

# Contextual Effects on Life Satisfaction of Older Men and Women

Paul Bourque,<sup>1</sup> Dolores Pushkar,<sup>2</sup> Lucie Bonneville,<sup>2</sup> and François Béland<sup>3</sup>

---

## RÉSUMÉ

Des différences existent entre les sexes dans les variables liées à la démographie, à la santé et aux réseaux sociaux, variables qui sont associés à un vieillissement réussi, mais on n'en trouve généralement pas en ce qui concerne la satisfaction face à la vie. La présente étude avait pour but premier de déterminer s'il y a des différences entre les hommes et les femmes par rapport à leur satisfaction dans des domaines particuliers et en général à l'égard de la vie. Ont également été examinées les différences dans la satisfaction face au parcours de la vie entre les hommes et les femmes. Dans un deuxième temps, nous avons procédé à une analyse de l'ensemble de données recueillies dans l'étude *Vieillir dans la communauté* (Béland et al., 1989) afin d'évaluer le bien-être des adultes francophones plus âgés ( $N = 958$ ). Des analyses acheminatoires ont révélé une bonne concordance des modèles utilisés pour les échantillons masculins et féminins. Chez les hommes, la satisfaction face à la vie s'explique positivement selon l'âge, le revenu et le contrôle et négativement selon les erreurs de mémoire, la maladie et les limitations fonctionnelles. Chez les femmes, la satisfaction face à la vie s'explique selon l'âge, la scolarité, le revenu, la maladie, les limitations fonctionnelles, le soutien social, le contrôle et le mode de vie. Les résultats ont fait ressortir les aspects positifs et négatifs du soutien social pour les femmes. Tel que nous nous y attendions, les modèles de parcours ont indiqué que, même s'il existe des similitudes dans la satisfaction face au parcours de la vie chez les hommes et chez les femmes plus âgés, on retrouve également des différences importantes.

## ABSTRACT

Differences occur in the demographic, health, and social network contexts of men and women, all of which are associated with successful aging. The objectives of this study were to determine whether differences exist in satisfaction in specific domains, in general life satisfaction and in the paths for life satisfaction for men and women. A secondary data analysis was conducted on selected variables from the *Aging in the Community* data set (Béland et al., 1998). The responses of 958 older Canadian francophone adults were examined. There were no differences in general or domain life satisfaction between women and men. Path analyses revealed good model fit for separate models for both male and female samples. For men, life satisfaction is explained positively by age, income, and perceived control, and negatively by recall errors, illness, and functional limitations. For women, life satisfaction is explained positively by age, education, income, social support, perceived control, and physical activity, and negatively by illness and functional limitations. The results suggest that social support had direct positive effects on life satisfaction but reduced perceived control for women. As hypothesized, although there are similarities in paths to life satisfaction for older men and women, the path models indicated that there are also important differences.

---

1 Université de Moncton

2 Concordia University

3 Université de Montréal

**Mots clés:** satisfaction à la vie; personnes âgées; effets contextuels; vieillissement

**Keywords:** life satisfaction; older men and women; contextual effects; aging

Requests for offprints should be sent to: / Les demandes de tirés-à-part doivent être adressées à :

Paul Bourque, Ph.D.

Directeur

École de psychologie

Université de Moncton

Moncton, NB

E1A 3E9

(bourqup@umoncton.ca)

## Introduction

The results from well-being and aging studies are often seen as paradoxical because of the reported stability of well-being in elderly people, in spite of cumulative losses and age-related negative changes (Kunzmann, Little, & Smith, 2000; Staudinger, Marsiske, & Baltes, 1995). This paradox is largely accounted for by the influence of personality traits that remain significantly stable across the adult lifespan (Costa, McCrae, & Zonderman, 1987). Abundant research demonstrates that personality variables are consistent predictors of life satisfaction at moderate levels (Diener & Lucas, 1999), with stable personality traits predicting characteristic emotional responses to the environment, that are in part genetically based (Diener & Lucas, 1999). In contrast, environmental or contextual influences on life satisfaction appear to be relatively smaller (Campbell, Converse, & Rodgers, 1976; Diener, Oishi, & Lucas, 2003).

Another paradox occurs in the findings that though older women consistently have less favourable life circumstances, they do not generally report lower life satisfaction than do men. The role of gender differences on well-being is not clear (Nolen-Hoeksema & Rusting, 1999), and some researchers have argued that the same models of well-being do not apply to older male and female populations (Calasanti, 1996; Pinquart & Sörensen, 2001). Prus and Gee (2002) have highlighted gender differences in contextual variables, such as socio-economic status, lifestyle, and psychosocial factors, and their influence on the health and function of men and women. Their analysis of data from a national Canadian survey revealed gender differences in a social production model of health, with psychosocial factors having greater effects on the health of women. The present study undertakes a similar analysis of a social production model examining contextual factors on the life satisfaction of older women and men.

There are major differences consistently found in the demographic context of aging for men and women in Western society (Pushkar & Arbuckle, 2000; Smith, 1995; Smith & Baltes, 1998). Older men generally live in a family context, whereas older women typically spend their last years living alone, widowed, divorced, or single. Women also have, on average, lower socio-economic status and income. Although men generally report fewer health problems, they generally have shorter life expectancy. Variables such as marital status, income, and health have all been found to predict life satisfaction, yet despite large consistent gender differences in these contextual variables, inconsistent results have been found in

studies of life satisfaction of men and women. Some studies have found higher levels of life satisfaction for men (Adkins, Martin, & Poon, 1996; Pinquart & Sörensen, 2001). In contrast, Smith (1995), analysing cross-sectional data from a Canadian national sample, reported gender differences, with positive affect increasing for women, but decreasing for men over 65 years. Other studies have found that some predictors and patterns of well-being differ for men and women (Mroczek & Kolarz, 1998; Smith, 1995). Given the more adverse life circumstances of older women experience compared to those of men (Barer, 1994; Pinquart & Sörensen, 2001), some questions can be asked. Do gender differences in socio-economic status, health, and social resources have differential effects vis-à-vis well-being in later life for women and men? Are some variables more important determinants for women than for men, helping to compensate for the more negative context in which women grow old?

Pavot and Diener (1993) maintain that life satisfaction may be defined as a subjective process in which individuals assess the quality of their lives by their own standards (Shin & Johnson, 1978). Researchers often rely on a single self-report item to measure global life satisfaction (Diener, 2000), though methodological considerations can support the use of measures of satisfaction within specific domains (Schwarz & Strack, 1999). Consequently, the use of additional measures, such as satisfaction with living accommodations, community, income, and health may be necessary (Rodgers, Herzog, & Andrews, 1988), especially when considering the different life circumstances of women and men.

## Contextual Effects on Life Satisfaction for Men and Women

A number of demographic variables have been found to predict life satisfaction. Some studies find that life satisfaction decreases with age (Diener, 1994), some studies report that life satisfaction and age are unrelated (Doyle & Forehand, 1984), whereas others contend that they are positively related, depending on gender and marital status (Mroczek & Kolarz, 1998). Despite the stereotypic belief that the elderly are unhappy (Diener & Diener, 1996), age does not appear to be a strong predictor of subjective well-being (Staudinger et al., 1995).

