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Journal of Vocational Behavior 63 (2003) 510–531

Journal of

Vocational  
Behavior

[www.elsevier.com/locate/jvb](http://www.elsevier.com/locate/jvb)

# The relation between work–family balance and quality of life

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Received 11 April 2002

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## Abstract

We examined the relation between work–family balance and quality of life among professionals employed in public accounting. Three components of work–family balance were assessed: time balance (equal time devoted to work and family), involvement balance (equal involvement in work and family), and satisfaction balance (equal satisfaction with work and family). For individuals who invested substantial time in their combined work and family roles, those who spent more time on family than work experienced a higher quality of life than balanced individuals who, in turn, experienced a higher quality of life than those who spent more time on work than family. We observed similar findings for involvement and satisfaction. We identified the contributions of the study to the work–family balance literature and discussed the implications of the findings for future research.

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*Keywords:* Work–family balance; Work-life balance; Quality of life; Work–family conflict; Stress

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## 1. Introduction

The recent explosion of interest in the work–family interface has produced a number of concepts to explain the relation between these two dominant spheres of life:

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accommodation, compensation, resource drain, segmentation, spillover, work–family conflict, work–family enrichment, and work–family integration (Barnett, 1998; Edwards & Rothbard, 2000; Friedman & Greenhaus, 2000; Greenhaus & Beutell, 1985; Greenhaus & Parasuraman, 1999; Lambert, 1990). One term widely cited in the popular press is work–family balance. Sometimes used as a noun (when, for example, one is encouraged to achieve balance), and other times as a verb (to balance work and family demands) or an adjective (as in a balanced life), work–family balance often implies cutting back on work to spend more time with the family. Moreover, it is thought to be in an individual's best interest to live a balanced life (Kofodimos, 1993).

Despite the presumed virtue of work–family balance, the concept has not undergone extensive scrutiny. Most of the major reviews of work–family relations either do not mention work–family balance or mention balance but do not explicitly define the concept. Moreover, empirical studies that discuss balance between work and family roles generally do not distinguish balance from other concepts in the work–family literature (Nielson, Carlson, & Lankau, 2001; Saltzstein, Ting, & Saltzstein, 2001; Sumer & Knight, 2001; Thompson, Beauvais, & Lyness, 1999). For empirical research on balance to contribute to understanding work–family dynamics, further development of the construct is essential.

Several scholars have recently proposed definitions of balance that distinguish it from other related concepts (Clark, 2000; Hill, Hawkins, Ferris, & Weitzman, 2001; Kirchmeyer, 2000; Kofodimos, 1990, 1993; Marks, Huston, Johnson, & MacDermid, 2001; Marks & MacDermid, 1996). Nevertheless, the definitions of balance are not entirely consistent with one another, the measurement of balance is problematic, and the impact of work–family balance on individual well-being has not been firmly established.

The present study addressed these gaps in the literature. Specifically, the research: (1) proposed a comprehensive definition of work–family balance that is distinguishable from other work–family concepts; (2) developed a measure of work–family balance that is consistent with this definition; and (3) examined relations between work–family balance and quality of life, a prominent indicator of well-being. In subsequent sections of this article, we discuss the concept and measurement of work–family balance, propose relations between work–family balance and quality of life, and report the results of a study designed to examine these relations.

## **2. The meaning of work–family balance**

We do not consider balance to be a work–family linking mechanism because it does not specify how conditions or experiences in one role are causally related to conditions or experiences in the other role (Edwards & Rothbard, 2000). Instead, work–family balance reflects an individual's orientation across different life roles, an interrole phenomenon (Marks & MacDermid, 1996). In contrast to the prevailing view that individuals inevitably organize their roles in a hierarchy of prominence, Marks and MacDermid (1996), drawing on Mead (1964), suggest that individuals

can—and should—demonstrate equally positive commitments to different life roles; that is, they should hold a balanced orientation to multiple roles.

Marks and MacDermid define role balance as “the tendency to become fully engaged in the performance of every role in one’s total role system, to approach every typical role and role partner with an attitude of attentiveness and care. Put differently, it is the practice of that evenhanded alertness known sometimes as mindfulness” (Marks & MacDermid, 1996, p. 421). However, they also note that this expression of full engagement reflects a condition of “positive” role balance, in contrast to negative role balance in which individuals are fully *disengaged* in every role. Although Marks and MacDermid (1996) are understandably more concerned with positive role balance than negative role balance, they acknowledge that it is important to distinguish the two concepts.

Other scholars have defined work–family balance or work–life balance in a manner similar to Marks and MacDermid’s (1996) conception of positive role balance. For example, Kirchmeyer views living a balanced life as “achieving satisfying experiences in *all* life domains, and to do so requires personal resources such as energy, time, and commitment to be *well distributed* across domains” (Kirchmeyer, 2000, p. 81, italics added). In a similar vein, Clark views work–family balance as “satisfaction and good functioning at work and at home with a minimum of role conflict” (Clark, 2000, p. 349). According to Kofodimos, balance refers to “a satisfying, healthy, and productive life that includes work, play, and love. . . .” (Kofodimos, 1993; p. xiii).

