

**THE STRAINS AND GAINS OF CAREGIVING: AN EXAMINATION OF THE
EFFECTS OF PROVIDING PERSONAL CARE TO A PARENT ON A RANGE OF
PSYCHOLOGICAL OUTCOMES**

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Thanks This research is supported by grants from the Norwegian Research Council (project EqualCare 196425/V50 and NorPAN 187783).

Abstract

This study explores the effect of providing regular help with personal care to a resident or non-resident parent or parent-in-law on different aspects of psychological well-being. We use

cross-sectional data from the Norwegian Life Course, Ageing and Generation (LOGG) study (N~15,000, age 18–79) and two-wave panel data from the Norwegian study on Life course, Ageing and Generation (NorLAG) (N~3,000, age 40–79). We separate outcomes into cognitive well-being (life satisfaction, partnership satisfaction, self-esteem), affective well-being (happiness, positive and negative affect, depression, loneliness) and sense of mastery. Caregiver status is largely unrelated to these aspects of well-being, both in cross-section and longitudinally. One notable exception is that caring for a resident (but not a non-resident) parent relates to lower affective well-being among women, also longitudinally. This effect is more marked among unpartnered and lower educated women. In addition, caring for a non-resident parent is associated with a positive change in sense of mastery among women. The results reviewed and presented indicate that caregiving has less detrimental effects in the Nordic countries than in other countries, highlighting the role of social policies and care systems in shaping the impact of caregiving on well-being.

Keywords: psychological well-being, caregiving, personal care, parent, Norway

1 Introduction

Informal care plays an important role in the care services to the elderly. In Norway, it is estimated that about 50 percent of all care to the elderly is provided by family members (Rønning et al., 2009). Yet it is mainly practical help (e.g., transport, shopping, repairs) and emotional support that is informally provided. Personal care (e.g., help with dressing, bathing, eating) is more intimate and comprehensive, and is usually the responsibility of the public (or private) services in Norway.

Increasing longevity and aging of the population may, however, translate into a greater need for informal help also with personal care. This expectation is reinforced by social trends such as changing women's roles and family norms, decreasing marriage rates, and increasing geographical mobility (OECD, 2011). Increasing budgetary restrictions may also be pulling in the same direction.

Informal care has important implications for the sustainability of the welfare state. Norway spends more money per capita on care services to the elderly than any other European country (Eurostat, 2006). In 2007, the costs of all care services totalled 37 percent of all public expenditures in Norway (Rønning et al., 2009). Expenditure on long-term care (as a percentage of GDP) is in most OECD countries expected to at least double between 2010 and 2050 (Eurostat, 2011; OECD, 2011). Many Western governments are thus trying to promote and facilitate informal care, through initiatives such as flexible working arrangements, respite care, unpaid and paid leave, and greater use of care wages (Huber et al., 2009).

Yet there are arguments against greater reliance on informal care. One concern is the effect of informal care on gender equality and women's care burden, employment, and career opportunities. A different concern is that caregiving may harm people's health and well-being. If so, there could also be costs for society at large in terms of labor supply, demand for

health and care services, and receipt of benefits for sickness and disability. Policy makers must in this case weigh the intended benefits of informal care (reduced public costs and ensured elderly welfare) against other desirable outcomes, such as gender equality in work and domestic roles, public health, marital stability, and individual and family well-being.

To care for an ailing family member can be a great burden and is usually portrayed as such in public and private discourse. The care work in itself may be physically, mentally, and financially challenging. Caregiving may also restrict participation in personal, family, and labour market activities. In addition, the caregiver may worry about the care recipient, their own ability to meet future care needs, and prospects of receiving public support. Not surprisingly therefore, much of the literature indicates that caregiving is associated with psychological distress (e.g., Pinguart & Sörensen, 2003b).

Yet the literature has a number of gaps that prevent a nuanced understanding of how caregiving may affect well-being. First, studies typically fail to discriminate between different kinds of caregiving; different care chores (practical versus personal); different care recipients (e.g., a spouse versus a parent); and different care intensities (regular/frequent versus irregular/infrequent). As a result, empirical findings are ambiguous because they lump together caregivers who may be very dissimilar.

Second, the existing literature is largely American, with limited European and Nordic evidence. Because the impact of caregiving on well-being may vary according to institutional and cultural context, more research from non-US settings is necessary. In the Nordic countries, because of a more comprehensive public sector, caring for persons with extensive care needs is more likely to be a shared responsibility between the family and the state than in other countries (Daatland, 2001).

Third, previous work has generally not examined moderating influences at the individual level. Caregivers are not a homogenous group, and the consequences of providing care may

vary according to a host of individual and situational factors. Caregiving may be more consequential, for example, when it coincides with factors such as old age, single living, or low education.

Fourth, there is a lack of longitudinal evidence. Cross-sectional analyses are unable to separate the effect of caregiving on well-being from that of selection of mentally healthy persons into the caregiving role.