Among objective life factors, marital status has been found to be associated with life satisfaction (Clarke, Marshall, Ryff, & Rosenthal, 2000; Larson, 1978), as married people generally report higher levels of well-being. Some studies, however, have found that being

married is an important predictor of life satisfaction for older men but not for women (Calasanti, 1996). Chipperfield and Havens (2001) suggest that being married confers greater benefit on the well-being of men than of women. Their examination of participants in the *Aging in Manitoba Study* indicated that men's emotional well-being was more severely affected by the death of their spouse and more positively influenced by re-marriage than that of women. Chipperfield and Havens attribute the greater impact of presence of a spouse on well-being to men's smaller number of confidants and also to the loss of the spouse's kin-keeping role.

The socio-economic status of seniors and educational attainment have also been found to be positively related to life satisfaction (Herzog, Frank, Marcus, & Holmberg, 1998; Kearny, Plax, & Lentz, 1985; Madigan, Mise, & Maynard, 1996; Smith, Fleeson, Geiselmann, Settersten, & Kunzmann, 1999). Socio-economic status more strongly predicted life satisfaction for men than for women in a meta-analysis of studies on life satisfaction (Pinquart & Sörensen, 2000).

### **Health and Psychosocial Variables Associated with Life Satisfaction**

Health status (George, Okun, & Landerman, 1985; Riddick, 1985; Smith & Baltes, 1998), level of activity and functioning (Fox, 1998; Madigan et al., 1996), and perceived health (Bryant, Beck, & Fairclough, 2000; Menec, Chipperfield, & Perry, 1999) have all been related to the life satisfaction of older adults. Health-related disability has been found to be a stronger negative predictor of life satisfaction than age (Baltes & Mayer, 1999). Berkman and Gurland (1998) and Smith and colleagues (1998) found that perceived health was the strongest predictor of life satisfaction. Peek and Coward (1994) found that education and income mediated the effects of gender on functional status. Although older women experience greater functional disability, older men experienced reduced well-being when they must rely on others or technical devices for assistance, whereas for women, relying on others or technical aid was unrelated to feelings of well-being (Penning & Strain, 1994).

Although the effects of cognitive impairment on quality of life have not been fully elucidated (Krause & Thompson, 1998), declining cognitive competence appears to be associated with poorer physical health and with lower well-being (Willis, 1996). Other studies with either longitudinal or cross-sectional designs have reported that higher socio-economic status, greater education, an active, engaged adult

lifestyle, and social support are linked to better current cognitive ability (Albert et al., 1995; Arbuckle, Maag, Pushkar, & Chaikelson, 1998; Pushkar, Arbuckle, Conway, Chaikelson, & Maag, 1997; Pushkar Gold et al., 1995; Seeman, Albert, Lusignolo, & Berkman, 2001; Zunzunegui, Cuadra, Béland, Del Ser, & Wolfson, 2000).

Research has found that perceived control predicts psychological and physical functioning (Cairney, 2000; Heckhausen & Schulz, 1995), including well-being (Hickson, Housley, & Boyle, 1988) and life satisfaction (Smits, Deeg, & Bosscher, 1995). Perceived control has also been found to mediate the relationship between social support and psychological well-being (Bisconti & Bergeman, 1999). Although Feingold (1994) did not find gender differences in a meta-analysis of perceived control studies, a trend was reported in which men tend to report higher levels of control beliefs. Lachman and Weaver (1998), using a measure assessing general sense of control and control within domains, found that men expressed a sense of greater general life control and control in marriage.

The emotional support, reassurance, instrumental assistance, and companionship provided by social networks have consistently been reported to be related to the well-being of older adults (Baxter, Eby, Mason, Cortese, & Hamman, 1998; Cartensen, 1992; Kozma, Stones, & McNeil, 1991; McMullin & Marshall, 1996). In general, women report receiving more social support, confide more to others, and are more sensitive to their social networks than are men (Sherman & Walls, 1995). A meta-analysis conducted by Pinquart and Sörensen (2000) of 286 studies indicated that integration in social networks was more closely related to life satisfaction for women than for men. Although women, especially those in older cohorts, have been socialized to place greater importance on—and have spent the majority of their adult years developing and maintaining—social relations (Josselson, 1987), women are at greater risk for reduced social contacts as a result of widowhood.

Other research suggests that some elements of lifestyle may determine risk for disease and life satisfaction (Rowe & Kahn, 1997). Physically active lifestyles have been related to life satisfaction (Kelly, 1993) but some inconsistent findings have been reported for men and women. Exercise is strongly associated with better health (Blumenthal et al., 1991; Curtis, White, & McPherson, 2000; Lefrançois, Leclerc, & Poulin, 1998), with men exercising more frequently than women (Ross & Bird, 1994). Although some studies show that more men are physically active (Blumenthal et al., 1991), others suggest the contrary

(Ross & Bird 1994). Furthermore, the frequency of the leisure activity involvement of women has been reported to be less affected by increasing age and decreasing health (Stanley & Freysinger, 1995). Smoking, and heavy drinking or abstinence are associated with poorer health (Abbott, Yin, Reed, & Yano, 1986; Mirowsky & Ross, 1998). Compared to those with less schooling, well-educated persons are more likely to exercise, are more likely to drink moderately, and are less likely to smoke or be overweight (Ross & Wu, 1995).

In summary, subjective well-being is predicted by many contextual variables such as marital and socio-economic factors, as well as by individual characteristics, such as health (Adkins et al., 1996). The present overview illustrates that gender differences are likely to be observed in demographic, health, and social network variables, all of which influence well-being. Differences in life context could result in important differences in the processes by which men and women attain life satisfaction. It is therefore possible that different sets of variables best explain successful aging for men and women (Mroczek & Kolarz, 1998).

### Study Objectives

The objective of the present study was to determine whether there are gender differences in general life satisfaction and within specific life domains

and to examine the adequacy of a theoretical model to explain life satisfaction for both men and women. The Aging in the Community Study by Béland and colleagues (1998) provides a large data set of older Canadian francophones with conceptually relevant variables that can be used to develop and test models of life satisfaction. Furthermore, the existence of the large data set provided an opportunity to examine predictors of life satisfaction in working-class participants who have been under-represented in gerontological research.

Campbell, Converse, and Rodgers (1976) proposed a model of well-being that integrates two approaches to life satisfaction, which emphasize the role of subjective evaluation of life circumstances. Specifically, the model proposes that life satisfaction is a function of the direct and indirect effects of demographic variables, objective life conditions, and subjective evaluations of these domain-specific life conditions. The objective of the present study is to create and test a basic model using a framework similar to that proposed by Campbell and colleagues (1976) to examine possible differences in the antecedents of life satisfaction for men and women. Figure 1 presents an adaptation of this model, specifying the factors hypothesized to affect life satisfaction. For the sake of visual clarity, we have grouped our variables into three conceptual clusters. As indicated in Figure 1, demographic variables (i.e., age, gender, education,