These definitions of balance share a number of common elements. First is the notion of equality, or near-equality, between experiences in the work role and experiences in the family role. Clark (2000), Kirchmeyer (2000), and Kofodimos (1993) imply similarly high levels of satisfaction, functioning, health, or effectiveness across multiple roles. Perhaps, Marks and MacDermid’s (1996) notion of “evenhanded alertness” as a characteristic of positive balance is most explicit with regard to equality of role commitments. Even negative balance, to use Marks and MacDermid’s (1996) term, implies an evenhanded lack of alertness in different roles. To draw an analogy from everyday life, a measuring scale is balanced when there are equal weights on both sides of the fulcrum, whether the weights are equally heavy or equally light.

Moreover, the definitions of work–family balance implicitly consider two components of equality: inputs and outcomes. The inputs are the personal resources (Kirchmeyer, 2000) that are applied to each role. To be balanced is to approach each role—work and family—with an approximately equal level of attention, time, involvement, or commitment. Positive balance suggests an equally high level of attention, time, involvement, or commitment, whereas negative balance refers to an equally low level of attention, time, involvement, or commitment. These inputs reflect an individual’s level of role engagement—in terms of time devoted to each role or psychological involvement in each role. It is difficult to imagine a balanced individual who is substantially more or less engaged in the work role than the family role.

The other component of balance refers to the resultant outcomes that are experienced in work and family roles. One outcome frequently included in definitions of

balance is satisfaction (Clark, 2000; Kirchmeyer, 2000; Kofodimos, 1993). Positive balance implies an equally high level of satisfaction with work and family roles, and negative balance suggests an equally low level of satisfaction with each role. Again, it is difficult to picture individuals as having achieved work–family balance if they are substantially more satisfied with one role than the other. In fact, one of Marks and MacDermid’s (1996) measures of positive role balance (discussed shortly) assesses the extent to which an individual is equally satisfied in all life roles.

We offer the following definition of work–family balance: the extent to which an individual is equally engaged in—and equally satisfied with—his or her work role and family role. Consistent with Marks and MacDermid (1996), our definition is broad enough to include positive balance and negative balance. Because role engagement can be further divided into elements of time and psychological involvement, we propose three components of work–family balance:

- Time balance: an equal amount of time devoted to work and family roles.
- Involvement balance: an equal level of psychological involvement in work and family roles.
- Satisfaction balance: an equal level of satisfaction with work and family roles.

Each component of work–family balance can represent positive balance or negative balance depending on whether the levels of time, involvement, or satisfaction are equally high or equally low.

We view work–family balance as a matter of degree, a continuum anchored at one end by extensive imbalance in favor of a particular role (for example, family) through some relatively balanced state to extensive imbalance in favor of the other role (e.g., work) as the other anchor point. In addition, we conceptualize balance as independent of an individual’s desires or values. Bielby and Bielby (1989) observed that married working women may emphasize their family “in balancing work and family identities” (p. 786) and Lambert (1990) discussed “maintaining a particular balance between work and home” (p. 252). These researchers appear to be using the term balance to represent a range of different patterns of commitment, rather than an equality of commitments across roles. We believe that an individual who gives substantially more precedence to one role than the other is relatively imbalanced even if the distribution of commitment to family and work is highly consistent with what the individual wants or values. Whether such imbalance in favor of one role is healthy or not is, in our opinion, an empirical question.

### **3. The measurement of work–family balance**

Researchers have used several different approaches to operationally define role balance, work–family balance, or work-life balance. For example, some studies have assessed an individual’s reaction to an unspecified level of balance. Milkie and Peltola (1999) used the item: “How successful do you feel in balancing your paid work and family life?” White (1999) and Saltzstein et al. (2001) focused on satisfaction with balance with the items “Are you satisfied or dissatisfied with the balance between your job or main activity and family and home life?” and “I am satisfied with

the balance I have achieved between my work and life” respectively. These measures are somewhat limited because they measure perceptual or affective reactions to balance rather than balance itself. Hill et al. (2001) developed a five-item scale to assess work-life balance. However, three of their items (e.g., “How easy or difficult is it for you to balance the demands of your work and your personal and family life?”) seem to assess perceived success in achieving balance rather than the level of balance.

Marks and colleagues’ scales come closest to assessing balance as conceptualized in the present research. In their first study of employed wives and mothers, Marks and MacDermid (1996) used a single item to measure role balance: “Nowadays, I seem to enjoy every part of my life equally well.” Although, as the authors acknowledged, a one-item scale is not ideal, at least the item assessed equality among roles in enjoyment or satisfaction, one component of work–family balance.

In their second study, Marks and MacDermid (1996) developed a more complex 8-item scale of role balance. Three types of items were included in the scale: (1) equal satisfaction or enjoyment across roles (“... I find satisfaction in everything I do.”); (2) equal importance or caring about roles (“Everything I do feels special to me; nothing stands out as more important or more valuable than anything else.”); and (3) equal attention or time across roles (“I try to put a lot of myself into everything I do.”). Marks et al. (2001) used four items from Marks and MacDermid’s (1996) 8-item scale, two of which reflected equal satisfaction and two of which assessed equal time or attention. The alpha coefficients were modest for women (.64) and men (.56), suggesting that the satisfaction and time components of balance may be distinct constructs.