Finally, most studies have been limited by their scope of dependent variables, thus missing the complexity of the psychological effects of caregiving. Studies characteristically focus on only one or two aspects of psychological well-being, typically measures of psychological distress. Much less is known about the potential consequences of caregiving on variables such as loneliness and marital satisfaction. Little is also known about the possible gratifying and rewarding aspects of caregiving. Qualitative interviews show that the majority of informal carers experience feelings of appreciation, increased affinity with the care recipient, growth, and satisfaction in their role as caregiver, and that these rewards can co-exist with high levels of stress (Ekwall & Hallberg, 2007; Grant & Nolan, 1993; Toljamo et al., 2012). More quantitative research is thus needed on variables such as self-esteem, mastery, and life satisfaction, which may be posited to be enhanced by the experiences and even challenges of caregiving (Marks et al., 2004).

Psychological, or subjective, well-being can be conceptualized as comprising both a cognitive component, that is, “cognitive well-being” (satisfaction with life, with self, and with life domains), and an affective component, that is, “affective well-being.”¹ The latter is usually further subdivided into positive or pleasant affect (e.g., joy, pride, happiness) and

¹ There is no clear distinction between the cognitive and affective components, as both have evaluative and emotional aspects (cf. Hansen, 2010). For example, emotional reactions such as anger, pride, or joy usually involve also cognitive appraisals and interpretations.

negative or unpleasant affect (e.g., sadness, depression, loneliness) (Diener et al., 1999). Conceptually and empirically, these components are related yet distinct aspects of well-being (Lucas et al., 1996). Because caregiving 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 caregiving on psychological well-being could vary substantially depending on the well-being aspect under scrutiny and the individual's other life circumstances. Caregivers may for example experience emotional distress but nevertheless believe that their lives are highly meaningful and rewarding. 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 caregiving.

This paper explores the effect of providing regular help with personal care to a parent or parent-in-law on life satisfaction, marital satisfaction, self-esteem, sense of control, happiness, positive affect, negative affect, depression, and loneliness. We distinguish between resident and non-resident parents. Although previous studies have examined some of these relationships, this is the first study to examine these relationships within a single study. We also investigate some potentially relevant moderators of these relationships, namely, the caregiver's age, educational level, partnership status, and employment status. All analyses are done separately for men and women. We use both cross-sectional and panel data. The panel analysis examines whether caregiving predicts a change in well-being over the past five years. The main contributions of this paper are that it uses a large, representative sample; goes into detail on the aspects about caregiving and well-being under scrutiny; and uses both cross-sectional and panel data.

2 Relationships between caregiving and different aspects of psychological well-being

2.1 Cognitive well-being

We consider three aspects of cognitive well-being: satisfaction with life (life satisfaction), satisfaction with self (self-esteem), and satisfaction with the relationship (partnership satisfaction). *Life satisfaction* and *partnership satisfaction* refer respectively to overall assessments of one's quality of life and relationship (Diener, 1984). *Self-esteem* is a global evaluation of self-worth, self-acceptance, self-respect, and self-satisfaction (Bowling, 2005). Both self-esteem (e.g., Pettus, 2001) and satisfaction judgments (e.g., Michalos, 1985) are believed to result from people's evaluating their lives according to various standards, such as their earlier lives, personal goals and expectations, and the expectations of significant others. Caregiving thus may depress positive self-evaluations because it usually represents a disruption of the expected and desired life course. Caregiving usually also requires significant commitment of time and energy, which may cause marital discord and lower marital and life satisfaction. On the other hand, caregiving entails opportunities for belonging, contributing and helping others, and receiving favorable feedback, which may *promote* self-esteem and make caregivers feel like better persons.

2.2 Affective well-being

We consider five aspects of affective well-being: happiness, positive and negative affect, depression, and loneliness. *Happiness* can be defined as an affective construct, referring to the general emotional quality of an individual's everyday experience (e.g., Haybron, 2007; Michalos, 1980). *Positive and negative affect* represent spontaneous, ongoing emotional reactions to everyday experience. *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). Caregivers typically report that caregiving

generates more daily problems, worries, stress, and poor sleep, but also that caregiving can promote feelings of joy, fulfillment, and pride (e.g., Toljamo et al., 2012). Caregiving may thus be associated with increasing psychological distress, and possibly also more positive affect. On the other hand, extensive caregiving may deplete energy, vitality, and happiness.

Loneliness is defined as an unwelcome feeling of lack or loss of companionship, support, and intimacy (Bowling, 2005).² Caregivers may be susceptible to loneliness because they feel isolated and restricted from pursuing their own activities, or because they actively withdraw from social contact in response to the care recipient's situation (Toljamo et al., 2012).

2.3 Mastery

Mastery refers to the extent to which individuals view themselves as personally powerful or influential in affecting important outcomes in their lives (Pearlin et al., 1981). On the one hand, successfully exerting control as a caregiver may promote a sense of mastery. On the other hand, the stressful and often uncontrollable aspects of caregiving may suppress the caregiver's perceived coping capacities.

