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Valuing money more than people: The effects of materialism on work–family conflict

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Can valuing money and material possessions lead to conflict between work and family? In this paper, we build on Carlson and Kacmar's call for more research on personal values in the context of the work–family interface. In a field study, we examined the relationship between materialism and two components of work–family conflict: work interference with family (WIF) and family interference with work (FIW). Results supported our main hypotheses that materialism is associated with both forms of work–family conflict. Further, work overload mediated the relationship between materialism and WIF, while FIW moderated the association between materialism and work overload, thus supporting a model of mediated moderation. By linking materialism to work–family conflict, this study adds to the growing evidence of the deleterious effects of holding materialistic values.

The intersection of work and family remains an intensely studied topic in organization research (Kossek & Lambert, 2005). A majority of work-family studies have focused on conflict between the two domains, and on the host of negative consequences associated with such discord. Work-family conflict has been linked to individual outcomes such as mental health problems and marital friction (Frone, 2000; Matthews, Conger, & Wickrama, 1996), organizational variables such as job satisfaction and absenteeism (Allen, Herst, Bruck, & Sutton, 2000; Cleveland, 2005), and societal burdens due to job stress and increased use of health care resources (Gambles, Lewis, & Rapoport, 2006).

Much attention has also been given to potential antecedents of work-family conflict (Frone, Russell, & Cooper, 1992). Studies have linked variables such as time commitment to work (Kinnunen & Mauno, 1998), family demands (Parasuraman, Purohit, Godshalk, & Beutell, 1996), and organizational culture (Thompson, Beauvais, &

Lyness, 1999) to conflict between work and family roles. The dramatically changed landscape of American households, a majority of which now feature both parents working outside the home, has also been examined as a factor in role conflict (Coontz, 1997; Moen, 1992). Recently, research has showed a renewed interest in exploring individual differences as predictors of work–family conflict. Thus, personality factors such as negative affectivity, self-esteem, and locus of control have all received attention in the work–family interface (Friede & Ryan, 2005), as has workaholism (Buelens & Poelmans, 2004).

Interestingly, however, personal values have not received nearly as much interest as a potential source of work–family conflict (Carlson & Kacmar, 2000). This neglect is surprising in light of the consideration given to values in other research areas such as work motivation (Latham & Pinder, 2005) and business ethics (Hemingway & Maclagan, 2004). This research suggests that the values people hold in life – their 'guiding principles' (Latham & Pinder, 2005, p. 491) – are an integral part of how individuals define themselves and set goals (Locke & Henne, 1986). Thus, values are woven into the choices people make concerning work, family, and other pursuits (Schwartz, 1994).

One life value that may be particularly useful in explaining work–family conflict is materialism, defined as placing a high value on income and material possessions (Diener & Seligman, 2004). Since materialism is a measure of what individuals aspire to, it is predictive of real-life behaviours. Materialism has been shown over dozens of studies to be negatively related to personal well-being, including such indicators as happiness, life satisfaction, and health (see Diener & Seligman, 2004; Kasser, 2002). These negative effects appear to extend to the workplace as well, as materialistic values are associated with lower work-related personal well-being (Deckop, Jurkiewicz, & Giacalone, in press) and lower ethical standards at work (Giacalone, Jurkiewicz, & Deckop, 2008).

In placing a high value on income and possessions, materialistic individuals focus less on the fulfilment of intrinsic needs, such as competence, relatedness, and autonomy (e.g. Kashdan & Breen, 2007; Kasser, Ryan, Couchman, & Sheldon, 2004). While intrinsic needs, in principle, could be fulfilled in both work and family life, extrinsic needs associated with materialistic values are far more likely to be attained through work. This primacy of work versus family as a source of extrinsic need fulfilment suggests that the value of materialism may be important in explaining conflict between work and family.

Role conflict theory (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964) argued that individuals can experience conflict between multiple roles due to certain incompatibilities between them. Kahn *et al.* (1964, p. 19) defined role conflict as the 'simultaneous occurrence of two (or more) sets of pressures such that compliance with one would make more difficult compliance with the other'. Since one's personal values help to define one's goals, it is possible that such values create pressures in one domain that make fulfilment of tasks in the other domain more challenging. Thus, materialism may be a cause of role conflict due to the behaviours and choices that occur due to one's strong desire for extrinsic rewards; these behaviours are incompatible to some extent with performing non-work (i.e. family) roles. Indeed, Greenhaus and Beutell (1985) stated that individual values can be an important source of behaviours that produce role conflict, and suggested further study in this area. Thus, our study attempts to build on the theoretical framework of role conflict theory, in that values help to shape behaviours and perceptions that can result in various forms of conflict.

Antecedents of work–family conflict

Sources of conflict between work and family appear to fall into three broad categories: variables in the work domain such as hours spent at work and job involvement, variables in the non-work domain such as spousal employment and caregiving responsibilities, and individual/demographic factors like coping style, gender, and age (Byron, 2005). Greenhaus and Beutell (1985, p. 77) defined work–family conflict as 'a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible in some respect', and theorized that three factors can create such conflict: (1) time-based conflict; (2) strain-based conflict (stress); and (3) behaviour-based conflict (incompatible behaviour at work vs. home).

