effects of busy days on husbands' expressions of anger, both negative mood and the desire to withdraw independently mediated the effects of busy days on wives' angry behavior and husbands' and wives' inattention to their spouses' needs. Negative mood played no role, however, in explaining lower intimacy and disclosure on busier days: The desire to withdraw solely explained the distancing behavior response. Marital behavior, mood, desire to withdraw,

Table 5
Regressions: Associations Between Marital Satisfaction and
Tendency to Respond to Overload With Angry Marital Behavior,
Disregard, and Distancing

Variable	В	SE	t	p	95% CI
		Angry	behavior		
Actor		0,			
$\mathrm{H} \rightarrow \mathrm{H}$	-376.80	121.45	-3.10	.003	[-619.0, -134.6]
$\mathbf{W} \to \mathbf{W}$	-12.56	116.65	11	.915	[-245.2, 220.0]
Partner					
$W \rightarrow H$	45.48	164.99	.28	.784	[-283.5, 374.5]
$\mathbf{H} \to \mathbf{W}$	-356.96	121.59	-2.94	.004	[-599.4, -114.5]
		Dis	regard		
Actor					
$H \rightarrow H$	-65.33	57.18	-1.14	.257	[-179.3, 48.7]
$\mathrm{W} \to \mathrm{W}$	-111.18	90.24	-1.23	.222	[-291.1, 68.8]
Partner					
$W \rightarrow H$	-177.48	108.57	-1.63	.107	[-394.0, 39.0]
$\mathbf{H} \to \mathbf{W}$	-152.60	56.88	-2.68	.009	[-266.0, -39.2]
		Dis	tancing		
Actor		D 15	amemg		
$H \rightarrow H$	-454.71	237.73	-1.91	.060	[-928.7, 19.3]
$W \rightarrow W$	4.67	69.82	.07	.947	[-134.6, 143.9]
Partner			,		
$W \rightarrow H$	19.18	71.72	.27	.790	[-123.8, 162.2]
$H \rightarrow W$	-585.42	237.50	-2.46	.016	[-1059.0, -111.9]

Note. CI = confidence interval; $H \to H = \text{husband-as-actor}$ effect on the husband's own marital satisfaction; $W \to W = \text{wife-as-actor}$ effect on the wife's own marital satisfaction; $W \to H = \text{wife-as-partner}$ effect on the husband's satisfaction; $H \to W = \text{husband-as-partner}$ effect on the wife's satisfaction.

and workload were all measured at the same time, so it is possible that the variables tested as mediators may have been, at least in part, responses to tense interactions with the partner rather than predictors.

Previous research has identified several possible mechanisms of spillover. Negative mood has consistently been shown to play a role in transferring work-related stress into family life, such as increased anger expressions and disciplinary actions among parents (Repetti, 1993, 1994; Story & Repetti, 2006). As a counterpoint, low energy levels and feelings of exhaustion rather than negative affect may predict spillover (Doumas et al., 2003, 2008). At least one study, however, found that controlling for self-reported fatigue after work did not change the associations between workload, negative mood, and marital behavior (Repetti, 1989). The present study supports both interpretations, indicating that negative mood and a desire to withdraw from family play independent—and different—roles in the behavioral manifestations of spillover.

One interpretation of spouses' heightened desire to withdraw on busy days is that their goal was to return to baseline levels of emotional and physiological arousal. In support of the theory that short-term social withdrawal buffers against negative family interactions (Repetti, 1992), studies have shown that reduced time with family members reduces expressions of negative affect and conflict (Repetti, 1989; Schulz et al., 2004), and spending time relaxing co-occurs with increased withdrawal and decreased conflict (Doumas et al., 2003). Energy-taxing experiences also reduce capacity to respond positively to family members (Buck & Neff, 2012). The desire to spend time alone and not having the energy for family interaction may intersect with a feeling of reduced self-regulatory capacity and a learning history that suggests that alone time will allow the individual to recharge and decrease the likelihood of unpleasant marital interactions (Baumeister et al., 2007). Indeed, not reporting a desire to withdraw in the context of overload and negative affect was associated with increased angry behavior among husbands.