3 Formal and informal care in Norway

Norway and the other Nordic welfare states are characterized by universal and comprehensive public care services (Hvinden, 2010; Rostgaard & Szebehely, 2012). Norway spends a much larger part of their GDP on long-term care (2.3%) than the US (0.9%) or richer EU countries on average (EU-15; 1.3%) (Huber et al., 2009; OECD, 2011). Care services in Norway are funded through taxation and offered according to need, independently of income or place of residence. Norway is also characterized by de-familialization, meaning that the elderly are not

² Loneliness and depression refer to negative affective states or affective disorders (McDowell, 2006), and can be part of the negative emotions in conceptualizations of affective well-being (Diener, 1984; Lucas et al., 1996).

dependent on family care and there is no legal family obligation to provide or pay for elderly care (Saraceno & Keck, 2010). Public support and preference for formal care is also high: about three times as many Norwegians (77%) as Southern Europeans agree that personal care is mainly the responsibility of the welfare state (and not the family) (Daatland & Herlofson, 2004). Finally, Norway is also characterized by low levels of inter-generational co-residence: less than 5% of people aged 60+ live with their child(ren), which is about a third of the European and North American average (Huber et al., 2009).

These patterns mirror country differences in the balance between formal and informal care provision. More older persons (age 65+) receive long-term care in Norway (25%; mostly home care) than in the US (7%) or in EU countries on average (11%) (Huber et al., 2009). Although a substantial part—about 50 percent—of all elder care is provided by family also in Norway, this estimate is more than 80 percent on average in other Western countries (OECD, 2005). About 80 percent of Norwegians with living elderly parents regularly provide some form of care to a parent (Gautun & Hagen, 2010). Yet these children rarely carry the *main* responsibility for parental care. The majority of parents with care needs receive help from a partner and/or public services (Daatland et al., 2009).

The proportion of children who provide personal care to an elderly parent is low in all Western countries, but especially low in the Nordic countries. A study of five Western countries shows that 2.4 percent of children had provided such help during the past year to a parent aged 75+ in Norway, compared with, for example, 10 percent in Spain and 16 percent in Germany (Lowenstein & Ogg, 2003).

4 Literature review

Two meta-studies based on 228 (mostly US) papers examine relationships between caregiving and well-being (Pinquart & Sörensen, 2003a, 2003b). The studies show, first, that researchers

typically adopt a broad definition and measurement of “caregiving”, encompassing all forms of assistance to persons in need of help because of poor health. Further, the studies show that a large literature relates caregiving to depression and psychological distress (“caregiver burden”), and that a few papers link caregiving to reduced subjective well-being. There is marked between-study variability in these effects, which the authors explain by the fact that most studies are based on limited, nonrepresentative convenience samples.

The meta-studies show that caregiving typically has more adverse emotional impacts on women and the elderly (*ibid.*). The authors propose that women are more affected by caregiving than men because women provide more care in general and more personal care especially, and because they more often experience social pressures to provide care. The authors relate more detrimental effects of caregiving in older age to fewer psychological, physical, and financial resources, and fewer stress-protective roles and activities.

The notion that caregiving has positive aspects is supported by a few studies. These show that, although caregiving relates to emotional distress, it may at the same time be associated with increasing self-esteem, meaning, engagement, and pride (Kramer, 1997; Marks, 1998; Marks & Lambert, 1998; Marks et al., 2002). These studies define care either as personal care or both practical and personal care to older persons.

Few studies have examined the psychological effects of caregiving using representative Nordic samples. One study examines the effect of providing practical help or personal care in a representative sample of Swedes aged 50–89 ($n=543$ caregivers), without distinguishing between different care recipients (Borg & Hallberg, 2006). It shows that “intensive” caregivers (those who provide help at least four times per week; 53% of which provide personal care) report lower life satisfaction than other caregivers and non-caregivers. This study finds no effect of caregiving on loneliness, irrespective of care frequency. In the same data as used here, no effects of caregiving (mainly practical help) for parents on life

satisfaction or positive and negative effects was found among Norwegians aged 30–64, except for a weak effect of caregiving on negative affect among men (Daatland et al., 2010). This study did not distinguish between resident and non-resident parents, or between practical and personal care.

5 Research questions

We investigate two main research questions. We first ask whether providing help to a parent or parent-in-law with personal care is related to different aspects of psychological well-being. We have argued that while caregiving may cause psychological distress and marital discord, it may promote meaning, a sense of mastery, and positive self-evaluations. The second question aims to identify subgroups of carers at risk for emotional distress. It asks whether the effects of caregiving on psychological well-being aspects are contingent upon combinations of the care recipient's residential status (co-resident or non-resident with the caregiver) and the caregiver's gender, age, educational level, and partnership and employment status.

Gender. The literature has paid relatively little attention to how caregiving affects men (Pinquart & Sörensen, 2003b; Winqvist, 2010). It is both timely and relevant to pay more attention to the experiences of male caregivers, as men have gradually become more involved in caregiving over the last decades (Carmichael & Charles, 2003). In addition, men may become even more involved in the future, because of a greater need for informal care and greater gender equality in work and domestic roles, a development that is perhaps nowhere more evident than in the Nordic countries (e.g., Mencarini & Sironi, 2012). Nonetheless, we expect that possible associations between caregiving and psychological well-being are more negative for women, who tend to carry a larger load of caregiving responsibility (OECD, 2011).

Age. Greater longevity implicates that elder care will increasingly be provided by children who are themselves elderly. On the one hand, caregiving may be *less* demanding in older age, because of fewer responsibilities and role conflicts (e.g., between work and family). On the other hand, caregiving in older age may be more physically challenging, and more stressful because of fewer potentially stress-buffering roles and activities.