Although the items by Marks and his colleagues are faithful to their definition of role balance, they represent respondents’ judgments of balanced satisfaction, importance, or attention across roles. As Marks and MacDermid (1996) acknowledged, it is difficult to interpret the meaning of a low score on their items. For example, individuals who disagree with the item “I try to put a lot of myself into everything I do” might put very little into everything they do (negative role balance) or might put much more into one role than another (role imbalance). Therefore, Marks and MacDermid (1996) encourage researchers to obtain direct measures of positive balance, negative balance, and imbalance. One objective of this study, as we elaborate below, was to develop direct measures of the components of work–family balance that do not depend on employees’ self-reported assessment of balance.

#### **4. The relation between work–family balance and quality of life**

Work–family balance is generally thought to promote well-being. Kofodimos (1993) suggests that imbalance—in particular work imbalance—arouses high levels of stress, detracts from quality of life, and ultimately reduces individuals’ effectiveness at work. Hall (1990) proposes an organization-change approach to promoting work–family balance, and the popular press is replete with advice to companies and employees on how to promote greater balance in life (Cummings, 2001; Fisher, 2001; Izzo & Withers, 2001).

Why should work–family balance enhance an individual’s quality of life? First, involvement in multiple roles protects or buffers individuals from the effects of negative experiences in any one role (Barnett & Hyde, 2001). Beyond this buffering effect, work–family balance is thought to promote well-being in a more direct manner. Marks and MacDermid (1996, p. 421), believe that balanced individuals are “primed to seize the moment” when confronted with a role demand because no role is seen as “less worthy of one’s alertness than any other.” According to this reasoning, balanced individuals experience low levels of stress when enacting roles, presumably because they are participating in role activities that are salient to them. In fact, Marks and MacDermid (1996) found that balanced individuals experienced less role overload, greater role ease, and less depression than their imbalanced counterparts.

Moreover, a balanced involvement in work and family roles may also reduce chronic work–family conflict. Because balanced individuals are fully engaged in both roles, they do not allow “situational urgencies” to hinder role performance chronically (Marks & MacDermid, 1996). Instead, they develop routines that enable them to meet the long-term demands of all roles, presumably avoiding extensive work–family conflict. In sum, a balanced engagement in work and family roles is expected to be associated with individual well-being because such balance reduces work–family conflict and stress, both of which detract from well-being (Frone, Russell, & Cooper, 1992).

However, the beneficial effects of balance are based on the assumption of positive balance. We suggested that an equally *high* investment of time and involvement in work and family would reduce work–family conflict and stress thereby enhancing an individual’s quality of life. To determine whether there are different effects of positive balance and negative balance on quality of life, it is necessary to distinguish individuals who exhibit a high *total* level of engagement across their combined work and family roles from those who display a low total level of engagement. For example, those individuals who devote a substantial amount of time to their combined work and family roles and distribute this substantial time equally between the two roles exhibit positive time balance. By contrast, those individuals who devote only a limited amount of time to their combined work and family roles and distribute the limited time equally between the two roles exhibit negative time balance. Similarly, individuals who invest a substantial amount of psychological involvement in their combined roles and distribute their substantial involvement equally between their work and family roles exhibit positive involvement balance, whereas those who distribute their limited involvement equally exhibit negative involvement balance.

We believe that positive balance has a more substantial positive impact on quality of life than negative balance. When individuals invest substantial time or involvement in their combined roles, there is more time or involvement to distribute between work and family. In this situation, imbalance can reflect sizeable differences between work time and family time or between work involvement and family involvement, and therefore produce extensive work–family conflict and stress that detract from quality of life. However, we expect little or no benefit of balance when individuals invest limited time or involvement in their combined roles. In this situation, because there is so little time or involvement to distribute, imbalance reflects small differences

between work time and family time or between work involvement and family involvement, and arouses little or no work–family conflict and stress that detract from the quality of one’s life. Therefore, we tested the following hypotheses.

**Hypothesis 1.** There is an interaction between time balance and total time devoted to work and family roles in predicting quality of life. The relation between balance and quality of life is stronger for individuals who devote a substantial amount of time to their combined work and family roles than for individuals who devote a limited amount of time to their combined work and family roles.

**Hypothesis 2.** There is an interaction between involvement balance and total involvement in work and family roles in predicting quality of life. The relation between balance and quality of life is stronger for individuals who are highly involved in their combined work and family roles than for individuals who are relatively uninvolved in their combined work and family roles.

Recall that the interactions are based on the notion that balanced individuals experience less work–family conflict and stress than imbalanced individuals only when substantial time and psychological involvement are invested across their work and family roles. Under conditions of more limited investment of time and involvement, there are smaller differences in the degree of balance and hence smaller differences in work–family conflict, stress, and ultimately quality of life. In effect, we believe that work–family conflict and stress explain or mediate the effects of balance on quality of life. Therefore:

**Hypothesis 3.** The interaction between time balance and the total amount of time devoted to work and family roles predicting quality of life is mediated by work–family conflict and stress.

**Hypothesis 4.** The interaction between involvement balance and total involvement in work and family roles predicting quality of life is mediated by work–family conflict and stress.

Hypotheses 1–4 predicted relations of time balance and involvement balance with quality of life. Balanced satisfaction across work and family roles (Clark, 2000; Kirchmeyer, 2000; Kofodimos, 1993) is also likely to be associated with a high quality of life. Individuals who are highly satisfied with both roles are likely to experience a more substantial achievement of valued goals than those who are less satisfied with one role than the other, and goal achievement has been associated with individual well-being (Diener, Suh, Lucas, & Smith, 1999). Moreover, we expect that an imbalanced satisfaction between work and family roles can produce extensive stress because the imbalance is a constant reminder that one is not meeting his or her needs or values as extensively in one role as the other.

