
Antecedents and Outcomes of Work-Family Conflict: Toward a Motivational Model

Caroline Senécal

Université Laval

Robert J. Vallerand

University of Quebec at Montreal

Frédéric Guay

Université Laval

The purpose of the present study was to propose and test a model of work-family conflict based on Self-Determination Theory and the Hierarchical Model of Intrinsic and Extrinsic Motivation. The model posits that positive interpersonal factors both at work (i.e., one's employer) and at home (e.g., one's spouse) influence work and family motivation. Moreover, the model proposes that low levels of self-determined family and work motivation both contribute to family alienation, which in turn influences the experience of work-family conflict. Finally, work-family conflict leads to feelings of emotional exhaustion. Results from structural equation modeling supported the model. Although the model was supported for both men and women, some sex differences were uncovered at the mean level. Theoretical implications of the findings are discussed.

Two-income families became the norm in Canada during the 1990s (Statistics Canada, 1993). In the United States, 73% of married women with children younger than age 18 were employed full-time. The average working wife with full-time employment contributed to approximately 40% of the family's annual income (U.S. Bureau of the Census, 1989). The notion of a two-career family has provoked numerous changes in traditional family life. Contrary to the traditional view, women viewed their employment as salient to their self-concept and life goals and pursued occupational work regardless of their family situation. Even though some of these changes are positive (i.e., psychological benefit of employment) (Barnett, 1997), it appears that organizing child care activities, household chores, and professional responsibilities creates stress and conflict for many working parents (see Eckenrode & Gore, 1990, for a review).

Conflict between work and family occurs when individuals have to perform multiple roles: worker, spouse, and parent (Greenhaus & Beutell, 1985). Each of these roles requires time and energy if it is to be performed adequately. Consequently, individuals are overwhelmed and experience interference from work to family or from family to work (Gutek, Searle, & Kelpa, 1991). Given the pervasive effects of combining professional and family responsibilities, researchers have tried to identify factors that may impede or facilitate balancing work and family life.

Whereas the literature suggests that the problems of balancing work and family demands depend on how parents allocate their time to employment and family roles, little research has focused on commitment toward both domains (Bielby, 1992; Bielby & Bielby, 1989). Nevertheless, it is important to understand why individuals spend time in family and at work. For example, one mother might spend 3 hours playing with her children for the pleasure of doing it, whereas another mother might spend the same amount of time because she would feel guilty for not playing with her children. Although both mothers put the same amount of time into the activity, they don't have the same motivation for participating.

Authors' Note: This article was prepared while the first author was supported by grants from le Fonds pour la formation des Chercheurs et l'Aide à la Recherche (FCAR-Québec). The second author was supported by grants from the Social Sciences Humanities Research Council of Canada (SSHRC) and le Fonds pour la formation des Chercheurs et l'Aide à la Recherche (FCAR-Québec). Reprint requests should be addressed to Caroline Senécal, École de psychologie, Pavillon Félix-Antoine Savard, Université Laval, Sainte-Foy, Québec, Canada, G1K 7P4; e-mail: caroline.senecal@psy.ulaval.ca.

PSPB, Vol. 27 No. 2, February 2001 176-186

© 2001 by the Society for Personality and Social Psychology, Inc.

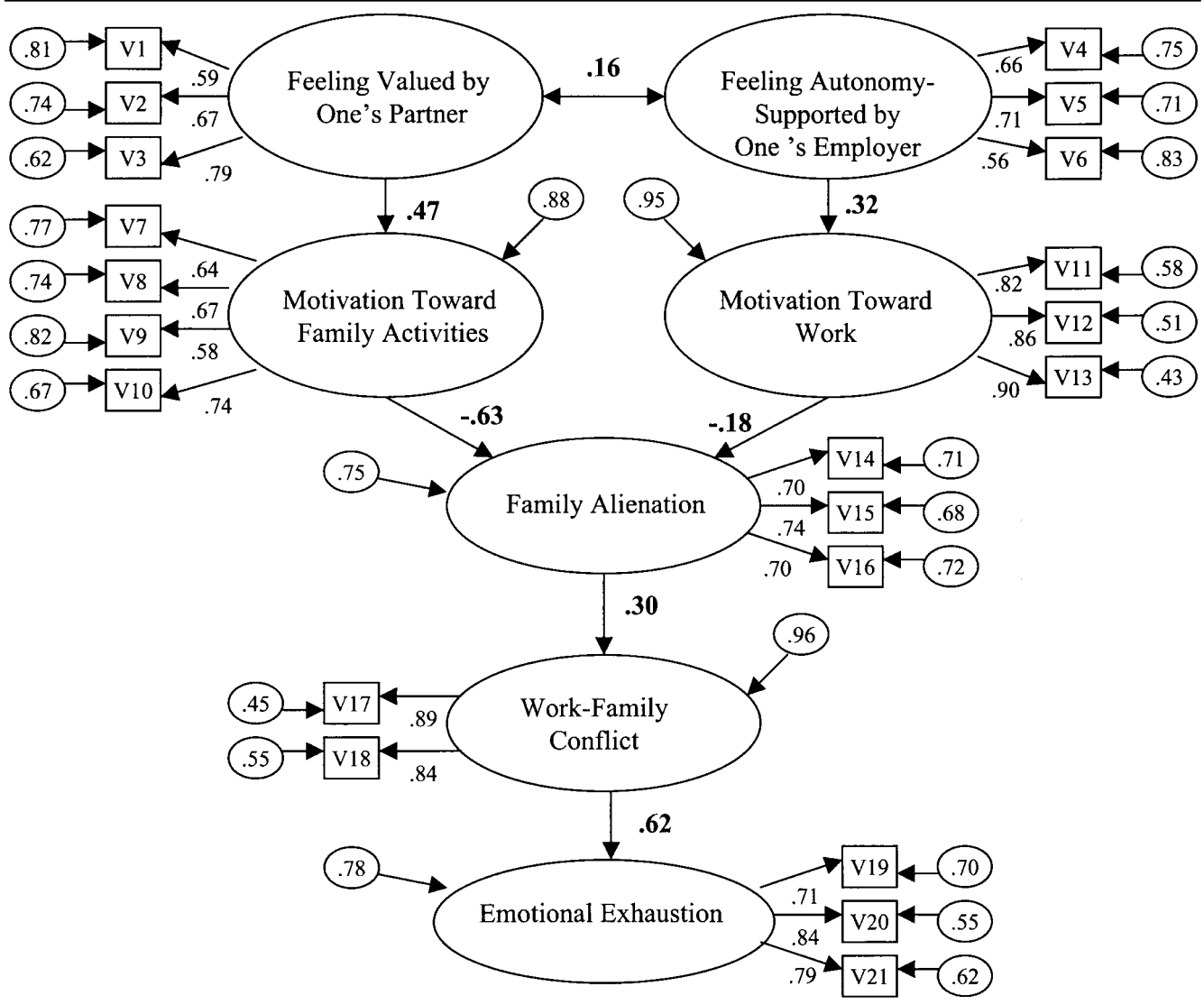


Figure 1 Results of the hypothesized model.