The competing demand for time, in particular, has surfaced repeatedly in both quantitative (Rothbard & Edwards, 2003) and qualitative (Daly, 2001; Hochschild, 1997; Poppleton, Briner, & Kiefer, 2008) work–family studies. Unlike mental energies, which to some extent are expandable, time is finite and scarce. The strain-based conflict identified by Greenhaus and Beutell (1985) has also been examined in terms of engagement in work versus family roles; such engagement typically is viewed as depleting resources available for the other role, but can sometimes enhance the other role as well (Poppleton *et al.*, 2008; Rothbard, 2001).

Some research has looked at life values in determining perceptions of work–family conflict. For example, Carlson and Kacmar (2000) found that life-role values, operationalized with measures such as role centrality, moderated the relationship between variables such as time demands and perceived work–family conflict. For individuals who highly valued their family roles, work antecedents produced greater conflict, and vice versa. This study suggested the importance of including personal values in research on work–family conflict.

Prior to 1990, work–family conflict was usually examined without specification of direction, i.e. which domain created the conflict. Most frequently, researchers studied working mothers who experienced conflict between their work and parental roles (Gilbert, Holahan, & Manning, 1981; Hall & Gordon, 1973). More recently, researchers have differentiated two types of work–family conflict by considering the direction of influence: work demands that cause interference with family (work interference with family, WIF), and family demands that cause interference with work (family interference with work, FIW; Frone *et al.*, 1992). WIF and FIW are considered to be separate dimensions of work–family conflict that, nevertheless, are reciprocal (Aryee, Srinivas, & Tan, 2005), meaning, for example, that when work interferes with family obligations, this dysfunction can cause problems at home that lead to further interference at work (Frone *et al.*, 1992).

Moreover, researchers have discovered that WIF and FIW may have different antecedents (Frone, Yardley, & Markel, 1997). For example, work-related time commitment, work-related distress, and work overload were found to be primary predictors of WIF, while the equivalent family-related factors predicted FIW (Frone *et al.*, 1997). However in a meta-analysis of work–family conflict, Byron (2005) concluded that 'while there is differentiation, some work and family factors can have simultaneously disruptive effects on employees' work and family lives' (Byron, 2005, p. 190). We assert, as discussed below, that materialism is one factor that can affect both directions of work-family conflict.

The notion of having to choose between work and family reflects a viewpoint of conflict between the two domains, also termed the *scarcity* hypothesis (Clark, 2000). This perspective assumes that a certain level of conflict is inevitable between work and home. In this study, we apply the scarcity viewpoint to investigate the interrelationship
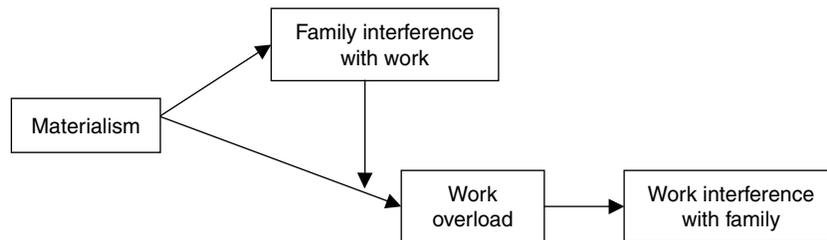
Figure 1. Model of materialism and work–family conflict.

between materialism and work–family conflict. We incorporate the construct of work overload, which is conceptually related to scarcity, into our analysis. Figure 1 contains a model of materialism and work–family conflict to serve as the basis for our theoretical development. It should be noted that our model represents one of mediated moderation (Muller, Judd, & Yzerbyt, 2005), since our proposed moderator (FIW) influences the effect of materialism on work overload; work overload in turn is proposed as a mediator of the relationship between materialism and WIF.

Materialism and work–family conflict

While there has been extensive research on the consequences of materialism, most has been conducted in the non-work context (Kasser, Vansteenkiste, & Deckop, 2006). As stated, numerous studies have documented that materialistic individuals suffer from diminished well-being (Diener & Seligman, 2004; Kasser, 2002). Though a variety of theoretical explanations have been advanced to account for these results, the most general rationale is that in their pursuit of material possessions, materialistic individuals are comparatively less able to fulfil intrinsic needs that positively affect personal well-being, including competence, autonomy, and relatedness needs (Kashdan & Breen, 2007; Kasser *et al.*, 2004; Vansteenkiste *et al.*, 2007).

With respect to competence, individuals higher in materialistic values appear to be more concerned with 'public self-consciousness', including placing a high importance on the opinion of others and making social comparisons (e.g. Schroeder & Dugal, 1995; Sirgy, 1998). This concern for one's appearance to others results in a higher likelihood that the individual will make more negative than positive comparisons (Kasser, 2002), and in turn will possess lower self-esteem and therefore fail in fulfilling competence needs (Kasser *et al.*, 2004).

A public self-consciousness can also be seen as involving external control and pressure, as opposed to feelings of autonomy (Kasser *et al.*, 2004). Research has shown that highly materialistic individuals report greater feelings of external pressure to achieve goals consistent with materialist values (e.g. Sheldon & Kasser, 2001; Srivastava, Locke, & Bartol, 2001). Materialists value their accomplishments and possessions more for reasons concerning appearance and monetary worth than for enjoyment and intrinsic value (Richins, 1994).

Perhaps because of this external pressure, materialists are comparatively worse than non-materialists at satisfying relatedness needs. An overarching explanation is that materialists tend to have difficulty establishing close and trusting relationships with others. Materialistic individuals express less empathy to others, act more competitively, are more likely to treat friends in an objectifying manner, and feel more alienated from others in society (Kasser *et al.*, 2004).