Education. Increasing education in the population, especially among women, implies a higher educational level in future cohorts of caregivers. More educated caregivers may have better coping skills, partly by being more adept at accessing services and using financial and social resources to alleviate the caregiver burden. However, more educated caregivers may be more vulnerable to role strain and have more difficulty accepting or handling the demands of caregiving.

Partnership status. A partner may represent an important source of support for caregivers. We thus ask whether caregiving has more detrimental consequences for unpartnered individuals.

Employment status. In the future, because of growing female employment and increasing reliance on informal care, more people may be confronted with the “double burden” of work and caregiving duties. It is, however, open to question whether being in paid labor represents a source of (additional) stress or a source of diversion and respite for caregivers. We thus ask whether caregiving effects vary by employment status.

5 Methods

5.1 Data

This paper is based upon data from two overlapping datasets: cross-sectional data from the Life-Course, Generations and Gender (LOGG) study and two waves of data from the Norwegian Life Course, Ageing, and Generations (NorLAG) panel study.

LOGG comprises a nationally representative sample aged 18–84 ($n=15,109$). Data was collected in 2007/2008, through (computer-assisted) telephone interviews and postal questionnaires (combined response rate 43.2%). Data from public registries were added with the respondents' informed consent. *LOGG* is part of the international Generations and Gender Study (GGS) (Vikat et al., 2007).

NorLAG comprises representative randomly stratified (by age and sex) samples of adults aged 40–79 (in wave 1) from 30 Norwegian municipalities representing different geographic regions. The first wave of data was collected in 2002/2003. The second wave was carried out as part of *LOGG*, in 2007/2008. Data was collected via telephone interviews, postal questionnaires, and registers. In all, 3,792 respondents (response rate 45.5%) completed the telephone interview and postal questionnaire in both waves.

5.2 Dependent variables

This study uses nine well-established measures of psychological well-being. *Life satisfaction* is measured by the Satisfaction With Life Scale (SWLS; Pavot et al., 1991). The scale comprises five items (e.g., “I am satisfied with my life”) measured on a 5-point scale (1 = strongly disagree, 5 = strongly agree). The composite index ($\alpha = .76$) ranges from 1 to 5 (high life satisfaction).

Partnership satisfaction is an index comprised of five items about overall satisfaction with the relationship; agreement about what is important in life; the frequency of conflicts; the frequency of the partner's criticism; and the partner's empathic qualities ($\alpha = .78$). Response categories range from 0 to 10 (high satisfaction). To get the same response range as other dependent variables (1–5), we have set index scores under 2 ($n = 9$) to 2 and divided the index score by 2.

Self-esteem is measured with Rosenberg's (1965) 10-item Self-Esteem Scale (RSES; e.g., “I feel that I have a number of good qualities”), with responses ranging from 1 (strongly disagree) to 5 (strongly agree). The composite index ($\alpha = .80$) ranges from 1 to 5 (high self-esteem). *Mastery* is

measured by Pearlin and Schooler's (1978) 7-item Mastery Scale (PMS; e.g., "I have little control over the things that happen to me", $\alpha = .79$), with responses ranging from 1 (strongly agree) to 5 (strongly disagree). *Happiness* is measured with one item from the depression scale (see below) ("I felt happy"). *Positive affect* and *negative affect* are measured by a 12-item version of the Positive and Negative Affect Schedule (PANAS; 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 were 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 1 to 5 (high level of affect). *Depression* is measured with the 20-item Center for Epidemiologic Studies Depression (CES-D) scale (Radloff, 1977). Respondents were asked 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, "that my sleep was restless", "that my life has been a failure," etc., during the previous week. The index ranges from 1 to 4 (high depressive symptoms) ($\alpha = .86$). *Loneliness* is measured by eight items from the Loneliness Scale (de Jong-Gierveld & van Tilburg, 1999), measured on a scale from 1 to 5 (high loneliness) ($\alpha = .81$). Because NorLAG1 only includes three of these items ("I miss having a really close friend"; "I find my circle of friends and acquaintances too limited"; "There are many people I can trust completely"), only these three items are used in the panel analysis (the 3-item index score is correlated .91 with the full scale). We have tested for high inter-correlations between dependent variables, but no variables correlate over .60.

All the above outcome measures are widely used and show good psychometric properties, including validity, internal consistency, and test-retest reliability (for a review, see Robinson et al., 1991). There are, however, other important issues to be addressed. One issue concerns the dimensionality of the scales. Many studies have supported a unidimensional model, documenting

that a single latent factor accounts for a majority of the variance in item scores. The SWLS has since its inception been found to represent a single factor (e.g., Diener et al., 1985; Tucker et al., 2006). The unidimensional structure also has been confirmed for the PMS, PANAS, CES-D, RSES, and the Loneliness scale (for a review, see Hansen 2010).

Another issue concerns the measurement invariance of the scales. Measurement invariance means that the same underlying construct is measured across the relevant comparison groups (Byrne, 2008). Measurement invariance can be compromised because of differences in language (i.e., translation) or individual or cultural differences in interpretation (of items) or norms regarding the expression of, for example, happiness or positive and negative affect (Chen 2008). Measurement invariance can also reflect a construct bias, in that the manifestation of a phenomenon (e.g., depression) varies across groups. Some invariance tests indicate measurement equivalence across gender, but that caution must be exerted when interpreting country and age differences in well-being (Clench-Aas et al., 2011; Shevlin et al., 1998; Tucker et al., 2011).

