

**CHILDLESSNESS AND PSYCHOLOGICAL WELL-BEING IN MIDLIFE AND OLD
AGE: AN EXAMINATION OF PARENTAL STATUS EFFECTS ACROSS A RANGE
OF OUTCOMES**

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CHILDLESSNESS AND PSYCHOLOGICAL WELL-BEING IN MIDLIFE AND OLD AGE: AN EXAMINATION OF PARENTAL STATUS EFFECTS ACROSS A RANGE OF OUTCOMES

Abstract

The study explores and distinguishes links between parental status (childless persons, parents with residential children, and empty nest parents) and a range of psychological well-being outcomes in midlife and old age. Data are from the first wave of the Norwegian Life Course, Ageing and Generation (NorLAG) study (N=5189). We separate outcomes into cognitive (life satisfaction and self-esteem) and affective (positive and negative affect, depression, loneliness) components. Parental status has a net effect on cognitive well-being among women, as childless women report significantly lower life satisfaction and self-esteem than both mothers with residential children and empty nest mothers. However, motherhood is inconsequential for affective well-being. Among men, parental status is unrelated to any of the well-being aspects. Parental status effects are not modified by age, marital status, and education. The results demonstrate the importance of investigating the effect of parental status and other objective circumstances on a range of psychological well-being outcomes. Furthermore, the results reviewed and presented indicate somewhat more positive effects of parenthood in the Nordic countries than in the U.S., highlighting the role of social policies in shaping the impact of parental status on well-being.

Keywords: psychological well-being, parental status, childlessness, Norway, cognitive, affective, moderating effects

1 Introduction

Folk wisdom maintains that parenthood is central to a meaningful and fulfilling life, and that the lives of childless people are emptier, less rewarding, and, in old age, lonelier, than the lives of parents (cf. Baumeister, 1991; Blake, 1979). More specifically, people tend to believe that parenthood entails substantial social (companionship, intimacy, support), developmental (maturity and growth), and existential (expansion of self and opportunities to love, be loved, and feel useful and needed) advantages (Hoffman & Manis, 1979; Hoffman et al., 1987; Rubinstein, 1987). The assumed benefits of children thus are closely linked with core psychological needs for connectedness, engaging activity, meaning, security and control (e.g., reliable support in old age), and experiencing a positive self, the fulfillment of which appears to be major correlates of subjective well-being (Angner, 2005; Baumeister & Leary, 1995; Myers, 1999; Ryan & Deci, 2001; Veenhoven, 1975).

The expectation that parenthood has psychological benefits is also implicit in the literature on the detrimental emotional effects of unattained and blocked life goals, in particular goals that are highly valued both personally and culturally (Diener et al., 1995; Lucas et al., 2004). Indeed, parenthood stands out as a central life goal, with virtually everyone in current and previous cohorts of young adults planning to have children (Thornton & Young-DeMarco, 2001; Toulemon, 1996). Parenthood is also culturally salient, as evidenced by the strong social expectations towards parenthood in western societies (cf. McQuillan et al., 2007). Although the social stigma of childlessness has softened, it still persists (cf. Connidis, 2001; Park, 2002), and attitudes towards non-normative life paths would lead us to predict that childless individuals receive less social support and fewer rewards than parents. As childlessness prior to the 1960s was predominantly involuntary (for reasons mostly of nonmarriage, late marriage, or infertility) (e.g., Blake, 1979; Hagestad & Call, 2007), childlessness clearly also represents a blocked life goal to most people who are now at midlife and especially to those in old age. In short, not having children may decrease social recognition, and involuntary childlessness may lead to a sense of failure and disappointment, that, in turn, should lower people's sense of well-being.

The expectation that parents and nonparents lead qualitatively different lives also derives from classical sociological theories. Durkheimian theory predicts great parenthood advantages based on the notion that parenthood structures people's lives and integrates people into social networks, thereby providing them with meaning and purpose in life (cf. Burton, 1998). Further, adult development theory stresses the centrality of parenthood for adult psychosocial development (Erikson, 1963).

Given this background, it is all the more surprising that the research literature fails to show any consistent emotional advantages of having children, not even in the post-parenting stage when children usually impose fewer burdens and potentially become an important source of support (cf. Argyle, 2001). Overall, it thus appears that parenthood is less advantageous than one might expect, and that people without children are adept at finding other sources of meaning and fulfillment. Indeed, there are also *advantages* to being childless, such as more freedom, less stress, and fewer responsibilities, worries, and financial concerns (cf. Mirowsky & Ross, 2003).

Nevertheless, the literature on parental status and well-being has some gaps that need to be filled before we can conclude that the sense of well-being is unaffected by parental status. First, the existing literature is largely American, with limited European and Nordic evidence. As some researchers believe that the impact of parental status on sense of well-being varies according to institutional and cultural context (e.g., Mirowsky & Ross, 2003), more research from non-U.S. settings is necessary. Second, previous work has generally not examined moderating influences at the individual level, for example whether childlessness is more consequential when it coincides with factors such as old age, single living, or low education (Dykstra & Hagestad, 2007a; Koropecj-Cox, 2002). Third, as the literature has focused primarily on women, more research is needed on potential vulnerabilities among childless men (Koropecj-Cox & Call, 2007). This focus is both timely and relevant, given the rapid increase of childlessness among men in Norway in particular (of those born in 1960, 25.6 % of men and 12.6 % of women are childless) (Skrede, 2005).

Fourth, and most importantly, most studies to date have been limited by their scope of dependent variables, thus missing the complexity of the psychological effects of parental status. Studies characteristically focus on only one or two aspects of psychological well-being, typically measures of psychological distress. Much less is known about potential consequences of parenthood on variables such as self-esteem, which may be posited to be enhanced by the experiences and even challenges of parenthood (Marks et al., 2004).