One is motivated by the satisfaction she feels during the activity, and the other is motivated by guilt. The time both mothers take to play with their children is not representative of what they feel toward the activity. Thus, investigating the reasons for commitment instead of measuring commitment per se might clarify why people experience work-family conflict (Bielby & Bielby, 1989; Frone & Rice, 1987; Frone, Russell, & Cooper, 1991).

To date, empirical efforts to examine the relationships between work and family have been hampered by the absence of a strong theoretical framework (Burke & McKeen, 1988; Duxbury & Higgins, 1991; Duxbury, Higgins, & Lee, 1994; Frone et al., 1991; Higgins, Duxbury, & Irving, 1992). This need for a comprehensive model is widely recognized in the field (Burke, 1986; Duxbury & Higgins, 1991; Piotrkowski, Rapoport, & Rapoport, 1987). Accordingly, the purpose of this study was to integrate and extend the findings of previous research on work-

family conflict by testing a model based on well-articulated frameworks, namely, Self-Determination Theory (Deci & Ryan, 1985) and the Hierarchical Model of Intrinsic and Extrinsic Motivation (Vallerand, 1997).

A MOTIVATIONAL MODEL OF WORK-FAMILY CONFLICT

The proposed model (see Figure 1) integrates determinants and consequences of motivations toward family and work activities. Specifically, the model proposes that feeling valued by one's romantic partner in the family setting leads one to develop a self-determined motivation (to engage in activities out of choice and pleasure) toward family activities. Similarly, with regard to work, interacting with an employer who is supportive of one's autonomy produces increases in one's self-determined motivation toward work. Consequently, self-determined motivation in both contexts leads to less family alien-

ation. In turn, lower levels of family alienation produce lower levels of work-family conflict, which in turn leads to less emotional exhaustion. Below, we present theoretical and empirical evidence for the model.

Self-Determined Motivation and Outcomes

According to Self-Determination Theory (Deci & Ryan, 1985, 1991), individuals who perform an activity out of choice and pleasure regulate their behavior in a self-determined manner. In contrast, individuals who participate in different activities out of internal and/or external pressures regulate their behavior in a non-self-determined fashion. Throughout the past two decades, much research has shown that self-determined motivation is a useful concept to understand human behavior in various life settings (see Deci & Ryan, 1985, 1991; Vallerand, 1997). For instance, research has shown positive relations between self-determined motivation and positive consequences in various life contexts, such as education (e.g., Ryan & Connell, 1989; Vallerand & Bissonnette, 1992; Vallerand, Fortier, & Guay, 1997; Vallerand et al., 1993), work (Blais, Lachance, Brière, Riddle, & Vallerand, 1993), couple relationships (Blais, Sabourin, Boucher, & Vallerand, 1990), and family (Senécal & Vallerand, 1999). Regarding the family context, Senécal and Vallerand (1999) have shown that individuals who display high levels of self-determined motivation toward family activities were more satisfied with their family life and experienced less work-family conflict. Thus, the relation between self-determined motivation and psychological adjustment in various life domains was supported in several studies and more recently with respect to work-family conflict.

In the present study, we propose that self-determined motivations toward both family and work activities are necessary to obtain psychological benefits derived from engagement in both sets of activities. More precisely, it is proposed that engaging in family and work activities out of choice and pleasure leads to lower levels of family alienation (i.e., negative thoughts that occur when individuals are participating in family activities). Regarding the work context, Evans and Bartolome (1984) have found that individuals who are not satisfied at work are more likely to be aggressive in their family and to have a poorer quality of family life. Thus, it seems relevant to postulate that the more individuals have a non-self-determined motivation at work, the higher their family alienation. However, we postulated that motivation in family activities would have a greater influence on family alienation than would motivation toward work. This prediction is consistent with the Hierarchical Model of Intrinsic and Extrinsic Motivation (Vallerand, 1997), which posits that outcomes in a given life domain should mainly be the result of motivation in that specific domain.

Given the fact that individuals who experience family alienation are more preoccupied and unsatisfied, it is likely that they would have more work-family conflict (i.e., difficulties in organizing activities around family and work). Several studies have investigated the ways in which parents' work-family conflict can be enhanced or undermined by contextual factors at home (Greenhaus & Beutell, 1985; Kopelman, Greenhaus, & Connolly, 1983). One dimension of interest is whether parents experience negative feelings in their family life. Thus, in the present study it is posited that the more parents have alienation in their family life, the more they should experience work-family conflict. Moreover, the literature on balancing work and family reveals that conflict between the two domains is related to negative mood and depression (Bedeian, Burke, & Muffet, 1988; Coverman, 1989; Kandel, Davies, & Raveis, 1985; Kopelman et al., 1983). In line with such research, the present model posits that work-family conflict leads to feelings of emotional exhaustion.

On the Social Determinants of Self-Determined Motivation

An important element of the model focuses on how motivation in both domains is affected by the interpersonal climate (see Deci & Ryan, 1985, 1991; Vallerand, 1997). In this respect, two relevant factors were considered, namely, feeling valued by one's partner and feeling autonomy-supported by one's employer.