Materialism research conducted in the work context, though limited, has also identified negative effects. Deckop *et al.* (in press) found that materialistic values were negatively associated with intrinsic motivation, extrinsic motivation, job satisfaction, and career satisfaction. Vansteenkiste *et al.* (2007) found that an extrinsic as opposed to intrinsic work orientation, a possible outcome of materialism, was likewise negatively associated with well-being at work, including WIF. Lastly, Giacalone *et al.* (2008) discovered that materialism was negatively associated with ethical standards at work.

In summary, extant research suggests that materialism can be problematic because it leads to the pursuit of objectives that are not conducive to personal well-being in both work and non-work contexts. The underlying mechanisms that produce these effects can inform our understanding of the work–family interface. For materialists, financial success is a core aspiration and central to their value structure (Grouzet *et al.*, 2005). Success at work is highly instrumental to the achievement of this aspiration because in most organizations success leads to better pay and promotions. Meanwhile, more intrinsic aspirations such as affiliation and community, which can be fulfilled through family life, are less central to the materialist's value structure (Grouzet *et al.*, 2005).

In developing hypotheses concerning the relationship between materialism and work-family conflict, it is useful to consider which forms of conflict (time-based, strain-based, and behaviour-based; Greenhaus & Beutell, 1985) apply to materialists. First, it is likely that materialistic individuals experience time-based conflict. Achieving success at work typically requires significant commitments of time and attention, which from a scarcity perspective (Clark, 2000) are limited resources. Since materialists devote considerable time to the workplace in order to attain the material rewards they desire, their family/friends will receive less attention (Rothbard & Edwards, 2003).

Behaviour-based conflict may also occur due to materialistic values. Materialists view work as their preferred domain and, as noted, tend to exhibit competitiveness and a lack of empathy (Kasser, 2002). Materialistic individuals may desire to carry over these work behaviours to their family lives. However, such competitive, unfeeling behaviours are incompatible with positive functioning at home (for example, acting as a nurturing parent; Eisenberg, 1992). The implications of materialism concerning strain-based work–family conflict are less clear. Because family and other relationships are less important to materialists, they will feel only minimal emotional effects from expending great effort at work. On the other hand, such individuals, perhaps exhausted due to a punishing work schedule, may be too fatigued to engage with their families and may recognize a conflict (without feeling guilty about it; Vansteenkiste *et al.*, 2007).

Regarding FIW specifically, while materialistic individuals may experience demands from family, friends, and community, as all individuals do, these demands will more likely be seen as interfering with the fulfilment of their material aspirations (particularly if such family demands impinge upon time targeted as 'work time'). Materialists will likely experience strain due to this perceived infringement. Thus:

> *Hypothesis 1:* Materialism will be positively related to FIW.

Work overload

Role overload 'refers to the perception of having too many things to do and not enough time to do them' (Frone *et al.*, 1997, p. 150). Therefore, work overload relates to time scarcity, a central component of role conflict (Greenhaus & Beutell, 1985). Moreover, Frone *et al.* (1997) note that work overload relates to another component of conflict,

namely role strain, since encountering overload is likely to lead to psychological distress. If workers perceive that they do not have enough time to finish their work, they may become preoccupied with work even when performing other life-roles such as family (Aryee *et al.*, 2005). Thus, work overload operates on multiple levels to impact conflict between work and family (Frone *et al.*, 1997).

As discussed, materialists tend to focus more of their time and energies on work, since that is the domain that can provide them with material rewards. Further, even if material aspirations are attained, materialistic goals tend to ratchet-up to new levels of aspiration, once again leading to deprivation and dissatisfaction (Michalos, 1985; Solberg, Diener, & Robinson, 2004). Thus, we hypothesize that materialistic individuals will tend to view themselves as being overburdened with work and having insufficient time to accomplish it.

> *Hypothesis 2:* Materialism will be positively related to work overload.

Variation in work overload due to FIW

We hypothesize above that materialism is positively related to FIW because family demands are not as instrumental to materialists' need fulfilment as work demands. However, this does not imply that all materialistic individuals will experience high FIW, just as we do not expect all individuals low in materialism to experience low levels of FIW. Given variation in family demands among materialists, at issue is whether the effect of materialism on work overload varies depending on the degree of FIW. We argue that it does, with FIW acting as an 'equalizer' in terms of work overload for materialists and non-materialists.

If FIW is high, all individuals, including both those high and low in materialism, are likely to experience a high level of work overload, given the scarcity of time and attention as a resource (Rothbard & Edwards, 2003). For those high in materialism, as argued previously, work overload is already high due to factors unassociated with family life. For those low in materialism, factors such as heavy time commitment to family and non-work activities may leave little time to devote to one's work-role, hence a perception of overload.

If FIW is low, we do not expect that those low in materialism will experience a high level of work overload. From a scarcity perspective, if family life does not create excess demands that severely limit work time, it is unlikely that work overload will result. In contrast, we do expect highly materialistic individuals to experience work overload even under conditions of low FIW. For such individuals, work is a high priority in terms of fulfilling their extrinsic aspirations. The more time and effort they devote to work activities, perhaps even to excess (Kasser, 2002), the more likely they are to fulfil these aspirations. Though a low level of FIW may have positive impacts in terms of a materialist's quality of life, we argue that work overload will nevertheless be high.

The preceding arguments suggest that FIW moderates the effect of materialism on work overload. A high degree of FIW equalizes the level of work overload between high and low materialists, while if FIW is low, the effects of materialism on work overload are most apparent.