Psychological, or subjective, well-being can be conceptualized as comprising both a cognitive component, i.e., “cognitive well-being” (satisfaction with life, with self, and with life domains), and an affective component, i.e., “affective well-being.” The latter is usually further subdivided into positive or pleasant affect (e.g., joy, pride, happiness) and negative or unpleasant affect (e.g., sadness, depression, loneliness) (Diener, 1984; Lucas et al., 1996). Conceptually and empirically, these components are related yet distinct aspects of well-being (Bryant & Veroff, 1982; Lucas et al., 1996). Because parenthood has a multifaceted impact

(structural, social, financial, existential, etc.) on people's lives, and because the influence can be both positive and negative, the effects of parental status on psychological well-being could vary substantially depending on the well-being aspect under scrutiny and the individual's other life circumstances. Parents with children in the home may for example experience emotional distress but nevertheless believe that their lives meet their aspirations and are highly meaningful (Veenhoven, 2001). Therefore, researchers should include measures that capture both the positive and negative components of psychological well-being, and measures that are sensitive both to the day-to-day costs and the possible long-term or existential rewards of parenting (Savolainen et al., 2001).

This paper examines parental status differences in life satisfaction, self-esteem, positive affect, negative affect, depression, and loneliness. Although previous studies have examined some of these relationships, this is the first study of recent data to examine these relationships within a single study. Indeed, while two previous studies (Savolainen et al., 2001; Umberson & Gove, 1989) examine a broad range of constructs, they use data collected over two decades ago. In addition, we investigate some potentially relevant moderators of the relationship between parental status and psychological well-being, namely, the parents' gender, age, educational level, and marital status. All our analyses are done separately for men and women, and we distinguish between empty nest parents and parents with residential children. The sample is representative of Norwegians aged 40-80. Childless persons by their 40s have more likely begun to foresee or prepare for a life without children, thus bringing potential psychological consequences of childlessness more to the fore than in younger samples.

2 Relationships between parental status and dimensions of psychological well-being

2.1 Cognitive well-being

We consider two aspects of cognitive well-being: satisfaction with life (i.e., life satisfaction) and satisfaction with self (i.e., self-esteem). *Life satisfaction* refers to an overall assessment of one's quality of life (Diener, 1984), whereas *self-esteem* is a global evaluation of self-worth, self-acceptance, self-respect, and self-satisfaction (Bowling, 2005). Both self-esteem (Carr, 1997; Pettus, 2001) and life satisfaction judgments (Campbell et al., 1976; Diener, 1984; Michalos, 1985; Veenhoven, 1991) are believed to result from people's evaluating their lives according to various standards, such as the accomplishments of others, their earlier lives, personal goals and expectations, and the expectations of significant others. Goal attainments appear to create stronger satisfaction gains when these goals are highly valued in one's culture

(Schimmack et al., 2002) and when their attainment is highly visible in the social environment (Leary, 1999).

Childlessness represents a disruption of the expected and projected life course for the bulk of childless persons in midlife and old age (e.g., Hagestad & Call, 2007). Not having had children may thus lead to a sense of loss or failure, which may in turn depress positive self-evaluations—particularly by comparing oneself to the majority who are parents or even grandparents, by perceiving oneself as not meeting social expectations or by feeling that one is “not doing the right thing.”

In addition to the benefits from the mere presence of children, the parenthood experience itself may boost self-esteem and make parents feel like better persons. Parenthood provides opportunities for belonging, contributing, and receiving favorable feedback, and opportunities for helping and taking care for others. The psychological benefits of caregiving have been found to be particularly pronounced among women (Marks et al., 2004).

2.2 Affective well-being

Positive and negative affect represent spontaneous, ongoing emotional reactions to everyday experience. Generally, life circumstances (education, income, etc.) seem to have relatively small effects on affective experience, unless these circumstances directly impact the person’s immediate life situation (e.g., causing stress, conflict, or poor sleep) (Kahneman et al., 2004). Indeed, according to parents themselves, children generate more daily problems and worries but also more fun and enjoyment (Hoffman et al., 1987). Thus, having children presumably brings more turbulence or ups and downs into people’s lives, i.e. more positive and negative affect. This influence should be more pronounced during the childcare stage, although parents are still affected by the children’s lives also after the children have moved out (Greenfield & Marks, 2006).

Depression is a mental health construct that refers to lowered mood, loss of interest, self-deprecation, and hopelessness (Bowling, 2005). Depression and negative affect are commonly conceived as general measures of psychological distress (Mirowsky & Ross, 2003).

Loneliness is defined as an unwelcome feeling of lack or loss of companionship (Bowling, 2005). With higher age, the risk of depression and loneliness increases due to the loss of health (mobility) and peers (e.g., partner, sibling, friends) (Havens & Hall, 2001). However, childlessness may exacerbate these detrimental consequences of aging. Both depression and loneliness are sensitive to lack of support, companionship, and intimacy (Carr, 1997; Djernes, 2006), and the literature consistently links childlessness in old age with smaller social

networks, support deficits, institutionalization, and higher usage of formal services (e.g., Wenger et al., 2007).

The association between parenthood and depression, however, is less straightforward among middle-aged adults. On the one hand, involuntarily childless couples may perceive themselves as failures or regret not having had children—and life regrets are indeed correlated with depression (Lecci et al., 1994). Yet, studies on small, nonrepresentative samples show that expressions of regrets about not having had children is either rare or only moderately common among childless persons in midlife and beyond (Alexander et al., 1992; Connidis & McMullin, 1999; Jeffries & Konnert, 2002; Lewis & Borders, 1995; Wenger et al., 2007). When we also consider the substantial literature showing that raising children and youth can cause considerable stress and strain (see Mirowsky & Ross, 2003), we may expect that having children protects against depression and loneliness in old age but not in middle-age.

3 The Nordic context

The literature on parental status and well-being is predominantly American, with few Nordic studies. Yet the Nordic countries should be of special interest when studying the impact of family on well-being, as the Nordic welfare states have had long-term investments in family policies aimed at equalizing conditions for children during their formative years and alleviating the burdens of raising children and youth (Sorensen, 2006). Indeed, according to Gornick et al. (1997), among the OECD countries, the Nordic countries have the best, and the U.S. the worst, policies for supporting young families. The balance of the psychological costs and benefits of parenting may thus be more favorable in Norway than, for example, in the U.S., at least among parents with dependent children.