Feeling valued by one's partner refers to the perception that one has of what his or her spouse thinks about her or him as a competent parent. Research has found evidence that how spouses see themselves is related to the way they think their partner feels about them. More specifically, results have shown that the more positively partners felt that their spouses evaluated them, the more positively they evaluated themselves and felt valued (Schafer & Keith, 1985). This process of role taking, through which persons regard themselves from the point of view of others, is called reflected appraisals (Cooley, 1902; Felson, 1989; Mead, 1934; Stryker & Stratham, 1985). A study conducted by Jussim, Soffin, Brown, Ley, and Kohlhepp (1992) revealed that reflected appraisals influence self-determined motivation. It is thus proposed that self-determined motivation toward family activities is influenced by the extent to which people feel valued by their spouse in the family context.

Regarding the work area, the model posits that employers play a major role in influencing individuals' work motivation. They may affect workers in more than one way. One dimension that appears fundamental with respect to motivation, however, is whether employers support the employees' autonomy at work (Deci, Connell, & Ryan, 1989). Providing employees with autonomy support implies allowing them to make certain choices and

decisions about their work, providing them with a meaningful rationale, minimizing pressure, and acknowledging their feelings and perspectives. Such a practice increases individuals' self-determined motivation (Deci, Eghrari, Patrick, & Leone, 1994; Williams, Freedman, & Deci, 1998). Thus, the present motivational model posits that individuals who perceive their employer as autonomy-supportive are more likely to have a self-determined motivation at work.

Sex Differences

The issue of sex differences also deserves attention. Such differences can take place at two levels, namely, the mean level and the process level. With respect to the mean level, men and women may differ on variables relevant to work-family conflict and self-determined motivation. In line with previous research, we predicted that in our sample of professionals, women would report feeling more valued by their partner than would men (Eaton, Mitchell, & Jolley, 1991) but should report lower levels of support from their employer (Beatty, 1996; Bolger, DeLongis, Kessler, & Wethington, 1989; Coverman, 1989; Polachek, 1979). Because women display higher levels of self-determined motivation in a host of life contexts (see Vallerand, 1997; Vallerand & Bissonnette, 1992, on this issue), we predicted that women should report higher levels of self-determined motivation in both the family and work domains (see Vallerand, 1997; Vallerand & Bissonnette, 1992, on this issue). Because of the high levels of self-determined motivation, they should report lower levels of family alienation. Finally, as in previous research with professionals (Bielby & Bielby, 1989; see also Sekaran, 1983), no differences were expected with respect to work-family conflict. However, in light of the fact that women tend to report higher levels of anxiety and depression than do men (Rosenfield, 1999), we predicted that they would experience higher levels of emotional exhaustion than would men.

We also sought to test the second aspect of sex differences, namely, the process level. That is, is the model the same for men and women? This was done through a test of equality of covariance matrices for both men and women. We predicted that all links of the model would be supported for both sexes and that they would be equally important for both men and women.

In sum, an antecedents-consequences (the interpersonal climate–family alienation, work-family conflict, and emotional exhaustion) motivational model is proposed. To the best of our knowledge, work-family conflict has not been examined from the intrinsic/extrinsic motivation perspective. Thus, the present research could yield valuable information on the generalizability of Self-Determination Theory (Deci & Ryan, 1985, 1991) and

the Hierarchical Model of Intrinsic and Extrinsic Motivation (Vallerand, 1997) to work-family conflict.

METHOD

Participants

Participants were 786 French-Canadian heterosexuals (499 women, 283 men, and 4 participants who did not specify their gender). To be eligible for the study, participants had to (a) work full- or part-time, (b) have at least one child between the ages of 1 and 18 years old who lived with them, and (c) be currently living with their love partner. It should be noted that participants completed the questionnaire with respect to their own perspective. The love partners of the participants were not integrated in the sample of the study. Participants had a mean age of 38.7 years and came from two Quebec professional associations: physical therapists and psychologists. Of the 786 participants, 24% were living together, 66% were married, and 10% were remarried or lived with a new partner.

We contacted only professionals to diminish the probability of having differences between participants' status and salary. Indeed, research on work-family conflict has emphasized the importance of evaluating standardized populations (Bielby, 1992).

Procedure

Questionnaires were mailed to 7,400 members of the Quebec psychological and physical therapist associations. Envelopes included the questionnaire; a return stamped envelope; and a letter that explained the general purpose of the study, the criteria to participate in the study (see Participants section), and the possibility of winning three prizes of \$100, \$150, and \$250. The cover letter included with the questionnaire explained that the purpose of the study was to learn more about feelings and behaviors of people toward work and family. Completed questionnaires were sent back by mail. Of the 7,400 questionnaires mailed, 786 were returned, leaving a 10% response rate. This 10% response rate may have been due to the fact that many persons did not meet the inclusion criteria or were not able to read the questionnaire, which was in French. Unfortunately, information related to spoken language and the number of children could not be requested at both associations. Thus, it was not possible for us to make a first screening before mailing the questionnaires.

Measures

Feeling valued by one's partner. Three items were developed to assess individuals' perceptions of what their partner thinks about their competence toward family activities (i.e., "I believe that my partner thinks I am compe-

tent in my role of parent”; “I believe that my partner thinks that I am competent in the accomplishment of various housekeeping tasks”; “I believe that my partner thinks that I do not pay sufficiently attention to him/her and the kids when it comes to pleasing them” [reverse-scored]). Items were rated on a 7-point Likert-type scale. Cronbach’s alpha for this scale was .74.

Feeling autonomy-supported by one’s employer. Three items were developed to measure participants’ perceptions of the autonomy-supportive style of their employer (i.e., “My employer leaves me free to work the way I want at work”; “My employer oversees too much of my performance in working activities” [reverse-scored]; “My employer imposes on me a way of working and the way I should structure my time and my working activities” [reverse-scored]). This scale was adapted from Pelletier’s (1992) perceived autonomy support scale. All items were rated on a 7-point Likert-type scale. Cronbach’s alpha for this measure was .77.

Motivation toward family activities. To measure this construct, we used the French version of the Motivation Toward Family Activities Scale developed by Sénécal and Vallerand (1999). This scale measures intrinsic motivation, identified regulation, introjected regulation, and external regulation toward four specific family activities and toward family activities in general (Sénécal & Vallerand, 1999). In the present study, we used only the four specific family activities: (a) children’s learning activities (e.g., helping their children with their schoolwork, with reading a book, etc.), (b) children’s sport or cultural activities (e.g., listening to music with their children, watching a movie at the theater with them, etc.), (c) family social activities (e.g., visiting friends, family, etc.), and (d) family leisure activities (e.g., take a trip, play games, do sports, etc.). For each activity, we asked participants to report their levels of intrinsic motivation, identified regulation, introjected regulation, and external regulation. Thus, for each family activity, each motivational construct was assessed via a single item rated on a 7-point Likert-type scale ranging from *do not agree at all* (1) to *very highly agree* (7).