Marital Satisfaction and Typical Marital Behavior

This study replicated past research indicating that husbands and wives who report more friction (disagreements, expressions of anger, nagging) also report less satisfying marriages (Fincham, 2003). Both husbands and wives rated their marriages as having poorer quality when the wife reported more neglect of her partner's emotional needs on a daily basis; wives also reported lower satisfaction when husbands reported less dayto-day sensitivity to their needs. This corroborates previous research linking withdrawal and disengagement with lower marital satisfaction (Fincham, 2003). Last, both husbands and wives described less happy marriages when the husband's average daily reports of affection and disclosure were relatively low. This pattern is consistent with evidence that marital satisfaction is tied to expressions of affection, particularly verbal and affective intimacy (Huston & Vangelisti, 1991; Tolstedt & Stokes, 1983), and husbands' responsiveness during marital interactions (Gottman & Krokoff, 1989).

Marital Satisfaction and Behavioral Responses to Busy Days

When propensities to exhibit the three marital behaviors on busier days were examined, couples were less satisfied if husbands reported higher levels of angry behavior, lower levels of affection and disclosure, and a tendency to disregard their wives' needs on particularly demanding days. These findings offer a unique look at the association between marital satisfaction and problematic marital behaviors that arise in response to stress, over and above the general tendency to exhibit these behaviors. They also highlight the importance of context (in this case, stressful days) in understanding the role of problematic behaviors in marriages.

The correspondence between husbands' stress-related negativity, withdrawal of affection, and neglect and lower wife satisfaction may be related to gender differences often observed in demand—withdraw patterns, in which wives exert increasing demands in response to husbands' avoidance. This pattern is known to arise in response to stress (Benson et al., 2012).

We had hypothesized that withdrawal-based responses to stress might have weaker associations with marital satisfaction than would more aversive responses (e.g., overt conflict), given findings that social withdrawal instead of marital discord may occur following stressful days at work (Repetti, 1989, 1994; Repetti & Wood, 1997; Schulz et al., 2004). This study found, however, that both husbands' disregard and their distancing responses to higher workloads were associated with lower marital satisfaction (for wives and for both members of the couple, respectively); in addition, although reductions in affection and disclosure were unrelated to expressions of anger on a daily basis, emotional disengagement did appear to coincide with angry behavior. Continued differentiation of different manners of withdrawal should be a consideration in future research examining the potential of withdrawal to reduce conflict.

Because marital satisfaction was not assessed at the same time point in all cases relative to the daily diaries (and, more important, not longitudinally), the causal process by which overall relationship quality and marital behavior affected each other cannot be addressed in this study directly. In previous work, however, spouses' day-to-day appraisals of their marriage quality declined when they felt unable to meet family demands (Buck & Neff, 2012), indicating the potential short-term impact of marital interactions on satisfaction. As such, individuals who experience frequent spillover might be expected to report lower marital satisfaction overall.

Limitations and Future Directions

Simultaneous daily measurement of overload, negative mood, desire to withdraw, and marital behavior was a clear constraint in this study. Assessing these variables at several time points throughout the day would better address the temporal sequence presumed in mediation. The relatively small sample of families also limited statistical power. Although measures were wholly self-report, previous research has shown that couples' retrospective reports of their own and their partners' behaviors show strong validity and convergence and are largely unrelated to moderators such as mood (Backer-Fulghum & Sanford, 2015).

Our findings indicate that withdrawal behavior in the context of negative mood (i.e., disregard) is of a different nature than withdrawal behavior without negative mood (i.e., distancing) and corresponds differently with expressions of anger. Clinically, improving communication around one spouse's desire to withdraw may facilitate a more supportive response, less negative mood, and quicker recovery from highly demanding days.

This study identified three distinct marital behaviors that are affected by stressful daily experiences and established differential associations between these behaviors and overall levels of marital quality. Future process-oriented research would ideally continue to unpack the complex interactions between the affective, cognitive, and behavioral experiences described here and establish opportunities for intervention to improve marital interactions and satisfaction.

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