The pendulum, however, may swing the other way in older age. The Nordic countries have had long-term investments in health politics aimed at securing high quality care in old age for everyone and reducing dependency (both practical and economic) on adult children (Daatland, 1992). Children are thus of limited significance as “old age insurance” in Norway (Dykstra & Hagestad, 2007a, 2007b), and, given the generally liberal Norwegian attitudes towards childlessness (Bøyum & Skjåk, 1997; Kravdal, 1997), it should have fewer “costs” in old age in Norway than in the U.S. Nevertheless, adult children remain important providers of practical and emotional support to elderly parents in Norway (Daatland & Herlofson, 2003).

4 Literature review

Given the strong empirical overlap between partnership status and parenthood, examining the effects of parenthood without considering partnership status makes little sense. The following review therefore reports results only from analyses that (at a minimum) control for or separate by partnership status. We also only use studies that include people above age 40. Furthermore, while we make explicit gender differences in effects that have been found, we otherwise do not review results by gender. The review is structured according to outcome variable.

North American studies of the effect of parental status on *life satisfaction* find a negative effect of having children in the home in nonelderly samples (for a review, see McLanahan & Adams, 1987) and no significant effect of parenthood among older people (Connidis & McMullin, 1993; Koropecj-Cox et al., 2007; Rempel, 1985) or in studies of all ages (Umberson & Gove, 1989). Northern European studies of people in midlife and older age report either no effect (Bergman & Daukantaite, 2006; Kohler et al., 2005; Savolainen et al., 2001) or a weak salutary effect of children on life satisfaction (Daukantaite & Zukauskienė, 2006; Dykstra & Wagner, 2007).

The literature on the effect of parenthood on *self-esteem* is limited to a few older U.S. studies. Umberson and Gove (1989) find that parents report higher self-esteem than childless persons, whether the children live at home or not. Conversely, Lee & Shehan (1989) find no effect of parental status on self-esteem among Americans aged 55 and beyond.

Turning to affective well-being, parents, particularly mothers, tend to experience more stress, worry, and agitation than nonparents (McLanahan & Adams, 1989; Mirowsky & Ross, 2003; Savolainen et al., 2001), also to some extent in older age (McMullin & Marshall, 1996; Umberson & Gove, 1989). Nonetheless, parenthood does not seem to have an effect on composite *positive and negative affect* scales measuring a broad range of emotions, with the exception of one U.S. study finding that empty nest parents report somewhat higher positive affect than both childless persons and parents with residential children (Umberson & Gove, 1989). However, the literature finding no effect of parenthood on positive and negative affect is limited to a few studies of either very old people (Hilleras et al., 1998; Hoppmann & Smith, 2007) or Swedish women aged 43 (Bergman & Daukantaite, 2006). More research is thus needed, especially of the nonelderly in general and nonelderly males in particular.

U.S. studies that have looked at the effect of *depression* in all adult ages find either no overall effect (Mirowsky & Ross, 2003; Umberson & Gove, 1989) or more depression among parents (Evenson & Simon, 2005; McLanahan & Adams, 1987). They all show that parents with children in the home report more depressive symptoms than empty nest parents. In Northern European studies, the presence of dependent children (compared to not having

children) is linked with less depression among men and either has a less beneficial effect (in Germany) (Helbig et al., 2006) or a detrimental effect on depression among women (in Finnish data from 1986) (Savolainen et al., 2001). U.S. and European studies agree that dependent children have more adverse consequences for depression among women and unmarried persons (Evenson & Simon, 2005; Helbig et al., 2006; McLanahan & Adams, 1987; Savolainen et al., 2001).

Literature from a range of Western countries on “older” samples (aged 50 and up) shows that having children is inconsequential for depression and *loneliness* (Kendig et al., 2007; Koropecj-Cox, 1998; Zhang & Hayward, 2001). The one exception is a study of older people in Berlin (Wagner et al., 1999), showing that parents are less lonely. Some of these studies find no relationship between parenthood and depression and loneliness regardless of marital status (Koropecj-Cox, 1998; Koropecj-Cox et al., 2007), while one study finds that childlessness is associated with more depression and loneliness among widowed and divorced persons, and moreso for men than for women (Zhang & Hayward, 2001).

Despite marked inconsistencies, some broad patterns emerge. First, although the overall effect of parenthood tends to be small or nonsignificant, when salutary effects are found, they appear more often for cognitive than for affective well-being dimensions. Second, in terms of psychological stress (and particularly for women), the empty-nest parent category seems a more favorable one than parent with residential children. Third, marriage may buffer against psychological distress among parents with dependent children and against depression and loneliness among childless elderly. Fourth, the emotional consequences of children in the home seem to be more detrimental in the U.S. than in the Nordic countries.

5 Research questions

We investigate two main research questions. We first ask whether parenthood is related to different aspects of psychological well-being. We have argued that while children may be central in people’s quest for pleasure, contentment, and positive self-evaluations, they can also cause psychological distress. Although some empirical findings appear to run counter to these notions, we are interested in finding out how these relationships play out in recent data from Norway, which is among those Western countries where the emotional benefits of parenthood should be particularly evident (cf. Mirowsky & Ross, 2003). Our second main research question is whether the effects of parenthood on psychological well-being aspects are contingent upon combinations of residential status of the child and the parents’ gender, age, marital status, and educational level.

Gender. Since traditional gender roles imply that parenthood is more central to women's identity and fulfillment (Veevers, 1973), and because women are subjected to stronger social expectations to have children than men (McMahon, 1995), we ask whether motherhood has more pronounced cognitive well-being advantages than fatherhood. Given the literature on parenting and psychological strain, we also ask whether any associations between parenthood and psychological distress (negative affect and depressive symptoms) are particularly pronounced for women, who tend to carry a larger burden as regards household and parental responsibility (e.g., Marks et al., 2004).