However, the relation between satisfaction balance and quality of life is likely to depend on the total level of satisfaction across work and family roles. Under conditions of high total satisfaction, there is more satisfaction to distribute across work and family roles. Therefore, imbalance can produce sizeable differences between

work satisfaction and family satisfaction, a high level of stress, and therefore a low quality of life. Under conditions of low total satisfaction, where there is not much satisfaction to distribute across roles, imbalance produces minor differences between work satisfaction and family satisfaction, generates little stress, and has little or no effect on quality of life. Therefore:

**Hypothesis 5.** There is an interaction between satisfaction balance and total satisfaction with work and family roles in predicting quality of life. The relation between balance and quality of life is stronger for individuals who are highly satisfied with their combined work and family roles than for individuals who are relatively dissatisfied with their combined work and family roles.

The rationale behind Hypothesis 5 is that imbalanced individuals experience more stress than balanced individuals only when there is a substantial amount of satisfaction to distribute across their work and family roles. In effect, stress explains the effect of satisfaction balance on quality of life. We do not believe that work–family conflict explains the relation between satisfaction balance and quality of life because an imbalance in satisfaction is not likely to produce extensive work–family conflict as an imbalance in time or involvement is expected to produce. Therefore

**Hypothesis 6.** The interaction between satisfaction balance and total satisfaction with work and family roles predicting quality of life is mediated by stress.

## **5. Method**

### *5.1. Participants*

The present research was part of a larger study on the quality of life in public accounting (Greenhaus, Collins, Singh, & Parasuraman, 1997; Greenhaus, Parasuraman, & Collins, 2001). Participants were members of the American Institute of Certified Public Accountants (AICPA) who were employed in public accounting at the time of the study. Surveys were mailed to 1,000 randomly selected members of the AICPA who met pre-established criteria, of whom 428 (42.8%) responded. The present analyses were limited to the 353 respondents who were married (or in a long-term relationship) or who had at least one child. These criteria were established to assure that all respondents had at least moderate family responsibilities.

The final sample consisted of 232 men (65.7%) and 121 women whose average age was 35.2 years. Nearly 95% were married or in long-term relationships and 70% had at least one child. The majority of the respondents were accounting managers (53.8%), with sizeable representations of supervisors (16.2%) and staff or senior accountants (19.6%). Most of the accountants worked in tax (32.3%), auditing (27%), or multiple areas of specialization (29.4%), and 30% worked in national or international firms. Respondents averaged 4.4 years in their current position and 6 years in their firm.

## 5.2. Measures

As noted earlier, we assessed three components of work–family balance: time, involvement, and satisfaction. To avoid the limitations of individual judgments about balance, we calculated direct measures of work–family balance. As described below, these measures compared: (1) the amount of time spent at work with the amount of time spent on home and family activities, (2) involvement in work with involvement in family, and (3) satisfaction with work with satisfaction with family. This approach provided information on the equality of time, involvement, and satisfaction associated with work and family roles; it also enabled us to distinguish positive balance from negative balance. We next describe the measure of time balance and then discuss the assessment of balance in involvement and satisfaction.

Time spent on work was measured by asking respondents the number of hours they worked weekly during the busy season(s) and outside of the busy season(s), as well as the number of weeks in the busy season(s). This information was combined to obtain the number of hours worked during the year, which was subsequently divided by 52 to reflect the average number of hours worked per week. Time spent on home and family was calculated by summing the number of hours per week respondents reported spending on household chores and the number of hours in an average week they reported spending on child care activities. (Because fewer than 10% of the respondents spent time caring for aging parents, we did not include elder care as part of the measure of family time.)

To calculate time balance, we used a balance coefficient developed by Janis and Fadner (1965) and used more recently by Deephouse (1996). The coefficient, which can range from  $-1$  to  $+1$ , has a meaningful zero point when an individual spends exactly the same amount of time on work and family (see Appendix A for the formula). We refer to this variable as the time balance coefficient. A score of zero represents balance because it signifies an equal amount of time devoted to work and family. Positive scores represent work imbalance because they indicate increasingly greater time that is devoted to work rather than family. Conversely, negative scores represent family imbalance because they indicate increasingly greater time that is devoted to family rather than work.

Using the procedure described above, we also calculated an involvement balance coefficient. Career involvement was assessed with three items from Lodahl and Kejner's (1965) job involvement scale, with the word career substituted for job (e.g., "Most of the important things that happen to me involve my career."). Responses to the three items, each of which was assessed on a 5-point scale from strongly disagree to strongly agree, were averaged to form a total score ( $\alpha = .77$ ). Family involvement was assessed with a parallel set of three items (with the word family substituted for career) that has been used previously in the literature (Parasuraman, Greenhaus, & Granrose, 1992). Responses were averaged to produce a family involvement score ( $\alpha = .86$ ). We then applied Deephouse's (1996) formula to develop an involvement balance coefficient. Again, a score of zero represents balance because it signifies an equal level of involvement in work and family roles. Positive scores represent work imbalance because they indicate increasingly greater involvement in work than

family. Negative scores represent family imbalance because they indicate increasingly greater involvement in family than work.