The essential question here is whether the content and applicability of the scales are equally relevant for caregivers and non-caregivers. As we find no obvious reason to expect differences by caregiver status in the manifestation of constructs, interpretation of items, or social desirability norms, we assume that the scales are relatively invariant across the comparison groups.

5.3 Independent variables

Caregiving (provision of personal care) is measured in LOGG by the question(s): “Have you during the past year given regular help with personal care to someone you (do not) live with. Help with, for example, eating, getting out of bed, dressing, or using the bathroom.” We focus on

those who have provided care to a parent or parent-in-law, and distinguish between resident and non-resident care recipients. Only few resident caregivers live with the care recipient full-time.³

Because of a routing error in the computer-assisted telephone interview, the questions about caregiving were only posed to individuals who live with someone or have (non-resident) children. As a consequence, we do not capture single-living, childless caregivers.⁴ To include some of these, we have also defined as caregivers those individuals (n=18) who are childless and live alone *and* report that a (biological) parent needs personal care *and* that they provide help to a parent (type of help is unspecified).⁵

Information about *gender*, *age*, *education*, and *partnership status* (0/1) is gathered from public registers. *Education* has three levels: low (primary), medium (secondary), and high (college/university). *Employed* individuals are those who report that they usually participate in paid work for 15 hours or more per week.

5.4 Analytic strategy

We use analysis of variance (ANOVA) and chi-square tests to analyze bivariate differences in means and proportions between groups according to caregiver status. All multivariate analyses use ordinary least squares (OLS) regressions. We use OLS regression for reasons of familiarity and ease of interpretation. Using OLS regression when the dependent variable is ordinal may be problematic, as it violates the assumption of interval level data. We thus

³ Of the 97 persons who provide care to a resident parent (in law), 35 persons co-reside with the care recipient according to public registers. The residual 62 caregivers likely co-reside only part-time with the care recipient, or provide care during longer visits. Most of the 62 caregivers live close to their parents.

⁴ In LOGG, 6.4% of individuals aged 40–70 are childless and live alone. It is thus a relatively small group of caregivers that is excluded here.

⁵ We do not know if the respondent provides personal care, but if the respondent provides some form of care to a parent that needs personal care, it can be assumed that some personal care is involved.

performed all the analyses using an ordinal-probit model (ancillary analyses), and the results were almost identical to those using OLS regression. Ferrer-i-Carbonell and Frijters (2004) have shown that the choice of methodology (OLS regression, ordinal-probit, or ordinal-logit techniques) in this context makes little difference to the empirical results.

We use analyses of covariance (procedure General Linear Model in SPSS) to conduct omnibus tests of the effect of caregiving status, to perform least-significant difference (LSD) pairwise comparisons between caregiving status groups (net the effect of other predictors). To determine whether the effect of caregiving status is modified by gender, age, education, and partnership and employment status, 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.

In the panel analyses, we examine effects of caregiving on well-being at time 2 (t_2), controlling for well-being at time 1 (t_1). These effects can be interpreted as the effect of caregiving on *change* in well-being (Johnson, 2005). Unfortunately, caregiving was only measured at t_2 . We make the assumption that caregivers at t_2 were not caregivers five years prior, at t_1 . Caregivers are unlikely to provide help with ADL for such a long spell, because of the care recipient's death or institutionalization. Romøren (2001) found, in a sample of older persons aged above 80, that men and women on average live 3.2 and 1.8 years, respectively, with dependence in ADL (which indicates need for personal care) before death.

Because the sample over age 80 includes no caregivers, we exclude persons over age 80 in all analyses. Analyses are run separately for men and women, and control for age, age² (excluded when not significant), education, partnership status, and employment status. Caregivers are compared with non-caregivers with a living parent. Due to low statistical power, a significance level of .10 is used in the panel analyses (.05 otherwise).

6 Results

6.1 Cross-sectional analysis

Table 1 shows the percentages of individuals aged 18–79 with a living parent who provide regular personal care to a parent (or parent-in-law) in LOGG. As shown, 2.6 percent of men and 4.7 percent of women provide such care to a *non-resident* parent, and 0.7 percent of men and 1.2 percent of women provide such help to a *resident* parent. Altogether 4.6 percent provide personal care to a resident or non-resident parent.⁶ In the age group 40–59, 5.6 percent of men and 10.4 percent of women provide such care (not shown). Among persons aged 40–59 *with a parent who needs help with ADL*, 14.1 percent of men and 25.6 percent of women provide such care (not shown).⁷ It is thus unusual to provide personal care to a parent in Norway, and twice as unusual among men as among women.

Table 1 also shows the sociodemographic characteristics of caregivers and non-caregivers by gender in LOGG. Caregivers are on average older than non-caregivers, and non-resident female caregivers tend to have lower education than other women. Compared with non-caregivers, resident caregivers are more often unpartnered, and non-resident caregivers more often partnered. Caregiver status is unrelated to employment status.

[INSERT TABLE 1 ABOUT HERE]

In Table 2, cognitive aspects of well-being (life satisfaction, relationship satisfaction, and self-esteem) and mastery are regressed on sociodemographic controls, caregiver status, and interactions between caregiver status and the sociodemographic control variables. The results are easily summarized, as all caregiver status main and interaction effects are nonsignificant.