Age. Since children are assumed to be important for help and support, as well as for staving off loneliness and isolation in the event of widowhood or ill health (e.g., Brubaker, 1990), we investigate whether parenthood prevents depression and loneliness in older age.

Marital status and family life stage. We examine whether subgroups of childless persons and parents are at particular risk of poor well-being as a result of marital status and family life stage. We ask whether childlessness has more pronounced detrimental effects on general well-being (all dimensions) for persons who are unpartnered. One specific question is whether unmarried elderly childless persons, particularly formerly married men—given their relatively high risk of reporting social isolation and support deficits (Dykstra, 1993)—are disproportionately at risk also for depression and loneliness.

Education. We ask whether the positive effect of parenthood on cognitive well-being increases with decreasing levels of education. While taking pride in and feeling a sense of accomplishment through one's children may be a powerful source of self-worth and fulfillment, these feelings may probably be more important for people with few other sources of self-worth (Baumeister, 1991). People with higher education are likely to have more avenues for meaning, actualization, and fulfillment, including the chance for interesting and rewarding work (Veroff et al., 1981).

6 Methods

6.1 Data

This paper is based upon data from the first wave of the Norwegian Life Course, Aging, and Generation Study (NorLAG). NorLAG comprises representative randomly stratified (by age and sex) samples of adults aged 40-80 from 30 Norwegian municipalities representing different geographic regions. Data were collected from March 2002 through March 2003. Statistics Norway interviewed 5589 respondents (response rate 67%) via computer-assisted telephone interview technology. Subsequently, 4169 (75%) of these individuals completed a

mailed questionnaire (combined response rate 50%). Data from public registries were added with the respondents' informed consent. This study uses data from the 4169 respondents who completed both interviews.

We excluded from the analysis parents ($n=21$) who had outlived all their children, since they tend to have fundamentally different characteristics from other parents (Dykstra & Wagner, 2007). We also excluded parents ($n=53$) who have children under 18 years old but are empty nest parents due to divorce (mostly men). We do not have information on involuntary vs. voluntary childlessness. Although little is known about the specific reasons for childlessness, the literature makes clear that relatively few childless individuals now in midlife or (particularly) old age consciously decided never to have children; their most common reasons for childlessness are nonmarriage, late marriage, or infertility (Blake, 1979; Connidis, 2001; Hagestad & Call, 2007; Toulemon, 1996; Veroff et al., 1981).

6.2 Dependent variables

This study explores six measures that capture the cognitive and affective aspects of psychological well-being (the alphas are for the current data). *Life satisfaction* is measured by the Satisfaction With Life Scale (Pavot et al., 1991). The scale comprises the five following items measured on a 5-point scale (1 = strongly disagree, 5 = strongly agree): “In most ways my life is close to my ideal,” “the conditions of my life are excellent,” “so far I have gotten the important things I want in life,” “I am satisfied with my life,” and “if I could live all over again, I would change almost nothing.” The composite index ($\alpha = .76$) ranges from 5 to 25 (high life satisfaction). *Self-esteem* is measured with the 10-item Rosenberg's (1965) Self-Esteem Scale. Examples of items are “I feel that I have a number of good qualities,” “all in all, I am inclined to feel that I am a failure,” and “I feel I do not have much to be proud of,” with responses ranging from 1 (strongly disagree) to 5 (strongly agree). The composite index ($\alpha = .80$) ranges from 10-50, with high scores signifying high self-esteem.

Positive affect and *negative affect* are measured by the Positive and Negative Affect Scale (Watson et al., 1988), which comprises six positive emotions (excited, enthusiastic, alert, inspired, determined, interested) and six negative emotions (worried, upset, scared, irritable, nervous, afraid). Respondents are asked to indicate to what extent they have felt these emotions during the past two weeks (1=very slightly or not at all, 5=extremely). The indices for positive affect ($\alpha = .83$) and negative affect ($\alpha = .82$) range from 6 to 36 (high level of affect).

Depression is measured with the 20-item CES-D Scale (Radloff, 1977), which is designed to measure current level of depressive symptomatology with an emphasis on the affective

component of depression. The scale asks the respondents to indicate on a 4-point scale (1=rarely or none of the time, 4=all of the time) how often they felt sad, depressed, fearful, “that my life has been a failure,” etc., during the previous week. The index ranges from 20-80 ($\alpha = .86$), with higher scores signifying poorer mental health. *Loneliness* is measured by a single item, “Do you often feel lonely?” Responses range from “never” (1) to “often” (4).

6.3 Independent variables

The target independent variable, *parental status*, separates childless persons, parents with at least one children living at home, and parents with no children in the home (empty nest parents). We use a continuous measure of *age*. *Marital status* comprises the following groups: married/cohabiting, never married, formerly married (widowed or divorced). *Education* is a linear variable representing years of formal education: 8-10, 11-12, 13-14, 15-17, and 18 or more years (scored as integers from 1 to 5). In ancillary analyses, the results remained unchanged when we modeled education with four dummy variables.

6.4 Analytic strategy

We used analysis of variance (ANOVA) and chi-square tests to analyze bivariate differences in means and proportions between couple types, and Pearson correlations to assess intercorrelations between continuous variables. All multivariate analyses used ordinary least squares (OLS) regressions. Despite few response categories and left-skewed distribution, we also used OLS regressions to model loneliness, in order to facilitate comparison between the outcome variables. As a check, we performed the analysis for loneliness using an ordinal-probit model, and the results were replicated. In addition, to facilitate comparisons across outcome variables, we transformed outcome variables to z-scores in the multivariate analyses. We used analyses of covariance (procedure General Linear Model in SPSS) to conduct omnibus tests of the effect of parental status, to perform least-significant difference (LSD) pairwise comparisons between parental status groups (net the effect of other predictors), and to obtain adjusted mean levels for each outcome variable (using raw scores, presented in the figures in the Appendix). To determine whether the effect of parental status is modified by gender, age, marital status, and education, we estimated separate interaction models. We tested interaction effects by entering multiplicative terms involving one pair of predictors at a time, retaining main effects in the regression equations.