As in previous studies (e.g., Blais et al., 1990; Grolnick & Ryan, 1987; Vallerand & Bissonnette, 1992; Vallerand, Blais, Brière, & Pelletier, 1989; Vallerand et al., 1997; see Vallerand, 1997), the overall index of self-determined motivation was obtained by computing four separate self-determination indexes. To do so, we computed each individual item for each family activity by ascribing a specific weight to each item as a function of its position on the self-determination continuum (Deci & Ryan, 1985, 1991) and then summing the product. Thus, intrinsic motivation and identified regulation items were assigned respectively the weights of +2 and +1 (because

they represent self-determined forms of motivation), whereas introjected regulation and external regulation items were attributed respectively the weights of –1 and –2 (because they represent non-self-determined forms of motivation). This index was computed for each family activity using the following formula: $[(2 \times \text{intrinsic motivation}) + \text{identified regulation}] - (\text{introjected regulation} + (2 \times \text{external regulation}))$. The standardized Cronbach’s alpha for this measure was .83.

Motivation toward work. To measure this variable, we used the short version of the Blais Work Motivation Scale (Blais et al., 1993). It is composed of 12 items assessing the following types of motivation: intrinsic motivation, identified regulation, external regulation, and amotivation toward work. Each item represents a possible reason why workers go to work. These reasons are scored on a 7-point Likert-type scale ranging from *do not agree at all* (1) to *very highly agree* (7). Participants had to answer the following question: “Why are you doing this kind of work?” An example of an intrinsic motivation item was as follows: “. . . for the satisfaction I experience in trying to meet the challenge of my work.” Using the same procedure that we used for motivation toward family activities, we computed an overall self-determination index. The standardized Cronbach’s alpha was .90.

Family alienation. This scale was developed by the authors and assessed alienation experienced in three different family activities. The three family activities were as follows: (a) taking care of children (e.g., stay at home when they are sick, transport them to their activities, etc.), (b) activities related to children’s education (e.g., answer their questions, find solutions for agreement, etc.), and (c) leisure activities in the family. For each of the three family activities, four items were presented: (a) “It makes me feel sad,” (b) “I prefer doing something else,” (c) “I feel irritable,” and (d) “I would like to put less time into these activities.” This scale is thus composed of 12 items rated on a 7-point Likert-type scale ranging from *do not agree at all* (1) to *very highly agree* (7). Cronbach’s alpha for this measure was .72.

Work-family conflict scale. The work-family conflict scale was adapted from Bohlen and Viveros-Long (1981). This measure is composed of two items measuring the extent to which participants find it difficult to manage their time between work and family (i.e., “Sometimes I have difficulties in balancing my time between work and family activities”) and how much they feel stressed by their work and family (i.e., “Sometimes I feel torn between my work and my family”). These two items were scored on a 7-point Likert-type scale ranging from *never* (1) to *always* (7). The two items correlated highly ($r = .73, p < .001$).

Emotional exhaustion scale. This scale was adapted from Bohlen and Viveros-Long (1981). It assessed the extent to

TABLE 1: Correlations Among All Variables

Measures	1	2	3	4	5	6	7
1. Feeling autonomy-supported by one's employer	—						
2. Feeling valued by one's partner	.10**	—					
3. Motivation toward family activities	.07*	.33***	—				
4. Motivation toward work	.27***	.14***	.13***	—			
5. Family alienation	-.19***	-.32***	-.50***	-.21***	—		
6. Work-family conflict	-.09*	-.23***	-.21***	.01	.24***	—	
7. Emotional exhaustion	-.11**	-.12***	-.14***	-.10**	.18***	.53***	—

NOTE: * $p < .05$. ** $p < .01$. *** $p < .001$.

which participants feel exhausted in their day-to-day life and how much they feel overloaded; it is composed of three items (“I feel I have more to do than I can really accomplish”; “I felt exhausted when I came back to work”; “I do not have enough time for myself”). All items were scored on a 7-point Likert-type scale ranging from *do not agree at all* (1) to *very highly agree* (7). Cronbach’s alpha for this measure was .84.

RESULTS

Correlations and Mean Differences

Correlations among all variables are presented in Table 1. A MANOVA was performed to test for the presence of sex differences between women and men on the model variables. This analysis revealed a multivariate significant effect, $F(7, 774) = 18.86, p < .001$. Results of this analysis are presented in Table 2. Univariate F tests revealed significant differences on all the variables except for the work-family conflict variable. Specifically, women reported higher levels of self-determined motivation toward both work and family activities than did men. They also felt more valued by their partner and more emotionally exhausted than did men. However, women felt less supported by their employer and less alienated in family activities than did men.

Structural Equation Modeling Analyses

The adequacy of the model was assessed by structural equation modeling with the EQS program (Version 5.1) (Bentler, 1993). As can be seen in Figure 1, the proposed model contained two independent variables (feeling valued by one’s partner and feeling supported by one’s employer) and five dependent variables (motivation toward family activities, motivation toward work, family alienation, work-family conflict, and emotional exhaustion). The overall model contained 49 free parameters to be estimated. Bentler (1993) suggests that the ratio of sample size to the number of free parameters to be estimated may be able to go as low of 5:1 under normal elliptical theory, whereas a ratio of at least 10:1 may be more appropriate for arbitrary distributions. In this study, the

TABLE 2: Variable Means and Standard Deviations as a Function of Gender

Measures	Women		Men	
	M	SD	M	SD
1. Feeling autonomy-supported by one's employer	5.58	1.02	5.73*	.91
2. Feeling valued by one's partner	5.79	.79	5.36***	.88
3. Motivation toward family activities	60.38	16.10	52.70***	18.03
4. Motivation toward work	30.43	12.29	28.53*	10.68
5. Family alienation	2.13	.70	2.38***	.78
6. Work-family conflict	3.48	1.31	3.32	1.42
7. Emotional exhaustion	4.40	1.43	3.88***	1.31

NOTE: * $p < .05$. ** $p < .01$. *** $p < .001$.

measurement strategy used offered a ratio of 16:1 for a normal multivariate distribution. Consequently, we are confident to obtain trustworthy z tests on the significance of parameters.