> *Hypothesis 3:* FIW will moderate the effect of materialism on work overload, such that the effect of materialism on work overload will be greater at lower levels of family interference with work.

Materialism and work interference with family

We propose that materialism, in addition to leading to more FIW, also leads to greater WIF. The notion that materialistic values may lead one to perceive that work is interfering with family may at first seem counter-intuitive. After all, if materialists highly value the workplace due to the money and possessions that it can bring, why would they sense that work is causing conflict with family and other non-work pursuits? Further, even if they do recognize such conflict, they may not care, since materialists place less importance on family and relatedness needs.

Nevertheless, there are two reasons that materialism may in fact lead to perceptions of WIF. One reason is that, while materialists themselves may not particularly care about lower-quality family relationships due to their focus on work, *other people* in their lives *do* care. For example, one of the items from the work-family conflict scale we used (Gutek, Searle, & Klepa, 1991) is: 'My family/friends dislike how often I am preoccupied with my work while I am at home'. A materialist can agree with this statement (acknowledging the conflict) while still not worrying about its consequences.

The second reason relates to the three types of conflict discussed earlier (Greenhaus & Beutell, 1985). As stated, materialistic individuals are likely to experience time conflict due to their devotion to the workplace. Most individuals, no matter how materialistic, have *some* other pursuits in life that need attention (even if simply for leisure). Behaviour-based conflict may surface as well – not just with family but in other venues such as social groups, where highly competitive behaviours may be frowned upon. Thus, materialists may experience two out of three forms of conflict. In fact, one study found that an extrinsic work orientation, a possible manifestation of materialism, was related to WIF (Vansteenkiste *et al.*, 2007). In summary,

Hypothesis 4: Materialism will be positively related to WIF.

Work overload and work interference with family

We expect work overload to be positively associated with WIF for all individuals, including those with and without materialistic values. Since work overload reflects a combination of time scarcity and role strain, it is likely to intrude into one's non-work obligations. Several studies have supported the relationship between work overload and WIF (Frone *et al.*, 1992, 1997; Parasuraman *et al.*, 1996). Work overload can lead to family dysfunction in multiple ways. Work stress has been shown to negatively affect parents' relations with their children (Perry-Jenkins, Repetti, & Crouter, 2000), increase marital strife (Hughes, Galinsky, & Morris, 1992), and cause social withdrawal (Crouter & Bumpus, 2001). Thus, work overload affects families, friends, and employees themselves.

Hypothesis 5: Work overload will be positively related to WIF.

Mediated moderation model

As noted, our model represents one of mediated moderation (Muller *et al.*, 2005). Specifically, we posit that FIW moderates the relationship between materialism and work overload, and that work overload in turn is associated with WIF. We previously asserted that the effects of materialism on work overload would be most apparent when FIW was low. By this same reasoning, the effects of materialism on WIF will also be most apparent when FIW is low.

> *Hypothesis 6a:* FIW will moderate the effect of materialism on WIF, such that the effect of materialism on WIF will be greater at lower levels of FIW.

Taken together, Hypotheses 2, 4, 5, and 6a, which state that materialism is positively related to both work overload and WIF, that work overload is positively related to WIF, and that FIW moderates the effect of materialism on WIF, suggest that work overload operates in the role of mediator between the interaction of materialism and FIW with WIF. Thus, we propose that the relationship between the materialism – FIW interaction and WIF results primarily from work overload.

> *Hypothesis 6b:* Work overload will mediate the relationship between the interaction of materialism and FIW with WIF.

Methods

Sample and procedure

To alleviate concerns about method bias, in particular cognitive carryover among scales (Harrison & McLaughlin, 1993), survey data were collected at two points in time. At Time 1, as part of a class assignment, graduate business students at a large public university in south-eastern USA volunteered to provide the e-mail addresses of adults living in the USA who were working in managerial or technical/professional positions. Students secured permission from their participants prior to submitting their addresses to the researchers. A cover letter was e-mailed to 606 usable addresses, explaining that the purpose of the study was to learn more about workers and their values, and it guaranteed the respondents' confidentiality. Respondents were advised that a second questionnaire would also be sent to them in 5 weeks. Three days following the original e-mail, a reminder e-mail was sent to those who had not responded.

At Time 2, approximately 5 weeks after Time 1, a second survey was sent to respondents who had completed the first one. Data on materialism and demographic variables were collected from the first survey; data on the remaining variables were collected in the second survey. A total of 274 surveys were returned at Time 2, for a response rate of 45%.

Of the individuals who completed both surveys, 34% were between the ages of 26–35, 64% were females, and 45% were working for their organizations 1–5 years. In terms of marital status, 52% of respondents were married, 31% single, and 17% divorced/widowed. Forty-nine per cent reported that they had children.

Most of the respondents were employed full-time (88%), while 12% worked part-time. The majority of respondents indicated they worked in the public sector (70%), followed by the for-profit sector (21%) and the non-profit sector (9%). A comparison of early and late responders revealed no significant differences. Due to missing data, sample sizes across analyses ranged from 212 to 236.

Measures

Family interference with work and work interference with family

Our measure is based on an eight-item scale developed by Gutek, Searle, and klepa (1991) that described the extent to which an employee's work demands interfere with family responsibilities (four items) and the extent to which family demands interfere

with work tasks (four items). We added two items developed by Carlson and Perrewe (1999) to each of these scales, for a total of six items in each scale. A sample FIW item is 'My personal demands are so great that it takes away from my work'. A sample WIF item is 'After work, I come home too tired to do some of the things I'd like to do'. Scale responses ranged from 1 = strongly disagree to 5 = strongly agree. The reliability for the FIW and WIF measures was .87.