7 Results

Table 1 presents the sociodemographic characteristics of the parental status groups. Parents with children in the home are generally younger and empty nest parents older than childless persons. Parents are also more often married or cohabiting than childless persons. The relationship between parental status and socioeconomic status is gendered: compared to both types of parents, childless persons tend to have lower education among men but higher education among women.

[Table 1 about here]

Table 2 presents intercorrelations between the dependent variables of this study. The pattern of intercorrelations is uniform across gender; indeed, auxiliary analyses show no significant gender differences in these correlations (results not shown). The correlations are fair to moderate, except for the nonsignificant or weak association between positive and negative affect. The correlations are consistent with those of a large body of literature (e.g., Arthaud-Day et al., 2005) and show that while the different measures share common variance (except positive and negative affect), they are not equivalent constructs.

[Table 2 about here]

In Table 3, life satisfaction and self-esteem are regressed on sociodemographic covariates, parental status variables, and interactions between parental status and the sociodemographic covariates. Parental status has a significant effect on life satisfaction and self-esteem (net of controls) only among women. Both mothers with residential children and empty-nest mothers report significantly higher life satisfaction and self-esteem than childless women. While the impact on life satisfaction of having children is much weaker than that of being married, these two effects are about equal in magnitude for women's self-esteem. Life satisfaction and self-esteem are unaffected by parental status among men. Ancillary interaction analyses (not shown) revealed that the gender differences in the effects of parenthood variables on life satisfaction and self-esteem are statistically significant ($p < .05$). Adjusted mean levels of each aspect of psychological well-being (raw scores) appear in the Appendix.

[Table 3 about here]

Interactions between parental status and age, marital status, and education are all nonsignificant, except for a significant interaction between parental status and marital status on life satisfaction among women. This significant interaction is due entirely to a particularly low level of life satisfaction among never-married, empty-nest mothers ($n=17$) (result not shown). Even though this group may be growing in future cohorts, it is very small, so we will not be discussing it further. Supplementary interactional analyses (not shown) tested the

significance of interactions between the dichotomous parenthood variable and age, marital status, and education. These results are all nonsignificant ($p > .05$).

[Table 4 about here]

In Table 4, positive affect, negative affect, depression, and loneliness are regressed on sociodemographic controls, parental status variables, and interactions between parental status and the sociodemographic control variables. The results are easily summarized, as all parental status main and interaction effects are nonsignificant. Supplementary interactional analyses (not shown) tested the significance of interactions between the dichotomous parenthood variable (childless vs. parent) and age, marital status, and education, and these results are also nonsignificant ($p > .05$). Since prior research suggests pronounced parenthood effects on particular emotions (e.g., irritated, upset, worried), we also regressed (in auxiliary analyses, not shown) individual positive and negative affect items on parental status (both the dichotomous and trichotomous variable) and controls. We found no significant effect ($p < .05$) of parental status for any of the 12 items.

In addition, in supplementary interactional analyses (not shown), we explored three-way interactions between parental status, marital status, and age. These analyses were all nonsignificant ($p > .05$), giving no indication—contrary to Zhang and Hayward (2001)—of significantly lower affective well-being among older formerly-married childless persons.

Finally, due to the loss of power associated with gender-specific analyses, we re-run the multivariate analyses with the full sample and found a significant effect of both parenthood variables on life satisfaction, but that all other main and interaction effects were nonsignificant ($p > .05$).

8 Discussion

A growing literature indicates that childlessness has no negative emotional consequences in any stages of the adult life course. Some evidence even shows that compared to parents with dependent children, childless persons have higher levels of psychological well-being. This finding is surprising because it runs directly counter to more than lay and sociological theories about the substantial social, existential, and emotional rewards of parenthood. It also runs counter to empirical evidence (e.g., Umberson & Gove, 1989; Wenger et al., 2007) showing great parenthood advantages on major correlates—and presumed causes—of psychological well-being such as social support and life meaning.

However, most of the extant literature is based on North American data, which often excludes men, does not factor in demographic factors that may influence results, and neglects

important nuances between outcome variables. To gain a broad understanding of the psychological consequences of parental status, we explored parenthood effects on a range of measures of cognitive and affective well-being and the potential moderating impact of gender, family life stage, marital status, and education on these effects. We used data from a large population-based study of Norwegians in midlife and older age.

We first examined associations between parental status and life satisfaction and self-esteem and found significant positive effects, but only for women. Childlessness seems to be inconsequential for men's cognitive well-being. It is the mere presence of offspring that enhances women's life satisfaction and self-esteem, independently of age, marital status, education, or whether the children had left home. Childlessness does not seem to have more detrimental consequences among unpartnered persons or among members of low socioeconomic strata. The robustness of the relationship between motherhood and cognitive well-being suggests that motherhood enhances life satisfaction and self-esteem also when parenting supposedly is at its most challenging and constraining (e.g., among single mothers). This finding attests to the highly cognitive nature of life satisfaction and self-esteem judgments—that they may be detached from, or even enhanced by, emotionally taxing and burdensome experiences. However, the findings run counter to the common North American finding that empty nest parents report higher levels of satisfaction than parents with children in the home (McLanahan & Adams, 1987). Although the empirical effects are weak, they lend some support to traditional ideas that parenthood is more salient and rewarding to women than to men (Veevers, 1973). The high life satisfaction and self-esteem experienced by mothers leads to two alternative or complimentary explanations. First, mothers may view their fortunes and achievements in life more favorably than nonmothers. Involuntarily childless women may experience a sense of “relative deprivation” and a sense of failure to meet normative expectations; these feelings in turn may lead to discontent and negative self-evaluations. Second, aspects of the parenting experience (helping and caring for others, feeling useful and needed) may foster more positive self-evaluations among women.