In the same manner, we created a coefficient of satisfaction balance. Career satisfaction was assessed with a 5-item scale developed by Greenhaus, Parasuraman, and Wormley (1990). Each item (e.g., “I am satisfied with the success I have achieved in my career.”) was measured on a 5-point scale from strongly disagree to strongly agree. Responses to the five items were averaged to form a career satisfaction score ( $\alpha = .86$ ). Family satisfaction was assessed with two items (e.g., “I am satisfied with my present family situation.”) measured on a 5-point scale from strongly disagree to strongly agree ( $\alpha = .78$ ). As with time and involvement, we used Deephouse’s (1996) formula to develop a measure of satisfaction balance. Once again, a score of zero represents balance because it signifies an equal amount of satisfaction derived from work and family roles. Positive scores represent work imbalance because they indicate increasingly greater satisfaction with work than family. Negative scores represent family imbalance because they indicate increasingly greater satisfaction with family than work.

To assess quality of life, the dependent variable, respondents were presented with seven bipolar items that describe “how you feel about your present life” (Quinn & Sheppard, 1974; Staines, Pottick, & Fudge, 1986): boring-interesting, miserable-worthwhile, empty-full, discouraging-hopeful, disappointing-rewarding, hard-easy, and tied down-free. Each bipolar item was answered on a 5-point scale where 1 represents the negative phrase on the left (e.g., boring) and 5 represents the positive phrase on the right (e.g., interesting). Responses to the seven items were averaged to produce a quality of life score ( $\alpha = .83$ ).

The mediating variables examined in this study were work–family conflict and life stress. Two directions of work–family conflict were assessed with items derived from prior research (Friedman & Greenhaus, 2000; Kopelman, Greenhaus, & Connolly, 1983; Parasuraman et al., 1992). Work-to-family conflict was measured by 4 items ( $\alpha = .85$ ) and family-to-work conflict was measured by 2 items ( $\alpha = .56$ ). Responses to the work–family conflict items were made on a five-point scale from strongly agree to strongly disagree. Stress was assessed with two items from Patchen (1970). One item asked respondents to indicate how frequently they feel “tired and worn out during a good part of the day,” and the other item asked respondents to indicate how often they feel “nervous, tense, or edgy.” Each item was answered on a 5-point scale, and responses to the two items were averaged to produce a total stress score ( $\alpha = .64$ ).

### *5.3. Data analyses*

Recall that each type of balance (time, involvement, and satisfaction) was assessed with a coefficient in which a score of zero represented the highest level of balance, and scores departing from zero represented increasing imbalance favoring one role or the other. Because the highest balance is represented in the middle of the scale range, a relationship between balance and quality of life would be reflected by a quadratic (inverted U) relationship between the coefficient and quality of life. Therefore, hierarchical quadratic regression analyses were conducted to test the hypotheses.

All variables were standardized prior to conducting the regression analyses (Jacard, Turrisi, & Wan, 1990). Three separate regression analyses were conducted to test the hypotheses, one for each component of balance (time, involvement, and satisfaction). Quality of life was regressed on age and firm type (national or international versus regional or local) in the first step because preliminary analyses revealed the importance of controlling for these demographic characteristics. A total term (e.g., total time across combined work and family roles) was entered in the second step, a balance coefficient (e.g., time balance) was entered in the third step, and a squared balance coefficient (quadratic term) was entered in the fourth step.

Hypotheses 1, 2, and 5 predicted that total time (Hypothesis 1), total involvement (Hypothesis 2), and total satisfaction (Hypothesis 5) across work and family roles would moderate the relationships between work–family balance and quality of life. In effect, they predicted interactions between the quadratic term (the balance coefficient squared) and total time, total involvement, or total satisfaction respectively. Accordingly, a linear interaction term (e.g., total time by time balance) entered the analysis in the fifth step, and a quadratic interaction term (e.g., total time by the squared time balance coefficient) entered the analysis in the sixth step (Aiken & West, 1991). The significance of the coefficient of the quadratic interaction term in each analysis was examined to assess Hypotheses 1, 2, and 5. Each significant interaction was plotted from the full regression equation to examine the nature of the interaction (Aiken & West, 1991; Cohen & Cohen, 1983).

Hypothesis 3 predicted that the interaction between time balance and total time on quality of life would be mediated by work–family conflict and stress. Hypothesis 4 predicted the same mediator effect for the interaction between involvement balance and total involvement, and Hypothesis 6 predicted that the interaction between satisfaction balance and total satisfaction would be mediated by stress. Therefore, we entered the mediator variable(s) in the seventh and final step of each regression analysis to determine whether the predicted interaction effect would disappear when the mediator(s) entered the equation. Consistent with Baron and Kenny's (1986)'s procedure, if an interaction effect became nonsignificant when a mediator entered the equation, we determined whether the interaction term was related to the mediator variable, and whether the mediator was related to the dependent variable, quality of life.

## 6. Results

Respondents spent considerably more hours per week on work ( $M = 47.43$ ) than family ( $M = 27.57$ ;  $t = 14.1$ ,  $p < .01$ ). This differential was reflected in an average time balance coefficient of .28. On the other hand, the respondents were more psychologically involved in their family ( $M = 4.24$ ) than their work ( $M = 3.26$ ;  $t = 16.18$ ,  $p < .01$ ), with an average involvement balance coefficient of  $-.08$ . Individuals were also more satisfied with their family life ( $M = 4.05$ ) than their work ( $M = 3.46$ ;  $t = 10.09$ ,  $p < .01$ ) as reflected in an average satisfaction balance coefficient of  $-.05$ .