Work overload

We used House and Rizzo's (1972) 10-item scale to measure work overload. Analysis indicated that one item was highly negatively correlated with the total score and was deleted, resulting in a nine-item scale. A sample item is: 'The amount of work I am given prevents me from doing my job as well as I would like'. Scale responses range from 1 = strongly disagree to 7 = strongly agree. The reliability for the work overload measure was .92.

Materialism

We assessed respondents' materialism using the 18-item Richins and Dawson scale (1992). This scale has subdimensions, though for our purposes we combined the dimensions into a total score. A sample question is 'I admire people who own expensive homes, cars, and clothes'. Scale responses range from 1 = strongly disagree to 7 = strongly agree. The reliability for the materialism measure was .85.

Control variables

We specified several variables that potentially could be correlated with both materialism and the dependent variables in our analyses, such that their omission could produce biased results. One of these controls was job sector, categorized as public, private, or non-profit (non-profit is the reference category). Although one study found that the overall scope of work–family initiatives is similar between for-profit and non-profit firms (Pitt-Catsouphes, Swanberg, Bond, & Galinsky, 2004). Golden and Wiens-Tuers (2005) showed that individuals employed by non-profit organizations faced more mandatory overtime and inflexible schedules than did those who worked in the private sector. Since the evidence appears mixed, it seemed prudent to control for this variable.

We also included three control variables concerning the volume of demands in one's family and work domains. One was marital status, coded as married, single, or divorced/widowed (divorced/widowed is the reference category). Another control was whether the respondent had children (yes/no). Lastly, we controlled for respondents' work status (full-time or part-time). Other controls included demographic information on respondent age (ranging from 1 = 18–25 to 5 = over 55), gender, education level (ranging from 1 = less than high school to 6 = graduate degree), and job level (ranging from 1 = non-supervisory to 5 = top level management).

Results

Table 1 shows means, standard deviations, and correlations. The correlations indicated initial support for our hypotheses proposing direct effects. Specifically, materialism was significantly correlated with: WIF ($p < .05$), FIW ($p < .01$), and work overload

Table 1. Pearson correlations and descriptive statistics

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Age	2.70	1.23														
2. Children	1.51	0.50	−.54													
3. Work status	1.88	0.32	.27	−.22												
4. Education level	4.76	1.13	−.10	.24	.01											
5. Gender	1.36	0.48	−.14	.06	.03	.17										
6. Job level	3.71	1.42	−.22	.19	−.08	−.13	−.01									
7. Public	0.70	0.46	.09	.01	.09	−.09	−.14	.04								
8. Private	0.21	0.41	−.01	−.07	−.09	.00	.11	−.02	−.80							
9. Single	0.31	0.46	−.50	.57	−.24	.18	.01	.05	.05	−.09						
10. Married	0.52	0.50	.24	−.38	.15	−.01	.14	−.14	−.07	.06	−.70					
11. WIF	2.80	1.00	−.05	.09	−.05	.15	.05	−.06	−.08	.07	.01	.04				
12. FIW	2.01	0.91	−.11	.08	−.18	.01	.00	.16	.00	.08	.08	−.12	.33			
13. Materialism	3.46	0.91	−.16	.07	−.06	−.01	.11	.05	.09	−.06	.06	−.08	.13	.25		
14. Work overload	3.67	1.48	.07	−.02	.14	.08	.09	−.08	.10	−.07	−.09	.10	.48	.12	.13	

Correlations greater than .12 indicate *p*-values < .05; correlations greater than .17 indicate *p*-values < .01.

($p < .05$). Further, work overload was significantly correlated with both WIF ($p < .01$) and FIW ($p < .05$).

Gender was not significantly correlated with FIW, WIF, work overload, or materialism. FIW was highly correlated with WIF ($p < .01$), which is consistent with studies that have analysed both forms of conflict (Byron, 2005; Frone *et al.*, 1997). Interestingly, materialism was not significantly associated with sector. This result was surprising in that we might expect a self-selection by sector to occur given that the private sector may offer more opportunity for monetary gain as compared to the public and non-profit sectors.

Table 2 contains results of the regression analyses, all of which include the control variables. As shown in column 1, materialism was significantly associated with FIW ($p < .001$), thus supporting Hypothesis 1. In terms of practical significance, the inclusion of materialism contributed approximately 6% of incremental variance explained. Column 2 shows that materialism also significantly predicted work overload ($p < .05$), thereby supporting Hypothesis 2, although not as robustly as it predicted FIW.

Column 3 presents results of our test of Hypothesis 3, which states that FIW will moderate the effect of materialism on work overload. We tested this hypothesis using moderated regression analysis (Aiken & West, 1991). Along with the control variables, we specified materialism, FIW, and in the final step, the FIW × materialism interaction. The significance level of the coefficient of the interaction term indicates whether its addition contributes a statistically significant increment to R^2 (Aiken & West, 1991), and is the appropriate test of significance of the interaction in hierarchical regression (Cohen & Cohen, 1983). Results indicated that the interaction of materialism and FIW was statistically significant, in the predicted direction, thereby supporting Hypothesis 3. In terms of practical significance, including the interaction term explained approximately 2% of incremental variance.