A covariance matrix with the 21 observed variables was used as a database for measurement and for the structural models. In addition, skewness and kurtosis values for all variables were considered satisfactory. The specified model was tested with standardized coefficients obtained from the maximum likelihood (ML) method of estimation. A growing body of research indicates that ML performs reasonably well when the data are multivariate and normally distributed, and the sample size is large enough (e.g., Chou & Bentler, 1995). The present study met these conditions.

The EQS program provides different indices to ascertain model fit. Herein, we used the chi-square (Bollen, 1989), the Comparative Fit Index (CFI) (Bentler, 1990), and the Bentler-Bonnet Non-Normed Fit Index (NNFI). The χ^2 indicates the lack of fit resulting from overidentifying restrictions placed on the model (Bollen, 1989). Consequently, a nonsignificant χ^2 indicates that the model is an adequate representation of the sample data. On the other hand, the CFI assesses the relative reduction in lack of fit as estimated by the

noncentral χ^2 of a target model versus a baseline model where all the observed variables are uncorrelated (Bentler, 1990). The NNFI compares the lack of fit of a target model to the lack of fit of the baseline model. Thus, the NNFI estimates the relative improvement per degree of freedom of the target model over the baseline model (Bentler & Bonett, 1980). The CFI index varies between 0 and 1, whereas the NNFI can go out of this range (i.e., > 1).

Results showed that the χ^2 was significant ($df = 182$, $N = 786$) = 552.12, $p < .001$. However, the CFI = .94 and the NNFI = .93 were acceptable. Figure 1 presents the standardized solutions for the structural model. All hypothesized path coefficients, factor loadings, covariances, error residuals, and factor residuals were found to be significant (z values > 1.96). More specifically, feeling valued by one's partner was positively associated with motivation toward family activities ($\beta = .47$). Feeling supported by one's employer was positively associated with motivation toward work ($\beta = .32$). Furthermore, motivations toward work ($\beta = -.18$) and family activities ($\beta = -.63$) were negatively related to family alienation. Family alienation was positively associated with work-family conflict ($\beta = .30$), which in turn was related ($\beta = .62$) to emotional exhaustion.

An analysis of invariance was performed to verify if the same model applies to men and women. This analysis revealed that only one relation was different across sex. Specifically, it appears that motivation toward family activities is a better predictor of family alienation for men ($\beta = -.58$) than women ($\beta = -.47$). That is, integration of family activities within oneself would produce lower levels of family alienation for men than for women. We also have tested if age of children, age of participants, and number of years of experience at work moderated the relations observed in the hypothesized model. None of these invariance analyses revealed significant moderating effects.

One may suspect that family alienation, work-family conflict, and emotional exhaustion are not in the sequence specified but instead could be treated as outcomes of family and work motivations. To this end, we tested an alternative model that posits the same relations as those presented in Figure 1, except that no sequence is specified between the three outcomes. They are simply related horizontally. This model offers a fit to the data, $\chi^2(df = 177, N = 786) = 529.98$ (NNFI = .93, CFI = .94), equivalent to the hypothesized model. However, this model involved more degrees of freedom (5), and thus it was less parsimonious than the hypothesized model. For parsimony concerns, this model was not retained for further interpretation.

It is also possible that self-determined motivation in both life contexts (i.e., work and family) leads to perceiv-

ing one's spouse or employer less or more positively. That is, persons who are highly motivated in a self-determined way in these two life-contexts may perceive their spouse and employer more positively, whereas those who are motivated in a non-self-determined way may perceive their spouse and employer less positively. To test this possibility, we tested an alternative model where the motivation-interpersonal antecedents relation was reversed. Again, results showed that this model offers a lower fit to the data, $\chi^2(df = 182, N = 786) = 636.42$ (CFI = .93), than the hypothesized model.

DISCUSSION

The purpose of this study was to test a motivational model of work-family conflict. The model posits that the interpersonal behavior of one's spouse at home and one's employer at work influences one's self-determined motivation toward work and family motivation, respectively. In turn, low levels of self-determined motivation toward the two life contexts (work and family) facilitate the experience of family alienation, which leads to work-family conflict. Work-family conflict, in turn, leads to emotional exhaustion. Results from structural equation modeling analyses (see Figure 1) provided strong support for the model. In addition, none of the alternative models proposed offered a better fit to the data than the hypothesized model. Furthermore, whereas some sex differences were uncovered at the mean level, overall the model was found to apply to both men and women. These findings lead to a number of important implications for theory and research.

Social Context and Motivation

A first implication of the results is that the social context plays an important role in motivation toward both work and family activities. More specifically, as hypothesized, the degree to which individuals experienced their employer as autonomy-supportive was a significant positive predictor of self-determined motivation at work. These findings are in accord with Self-Determination Theory (Deci & Ryan, 1985, 1991, in press), which posits that experiencing autonomy-support from others facilitates our self-determined motivation. Such findings have been obtained in several life contexts, such as education (Deci, Schwartz, Sheinman, & Ryan, 1981), sports (Pelletier, Vallerand, Green-Demers, Brière, & Blais, 1995), and aging (Vallerand & O'Connor, 1991). Previous research in work settings had shown that the interpersonal nature of relationships, including trust (Deci et al., 1989) and a positive work climate (e.g., Blais et al., 1993), facilitates self-determined motivation. However, the present study is the first one to show in the work domain that autonomy support from one's employer is positively associated with self-determined motivation.

Not only are perceptions of autonomy support at work important for self-determined motivation toward work but findings also showed that perceptions of how one's partner evaluates our competence in the family setting plays a crucial role in our motivation toward such activities. These findings are in accord with those of Schafer and Keith (1985), which have shown that one's reflected appraisals of spouses' perceptions are important predictors of one's self-concept. The present findings also extend those of Jussim et al. (1992) by showing that reflected appraisals of competence are related not only to motivation toward various laboratory tasks but also to motivation toward family activities. Thus, our findings emphasize the fact that perceived appraisal of spouses is a key element in defining motivation toward family activities.