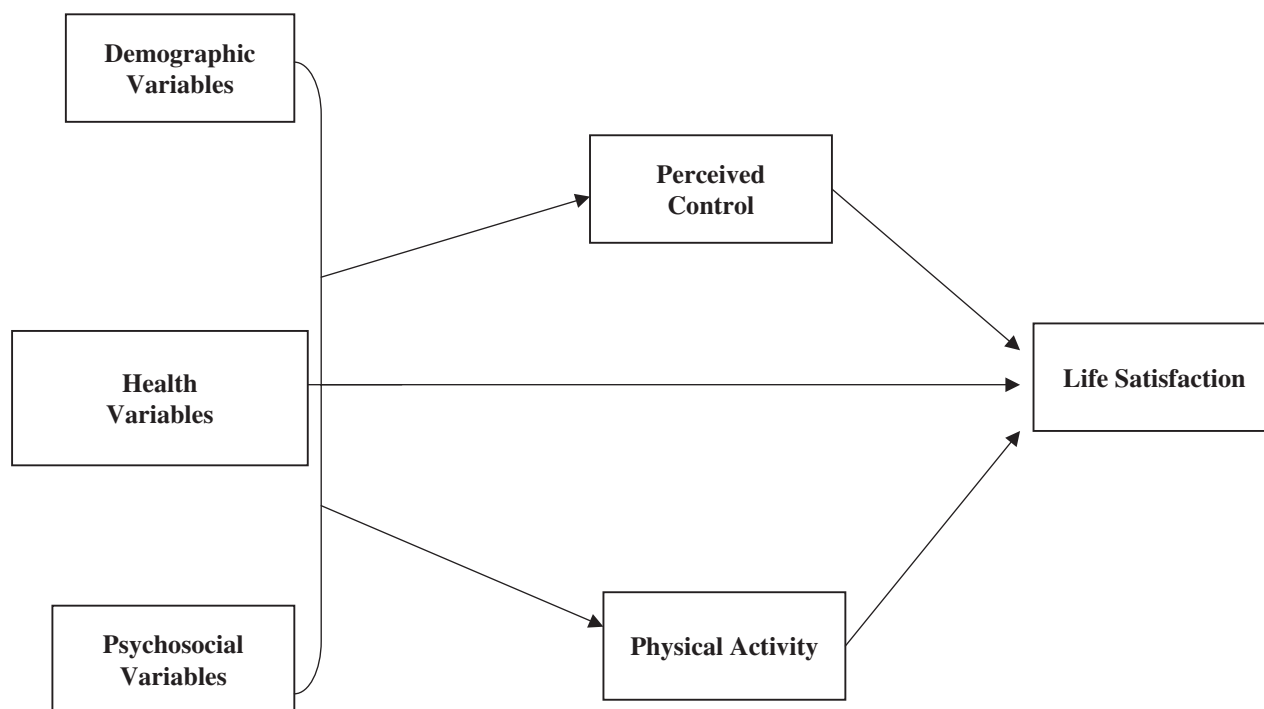


Figure 1: Proposed model of well-being

income, marital status), health variables (i.e., illness, functional limitations, alcohol, tobacco use), and psychosocial variables (i.e., narrative memory, social support) are expected to be partly mediated by perceived control and physical activity, and directly affect life satisfaction. Resources such as education, income, better health, fewer functional limitations, and greater social support (including being married), are expected to facilitate life satisfaction. Perceived control is expected to predict life satisfaction and to be significantly related to education, income, marital status, better cognitive function, and social support, yet be decreased by health problems and functional limitations. Physical activity is also assumed to predict satisfaction, and physical activity should be greater as a function of marital status, education, income, and support, but decreased by health problems, alcohol and tobacco consumption, and physical limitations. Age is expected to have a generally positive effect on life satisfaction.

## Method

### *Participants and Procedures*

This study reports a secondary analysis of a large data set, *Aging in the Community Study* (Béland et al., 1998), that examined the health and well-being of older francophones residing in Eastern Canada. These francophone participants are of Acadian origin whose ancestors were among the first settlers on the Canadian east coast. The sample was composed of individuals residing in Moncton, NB, registered in the provincial medical drug program, which includes virtually all older adults in that province. Only francophone participants were included, and the response rate was 67 per cent. This rate is typically found in Canadian surveys, according to Marshall (1987). This sample is representative of the francophone population in the Moncton area in age, gender, marital status, and education (Béland et al., 1998). Twenty interviewers were trained to administer questionnaires and code the data. Interviewers telephoned prospective participants to describe the study on health, functioning, and well-being of older people living in Moncton and to schedule interviews in the homes of consenting participants.

The present study used a sub-set of 958 older adults, 419 (43%) men and 539 women (57%), for whom complete data were available on selected study measures. These participants were generally younger, married individuals with higher cognitive scores. Participants' ages ranged from 65 to 94 years ( $M = 73$ ,  $SD = 6$ ). Eighty-seven per cent of men were married in contrast to only 49 per cent of women.

Almost half of the participants had less than 9 years of formal education, whereas 25 per cent had 9 to 12 years, and 16 per cent had more than 12 years.

### *Measures*

Data were collected in the *Aging in the Community Study* by means of a survey questionnaire adapted by Béland and Zunzunegui (1995), which included a number of items from the *Established Populations for Epidemiologic Studies of the Elderly* (EPESE; Coroni-Huntley, Brock, Ostfeld, Taylor, & Wallace, 1986). The methodology of the survey questionnaire is reported in detail by Béland and Zunzunegui (1999) and Zunzunegui, Béland, Llacer, and Leon (1998).

### *Demographic Variables*

Derived demographic information included age, gender, marital status, education, and income. Education was recoded into six categories: *no schooling*; *primary school not completed*; *primary school completed*; *high school*; *technical school*; and *university*. Income was measured using the total household monthly income, with 10 categories ranging from *no income* to *more than \$5000*.

### *Health*

The health measures included number of chronic illnesses, incontinence, hearing and vision problems, use of alcohol and tobacco. The number of chronic illnesses was determined by self-reported chronic conditions from a list of 16 common conditions included in the EPESE (Coroni-Huntley et al., 1986). The presence of hearing and vision problems was also ascertained with questions from the EPESE (Coroni-Huntley et al., 1986). Alcohol and tobacco use were measured by two questions from the EPESE (Coroni-Huntley et al., 1986): *Have you smoked more than 100 cigarettes in your lifetime? More than 100 or less than 100. Have you consumed alcoholic beverages in the last year? Everyday to less than once per month.*

### *Functional Limitations*

The functional limitations measure was composed of two items from the Rosow-Breslau Functional Health Index (Rosow & Breslau, 1966) and five items from the Physical Performance Scale (Nagi, 1976). The items included activities such as bending, walking, climbing stairs, and lifting heavy objects. Participants were asked to rate the level of difficulty experienced in performing each activity. Possible responses ranged from *no difficulty* to *cannot perform the task*. The reliability coefficients were  $\alpha = 0.81$  for both men and women.

### Narrative Memory

Narrative memory was measured by noting the number of recall errors obtained by participants using the Short Story Test (Scherr et al., 1988). The reliability coefficients yielded for responses to this measure were  $\alpha = 0.64$  for both men and women.

### Social Support

The social support measure was adapted from an 18-item questionnaire originally developed by Seeman and Berkman (1988) to evaluate relationship satisfaction with friends, children, and family on a 5-point scale from *dissatisfied* to *very satisfied*.

Total scores for these measures were factor analysed using Principal Component Analysis.<sup>1</sup> The components were 0.77, 0.83, and 0.84 respectively for friends, children, and family. One component was extracted that accounted for 66 per cent of the variance, with an Eigenvalue of 1.99. Subsequently, scores for all three categories were combined to create a composite social support measure, with higher scores indicating greater satisfaction. Responses to this measure yielded reliability coefficients of  $\alpha = 0.80$  for the men and  $\alpha = 0.71$  for the women. The composite score was used in the subsequent analyses.