The impact of parental status on affective well-being outcomes (positive and negative affect, depression, loneliness) was consistently nonsignificant. We proposed that parenthood may augment the “ups and downs” in life, and lead to more intense emotional experiences, both positive and negative, particularly in the childrearing stage. However, our data do not bear out this expectation. In the present study, and consistent with the sparse recent literature (Bergman & Daukantaite, 2006; Hilleras et al., 1998; Hoppmann & Smith, 2007), we found no effect of having children on positive and negative affect, and including for parents with

dependent children. Indeed, parental status had no significant impact on even one of the items comprising positive (excited, enthusiastic, alert, inspired, determined, and interested) or negative affect (worried, upset, scared, irritated, nervous, and afraid). Furthermore, we asked whether childlessness would have detrimental consequences for depression and loneliness, and perhaps more so for women and unmarried persons. However, we likewise found parental status to be inconsequential for depression and loneliness, across gender and marital status groups.

The robust nonsignificant associations between parental status and affective dimensions have several interesting implications. First, although a substantial U.S. literature links raising children with considerable work and stress (cf. Mirowsky & Ross, 2003), particularly among women, in our sample parenthood has no impact on psychological distress (negative affect or depression) for men or women. This finding is unlikely to result from few parents in our study having very young children or the strain of parenthood usually fading when the children are no longer babies, because negative affect has been shown to be unaffected by the age of the youngest child (Savolainen et al., 2001; Umberson & Gove, 1989).

The findings reviewed and presented highlight the role of social policies in shaping the impact of parental status on well-being. The reviewed U.S. literature indicates that raising children can foster psychological distress and lower life satisfaction, whereas our research and other recent Nordic studies show no effect on psychological distress and a positive (for women) effect of parenthood on cognitive well-being (Bergman & Daukantaite, 2006; Daukantaite & Zukauskiene, 2006; Helbig et al., 2006; Kohler et al., 2005). Our finding that parenthood has no impact on psychological distress, not even among (unmarried) parents (mothers) with residential children, may suggest that family-friendly policies in the Nordic countries help people cope with the stresses of combining parenthood, marriage, and employment.

Second, the consistent lack of an association between childlessness and both depression and loneliness supports the contention that children seem of limited relevance as “old age insurance” in Nordic welfare states, where retirement benefits, health care, and social services make older adults less dependent on their adult offspring (Dykstra & Hagestad, 2007b). While the increasing prevalence of depression and loneliness with older age is largely due the loss of health and social relationships that often accompany aging (Havens & Hall, 2001), having children does not seem to affect this process.

Third, the nonsignificant association between parenthood and positive affects runs counter to the widely held assumption that parenthood and grandparenthood lead to more fun, stimulation, and enjoyable experiences (Hoffman et al., 1987; Peterson, 1999). On the one

hand, although such assumptions may be true, childless people find other, equally rewarding sources of joy and engagement. On the other hand, it is possible that the notion that children bolster pleasure is exaggerated, and that people actually enjoy their children less than they think or say they do. This latter possibility is suggested by the contrast between parents' generally reporting that interactions with one's children is what brings them the most enjoyment (Flood, 1997; Juster, 1985) and careful studies of how people feel as they go about their daily activities (Kahneman et al., 2004; Schwartz et al., 2006)—showing that taking care of one's children and activities on which parents presumably spend much time (household chores and shopping) are close to being the least enjoyable activities over the course of a day.

However, the positive affect scale may not capture some of the positive emotions that are at the core of the parenting experience. For example, it does not cover love and affection. Parents tend to view children as a powerful source of love and feeling that this love adds a new dimension to their lives (Hoffman et al., 1987). Love is an essential dimension, given its centrality in lay conceptions of well-being (Bowling & Gabriel, 2007). Moreover, whereas emotions such as alertness and inspiration can easily be experienced through other familial and non-familial roles, deep love may be more exclusive to parenting and marital roles.

Significant effects of objective circumstances on satisfaction measures appear to be very attenuate and thus easy to treat as substantively insignificant. However, since about half of the variance in subjective well-being measures seems to be accounted for by genes (Nes et al., 2006) and only about 10-15 % of the variance typically can be explained by objective circumstances (cf. Argyle, 2001), the small significant effects of motherhood on cognitive well-being is nevertheless substantively interesting. This interpretation is also borne out by the magnitude of the effect of having children on women's self-esteem being equal to that of having a partner.

This being said, both the results reviewed and those presented do not support the old myth that children make people substantially happier or that not having children jeopardizes well-being in later life. Although infertile persons may go through a phase of finding life empty and unfulfilling (Callan & Noller, 1987), there is little to suggest that involuntary childlessness may cause a continuing sense of loss, as some have suggested (Beets, 1996; Matthews & Matthews, 1986). Childless adults appear to adapt well to their situation, finding companionship, support, and a sense of meaning and significance in other ways (e.g., Rempel, 1985). Overall, childlessness seems to be "easier," and/or parenthood less "advantageous," than people tend to assume. A "role loss" (e.g., widowhood, being laid off) may have more detrimental emotional consequences than a "role blocking" such as infertility.

The growth in the size of the childless elderly population has prompted concerns about the negative effects of childlessness on emotional well-being among tomorrow's elderly (Connidis & McMullin, 1994; Dykstra & Hagestad, 2007a; Dykstra & Wagner, 2007; Rowland, 1998; Zhang & Hayward, 2001). In Norway, this concern has mostly been focused on childless men, who will comprise a large share of tomorrow's childless elderly population and who as a group are also characterized by low socioeconomic status (Dykstra & Hagestad, 2007a; Skrede, 2005). The double risk involved in lacking both social (i.e., children) and cultural (education, income) resources may make these men susceptible to poor mental health and well-being. However, little in this study suggests that an increase in childlessness in itself should entail more psychological problems and unhappiness for men or women. Partnership status has a much stronger bearing on psychological well-being than parental status (McQuillan et al., 2003; Umberson & Gove, 1989), and social commentators and social policy makers should thus be more concerned with elders who live without a partner.