Results from this study also provide strong support for the Hierarchical Model of Intrinsic and Extrinsic Motivation (Vallerand, 1997; Vallerand & Ratelle, in press) on at least two aspects dealing with motivational determinants. First, the Hierarchical Model posits that motivational representations toward different life contexts such as work and family activities are relatively independent. Results from structural equation modeling and correlational analyses that showed that motivation toward work and family activities are indeed relatively independent provide support for this prediction from the model. These findings with work and family settings extend those obtained in other life contexts such as leisure, relationships, and education (see Vallerand, 1997; Vallerand, Guay, & Blanchard, 1999) and underscore the usefulness of distinguishing among various life contexts.

Second, the Hierarchical Model also proposes that contextual factors pertinent to one given life context should relate mainly to motivation toward this life context and little to another. Results from both structural equation modeling and correlational analyses supported this assertion. Perceptions of one's employer were related to one's motivation toward work but not toward family activities, whereas feeling valued by one's love partner was mainly related to motivation toward family activities. One alternative explanation of these findings is that people who feel valued by their partner and their employer have generally better views of others and thus better self-determined motivation in work and family activities. However, the relation between feeling supported by one's employer and feeling valued by one's partner was rather weak ($r = .10$). It thus suggests that these perceptions are not affected by a general tendency to view others positively but are rather domain specific. In sum, the present findings support elements of the Hierarchical Model dealing with the structure of motivational representations and their social determinants.

Motivation and Outcomes

A second implication of the present findings is that motivation was found to be related to important outcomes. More specifically, it was shown that self-determined motivation toward family activities and to a lesser extent toward work negatively predicted family alienation. These findings provide support for Self-Determination Theory (Deci & Ryan, 1985, 1991) and the Hierarchical Model (Vallerand, 1997; Vallerand & Ratelle, in press), which posit that self-determined forms of motivation lead to positive outcomes. Although much research supports this hypothesis with respect to a host of outcomes (see Vallerand, 1997), the present findings are the first to show that it also applies to the context of family activities. It thus appears that engaging in family activities out of pleasure and/or choice prevents individuals from feeling alienated toward such activities. These results also provide additional support for the Hierarchical Model, which proposes that outcomes within the family context should mainly derive from motivation toward family activities rather than from that toward work. Whereas motivation toward work also was related to family alienation, the link between family motivation and alienation was much stronger than the one evolving from work motivation. These findings are in accord with the position of Sheldon and Kasser (1995), which proposes that motivation toward various life goals should be integrated in a coherent fashion for individuals to experience positive outcomes.

A third implication from the present findings deals with the pattern of relationships among variables assessing family alienation, work-family conflict, and emotional exhaustion. Although previous research in the work-family conflict area has looked at some of these outcomes (e.g., Coverman, 1989; Greenhaus & Beutell, 1985; Kandel et al., 1985), the present results show that it might be useful to look at all three outcomes to better understand the process through which emotional exhaustion takes place. It would appear that emotional exhaustion originates from work-family conflict, which itself is derived from family alienation. Thus, feeling alienated from family activities appears to lead to the experience of conflict between work and family activities, and it is this conflict that eventually erodes one's emotional balance and leads to exhaustion. Although this ordering of outcomes makes sense and is empirically supported by the present results, future research is needed to replicate these findings.

Sex Differences

A fourth and final implication deals with the findings on sex differences. We assessed sex differences at two levels, namely, the mean and the process level. At the process level, it was hypothesized that the same psychologi-

cal processes depicted in the model would operate for men and women. The results from the invariance analysis (through EQS) provided support for this hypothesis. Of all the links proposed by the model, all but one were found to be statistically equivalent. This link involved the relation between motivation toward family activities and family alienation where the link was more important for men ($\beta = -.58$) than women ($\beta = -.47$). Given the small difference in the beta values and the fact that only one significant difference was uncovered out of six possibilities, we should await replication from future research before fully interpreting this sex difference.

With respect to the mean level, results were in line with our hypotheses. In addition, these findings are in line with past research in the motivation area that has shown that women display higher levels of self-determined motivation in various life contexts than do males (see Vallerand, 1997). However, they are the first to show that professional women display higher levels of self-determined motivation in both the family and work contexts. The higher level of self-determined motivation displayed by women in the family context is understandable on two counts: They typically display higher levels of self-determined motivation than do males in most life contexts (Vallerand, 1997) and they report feeling more valued by their love partner than do males. It is thus not surprising that they display a relatively high self-determined motivational profile toward family activities. These findings also are interesting because they tend to run against popular wisdom that portrays professional women as not enjoying family life. To the contrary, the present findings clearly show that professional women engage in such activities largely out of pleasure and choice and therefore experience less family alienation.

These findings on motivation toward family activities should be contrasted with those obtained in the work context, where women experienced less support from their employer than do males and yet displayed higher levels of self-determined motivation toward work than did males. These last results can be explained by the Hierarchical Model of Intrinsic and Extrinsic Motivation (Vallerand, 1997; Vallerand & Ratelle, in press). The model posits that contextual motivation (e.g., one's usual motivation toward work) results from two types of factors: social contextual factors (e.g., the typical behavior from one's employer) as well as one's global motivation (or one's motivational disposition at the personality level). Research typically reveals that women have a more self-determined global motivation than do males (Guay & Vallerand, 1999). It thus appears that women's global motivation was strong enough to override the negative impact of their supervisor on their motivation. However, because global motivation was not assessed in

this study, future research is needed to support this hypothesis.

Women's lower levels of family alienation can be understood in light of their higher levels of self-determined motivation toward work but especially toward family life. As much research now reveals, self-determined motivation leads to several positive outcomes (for reviews, see Deci & Ryan, 1985, 1991; Vallerand, 1997). The present findings go further in suggesting that motivation may prevent family alienation. However, if women experience less family alienation than do men, then why do they report the same level of work-family conflict and higher levels of emotional exhaustion? We believe that the answer to this question may unveil a weakness of the model in that other variables may be necessary to explain these findings.

Some limitations of the present study should be underscored. First, the model was tested with professionals only. It is important that future studies test the generalizability of the model with nonprofessional workers. Second, although structural equation analyses were used to test the proposed model, the present study did not use an experimental or longitudinal design. All variables were measured during the same time period. It is thus inappropriate to make firm statements concerning causality. The use of longitudinal designs would be pertinent to confirm the causal hypotheses postulated in this study on a more solid empirical basis. However, it should be noted that all of the links of the model have been supported in previous research, including laboratory experiment studies, leading us to believe that our findings are sound. In the same vein, an even broader net could be cast in the study of balancing work and family by including information about economic standing and personality. Such information would provide a broader picture of the motivational processes underlying work-family conflict.