### Physical Activity

The physical activity measure included responses to three self-reported questions. The first question evaluated the level of physical activity: *For a person your age, what is your level of physical activity? Light, moderate, or strenuous.* The second question evaluated the perceived importance of physical exercise: *To what extent is physical exercise important in the prevention of illness in older adults? Unimportant, somewhat important, moderately important, or very important.* The final question asked the number of times the participants exercised per week. The scores of the three questions were added to create a composite measure, with higher scores indicating greater commitment to physical activity. The reliability coefficients for responses on the physical activity measure were  $\alpha = 0.67$  and  $\alpha = 0.70$  for men and women respectively.

### Perceived Control

Perceived control was assessed by the Sense of Mastery Index developed by Pearlin and Schooler (1978). Responses to each of the seven items were answered on a 4-point scale ranging from *strongly agree* to *strongly disagree* on such statements as *I have little control over the things that happen to me; There is little I can do to change many of the important things in my life.* A higher total score indicates a greater sense

of control. The reliability coefficients were  $\alpha = 0.86$  and  $\alpha = 0.79$  for men and women respectively.

### Life Satisfaction

Life satisfaction was assessed by both satisfaction with important life domains and general life satisfaction. Five items pertaining to satisfaction with health, home, community, income, and life in general were measured on a 5-point scale ranging from *not satisfied at all* to *very satisfied*.

Responses to these five items were analysed using a Principal Component Analysis. One component underlying the five items accounted for 47 per cent of the variance, with an Eigenvalue of 2.33. The loading of the general life satisfaction (0.76) was comparable to those of the other items (0.69 to 0.75), with the exception of the health item (0.39). Since general life satisfaction was closely associated with satisfaction in the four other domains, a composite score of life satisfaction was based on the five items. This should allow the influence of the other contextual variables, which, with one exception, are not measures of satisfaction to be more clearly determined when viewed separately from the domain satisfaction items. The reliability coefficient for life satisfaction scores was  $\alpha = 0.70$  for both men and women.

## Results

### Plan of Data Analysis

Participant responses were first examined by ANOVA to determine if gender differences existed in general life satisfaction, satisfaction with specific domains, and predictor variables. Correlation coefficients were computed separately for men and women. Subsequently, models were conducted using path analyses via the EQS statistical software (Bentler, 1995). Maximum likelihood estimations were used to test the models. The  $\chi^2$  statistic tests the extent to which a proposed model fits the sample data with a small non-significant  $\chi^2$ , relative to its degrees of freedom, suggesting a good fit. Three additional indices of fit, the comparative fit index (CFI), the adjusted goodness of fit index (AGFI), and the root mean square error of approximation (RMSEA) were also selected for their ability to protect against potential sample bias and sample size sensitivity (Hu & Bentler, 1999). The CFI constitutes the proportion of improvement of the overall fit of the proposed model relative to the null model (no fit at all). Because of the tendency that the more estimates being made in a model the better the fit, as compared to fewer estimates being made within the same model, the

AGFI was chosen because it takes this factor into account by shrinking its value as the number of estimates increases. Both the CFI and the AGFI reflect a good fit when their respective values are equal to, or above, 0.95. The RMSEA is an index of residuals with a cut-off value of 0.06, with smaller values revealing a better fit.

Correlation analyses were first conducted to reduce study variables by determining their association with life satisfaction for men and women. As a result of these preliminary analyses, the variables of incontinence, and the use of alcohol and tobacco, were excluded from further analysis.

### Descriptive Statistics

Analyses of variance (ANOVAS) were used to identify gender differences for the study variables. Women were significantly older  $F(1, 957) = 5.77, p < 0.01$ , less well educated  $F(1, 957) = 13.77, p < 0.001$ , had lower income  $F(1, 957) = 72.21, p < 0.001$ , had greater functional limitations  $F(1, 957) = 41.61, p < 0.001$ , yet were more active  $F(1, 957) = 7.99, p < 0.01$ , and were more satisfied with their relationships with friends  $F(1, 957) = 6.85, p < 0.01$ . There were no significant differences in overall life satisfaction for women and men or in the measures of satisfaction in the specific domains. These findings suggest that separate structural models, though not entirely different, may be needed for men and women. Thus the following results are presented separately for males and females. Table 1 presents the means and standard

**Table 1: Means (M) and standard deviations (SD) for study variables for men and women**

	Men (n = 419)		Women (n = 539)	
	M	SD	M	SD
Age	72.81	5.93	73.77	6.32
Income	6.38	1.14	5.71	1.27
Chronic Illnesses	1.95	1.15	2.07	1.08
Functional Limits	8.78	3.35	10.44	4.34
Story Recall	0.78	1.08	0.91	1.17
Locus of Control	21.98	3.77	22.06	3.72
Physical Activity	3.44	1.47	3.15	1.55
Social Support				
Friends	22.71	3.13	23.19	2.80
Children	24.51	2.51	24.75	2.11
Family	22.77	3.53	22.96	3.15
Life Satisfaction	18.13	1.97	18.23	2.00

deviations, and Table 2 presents the inter-correlation matrices of study variables for males and females.

### Path Analysis

Path analysis was performed using the EQS (5.6) program (Bentler, 1995) to test the conceptual model (see Figure 1). Attempts to fit the data of the combined male and female samples were unsuccessful, consistently resulting in a poor fit. Consequently the model was run separately for men and women, regardless of marital status.

Figures 2 and 3 present the confirmed models with significant paths for men and for women. All path coefficients differ statistically significantly from zero ( $p < 0.05$ ). For men, the  $\chi^2 (df=3) = 6.03$  and is not significant ( $p = 0.11$ ). Indices of Fit of the model are high (CFI = 0.99, AGFI = 0.96 and RMSEA = 0.05). For women, the  $\chi^2 (df=9) = 14.22$  and is not significant ( $p = 0.11$ ). Indices of Fit are also high (CFI = 0.99, AGFI = 0.97 and RMSEA = 0.03). The co-variances among the predictor variables within each model were estimated, though they are not depicted in Figures 2 and 3 for the sake of clarity.

For men, life satisfaction is associated with age, income, and control, and negatively by recall errors, illness, and functional limitations. In addition, fewer illnesses and higher income help to explain perceived internal locus of control. The model for women, however, is more complex. Age, income, and control positively predict, and illness and functional limitations negatively predict life satisfaction. Psychosocial variables are also important predictors of both life satisfaction and control. Life satisfaction is positively predicted by social support and education for women. For men, control is predicted only by individual variables (i.e., illness and income). For women, control is also inversely associated with being married and with higher levels of satisfaction with social support, as well as inversely with illness and functional limitations. Satisfaction with social support, education, and functional limitations, predict physical activity for women, which also predicts life satisfaction.