8.1 Limitations and future research

Several limitations in this study highlight areas for future research. One potential caveat concerns the stronger selection of socially isolated childless persons than parents into institutionalized care (e.g., Wagner et al., 1999). The elderly childless respondents living at home (and thus eligible to taking part in the survey) may constitute the most socially integrated and most happy among childless persons, thus masking the psychological benefits for the oldest cohort of having children. Concomitantly, more research is necessary for investigating the consequences of parental status in the frail and the oldest old, who typically are not represented in large surveys. Some authors note that childless people face support deficits only toward the end of life (Dykstra & Hagestad, 2007a), suggesting that the negative consequences of childlessness may not surface until very old age.

Furthermore, this study highlights the need to consider numerous aspects of psychological well-being when estimating the emotional consequences of parenthood or other objective circumstances. Ideally, theories should specify how input variables differentially influence the diverse components of subjective well-being (Diener et al., 1999). Since objective circumstances may have different relationships to specific outcomes, researchers should be careful about using "amalgam" measures of subjective well-being (such as the General Health Questionnaire or the Oxford Happiness Inventory) that tap more than one construct.

Finally, we regret not being able to examine the effect of parenthood on the eudaimonic conception of well-being, which has become influential in recent years (Ryan & Deci, 2001;

Ryff, 1989; Ryff & Keyes, 1995; Seligman, 2002; Sheldon et al., 2001; Waterman, 1993). Essential to eudaimonic well-being (i.e., predictors) are engagement in challenging and meaningful activities, especially those activities that require substantial effort and that incorporate a concern for others and “the greater good” (Norrish & Vella-Brodrick, 2008; Ryan & Deci, 2001; Ryff, 1989). As Seligman (2002) noted, parenting is one such “worthwhile cause” (other examples are caregiving and voluntary or humanitarian work). Existential dimensions of well-being, such as meaning, purpose in life, growth, and development are important outcome variables in the eudaimonic approach to well-being. Theoretically these outcomes are closely linked with the parenting experience. While eudaimonic well-being research excludes hedonic dimensions as outcome variables, some researchers have used life satisfaction and self-esteem to a certain extent (Ryan & Deci, 2001; Steger et al., 2008). Our findings (showing cognitive but not hedonic benefits of parenthood), in combination with the theoretical argumentation just given, suggest that parenthood may have benefits that would become more apparent in the eudaimonic (rather than the hedonic) conceptions and operationalizations of happiness. Future research should thus investigate theoretical and empirical links between having children and eudaimonic well-being.

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Table 1 Sociodemographic characteristics of childless parents, parents with residential children, and empty nest parents, by gender. Proportions or means (SD).

	Men			Women		
	Childless	Parents child-home	Empty nest parents	Childless	Parents child-home	Empty nest parents
N	469	843	1400	381	893	1588
Age	56.1 (11.9)	49.8 (7.8)	63.0 (9.6)	57.4 (12.5)	49.2 (8.1)	62.2 (9.4)
Married/cohabiting	49.7 %	92.4 %	77.1 %	43.3 %	77.9 %	63.2 %
Never married	43.7 %	1.1 %	2.5 %	36.2 %	4.1 %	1.7 %
Formerly married	6.6 %	6.5 %	20.4 %	20.5 %	17.9 %	35.1 %
Education (1-5)	2.5 (1.2)	2.9 (1.2)	2.6 (1.3)	2.9 (1.2)	2.8 (1.2)	2.2 (1.1)

Note: Overall differences between parental status groups for continuous variables (age, education) by F-test and for categorical variables (marital status) by chi-square are all significant ($p < .01$).

Table 2 Correlations between dependent variables by gender

	1	2	3	4	5	6
1. Life satisfaction		.42	.28	-.36	-.51	-.40
2. Self-esteem	.45		.44	-.34	-.55	-.35
3. Positive affect	.29	.40		(.00)	-.33	-.13
4. Negative affect	-.32	-.37	-.05		.59	.31
5. Depression	-.54	-.54	-.36	.59		.39
6. Loneliness	-.40	-.37	-.17	.23	.40	

$p < .01$, except ()

Note: Correlations among men above diagonal, women below diagonal.

Table 3 Regressing standardized life satisfaction and self-esteem scores on parental status and interaction terms with controls for sociodemographic background variables.

Unstandardized regression coefficients.

	Life satisfaction		Self-esteem	
	Men	Women	Men	Women
Age/10	0.08 **	0.07 **	-0.10 **	-0.08 **
Married (ref.)				
Never-married	-0.46 **	-0.64 **	-0.22 *	-0.30 **
Formerly married	-0.45 **	-0.60 **	-0.09	-0.10
Education (1-5)	0.08 **	0.06 **	0.14 **	0.16 **
Parent (1=yes) ^a	0.12	0.25 **	0.05	0.19 *
Parental status (PS) ^a	F=3.06	F=12.32 **	F=0.49	F=4.80 **
Parent, child home	0.15 *	0.31 **	0.05	0.18 **
Parent, empty nest	0.10	0.20 **	0.05	0.21 **
PS interactions ^b				
PS × Age	2.30	1.19	2.66	2.62
PS × Marital status	1.28	3.50 **	0.58	1.57
PS × Education	1.53	0.44	2.67	0.10
Adj R ²	0.06	0.09	0.06	0.05

* p < .05 ** p < .01

Notes: Parenthood variables (childless vs. parent; childless vs. parent child home vs. parent child away) were tested in separate models. The coefficients for controls, interactions, and amount of explained variance are from the model using the trichotomous and not the binary parental status variable. ^a Excluded category: childless. ^b Interaction effects were tested entering one pair of predictors at a time in the regression equations. All parameters are F-values (with controls for main effects). Parameters not presented in the table (e.g., standardized coefficients, SE) are available upon request from the authors).

Table 4 Regressing standardized positive affect, negative affect, depression, and loneliness scores on parental status and interaction terms with controls for sociodemographic background variables. Unstandardized regression coefficients.