Table 1 presents the means, standard deviations, and correlations for the study variables. Age was positively associated with quality of life, whereas employment in a national or international accounting firm was negatively related to quality of life. None of the balance coefficients—for time, involvement, or satisfaction—related linearly to quality of life. In addition, total involvement and total satisfaction related positively to quality of life, and the predicted mediators—work-to-family conflict, family-to-work conflict, and stress—related negatively to quality of life.

Table 2 presents the results of the hierarchical regression analyses predicting quality of life from each component of work–family balance. Although we made no predictions regarding the main effect of balance, it should be noted that none of the quadratic terms entering the analyses in step 4 related significantly to quality of life. Therefore, balanced individuals did not experience a higher quality of life than imbalanced individuals.

Inconsistent with Hypotheses 1, 2, and 5, none of the quadratic interaction terms was a significant predictor of quality of life. In other words, the relation between balance and quality of life did not differ as a function of total time, total involvement, or total satisfaction across work and family roles. Because the quadratic interactions were nonsignificant, it was not meaningful to test the mediating effects predicted in Hypotheses 3, 4, and 6.

However, there were significant linear interactions between the respective balance coefficients and total time, total involvement, and total satisfaction predicting quality of life (step 5). The interaction plots are shown in Figs. 1–3 respectively. As Fig. 1 indicates, individuals who devoted relatively little total time to work and family experienced a high quality of life regardless of how they distributed the time across the two roles. In contrast, for individuals who devoted substantial total time to work and family, those who spent more time on family than work experienced the highest quality of life, followed by balanced individuals, and finally by those who spent more time on work than family. Therefore, balanced individuals were better off than those who were work imbalanced but not as well off as those who were family imbalanced.

We also examined the mediating effects of work-to-family conflict, family-to-work conflict, and stress on the linear interaction. We found that the interaction between time balance and total time predicting quality of life disappeared when the three mediators separately entered the equations immediately after the linear interaction term (not shown). Following Baron and Kenny (1986), we then determined that time balance interacted with total time to predict all three of the mediator variables. However, because only two of the variables—work-to-family conflict and stress—were substantially related to quality of life, we focused our analyses on these variables as mediators.

The interaction plots (not shown) revealed how the mediating variables explained the original interaction. Under conditions of high total time commitment, work imbalanced individuals, who had reported the lowest quality of life, experienced the highest work-to-family conflict and the greatest stress. In contrast, family imbalanced individuals, who had reported the highest quality of life, experienced the lowest work-to-family conflict and the least stress. Balanced individuals fell in between these extremes. Therefore, work-to-family conflict and stress explained why work

Table 1  
Means, standard deviations and correlations for study variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Age	35.18	7.94											
2. Firm <sup>a</sup>	.30	.46	-.21										
3. Total time	75.00	21.78	-.20	.02									
4. Time balance <sup>b</sup>	.28	.28	.14	.15	-.79								
5. Total involvement	7.50	.92	-.01	.05	.06	-.01							
6. Involvement balance <sup>b</sup>	-.09	.12	.16	-.02	-.16	.20	.23						
7. Total satisfaction	7.52	1.21	-.10	.10	.05	-.06	.39	-.08					
8. Satisfaction balance <sup>b</sup>	-.05	.11	.02	.15	-.01	.06	.03	.44	-.04				
9. Work-to-family conflict	3.16	.92	-.24	.28	.12	.07	.01	-.05	-.24	.11			
10. Family-to-work conflict	1.99	.73	.01	-.06	.20	-.22	-.05	.11	-.33	.13	.35		
11. Stress	3.02	1.00	-.23	.16	.14	.00	-.11	-.06	-.26	.10	.50	.27	
12. Quality of life	3.60	.57	.11	-.18	.00	-.08	.22	.04	.52	.01	-.44	-.26	-.44

Note.  $r \geq 11$ ,  $p < .05$ ;  $r \geq .16$ ,  $p < .01$ ; pairwise  $N$ s range from 318 to 347.

<sup>a</sup> 1 = national or international; 0 = local or regional.

<sup>b</sup> High scores reflect imbalance favoring work.