We probed the interaction results by calculating the coefficient of materialism at one standard deviation above and below the mean of FIW, which conventionally represent 'high' and 'low' FIW, respectively (Aiken & West, 1991; Cohen & Cohen, 1983). The effect of materialism on work overload at high FIW was $-.17$ ($t = -0.79$; $p > .10$); and the effect at low FIW was .41 ($t = 2.41$; $p < .01$). These results indicate that, consistent with Hypothesis 3, the effect of materialism on work overload was not statistically significant at a high level of FIW, but the effect was positive and statistically significant at a low level of FIW. Figure 2 shows the interaction effect in graph form.

Column 4 shows that, as predicted, materialism was significantly associated with WIF ($p < .05$). Thus, Hypothesis 4 is supported. In column 5, results showed that work overload was a strong predictor of WIF ($p < .001$), providing support for Hypothesis 5.

Because our model represents one of mediated moderation (Muller *et al.*, 2005), we next included the FIW × materialism interaction (along with the main effects of FIW and materialism) in the regression analyses with WIF as the dependent variable (columns 6 and 7). Results in column 6 show that the FIW × materialism interaction was significant (and in the expected direction), thus supporting Hypothesis 6a that FIW serves as a moderator of the relationship between materialism and WIF. We again probed the interaction by calculating the coefficient of materialism at one *SD* above and below the mean of FIW. The effect of materialism on WIF at high FIW was $-.11$ ($t = -0.97$; $p > .10$); and the effect at low FIW was .21 ($t = 2.16$; $p < .05$). Figure 3 shows this interaction in graph form.

Table 2. Regression results

	(1) Family interference with work		(2) Work overload		(3) Work overload		(4) Work interference with family		(5) Work interference with family		(6) Work interference with family		(7) Work interference with family	
							Dependent variable							
Independent variable														
Constant	1.24*	(.72)	1.37	(1.27)	−.82	(1.61)	1.55*	(.84)	1.11	(.75)	−.07	(1.02)	.38	(.90)
Control variables														
Age	−.01	(.06)	−.06	(.11)	−.07	(.11)	−.01	(.08)	.00	(.07)	−.01	(.07)	.00	(.06)
Education	.02	(.05)	.11	(.10)	.12	(.10)	.12	(.06)	.11*	(.06)	.12*	(.06)	.10*	(.05)
Gender	−.13	(.13)	.12	(.22)	.14	(.22)	−.12	(.15)	−.18	(.13)	−.07	(.14)	−.14	(.12)
Work status	−.21	(.21)	.81*	(.38)	.86*	(.38)	.15	(.25)	−.15	(.23)	.25	(.24)	−.12	(.22)
Job level	.05	(.04)	−.12	(.08)	−.14*	(.08)	−.06	(.05)	−.01	(.05)	−.09*	(.05)	−.03	(.04)
Public	.27	(.21)	.12	(.38)	.13	(.38)	−.19	(.25)	−.24	(.22)	−.28	(.24)	−.31	(.21)
Private	.46*	(.23)	−.16	(.41)	−.17	(.41)	.02	(.27)	.01	(.24)	−.14	(.26)	−.15	(.23)
Single	.15	(.22)	−.37	(.40)	−.45	(.40)	−.02	(.26)	.13	(.23)	−.11	(.25)	.03	(.22)
Married	.00	(.18)	.06	(.31)	−.01	(.31)	.17	(.21)	.18	(.18)	.13	(.20)	.18	(.17)
Children	−.07	(.16)	.01	(.29)	.01	(.28)	.20	(.18)	.19	(.16)	.22	(.17)	.23	(.15)
Materialism	.23***	(.06)	.20*	(.11)	.76**	(.30)	.17*	(.08)			.41*	(.19)	.12	(.17)
FIW					1.27*	(.57)					1.03**	(.36)	.57*	(.32)
FIW × materialism					−.32*	(.15)					−.18*	(.10)	−.05	(.09)
Work overload									.35***	(.04)			.32***	(.04)
Model F	2.17**		1.70*		1.85*		1.48		8.93***		3.54***		9.22***	
R^2	.10		.09		.11		.07		.31		.18		.40	
N	219		212		212		219		236		219		212	