### Discussion

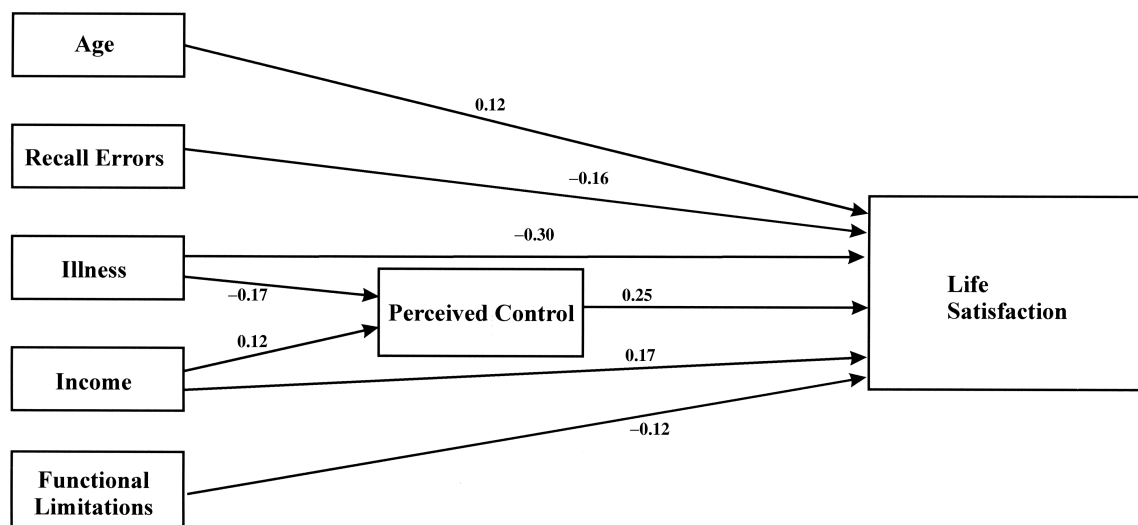
The present study examined the role of life context and psychological variables in relation to life satisfaction among older men and women. In accord with previous studies, no significant gender differences in either domain, specific or general life satisfaction, were observed, even though women had significantly lower income and more functional limitations. But as hypothesized, path models suggest that though there

**Table 2: Inter-correlations between study variables for women and men**

	1	2	3	4	5	6	7	8	9	10	11
1. Age		-0.19*	-0.27*	-0.24*	0.09	0.27*	-0.01	-0.03	-0.16*	0.14	0.02
2. Education	-0.08		0.10	0.31*	-0.04	-0.06	0.13	0.05	0.20*	-0.20*	0.16*
3. Marital Status	-0.16*	-0.01		0.46*	0.02	-0.04	-0.02	-0.10	0.02	-0.05	-0.09
4. Income	-0.17	0.40*	0.31*		0.01	-0.05	0.09	0.01	0.05	-0.06	0.11
5. Illness	0.24*	-0.02	0.04	-0.05		0.39*	-0.07	-0.16*	-0.12	0.10	-0.35*
6. Limitations	0.15	-0.14	-0.03	-0.11	0.37*		-0.10	-0.16*	-0.41*	0.11	-0.37*
7. Social Support	0.01	-0.03	0.09	0.05	-0.05	-0.01		-0.07	0.17	-0.21*	0.23*
8. Control	-0.05	0.06	0.01	0.12	-0.18*	-0.14	-0.04		0.01	0.10	0.37*
9. Physical Activity	-0.19*	0.19*	0.07	0.14	-0.16*	-0.36*	0.13	-0.07		-0.24*	0.24*
10. Story recall	0.15	-0.24*	-0.08	-0.17*	0.12	0.10	-0.19*	0.05	-0.21*		-0.10
11. Life Satisfaction	0.03	0.16*	0.10	0.24*	-0.39*	-0.28*	0.08	0.33*	0.14	-0.20*	

Correlations for men ( $n = 419$ ) are indicated below the diagonal, and correlations for women ( $n = 539$ ) are indicated above the diagonal. Sample sizes may vary slightly as a result of missing data. Marital status is coded 0 = presently unmarried; 1 = presently married. Using the Bonferonni correction for multiple correlations indicates only coefficients at less than  $p < 0.001$  are significant.

\* $p < 0.001$ .



**Figure 2: Standardized path coefficients in model for life satisfaction in men with all coefficients  $p < 0.05$**

are similar paths to life satisfaction for both older women and men, there are also important differences. It may be that differences in the significant paths found for men and women represent degrees of difference in strength of association; however, comparisons between the two models cannot be made, as the variables in the models are not identical (Byrne, 1994).

These results also suggest that there may be some cross-cultural consistency in the paths to successful

aging among older adults, since the present findings with this sample of francophone Canadians are comparable to results found with German (Baltes & Mayer, 1999), American (Mroczek & Kolarz, 1998) and other heterogeneous Canadian (Clarke et al., 2000) samples. All these studies indicate the importance of socio-economic variables, health, functional status, and gender as influences on life satisfaction in aging.

The results of the present study suggest that after the effects of illness, disabilities, and other variables



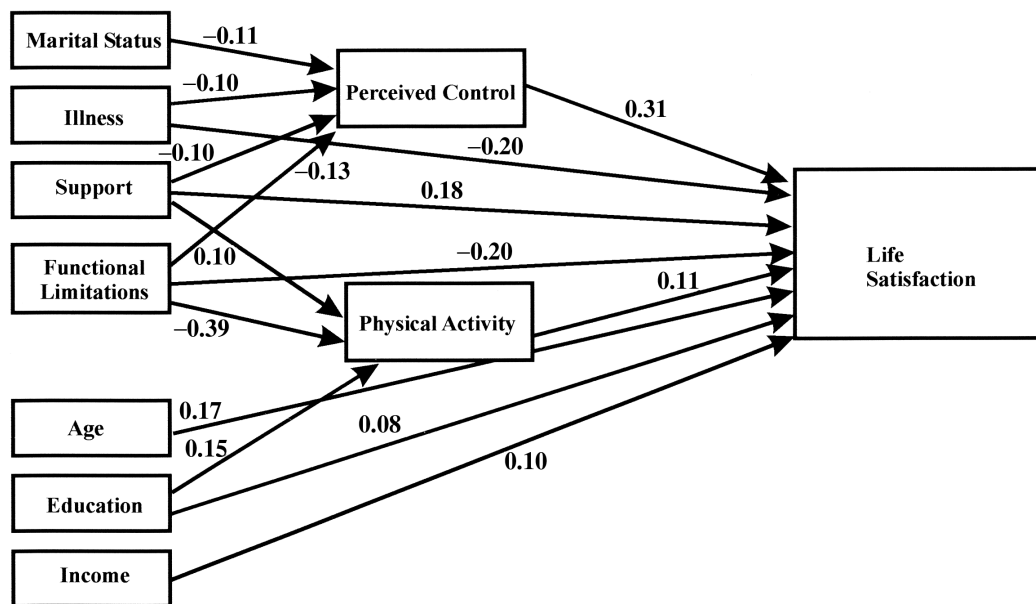


Figure 3: Standardized path coefficients in model for life satisfaction in women with all coefficients  $p < 0.05$

are controlled, age has a positive effect on well-being, as previously reported (e.g., Mroczek & Kolarz, 1998). Yet research findings indicate that the relation between age and well-being does not appear to be constant above 65 years of age. For example, Kunzmann and colleagues (2000) reported that at older age levels, life satisfaction declines, with functional health being a more important determinant of well-being than age. Our sample was relatively healthy, autonomous, and living independently in the community. Marital status was not associated with life satisfaction for men; for women, marital status is only indirectly and inversely associated with life satisfaction via control, with unmarried women expressing a greater sense of control. Income is positively linked to life satisfaction for both men and women, with the effect being larger for men. This result is in accord with Pinquart and Sörensen's (2000) meta-analysis of studies examining socio-economic status and well-being. However, education is also associated with life satisfaction and physical activity for women.