⁶ This estimate is 4.7% when using a weight developed by Statistics Norway to adjust for differential response rates by gender, age, region, urbanity, and education. Further, most caregivers help *biological* parents (n = 367); fewer help resident (n = 20) or non-resident (n = 83) parents-in-law.

⁷ Questions about ADL-needs were only posed regarding *biological* parents.

The only exception is a weak positive effect of providing personal care to a non-resident parent on mastery among women.

[INSERT TABLE 2 ABOUT HERE]

In Table 3, affective aspects of well-being (happiness, positive and negative affect, depression, and loneliness) are regressed on sociodemographic covariates, caregiver status, and interactions between caregiver status and the sociodemographic covariates. Among men, being a caregiver has no effect on any of the indicators of well-being. The emotional consequences of caregiving seem to be larger among women, but only if they provide care in their own home. Caring for a *non-resident* parent has no effect on any of these indicators of well-being. Caring for a *resident* parent is associated with lower happiness and more negative affect, depressive symptoms, and loneliness among women. Indeed, the effect of caring for a resident parent can be as large (happiness) or larger (negative affect, depression) than the effect of having a partner.

The interaction analyses show that the gender differences in the effects of caregiving on happiness, depression, and loneliness are statistically significant ($p < .05$) (Table 3). Interactions between caregiving status and age and employment status are all nonsignificant. Education, however, moderates some of these relationships, and differently so for men and women. Among women, the adverse effect of *resident* caregiving on happiness, negative affect, and depression are stronger at lower levels of education. In addition, there are adverse effects of *resident* (positive affect) and *non-resident* caregiving (happiness, positive affect) that are significant only among women with low-medium levels of education (<college/university) (ancillary analyses, not shown). Among men, caring for a *non-resident* or *resident* parent is associated with more negative affect only among men with higher education (college/university) (not shown).

Partnership status also moderates some of the emotional effects of caregiving. The detrimental impacts of caring for a *resident* parent on positive and negative affect, depression, and loneliness are stronger among unpartnered women. There are also weak detrimental effects of caring for a *non-resident* parent on positive and negative affect and depression that emerge only among unpartnered women (not shown). As there were so few *resident* caregivers, interactions between resident caregiving and controls must be interpreted with caution.

[INSERT TABLE 3 ABOUT HERE]

Since prior research suggests pronounced caregiving effects on particular emotions (e.g., worried, irritated, upset) and on sleep quality, we also regressed (in auxiliary analyses, not shown) individual positive and negative affect items, and an item on sleeping problems (from CES-D) on caregiver status and controls. The only significant associations were those between *resident* caregiving and sleeping problems and feeling scared, nervous, and afraid (coeff.= 0.23-0.27, $p < .05$) among women.

In sum, caregiver status is largely unrelated to indicators of cognitive and affective well-being. One notable exception is that caring for a *resident* (but not a non-resident) parent relates to lower *affective* well-being (happiness, negative affect, depression, and loneliness) among women. This effect is more marked among unpartnered and lower-educated women. Finally, caring for a *non-resident* parent is associated with a positive change in sense of *mastery* among women.

6.2 Panel analysis

As shown in Table 1, 5.0 percent of men and 9.9 percent of women provide regular help with personal care to a *non-resident* parent, and 1.6 percent of men and 1.8 percent of women

provide such help to a *resident* parent (or parent-in-law) in NorLAG (at t2). Because of few *resident* caregivers, we shall only focus on non-resident caregivers.

Cross-sectional analysis of t2 NorLAG data shows that (non-resident) caregiving is significantly associated only with lower happiness and higher depressive symptoms and mastery (not shown). Although the NorLAG panel sample has fewer caregivers and is older (aged 45–79) than the LOGG sample (aged 18–79), non-resident caregiving thus has similar cross-section effects in the two datasets.

[INSERT TABLE 4 ABOUT HERE]

In Table 4, life satisfaction, relationship satisfaction, self-esteem, and mastery (at t2) are regressed on sociodemographic controls, (non-resident) parental caregiving, and (respective) indicator of well-being measured at time 1. The results are easily summarized, as all caregiver effects are nonsignificant. The only exception is a weak ($p < .10$) positive effect of caregiving on mastery among women.

[INSERT TABLE 5 ABOUT HERE]

In Table 5, happiness, positive and negative affect, depression, and loneliness (at t2) are regressed on sociodemographic controls, (non-resident) parental caregiving, and (respective) indicator of well-being measured at time 1. Caregiving is associated with decreasing happiness and increasing depression among women ($p < .10$).

7 Discussion

As the aging population may translate into an increased need for informal care, it is important to know if and under which conditions caregiving affects psychological well-being. This paper focuses on personal care, which, compared with practical and emotional support, may impose greater individual and public costs and to a stronger degree fall under the family's responsibility in the future. We explore the psychological consequences for adult children of

providing personal care to an older parent or parent-in-law. To gain a broad understanding of these consequences, we explore caregiving effects on cognitive well-being (life satisfaction, partnership satisfaction, self-esteem), affective well-being (happiness, positive and negative affect, depression, loneliness), and sense of mastery. We also explore the potential moderating role of gender, age, education, and partnership and employment status on these effects. We use recent nationally representative Norwegian cross-sectional and panel data.