Table 2  
Results of hierarchical multiple regression predicting quality of life

<i>Time as independent variable</i>	$\beta^a$	$R^2$	$\Delta R^2$
Step 1			
Age	.02		
Firm <sup>b</sup>	-.18**	.035**	.035**
Step 2			
Total time (TT)	.01	.035**	.000
Step 3			
Time balance <sup>c</sup> (TB)	-.14	.041**	.007
Step 4			
Time balance <sup>2</sup> (TB <sup>2</sup> )	.10	.049**	.008
Step 5			
TB* TT	-.22*	.062**	.013*
Step 6			
TB <sup>2</sup> * TT	-.03	.062**	.000
<i>Involvement as independent variable</i>	$\beta^a$	$R^2$	$\Delta R^2$
Step 1			
Age	.07		
Firm <sup>b</sup>	-.16**	.037**	.037**
Step 2			
Total involvement (TI)	.23**	.090**	.053**
Step 3			
Involvement balance <sup>c</sup> (IB)	-.03	.091**	.001
Step 4			
Involvement balance <sup>2</sup> (IB <sup>2</sup> )	.01	.091**	.000
Step 5			
IB* TI	-.16*	.106**	.015*
Step 6			
IB <sup>2</sup> * TI	.01	.106**	.000
<i>Satisfaction as independent variable</i>	$\beta^a$	$R^2$	$\Delta R^2$
Step 1			
Age	.07		
Firm <sup>b</sup>	-.17**	.038**	.038**
Step 2			
Total satisfaction (TS)	.56**	.342**	.304**
Step 3			
Satisfaction balance <sup>c</sup> (SB)	.06	.346**	.004
Step 4			
Satisfaction balance <sup>2</sup> (SB <sup>2</sup> )	.02	.346**	.000
Step 5			
SB* TS	-.12*	.353**	.007*
Step 6			
SB <sup>2</sup> * TS	-.05	.354**	.001

<sup>a</sup> Beta weight at the time of entry into the equation.

<sup>b</sup> 1 = national or international; 0 = local or regional.

<sup>c</sup> High scores reflect imbalance favoring work.

\*  $p \leq .05$ .

\*\*  $p \leq .01$ .



Fig. 1. Interaction between time balance and total time predicting quality of life.



Fig. 2. Interaction between involvement balance and total involvement predicting quality of life.

imbalance and family imbalance were associated with low and high quality of life respectively.

Fig. 2 plots the linear interaction between involvement balance and total involvement predicting quality of life. For individuals who were relatively uninvolved across their combined work and family roles, quality of life did not vary substantially as a function of how that involvement was distributed. In contrast, for individuals who were extensively involved in their combined roles, quality of life was highest for those who were more involved in family than work and was lowest for those more involved in work than family with balanced individuals in the middle. Regarding the mediating



Fig. 3. Interaction between satisfaction balance and total satisfaction predicting quality of life.

effects, we found that only work-to-family conflict and stress reduced the originally significant linear interaction to nonsignificance. Moreover, work-to-family conflict and stress were predicted by the linear interaction between involvement balance and total involvement and were each negatively related to quality of life. Under conditions of high total involvement, individuals who were more involved in work than family experienced the most work-to-family conflict and the greatest stress, whereas those who were more involved in family than work experienced the least work-to-family conflict and the least stress. Again, balanced individuals fell in the middle.

There was a weak but significant linear interaction between satisfaction balance and total satisfaction predicting quality of life (Fig. 3). Among those highly satisfied with their combined roles, quality of life was highest for respondents who were more satisfied with family than work and was lowest for those who were more satisfied with work than family. However, there was no evidence that stress mediated this interaction. In fact, the original interaction grew stronger when stress entered the equation immediately after the linear interaction term.

## 7. Discussion

Work–family balance is associated with quality of life, but only under certain conditions and not in the manner we had predicted. When individuals invest relatively little of their time or involvement in their combined work and family roles, or when they derive little satisfaction from their combined roles, work–family balance is unrelated to quality of life. Under these conditions, there is little time, involvement, or satisfaction to allocate between roles. Therefore, imbalance produces such small differences in engagement or satisfaction between work and family roles that the degree of balance has little or no implications for an individual's quality of life.

This finding bears directly on the issue of negative role balance (Marks & MacDermid, 1996) because balanced individuals in these circumstances are equally unengaged or equally dissatisfied with their work and family roles. Under conditions of limited time, limited involvement, or limited satisfaction across work and family, individuals who are balanced fare no better or worse than those who are imbalanced in favor of work or family.

In contrast, work–family balance is associated with quality of life when there is substantial time, involvement, or satisfaction to distribute across roles. However, in these circumstances, quality of life is invariably highest for those who are more engaged or more satisfied in family than work, and is lowest for those who are more engaged or more satisfied in work than family. Inconsistent with common wisdom and our predictions, the quality of life of balanced individuals fell between these two extremes. Moreover, although we had expected that balanced individuals would experience the least amount of work–family conflict and stress, we found that the family imbalanced groups experienced the lowest levels on these mediators, the work imbalanced groups experienced the highest levels, and the balanced groups fell in the middle.

For example, individuals who invested substantially more time and involvement in family than work experienced the least work-to-family conflict. In retrospect, this is understandable because their restricted engagement in work relative to family may have produced limited work pressures, thereby precluding high levels of work-to-family conflict (Frone, Yardley, & Markel, 1997) and life stress (Parasuraman, Purohit, Godshalk, & Beutell, 1996). In a sense, these individuals may have made the decision not to let their work responsibilities interfere with their family life. In contrast, individuals who were more engaged in work than family experienced the highest level of work-to-family conflict and stress. This finding is consistent with prior research demonstrating the impact of work time and work involvement on work–family conflict (Adams, King, & King, 1996; Eagle, Icenogle, & Maes, 1998; Frone et al., 1997; Judge, Boudreau, & Bretz, 1994; Netemeyer, Boles, & McMurrin, 1996) and the effect of work–family conflict on life stress (Parasuraman et al., 1996).

We also found that imbalanced satisfaction favoring the family was associated with a high quality of life among those individuals who derived substantial satisfaction from their combined roles. However, this interaction was not as strong as those involving time and involvement, and it was not mediated by stress as we had predicted. Future research is necessary to understand whether, when, and why satisfaction balance affects individual well-being.