Social integration (as measured by satisfaction with family, friends and children) appears to lead to increased life satisfaction for women. However, integration within personal relationships as well as being married is also associated with reduced personal control for women. This suggests that greater involvement with others, even if satisfying, reduces women's perceived ability to act independently and to choose among alternatives. Maintaining positive social relations requires the reconciliation of one's own needs with those of others; as a result,

compromises can reduce perceived autonomy. Studies have demonstrated the negative costs of being part of a social network (Okun & Keith, 1998) and of interactions with adult children (McMullin & Marshall, 1996). Reduced sense of control as a function of social networking has not been previously demonstrated.

The hypothesis that older women are more embedded in their social networks was supported, as social variables appear to have more complex effects in the lives of these older women and appear to have a stronger association with life satisfaction than for men. These findings are congruent with other studies indicating that women are more active and involved in social relations, (e.g., kin-keeping, and having more positive interpersonal relationships; Clarke et al., 2000). The greater salience of social relations would be especially true for this cohort of women who grew up and spent most of their young and middle adult years in an era of limited work opportunities, and who devoted most of their energy and time to family care (Baber & Allen, 1992). At this age, however, an important social factor is the greater number of women, especially unmarried women, compared to men. Greater numbers of unmarried women mean that older women have more potential same-gender friends available to them (Brockman & Klein, 2002), making it easier to find satisfactory social support as compared to their male contemporaries.

Reduced control perceived by married women presumably reflects a traditional orientation to marriage in this primarily working-class sample, with women

expected to accommodate their male partners. These results are congruent with the findings of Lachman and Weaver (1998), who reported that men perceive that they have greater control within their marriages. The present results are consistent with the findings that a social prediction model of health had more influence on women's health than that of men (Prus & Gee, 2002). The results are also in accord with the findings of Michael, Berkman, Colditz, and Kawachi (2001), who reported that women living independently, or with someone other than a spouse, had better health and reduced risks of decline in vitality, and physical and mental health. For these women, social support and engagement with friends and relatives appears to reduce the risk of decline. The present results suggest that being married has some negative as well as some positive effects on the functioning of older women (Chipperfield & Havens, 2001). Thus the results for women in general, and for married women in particular, support the hypothesis that social integration is more important for, and has more complex effects on, the functioning and life satisfaction of women. The finding that older unmarried women have greater control in their lives supports the assertion by Baltes, Freund, and Horgas (1999) that women's greater longevity and the accompanying shifts in gender ratios could lead to more self-assertive behaviour by women (Pinquart & Sörensen, 2001), with more independence and greater control of their own destiny.

In contrast, only their personal functioning (i.e., memory, locus of control, functional limitations, and illness) and income appear to influence life satisfaction of these older men. Marital status or social relationships had no significant effect on control or life satisfaction of men. The absence of marital status on perceived control for men is in accord with previous research suggesting that men's well-being is less influenced by their partners' characteristics than it is for women (Quirouette & Pushkar Gold, 1992).

For both men and women, illness is associated with reduced control, but for women functional limitations also appear to reduce perceived control. Perceived control served as a mediator between contextual variables and life satisfaction for both women and men, though somewhat different variables for women and men are mediated by control. These findings support those of Bisconti and Bergeman (1999), and Smith et al. (2000), which emphasize the central role of personal control in mediating the relationship between contextual variables and well-being.

The present findings indicate that women are more sensitive to contextual variations than are men and are also in accord with the findings of Baltes and

colleagues (1999), who reported that differences in the functioning of men and women are due in large part to external factors. In the present study, physical activity predicted life satisfaction with psychosocial factors, mainly education and social support, as important influences on physical activity. It is possible that the availability of peers enables women to participate together in physical activity (i.e., walking, exercise classes). The present findings are also in accord with those of Mirowsky and Ross (1998), who noted that education enables the better integration of health-productive behaviours into a coherent lifestyle.

The use of data sets for secondary analysis, though advantageous, is not without limitations (Singleton, 1988). For instance, this study was restricted to the items developed initially by Béland and colleagues (1998). The absence of personality measures eliminates the possibility of studying dispositional influences on reactions to environmental factors. It is quite possible that personality variables could interact with some factors to moderate their impact on life satisfaction. A further limitation of the study pertains to the cross-sectional design of the study. Conclusions about directionality of relations among psychosocial variables must therefore be tentative, pending further replication or longitudinal study. Despite these limitations, the findings of the study suggest complex patterns of environmental effects and different ways of attaining higher levels of life satisfaction by older working-class men and women, leading autonomous lifestyles in the community. It is highly likely that men and women could learn additional ways of achieving greater life satisfaction from each other. The greater independence of men makes their life satisfaction less dependent upon environmental and social factors; but the greater social embeddedness of women enables them to be as satisfied with their life domains and life in general as are men, despite women's relatively poorer life circumstances.

## Note

- 1 Further information concerning the findings from and the rationale for the analysis can be obtained from the principal author.

## References

- Abbott, R.D., Yin, Y., Reed, D.M., & Yano, K. (1986). Risk of stroke in male cigarette smokers. *The New England Journal of Medicine*, 315, 717-726.
- Adkins, G., Martin, P., & Poon, L.W. (1996). Personality traits and states as predictors of subjective well-being in centenarians, octogenarians, and sexagenarians. *Psychology and Aging*, 11, 408-416.