In the Nordic countries, family care primarily consists of instrumental and emotional support, whereas long-term services usually are provided by the formal services (Daatland et al., 2011). In a representative sample of Norwegians aged 18–79, we find that 5 percent (8% in the age group 40–59) regularly provide personal care to a parent (in-law). In the subgroup that has a parent with needs in ADL, 14 percent of men and 26 percent of women provide such help.

Caregiver effects among men are all nonsignificant, both in cross-section and longitudinally. This holds across age, educational level, and partnership and employment status. The only exception is a weak relationship between providing help with personal care and more negative affect among men with higher education. Psychological distress in this group may reflect difficulty in handling the demands of caregiving, either alone or in combination with other demands (e.g., at work).

Caregiver effects among women depend on the residential status of the care recipient and the measure of well-being. Caring for a *non-resident* parent is largely unrelated to women's cognitive and affective well-being. There are exceptions, however, as providing such care is associated with poorer affective well-being (happiness, negative affect, depression) among unpartnered and lower-educated women. On a positive note, women who provide such care tend to report a relatively stronger sense of mastery. These women also report a more positive change (over the past five years) in sense of mastery, compared with other women.

Caring for a *resident* parent, however, relates to a marked cross-sectional decline in happiness, and increasing negative affect, depressive symptoms, and loneliness among women. These associations are stronger among unpartnered and lower-educated women. Caring for a resident parent is also associated with sleeping problems among women. Yet resident caregiving has no effect on women's cognitive well-being or sense of mastery. We were unable to examine the longitudinal effect of resident caregiving, because of few resident caregivers in the panel sample.

Parental caregiving thus seems inconsequential for men and women's *cognitive* well-being, even when caregiving supposedly is at its most challenging and constraining (e.g., to unpartnered persons or members of low socioeconomic strata). This finding attests to the highly cognitive nature of satisfaction and self-esteem judgments—that they may be detached from, or even enhanced by, emotionally taxing and burdensome experiences (Hansen et al., 2009). The near-zero effects also suggest that, although aspects of caregiving may reduce satisfaction and self-esteem, other aspects (e.g., helping others, feeling useful and needed, receiving appraisal) may promote positive self-evaluations.

Providing personal care to a parent seems to only influence *affective* well-being, and only among women who provide such care in their home. The adverse cross-sectional and longitudinal effects of providing such care are most pronounced for happiness and depression. Becoming a resident caregiver may thus represent a challenging life event that can evoke mood disturbances and feelings of inadequacy, fatigue, hopelessness—and reduce happiness. Compared with non-resident caregiving, resident caregiving may have more adverse consequences because it generally involves more hours of direct care, requires more responsibility for ensuring care is provided, and has more impact on aspects such as social life and sleep. Yet it is unclear whether it is the caregiving in itself or the fact that a close (both spatially and emotionally) relative is frail that may harm women's well-being. In-depth

interviews with caregivers (usually a spouse) show that the illness and worrying for the care recipient is experienced as more challenging than the care tasks (Cheung & Hocking, 2004; Gautun et al., 2011).

The *gender* differences are consistent with the fact that women more often tend to be a primary caregiver and more emotionally involved in the care recipient's situation, and that caregiving may be more physically challenging and entail less social recognition for women than for men (Pinquart & Sörensen, 2003b; Winqvist, 2010). The *educational* differences suggest that higher-educated caregivers cope better with the demands and stresses of caregiving, perhaps by being more adept at obtaining help from the public services and by relying on greater financial resources. That caregiving has fewer consequences for women with higher education is interesting in light of marked cohort changes in educational level, especially among women. Because of higher education, the negative consequences of caregiving may be (even) weaker in future cohorts of caregivers. The *partnership status* differences may reflect that single caregivers have less access to social support, which is a critical buffering factor against caregiver distress (Borg & Hallberg, 2006).

In the future, because of increasing need for informal care and growing female employment, more adult children are expected to combine family caregiving with paid work. There is concern that this development may affect population mental health, as paid labor may be an additional burden to many caregivers (OECD, 2011). The present analyses imply that, at least in Norway, there is no vulnerability associated with combining parental caregiving with paid labor, as all interactions between caregiving and employment status are non-significant. Some caution is warranted, however, as employment may have a stronger impact on caregiver distress at higher levels of working hours than examined here (15 hours or more per week), or in countries with less flexible work arrangements than in Norway.

The fact that non-resident caregiving relates to higher mastery among women suggests that caregiving can have positive aspects. It is unclear, however, if caregiving promotes mastery or if individuals with a high sense of mastery are selected into the caregiver role. Although the panel effect is weak, it suggests that caregiving may promote a stronger sense of mastery and control.