Although we did not observe the expected virtues of work–family balance, the negative consequences of work imbalance were not unexpected and were consistent with prior research. Researchers adopting such diverse perspectives as work-life balance (Friedman & Greenhaus, 2000; Kofodimos, 1993), Type A Personality (Burke, Weir, & DuWors, 1979), and career success–personal failure (Korman & Korman, 1980) have all pointed out the dangers associated with over-involvement in work. The present study confirmed the negative effect of work imbalance on quality of life and demonstrated that the deleterious effect is due to heightened levels of work-to-family conflict and stress.

### 7.1. *Limitations of the present study and recommendations for future research*

The present study provided a number of insights into the relation between work–family balance and quality of life. Nevertheless, the research had several limitations that should be addressed in future research. First, although the objective assessment of balance (equality of time, involvement, and satisfaction) was a significant strength of this research, it would be useful to measure balance both objectively and subjectively in the same study. This would enable researchers to understand the process by which individuals view their lives as balanced. For example, employees may subjectively experience a high degree of balance even if their work involvement and their family involvement are not equal, as long as the difference does not reach a threshold level. In a similar vein, most employees spend considerably more time on work than on family activities. How much of a difference in work time and family time is necessary before individuals believe that they live imbalanced lives?

Moreover, the assessment of subjective balance would enable us to study other, more subtle aspects of balance that were not captured in our objective measure. We suspect that balanced individuals have the capacity to enjoy activities in one role without being unduly preoccupied with events or pressures in another role. It is also likely that individuals who are balanced experience gratification both of their mastery needs *and* their intimacy needs (Kofodimos, 1993). The inclusion of multiple assessments of balance within a study can address these issues and also permit an examination of the relative impact of objective balance and subjective balance on quality of life and other outcomes.

Second, our assessment of the time devoted to the family role was deficient because it did not include time spent with a spouse or partner. Therefore, our measure of family time was probably skewed toward tasks (home chores and child care) that some might consider burdensome. Although this skewness represents a limitation of our measure, it is all the more remarkable that individuals who spent more time on these aspects of family life than on work experienced the highest quality of life. Nevertheless, future research should incorporate time spent with spouse, sibling, and other relatives into its assessment of family time.

Third, the present study focused exclusively on balance between work and family roles. An examination of the broader concept of work-life balance would require assessments of time, involvement, and satisfaction on a more diverse set of roles, such as leisure, self-development, and community membership. It would be useful to study the balance between work and the aggregate of other life roles as well as the balance between pairs of specific roles. Such research would provide insights into the impact of different foci of role balance on individuals' well-being.

To gain a more complete understanding of the consequences of balance, it is also important to include measures of outcomes in the work domain. Organizations may suspect that employees who seek balance in their lives are less committed to the organization and are less productive in their jobs than other employees. Although Marks and MacDermid (1996) found that balance actually enhanced performance in school and work, future research should examine the impact of different compo-

nents of balance (e.g., time, involvement) and different assessments of balance (objective and subjective) on a wide array of work outcomes.

Moreover, research that examines the consequences of balance on personal and work outcomes should ideally use longitudinal designs. The cross-sectional nature of the present study does not permit us to draw firm causal inferences regarding the relations among balance, the mediator variables, and quality of life. Longitudinal research is especially important in the study of work–family balance because individuals may alternate their emphases on work and family activities in the short run to achieve balance in the long term.

Finally, we urge researchers to examine moderators of the relations between balance and outcome variables. It is plausible to expect individual differences to condition the impact of work–family balance on individual well-being and work outcomes. For example, work imbalance may have more severe effects on quality of life for some individuals than for others. In a series of exploratory analyses (not shown), we failed to detect moderating effects of gender, parenthood, and career aspirations on relations between work–family balance and quality of life. Nevertheless, the potential role of moderators is so compelling that systematic, theory-driven research should attempt to identify the factors that limit or exacerbate the effect of balance on important outcomes.

Despite the limitations of the present study, we believe that we have begun to address important and neglected issues regarding work–family balance. We demonstrated the usefulness of conceptualizing three components of balance (time, involvement, and satisfaction), and distinguished relations of positive balance and negative balance with quality of life. Our findings also revealed the importance of work-to-family conflict and stress as mechanisms that explain relationships between balance and well-being. However, considerably more research is needed to gain additional insight into the meaning and consequences of work–family balance.

### **Acknowledgments**

We thank John M. Schaubroeck for his assistance with the statistical analysis and Tammy D. Allen for her helpful comments on an earlier version of the manuscript.

### **Appendix A. Formula for calculating time balance coefficient (Deephouse, 1996)**

$$\text{Coefficient equals } \frac{(w^2 - wf)}{t^2} \quad \text{if } w > f,$$

$$\text{Coefficient equals } \frac{(wf - f^2)}{t^2} \quad \text{if } f > w,$$

$$\text{Coefficient equals } 0 \quad \text{if } w = f,$$

where  $w$  is the work hours per week;  $f$  is the family hours per week;  $t = w + f$ .

*Note.* In calculating involvement balance,  $w$ , career involvement and  $f$ , family involvement; in calculating satisfaction balance,  $w$ , career satisfaction and  $f$ , family satisfaction.

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