- Albert, M.S., Savage, C.R., Blazer, D., Jones, K., Berkman, L., & Seeman, T. (1995). Predictors of cognitive change in older persons: MacArthur Studies of Successful Aging. *Psychology and Aging, 10*, 578–589.
- Arbuckle, T.Y., Maag, U., Pushkar, D., & Chaikelson, J. (1998). Individual differences in trajectory of intellectual development over 45 years of adulthood. *Psychology and Aging, 13*, 663–675.
- Baber, K., & Allen, K. (1992). *Women and families: Feminist reconstructions*. New York: Guilford Press.
- Baltes, M.M., Freund, A.M., & Horgas, A.L. (1999). Men and women in the Berlin Aging Study. In P.B. Baltes, & K.U. Mayer (Eds.), *The Berlin Aging Study: Aging from 70 to 100* (pp. 259–281). New York: Cambridge University Press.
- Baltes, P.B., & Mayer, K.U. (Eds.). (1999). *The Berlin Aging Study: Aging from 70 to 100*. New York: Cambridge University Press.
- Barer, B.M. (1994). Men and women aging differently. *International Journal of Aging and Human Development, 38*, 29–40.
- Baxter, J., Eby, C., Mason, L., Cortese, C.F., & Hamman, R.F. (1998). Social network factors associated with perceived quality of life. *Journal of Aging and Health, 10*, 287–310.
- Béland, F., Haldemann, V., Martin, J.C., Bourque, P., Ouellette, P., & Lavoie, J.P. (1998). *Vieillir dans la communauté: Santé et autonomie*. Ottawa: Rapport de recherche présenté au PRNDS de Santé Canada.
- Béland, F., & Zunzunegui, M.V. (1995). El perfil de las incapacidades funcionales. *Revue Gerontologia, 5*, 232–234.
- Béland, F., & Zunzunegui, M.V. (1999). Predictors of functional status in a population of community dwelling elderly in Spain. *Age and Ageing, 28*, 153–159.
- Bentler, P.M. (1995). *EQS Structural equation program manual*. Encino, CA: Multivariate Software Inc.
- Berkman, C.S., & Gurland, B.J. (1998). The relationship among income, other socioeconomic indicators, and functional level in older persons. *Journal of Aging and Health, 10*, 81–98.
- Bisconti, T.L., & Bergeman, C.S. (1999). Perceived social control as a mediator of the relationships among social support, psychological well-being, and perceived health. *The Gerontologist, 39*, 94–103.
- Blumenthal, J.A., Emery, C.F., Madden, D.J., Schniebolk, S., Riddle, M.W., & George, L.K. (1991). Long term effects of exercise on psychological functioning in older men and women. *Journals of Gerontology, 46*, P352–P361.
- Brockman, H., & Klein, T. (2002). *Love and death in Germany: The marital biography and its impact on mortality*. Working paper 2002-15. Rostock, Germany: Max Planck Institute for Demographic Research.
- Bryant, L.L., Beck, A., & Fairclough, D.L. (2000). Factors that contribute to positive perceived health in an older population. *Journal of Aging and Health, 12*, 169–192.
- Byrne, B.M. (1994). *Structural equation modeling with EQS and EQS Windows*. Thousand Oaks, CA: SAGE Publications, Inc.
- Cairney, J. (2000). Socioeconomic status and self-rated health among older Canadians. *Canadian Journal on Aging, 19*, 456–478.
- Calasanti, T.M. (1996). Gender and life satisfaction in retirement: An assessment of the male model. *Journals of Gerontology, 51B*, S18–S29.
- Campbell, A., Converse, P.E., & Rodgers, W.L. (1976). *The quality of American life: Perceptions, evaluations, and satisfactions*. New York: Russell Sage Foundation.
- Cartensen, L. (1992). Social and emotional patterns in adulthood: Support for socio-emotional selectivity theory. *Psychology and Aging, 1*, 331–338.
- Chipperfield, J.D., & Havens, B. (2001). Gender differences in the relationship between marital status transitions and life satisfaction in later life. *Journals of Gerontology, 56B*, P176–P186.
- Clarke, P.J., Marshall, V.W., Ryff, C.D., & Rosenthal, C.J. (2000). Well-being in Canadian seniors: Findings from the Canadian Study of Health and Aging. *Canadian Journal on Aging, 19*, 139–159.
- Coroni-Huntley, J., Brock, D.B., Ostfeld, A., Taylor, J.O., & Wallace, R.B. (1986). *Established populations for epidemiologic studies of the elderly (EPESE). Resource data book*. NIH Publications no. 86. Bethesda, MD: National Institute of Health.
- Costa, P.T., McCrae, R.R., & Zonderman, A. (1987). Environmental and dispositional influences on well-being: Longitudinal follow-up of an American national sample. *British Journal of Psychology, 78*, 299–306.
- Curtis, J., White, P., & McPherson, B. (2000). Age and physical activity among Canadian women and men: Findings from longitudinal national survey data. *Journal of Aging and Physical Activity, 8*, 1–19.
- Diener, E. (1994). Assessing subjective well-being: Progress and opportunities. *Social Indicators Research, 31*, 103–157.
- Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist, 55*, 34–43.
- Diener, E., & Diener, C. (1996). Most people are happy. *Psychological Science, 7*, 181–185.
- Diener, E., & Lucas, R.E. (1999). Personality and subjective well-being. In D. Kahneman, E. Diener, & N. Schwartz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 213–229). New York: Russell Sage Foundation.

- Diener, E., Oishi, S., & Lucas, R.E. (2003). Personality, culture and subjective well-being: Emotional and cognitive evaluations of life. *Annual Review of Psychology*, 54, 403–425.
- Doyle, D., & Forehand, M.J. (1984). Life satisfaction and old age. *Research on Aging*, 6, 432–448.
- Feingold, A. (1994). Gender differences in personality: A meta-analysis. *Psychological Bulletin*, 116, 429–456.
- Fox, M.T. (1998). Physical mobility and social integration: Their relationship to the well-being of older Canadians. *Canadian Journal on Aging*, 17, 372–383.
- George, L.K., Okun, M.A., & Landerman, R. (1985). Age as moderator of the determinants of life satisfaction. *Research on Aging*, 7, 209–233.
- Heckhausen, J., & Schulz, R. (1995). A life span theory of control. *Psychological Review*, 102, 284–304.
- Herzog, A.R., Frank, M.M., Markus, H.R., & Holmberg, D. (1998). Activities and well-being in older age: Effects of self-concept and educational attainment. *Psychology and Aging*, 13, 179–185.
- Hickson, J., Housley, W.F., & Boyle, C. (1988). The relationship of locus of control, age, and sex to life satisfaction and death anxiety in older persons. *International Journal of Aging and Human Development*, 26, 191–199.
- Hu, L., & Bentler, P.M. (1999). Cutoff criteria for fit index in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1–55.
- Josselson, R. (1987). *Finding herself: Pathways to identity development in women*. San Francisco: Jossey-Bass.
- Kearney, P., Plax, T.G., & Lentz, P.S. (1985). Participation in community organizations and socioeconomic status as determinants of seniors' life satisfaction. *Activities, Adaptation & Aging*, 6, 31–37.
- Kelly, J.R. (1993). *Activity and aging*. Newbury Park, CA: Sage.
- Kozma, A., Stones, M.J., & McNeil, J.K. (1991). *Psychological well-being in later life*. Toronto: Butterworths Canada Ltd.
- Krause, N., & Thompson, E. (1998). Cognitive functioning, stress and psychological well-being in later life. *Journal of Mental Health and Aging*, 4, 155–170.
- Kunzmann, U., Little, T.D., & Smith, J. (2000). Is age-related stability of subjective well-being a paradox? Cross-sectional and longitudinal evidence from the Berlin Aging Study. *Psychology and Aging*, 15, 511–526.
- Lachman, M.E. & Weaver, S.L. (1998). Socio-demographic variations in the sense of control by domain: Findings from the MacArthur studies of midlife. *Psychology and Aging*, 13, 553–562.
- Larson, R. (1978). Thirty years of research on the subjective well-being of older Americans. *Journal of Gerontology*, 33, 109–125.
- Lefrançois, R., Leclerc, G., & Poulin, N. (1998). Predictors of activity involvement among older adults. *Activities, Adaptation & Aging*, 22, 15–29.
- Madigan, M.J., Mise, D.H., & Maynard, M. (1996). Life satisfaction and level of activity of male elderly in institutional and community settings. *Activities, Adaptation & Aging*, 21, 21–36.
- Marshall, V. (1987). Factors affecting response and completion rates in some Canadian studies. *Canadian Journal on Aging*, 6, 217–227.
- McMullin, J.A., & Marshall, V.W. (1996). Family, friends, stress, and well-being: Does childlessness make a difference? *Canadian Journal on Aging*, 15, 355–373.
- Menec, V.H., Chipperfield, J.G., & Perry, R.P. (1999). Self-perceptions of health: A prospective analysis of mortality, control, and health. *Journals of Gerontology*, 54B, P85–P93.
- Michael, Y.L., Berkman, L.F., Colditz, G.A., & Kawachi, I. (2001). Living arrangements, social integration, and change in functional health status. *American Journal of Epidemiology*, 153, 123–131.
- Mirowsky, J., & Ross, C.E. (1998). Education, personal control, lifestyle and health: A human capital hypothesis. *Research on Aging*, 20, 415–449.
- Mroczek, D.K., & Kolarz, C.M. (1998). The effect of age on positive and negative affect: A developmental perspective on happiness. *Journal of Personality and Social Psychology*, 75, 1333–1349.
- Nagi, S.Z. (1976). An epidemiology of disability among adults in the United States. *Millbank Memorial Fund Quarterly/Health and Society*, 54, 439–467.
- Nolen-Hoeksema, S., & Rusting, C.L. (1999). Gender differences in well-being. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 330–350). New York: Russell Sage Foundation.
- Okun, M.A., & Keith, V.M. (1998). Effects of positive and negative social exchanges with various sources on depressive symptoms in younger and older adults. *Journals of Gerontology*, 53B, P4–P20.
- Pavot, W., & Diener, E. (1993). Review of the Satisfaction with Life Scale. *Psychological Assessment*, 5, 164–172.
- Pearlin, L.I., & Schooler, C. (1978). The structure of coping. *Journal of Health and Social Behavior*, 19, 2–21.
- Peek, M.K., & Coward, R.T. (1999). Gender differences in the risk of developing disability among older adults with arthritis. *Journal of Aging and Health*, 11, 131–150.