Note. Values are unstandardized coefficients. Standard errors in parentheses; *p < .05; **p < .01; ***p < .001.
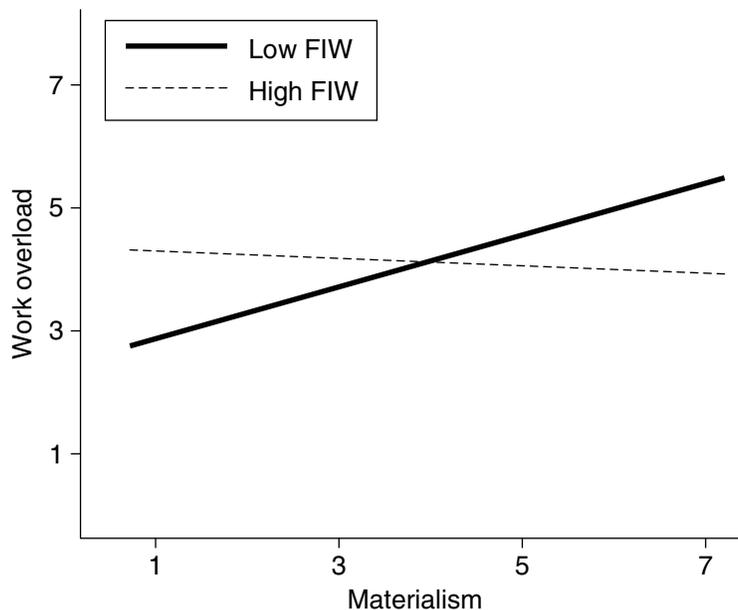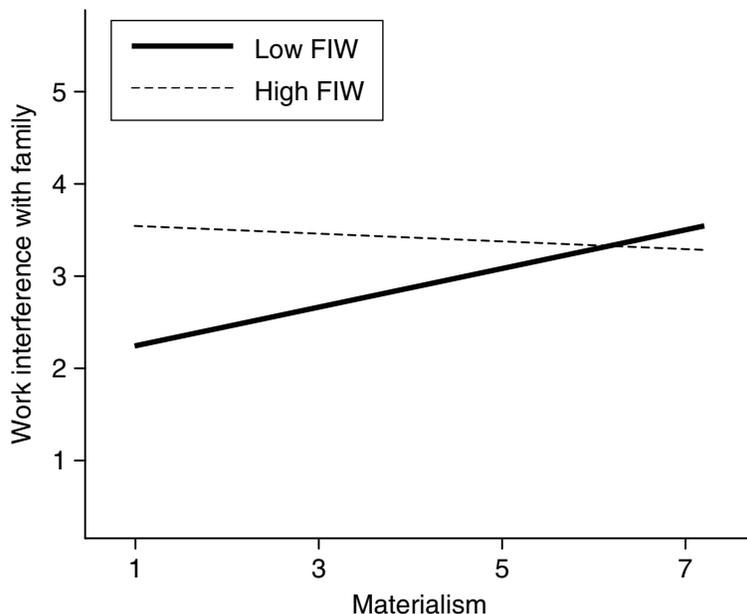
Figure 2. Interaction of FIW and materialism on work overload.

Results to this point indicate that the conditions necessary for tests of mediation proposed by Baron and Kenny (1986) are met. Specifically, materialism, the independent variable, was significantly related to work overload, the proposed mediator, and to WIF, the outcome variable; additionally, work overload was significantly related to WIF. Mediation of the main effects of materialism, FIW, and the materialism × FIW interaction on WIF would be evidenced by a decline in their effect and statistical significance with work overload added to the equation. A comparison of columns 6 (without work overload) and 7 (including work overload) showed that the effect size and significance level declined for each variable upon the addition of work overload, lending support for Hypothesis 6b. For example, the effect of materialism on WIF declined from .41 to .12, and statistical significance declined from $p < .05$ ($p = .02$) to $p = .25$ (not significant). To test for mediation, we applied three separate Sobel tests, one for each variable (Miller & Nicols, 2008). Results for each were statistically significant: materialism, $z = 2.41$, $p < .01$; FIW, $z = 2.15$; $p < .05$; FIW × materialism, $z = 2.06$; $p < .05$. However, the limited magnitude of decline in both the effect size and statistical significance suggests that work overload acted as a partial, rather than full, mediator.

Discussion

We sought in this study to explore the idea that the values people hold in life are associated with effects on the work–family interface. We posited that materialism might be a particularly useful predictor of work–family conflict because it relates directly to personal aspirations. The results of the study generally provided strong support for our hypotheses. Several key findings stand out: first, materialism was significantly associated with FIW. This finding can best be explained by the fact that highly materialistic people: (1) pour their efforts into work since that is the domain that can provide tangible rewards and (2) are likely to view any obstacle to performing work, including family

Figure 3. Interaction of FIW and materialism on WIF.

demands, as disruptive. Related to this second point, materialistic individuals may be prone to adopt a rigid border between work and family (Clark, 2000); when this border is compromised, a high degree of perceived conflict results.

Second, work overload partially mediated the relationship between materialism and WIF. Given that the relationship between work overload and WIF is already well-established (Frone *et al.*, 1997), a key research inquiry is exploring why materialistic people tend to experience greater work overload. In addition to the theoretical links discussed previously, an additional possibility is a self-selection effect (Perry-Jenkins *et al.*, 2000), as those who place high value on material objects may choose occupations that require intense time demands.

Third, results indicating that FIW moderates the relationship between materialism and work overload support the argument that FIW and WIF relate in a reciprocal manner (Aryee *et al.*, 2005; Frone *et al.*, 1992) in the context of materialistic values. That is, FIW influenced the degree to which materialism was associated with work overload, which in turn affected the level of perceived WIF. It is likely that WIF, in turn, influences FIW due to an increase in family conflict. This effect may be exacerbated for materialistic individuals, who have difficulty in establishing close relationships (Kasser *et al.*, 2004), and in particular may view family and marriage in an objectifying and instrumental manner (Kasser, 2002). These potential impacts of WIF on family conflict and FIW are speculative and should be the subject of future research.

An examination of how values influence the work–family interface is still in its infancy. Our results build on earlier work (Carlson & Kacmar, 2000) that suggests including values in studies of work and family is useful both for theoretical development and for empirical work. Values represent a still largely untested set of variables that may influence perceived role conflict in a number of ways – for example, through expectations, behaviours, decisions (Greenhaus & Powell, 2003), and attempts to reduce conflict. As such, the theory of role conflict first developed by Kahn *et al.* (1964)

and extended by Greenhaus and Beutell (1985) can benefit from a consideration of values that either directly affect work-family conflict, or influence mediators (as in our study) that ultimately lead to conflict. Empirically, the study of values is important because their inclusion may allow researchers to explain more variance in perceived work-family conflict, thus enhancing our understanding of the dynamics of the work–family interface. A fuller investigation of the types of conflict (time, strain, and behaviour) created by values such as materialism would aid in this effort.