In sum, the present findings provide support for the motivational model of work-family conflict. This model permits an integration of the literature on the determinants and consequences of motivation and provides a framework for the study of factors that can contribute to the experience of work-family conflict in the lives of professionals. In addition, the present findings provide support for Self-Determination Theory (Deci & Ryan, 1985, 1991) and the Hierarchical Model of Intrinsic and Extrinsic Motivation (Vallerand, 1997). Finally, whereas some sex differences were uncovered at the mean level, the model was found to be largely invariant at the process level.

REFERENCES

- Barnett, R. C. (1997). Gender, employment, and psychological well-being: Historical and life course perspectives. In M. E. Margie &

- J. B. James (Eds.), *Multiple paths of midlife development. Studies on successful midlife development: The John D. and Catherine T. MacArthur Foundation series on mental health and development* (pp. 325-343). Chicago: University of Chicago Press.
- Beatty, C. A. (1996). The stress of managerial and professional women: Is the price too high? *Journal of Organizational Behavior, 17*, 233-251.
- Bedeian, A. G., Burke, B. G., & Muffet, R. G. (1988). Outcomes of work-family conflict among married male and female professionals. *Journal of Management, 14*, 475-491.
- Bentler, P. M. (1990). Comparative fit indices in structural models. *Psychological Bulletin, 107*, 238-246.
- Bentler, P. M. (1993). *EQS structural equation program manual*. Los Angeles: BMDP Statistical Software.
- Bentler, P. M., & Bonett D. G. (1980). Significance tests and goodness-of-fit in the analysis of covariance structures. *Psychological Bulletin, 88*, 588-606.
- Bielby, D. (1992). Commitment to work and family. *Annual Review of Sociology, 18*, 281-302.
- Bielby, W., & Bielby, D. (1989). Family ties: Balancing commitments to work and family in dual earner households. *American Sociological Review, 54*, 76-89.
- Blais, M. R., Lachance, L., Brière, N. M., Riddle, A. S., & Vallerand, R. J. (1993). L'inventaire des motivations au travail de Blais [The Blais work motivation scale]. *Revue Québécoise de Psychologie, 14*, 185-215.
- Blais, M. R., Sabourin, S., Boucher, C., & Vallerand, R. J. (1990). Toward a motivational model of couple happiness. *Journal of Personality and Social Psychology, 59*, 1021-1031.
- Bohen, H., & Viveros-Long, A. (1981). *Balancing jobs and family life*. Tempe, AZ: Temple University Press.
- Bolger, N., DeLongis, A., Kessler, R. C., & Wethington, E. (1989). The contagion of stress across multiple roles. *Journal of Marriage and the Family, 51*, 175-183.
- Bollen, K. A. (1989). *Structural equations with latent variables*. New York: John Wiley.
- Burke, R. (1986). Occupational life stress and the family: Conceptual frameworks and research findings. *International Review of Applied Psychology, 35*, 347-369.
- Burke, R., & McKeen, C. (1988). Work and family: What we know and what we need to know. *Canadian Journal of Administrative Sciences, 5*, 30-40.
- Chou, C. P., & Bentler, P. M. (1995). Estimates and tests in structural equation modeling. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 37-55). Thousand Oaks, CA: Sage.
- Cooley, C. H. (1902). *Human nature and the social order*. New York: Scribner.
- Coverman, S. (1989). Role overload, role conflict, and stress: Addressing consequences of multiple role demands. *Social Forces, 67*, 965-982.
- Deci, E. L., Connell, J. P., & Ryan, R. M. (1989). Self-determination in a work organization. *Journal of Applied Psychology, 74*, 580-590.
- Deci, E. L., Eghrari, H., Patrick, B. C., & Leone, D. R. (1994). Facilitating internalization: The self-determination theory perspective. *Journal of Personality, 62*, 119-142.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. L., & Ryan, R. M. (1991). A motivational approach to self: Integration in personality. In R. Dienstbier (Ed.), *Nebraska symposium on motivation: Vol. 38. Perspectives on motivation* (pp. 237-288). Lincoln: University of Nebraska Press.
- Deci, E. L., & Ryan, R. M. (Eds.). (in press). *The motivation and self-determination of behavior: Theoretical and applied issues*. Rochester, NY: University of Rochester Press.
- Deci, E. L., Schwartz, A. J., Sheinman, L., & Ryan, R. M. (1981). An instrument to assess adults' orientations toward control versus autonomy with children: Reflections on intrinsic motivation and competence. *Journal of Educational Psychology, 83*, 642-650.
- Duxbury, L. E., & Higgins, C. A. (1991). Gender differences in work-family conflict. *Journal of Applied Psychology, 78*, 60-74.
- Duxbury, L., Higgins, C., & Lee, C. (1994). Work and family conflict: A comparison by gender, family type, and perceived control. *Journal of Family Issues, 3*, 449-466.
- Eaton, Y. M., Mitchell, M. L., & Jolley, J. M. (1991). Gender differences in the development of relationships during late adolescence. *Adolescence, 26*, 565-568.
- Eckenrode, J., & Gore, S. (1990). *Stress between work and family*. New York: Plenum.
- Evans, P., & Bartolome, F. (1984). The changing picture of the relationship between career and family. *Journal of Occupational Behavior, 5*, 9-21.
- Felson, R. B. (1989). Parents and reflected appraisal process: A longitudinal analysis. *Journal of Personality and Social Psychology, 56*, 965-971.
- Frone, M. R., & Rice, R. W. (1987). Work-family conflict: The effect of job and family involvement. *Journal of Occupational Behavior, 8*, 45-53.
- Frone, M. R., Russell, M., & Cooper, M. L. (1991). Relationship of work and family stressors to psychological distress: The independent moderating influence of social support, mastery active coping, and self-focused attention. *Journal of Social Behavior and Personality, 6*, 227-250.
- Greenhaus, J., & Beutell, N. (1985). Sources of conflict between work and family roles. *Academy of Management Review, 10*, 76-88.
- Grolnick, W. S., & Ryan, R. M. (1987). Parent styles associated with children's self-regulation and competence in school. *Journal of Educational Psychology, 81*, 143-154.
- Guay, F., & Vallerand, R. J. (1999). Unpublished raw data. University of Quebec, Montreal.
- Gutek, B. A., Searle, S., & Kelpa, L. (1991). Rational versus gender role explanations for work-family conflict. *Journal of Applied Psychology, 76*, 560-568.
- Higgins, C. A., Duxbury, L. E., & Irving, R. H. (1992). Work-family conflict in the dual-career family. *Organizational Behavior and Human Decision Processes, 51*, 51-75.
- Jussim, L., Soffin, S., Brown, R., Ley, J., & Kohlhepp, K. (1992). Understanding reactions to feedback by integrating ideas from Symbolic Interactionism and Cognitive Evaluation Theory. *Journal of Personality and Social Psychology, 62*, 402-421.
- Kandel, D. B., Davies, M., & Raveis, V. H. (1985). The stressfulness of daily social roles for women: Marital, occupational and household roles. *Journal of Health and Social Behavior, 25*, 64-78.
- Kopelman, R., Greenhaus, J., & Connolly, T. (1983). A model of work, family and interrole conflict: A construct validation study. *Organizational Behavior and Human Performance, 38*, 198-215.
- Mead, G. H. (1934). *Mind, self, and society*. Chicago: University of Chicago Press.
- Pelletier, L. G. (1992). *Construction et validation de l'Échelle des Perceptions du Style Interpersonnel [Construction and validation of the perceptions of interpersonal style]*. Unpublished manuscript, University of Ottawa.
- Pelletier, L. G., Vallerand, R. J., Green-Demers, I., Brière, N. M., & Blais, M. R. (1995). Leisure and mental health: Relationship between leisure involvement and psychological well-being. *Canadian Journal of Behavioural Science, 27*, 214-225.
- Piotrkowski, C. S., Rapoport, R. N., & Rapoport, R. (1987). Families and work. In M. Sussman & S. Steinmetz (Eds.), *Handbook of marriage and the family* (pp. 251-283). New York: Plenum.
- Polachek, S. W. (1979). Occupational segregation among women: Theory, evidence, and a prognosis. In C. B. Lloyd, E. S. Andrews, & C. L. Gilroy (Eds.), *Women in the labor market* (pp. 137-157). New York: Columbia University Press.
- Rosenfield, S. (1999). Gender and mental health: Do women have more psychopathology, men more, or both the same (and why)? In A. V. Horwitz & T. L. Scheid (Eds.), *A handbook for the study of mental health: Social contexts, theories, and systems* (pp. 348-360). New York: Cambridge University Press.
- Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. *Journal of Personality and Social Psychology, 57*, 749-761.