- Penning, M.J., & Strain, L.A. (1994). Gender differences in disability, assistance, and subjective well-being in later life. *Journals of Gerontology*, *49*, S202–S208.
- Pfeiffer, E. (1975). A short portable mental status questionnaire for the assessment of organic brain deficit in elderly patients. *Journal of American Geriatrics Society*, *23*, 433–441.
- Pinquart, M., & Sörensen, S. (2000). Influences of socioeconomic status, social network, and competence on subjective well-being in later life: A meta-analysis. *Psychology and Aging*, *15*, 187–224.
- Pinquart, M., & Sörensen, S. (2001). Gender differences in self-concept and psychological well-being in old age: A meta-analysis. *Journals of Gerontology*, *56B*, P195–P213.
- Prus, S.G., & Gee, E. (2002, June). *Gender differences in the influence of economic, lifestyle and psychosocial factors on later-life health*. SEDAP Research Paper No. 76.
- Pushkar, D., & Arbuckle, T.Y. (2000). Le contexte général du vieillissement : Processus affectifs, sociaux et cognitifs. In P. Cappeliez, J. Vezina, & P. Landreville (Eds.), *Psychologie clinique de la personne âgée* (pp. 1–22). Ottawa: University of Ottawa Press.
- Pushkar, D., Arbuckle, T.Y., Conway, M., Chaikelson, J., & Maag, U. (1997). Everyday activity parameters and competence in elderly adults. *Psychology and Aging*, *12*, 600–609.
- Pushkar Gold, D., Andres, D., Etezadi, J., Arbuckle, T., Schwartzman, A., & Chaikelson, J. (1995). Structural equation model of intellectual change and continuity and predictors of intelligence in elderly men. *Psychology and Aging*, *10*, 294–303.
- Quirouette, C., & Pushkar Gold, D. (1992). Spousal characteristics as predictors of well-being in older couples. *International Journal of Aging and Human Development*, *34*, 257–269.
- Riddick, C.C. (1985). Life satisfaction determinants of older males and females. *Leisure Sciences*, *7*, 47–63.
- Rodgers, W.L., Herzog, R., & Andrews, F.M. (1988). Interviewing older adults: Validity of self-reports of satisfaction. *Psychology and Aging*, *3*, 264–272.
- Rosow, I., & Breslau, N. (1966). A Guttman health scale for the aged. *Journal of Gerontology*, *21*, 556–559.
- Ross, C.E., & Bird, C.E. (1994). Sex stratification and health lifestyle: Consequences for men's and women's perceived health. *Journal of Health and Social Behavior*, *35*, 161–178.
- Ross, C.E., & Wu, C.-I. (1995). The links between education and health. *American Sociological Review*, *60*, 719–745.
- Rowe, J.W., & Kahn, R.L. (1997). Human aging: Usual and successful. *Science*, *237*, 143–149.
- Scherr, P.A., Albert, M.S., Funkenstein, H.H., Cook, N.R., Hennekens, C.H., & Branch, L.G. (1988). Correlates of cognitive function in an elderly community population. *American Journal of Epidemiology*, *128*, 1084–1101.
- Schwarz, N., & Strack, F. (1999). Reports of subjective well-being: Judgemental processes and their methodological implications. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 61–84). New York: Russell Sage Foundation.
- Seeman, T.E., Albert, M., Lusignolo, T.M., & Berkman, L. (2001). Social relationships, social support, and patterns of cognitive aging in healthy, high functioning older adults: MacArthur studies of successful aging. *Health Psychology*, *20*, 243–255.
- Seeman, T.E., & Berkman, L.F. (1988). Structural characteristics of social networks and their relationship with social support in the elderly: Who provides support? *Social Science Medecine*, *26*, 737–748.
- Sherman, A., & Walls, J.W. (1995). Gender differences in the relationship of moderator variables to stress and symptoms. *Psychology and Health*, *10*, 321–331.
- Shin, D.C., & Johnson, D.M. (1978). Avowed happiness as an overall assessment of the quality of life. *Social Indicators Research*, *5*, 475–492.
- Singleton, J.F. (1988). Role of secondary data in leisure research. *Journal of Leisure Research*, *20*, 233–236.
- Smith, G.C., Kohn, S.J., Savage-Stevens, E., Finch, J.J., Ingate, R., & Lim, Y.O. (2000). The effects of interpersonal and personal agency on perceived control and psychological well-being in adulthood. *The Gerontologist*, *40*, 458–468.
- Smith, J. (1995). *Well-being: Results of the Bradburn Affect Balance Scale in the 1991 survey on aging and independence*. Ottawa: Minister of Supply and Services.
- Smith, J., & Baltes, M.M. (1998). The role of gender in very old age: Profiles of functioning and everyday life patterns. *Psychology and Aging*, *13*, 676–695.
- Smith, J., Fleeson, W., Geiselmann, B., Settersten, R.A., & Kunzmann, U. (1999). Sources of well-being in old age. In P.B. Baltes & K.U. Mayer (Eds.), *The Berlin Aging Study: Aging from 70 to 100* (pp. 450–471). New York: Cambridge University Press.
- Smits, C.H., Deeg, D.J., & Bosscher, R.J. (1995). Well-being and control in older persons: The prediction of well-being from control measures. *International Journal of Aging and Human Development*, *40*, 237–251.
- Stanley, D., & Freysinger, V.J. (1995). The impact of age, health, and sex on the frequency of older adults' leisure activity participation: A longitudinal study. *Activities, Adaptations & Aging*, *19*, 31–42.
- Staudinger, U.M., Marsiske, M., & Baltes, P.B. (1995). Resilience and levels of reserve capacity in later

adulthood: Perspective from life span theory. *Development and Psychopathology*, 5, 541–566.

Willis, S.L. (1996). Everyday problem-solving. In J.E. Birren, & K.W. Schaie (Eds.), *Handbook of the psychology of aging* (4th ed.) (pp. 287–307). San Diego: Academic Press.

Zunzunegui, M.V., Béland, F., Llacer, A., & Leon, V. (1998). Gender differences in depressive symptoms among

Spanish elderly. *Social Psychiatry and Psychiatric Epidemiology*, 33, 195–205.

Zunzunegui, M.V., Gutiérrez Cuadra, P., Béland, F., Del Ser, T., & Wolfson, C. (2000). Development of simple cognitive function measures in a community dwelling population of elderly in Spain. *International Journal of Geriatric Psychiatry*, 15, 130–140.