The results of this study, taken together with those of Carlson and Kacmar (2000), raise important questions for future research. One key issue is whether values should be viewed as moderators of the relationship between work-family antecedents and perceived conflict (as in Carlson and Kacmar's study), or as antecedents that affect mediators of conflict (as in our study). While arguments can undoubtedly be made for either perspective, a recurring theme in our theoretical development is that one's values, such as one's level of materialism, drive behaviours and decisions in one's work and family roles. Thus, we view values as *creating* conditions (such as perceived work overload) that can lead to work-family conflict, rather than as variables that influence perceived conflict *after* the antecedent condition has been established.

The potential for work-family enrichment (Greenhaus & Powell, 2006; Rothbard, 2001), rather than conflict, among materialistic individuals remains another area for future research. However, while such enrichment is possible, it seems unlikely that materialists would obtain skills in their family roles that would spill over to assist in the fulfilment of extrinsic goals in the workplace. Since materialistic individuals are less able to address their competence and relatedness needs in their non-work life, they are less likely to develop skills in these areas that could transfer to the work domain. Similarly, because family pursuits are less salient to materialistic individuals, they are less inclined to apply skills learned at work to their home lives. Rather, their energies will continue to be directed towards attainment of tangible rewards. Thus, individuals high in materialism are prone to experience the work-family intersection from a scarcity (conflict) perspective.

By connecting materialism to work-family conflict, this study adds to the large body of evidence demonstrating negative effects of materialistic values on personal well-being. One way to address the problems caused by materialism would be to decrease the level of materialistic values in society. However, the causes of materialism are rooted in societal culture and thus not easily influenced by one organization (Kasser, Cohn, Kanner, & Ryan, 2007). Nevertheless, organizations can take steps to decrease employee materialism and/or attenuate its negative effects. For example, extrinsic rewards could be positioned as a less important element of the corporate culture – specifically, that pay is not the only way the 'score is kept' (Kasser *et al.*, 2006). By focusing on more intrinsic rewards, compensation systems could be revamped to recognize employees' accomplishments with increased autonomy, task identity, and responsibility (Hackman & Oldham, 1980) rather than with material rewards alone. To the extent that extrinsic rewards are emphasized, they should be structured in a way such that financial success is instrumental in the attainment of more intrinsic outcomes such as competence and autonomy (e.g. Deckop & Cirka, 2000; Deckop *et al.*, in press; Srivastava *et al.*, 2001). Specific means for designing a reward system in this manner remain the subject of future research.

Further, other facets of organizational culture, such as managerial support and work time expectations, have been found to affect work-family conflict (Thompson *et al.*, 1999). Both factors could be ways in which an organization assists all employees, but perhaps materialistic persons in particular, to manage work overload and in turn reduce

WIF. Since materialistic individuals tend to be susceptible to external pressures, especially to achieve goals consistent with materialist values (Sheldon & Kasser, 2001), they may be particularly harmed by an organizational culture that is focused on extrinsic rewards and that lacks managerial support for work–family balance. A culture that is 'family-friendly' and does not impose extreme time expectations may lessen work overload and could be an effective antidote to the negative effects of materialism on WIF. Unfortunately, there are no obvious organizational interventions likely to lessen the impact of materialism on FIW. Change in this instance would need to emanate from shifts in societal culture (Kasser, 2002), with any one organization having limited influence.

Limitations

This study used a self-report, questionnaire-based method for collecting data, suggesting potential common method variance problems. However, two time periods were used to collect data, alleviating concerns about cognitive carryover among scales (Harrison & McLaughlin, 1993), which occurs when prior responses on a questionnaire are used as anchors for subsequent responses. Further, the cross-sectional design of the study does not allow for causal inferences.

In addition, the possibility that FIW may serve as a proxy for 'family' suggests an alternate interpretation of our results. If this is the case, the significant interaction between materialism and FIW could reflect the influence of the respondent's actual family situation rather than the perceived interference of family demands on work-life, as we theorize. In supplemental analyses (please contact the first author for these results), we investigated this possibility by replacing the materialism $\times$ FIW interaction with materialism $\times$ children, materialism $\times$ single, and materialism $\times$ married interactions. Results strongly suggested that FIW did not serve as a proxy for family. None of the three interactions approached statistical significance individually or as a group. We also conducted an analysis in which we included the materialism $\times$ FIW interaction along with the materialism $\times$ children, materialism $\times$ single, and materialism $\times$ married interactions. The materialism $\times$ FIW interaction was statistically significant ($p < .05$), as it is in Table 2, while the other three interactions were not.

The study subjects were drawn from a wide variety of organizations, making it impossible to determine the extent to which specific contextual variables (e.g. organizational culture or departmental differences) might affect the relationships among materialism, work overload, and work–family conflict. Since our sample was composed of respondents in managerial and technical positions, generalization of these results to other populations may not be valid. However, the lack of association between materialism and job sector enhances our confidence that the results do generalize across various forms of work organization. Relatedly, this sample included only those working in the USA, so generalizability to other countries is not possible. Given that nations vary considerably in level of materialistic orientation (Inglehart, Basanez, & Moreno, 1998), cross-cultural differences in how materialism affects work–family conflict may result in an amplification or mitigation of our results across national groups.

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