- Schafer, R. B., & Keith, P. M. (1985). A causal model approach to the symbolic interactionist view of the self-concept. *Journal of Personality and Social Psychology, 48*, 963-969.
- Sekaran, U. (1983). How husbands and wives in dual-career families perceive their family and work roles. *Journal of Vocational Behavior, 22*, 88-302.
- Senécal, C., & Vallerand, R. J. (1999). Construction et validation de l'Échelle de Motivation envers les Activités Familiales (ÉMAF) [Construction and validation of the Motivation Toward Family Activities Scale]. *Revue Européenne de Psychologie Appliquée, 49*, 261-274.
- Sheldon, K. M., & Kasser, T. (1995). Coherence and congruence: Two aspects of personality integration. *Journal of Personality and Social Psychology, 68*, 531-543.
- Statistics Canada. (1993). *The labour force*. Ottawa, Canada: Minister of Industry, Science and Technology.
- Stryker, S., & Stratham, A. (1985). Symbolic interaction and role theory. In G. Lindzey & E. Aronson (Eds.), *The handbook of social psychology* (Vol. 1, pp. 311-378). New York: Random House.
- U.S. Bureau of the Census. (1989). *Statistical abstract of the United States*. Washington, DC: Author.
- Vallerand, R. J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. *Advances in Experimental Social Psychology, 29*, 271-361.
- Vallerand, R. J., & Bissonnette, R. (1992). Intrinsic, extrinsic, and amotivational styles as predictors of behavior: A prospective study. *Journal of Personality, 60*, 599-620.
- Vallerand, R. J., Blais, M., Brière, N. B., & Pelletier, L. G. (1989). Construction et validation de l'Échelle de Motivation en Éducation (EME) [Construction and validation of the Academic Motivation Scale]. *Revue Canadienne des Sciences du Comportement, 21*, 323-349.
- Vallerand, R. J., Fortier, M. F., & Guay, F. (1997). Self-determination and persistence in a real-life setting: Toward a motivational model of high school dropout. *Journal of Personality and Social Psychology, 72*, 1161-1176.
- Vallerand, R. J., Guay, F., & Blanchard, C. M. (1999). *Self-regulatory processes in human behavior: A test of the structural aspects of the Hierarchical Model of Intrinsic and Extrinsic Motivation*. Unpublished manuscript, University of Quebec at Montreal.
- Vallerand, R. J., & O'Connor, B. P. (1991). Construction et validation de l'Échelle de Motivation pour les Personnes Agées (EMPA) [Construction and validation of the Elderly Motivation Scale]. *Journal International de Psychologie, 26*, 219-240.
- Vallerand, R. J., Pelletier, L. G., Blais, M. R., Brière, N. M., Senécal, C. B., & Vallière, E. F. (1993). On the assessment of intrinsic, extrinsic, and amotivation in education: Evidence on the concurrent and construct validity of Academic Motivation Scale. *Educational and Psychological Measurement, 53*, 159-172.
- Vallerand, R. J., & Ratelle, C. (in press). Intrinsic and extrinsic motivation: Toward a hierarchical model. In E. L. Deci & R. M. Ryan (Eds.), *The motivation and self-determination of behavior: Theoretical and applied issues*. Rochester, NY: University of Rochester Press.
- Williams, G. C., Freedman, Z. R., & Deci, E. L. (1998). Supporting autonomy to motivate patients with diabetes for glucose control. *Diabetes Care, 21*, 1644-1651.

Received January 6, 1999

Revision accepted February 9, 2000