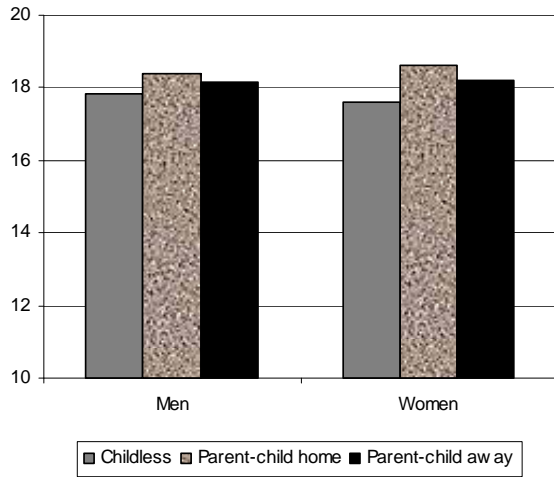
	Positive affect		Negative affect		Depression		Loneliness	
	Men	Women	Men	Women	Men	Women	Men	Women
Age/10	-0.21 **	-0.13 **	-0.11 **	-0.08 **	0.05 *	0.03	-0.09 **	-0.03
Married (ref.)								
Never-married	-0.28 **	-0.06	-0.03	0.13	0.41 **	0.41 **	0.51 **	0.40 **
Formerly married	-0.02	-0.04	0.17 *	0.10	0.35 **	0.39 **	0.65 **	0.59 **
Education (1-5)	0.16 **	0.19 **	0.01	-0.02	-0.08	-0.12	0.03	-0.02
Parent (1=yes) ^a	-0.04	0.05	0.05	-0.03	-0.01	-0.07	-0.11	0.06
Parental status (PS) ^a	F=0.27	F=0.41	F=0.46	F=0.10	F=0.03	F=0.79	F=2.23	F=0.50
Parent, child home	-0.04	0.05	-0.09	0.03	0.05	-0.09	-0.09	-0.05
Parent, empty nest	-0.03	0.04	-0.02	0.02	0.01	-0.05	-0.14 *	-0.06
PS interactions ^b								
PS × Age	1.99	2.91	0.06	0.87	2.82	2.70	0.95	1.53
PS × Marital status	0.93	0.11	2.04	0.24	1.20	2.63	1.82	1.40
PS × Education	0.59	0.57	0.03	0.98	0.40	0.04	1.18	0.67
Adj R ²	0.11	0.08	0.02	0.01	0.04	0.06	0.07	0.07

* p< .05 ** p< .01

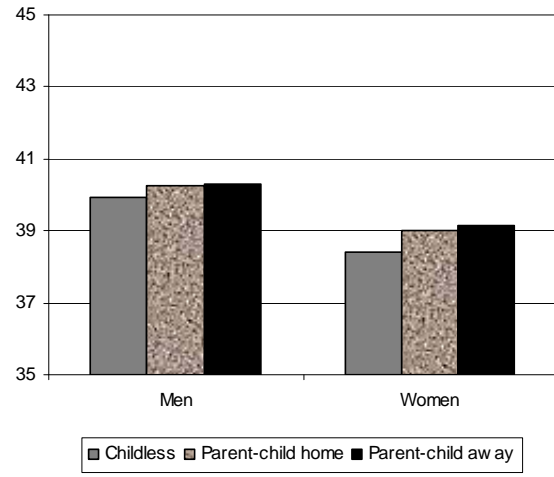
Notes: Parenthood variables (childless vs. parent; childless vs. parent child home vs. parent child away) were tested in separate models. The coefficients for controls, interactions, and amount of explained variance are from the model using the trichotomous and not the binary parental status variable. ^a Excluded category: childless. ^b Interaction effects were tested entering one pair of predictors at a time in the regression equations. All parameters are F-values (with controls for main effects). Parameters not presented in the table (e.g., standardized coefficients, SE) are available upon request from the authors).

Appendix: Mean levels of psychological well-being by parental status, controlling for sociodemographic background variables

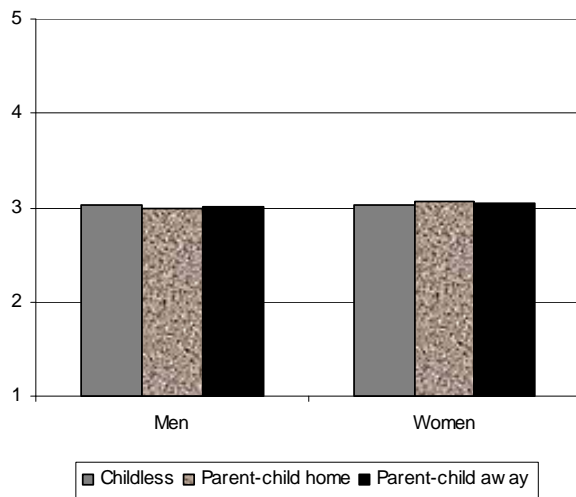
Life satisfaction (5-25)



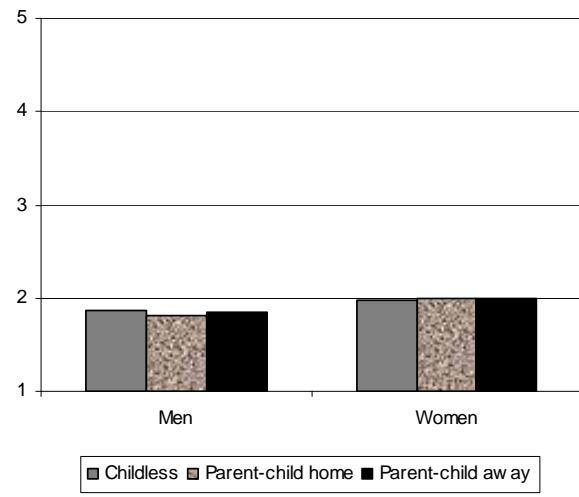
Self-esteem (10-50)



Positive affect (1-5)



Negative affect (1-5)



Depression (0-60)

Loneliness (1-4)

Childlessness and psychological well-being