The non-significant psychological effects of providing personal care to a *non-resident* parent is surprising because it runs counter to anecdotal and empirical evidence about the burdens of providing personal care. Indeed, such caregiving has no impact even on any of the items comprising negative affect (worried, upset, scared, irritated, nervous, afraid). It is also unrelated to sleep quality. One interpretation is that (non-resident) caregivers go through a phase of great stress but adjust to the caregiver role and to the care recipient's situation over time. A large literature attests to the human capacity to accommodate to adverse life conditions and events (see Hansen, 2010, for a review). Second, as discussed, there may be positive aspects of caregiving that balance the negatives. Third, the robust nonsignificant associations conflict with a large, mainly US literature, that links caregiving to substantial psychological distress. This contrast highlights the role of social policies and care systems in shaping the impact of caregiving on well-being. The Nordic care regime, whereby personal care is mainly provided by the public services and the family usually only plays a complimentary role, does not seem to jeopardize caregivers' self-esteem, mental health, or well-being.

Although there is little to suggest that the current nature and level of parental caregiving in Norway harms well-being, a reduction in formal care and a stronger reliance on informal care may create more caregiver distress. Concern should also be heightened by the fact that caregiving is associated with reduced employment (Kotsadam, 2011) and higher sickness absence and lower income (Fevang et al., 2009). These effects are stronger among women

than men, and emerge also in other Western countries (OECD, 2011). Although increasing informal caregiving may not jeopardize well-being, it may undermine societal goals of gender equality in domestic and working life.

7.1 Limitations and future research

Some limitations of this study along with questions for future research should be noted.

Interpretive caution is warranted because of the limited sample of carers. If the magnitude of a population effect is low to medium, then the effect may not be detectable in small samples due to large random sampling errors (Rosenthal, 1991). Main and interaction effects of caregiving, and *resident* caregiving in particular, should thus be interpreted with caution.

Interpretive caution is also warranted because of possible measurement non-invariance, i.e., that the content and applicability of the scales are not equally relevant for caregivers and non-caregivers. Furthermore, due to a routing error in the computer-assisted telephone interview, we do not capture caregivers who are childless and live alone. This subgroup is small, but may be particularly vulnerable to caregiver stress because it lacks close family members to provide support. Also, because we lack information about caregiving at t1, we were unable to directly examine change in well-being in relation to change in caregiving status. There may be variation among caregivers' change in well-being depending on the length of caregiving.

This study highlights the need to consider numerous aspects of psychological well-being when estimating the emotional consequences of caregiving or other objective circumstances. Even so, there may be effects we have missed due to lack of measurement. For example, the positive affect scale may not capture some of the positive emotions that are at the core of the caregiving experience. For example, it does not cover pride and affection. We are also unable to examine the effect of caregiving on the eudaimonic conception of well-being, which has become influential in recent years (e.g., Ryan & Deci, 2001; Seligman, 2002). Essential to

eudaimonic well-being are engagement in challenging and meaningful activities, especially those activities that require substantial effort and incorporate a concern for others and “the greater good” (ibid.). As Seligman (2002) noted, caregiving is one such “worthwhile cause”. 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. Because these outcomes are closely linked with the caregiving experience, future research should investigate theoretical and empirical links between caregiving and eudaimonic well-being.

Table 1. Sociodemographic characteristics of the LOGG and NorLAG samples, by gender and caregiver status^a. Proportions (%) or means (SD).

	Men				Women			
	Caring for a resident parent	Caring for a non-resident parent	Non-caregiver	Total	Caring for a resident parent ^a	Caring for a non-resident parent	Non-caregiver	Total
<i>LOGG</i>								
Age (18–79)** ^b	42.53 (14.94)	48.35 (9.55)	37.34 (11.90)	37.66 (12.00)	49.05 (10.34)	48.51 (9.77)	37.46 (11.54)	38.12 (11.75)
Education (1–3)* ^c	1.88 (0.77)	2.17 (0.66)	2.12 (0.71)	2.12 (0.71)	2.34 (0.79)	2.16 (0.74)	2.26 (0.74)	2.25 (0.74)
Partnered** ^b	50.0 %	85.8 %	64.6 %	65.0 %	58.7 %	80.9 %	67.2 %	67.8 %
Employed	79.4 %	85.8 %	85.4 %	85.3 %	69.8 %	78.0 %	78.4 %	78.3 %
N (%)	34 (0.7)	127 (2.6)	4773 (96.7)	4934 (100.0)	63 (1.2)	246 (4.7)	4916 (94.1)	5225 (100.0)
<i>NorLAG panel</i>								
Age (40–79)** ^c	55.50 (7.18)	53.84 (7.73)	52.51 (5.75)	52.62 (5.89)	54.54 (5.08)	54.77 (5.62)	52.24 (5.87)	52.53 (5.89)
Education (1–3)	1.90 (0.78)	2.23 (0.65)	2.13 (0.70)	2.14 (0.70)	2.37 (0.75)	2.16 (0.79)	2.21 (0.78)	2.19 (0.75)
Partnered	70.0 %	87.5 %	82.1 %	82.2 %	61.5 %	75.7 %	71.4 %	71.7 %
Employed	90.0 %	75.0 %	86.7 %	86.1 %	92.3 %	74.3 %	78.4 %	78.3 %
N (%)	10 (1.6)	32 (5.0)	593 (93.4)	635 (100.0)	13 (1.8)	70 (9.9)	626 (88.3)	709 (100.0)

* $p < .05$, ** $p < .01$. ^a Caregiving is defined here as the provision of regular help with personal care to a parent or parent-in-law. ^b Significant for both genders. ^c Significant only among women.

LOGG data.

Table 2 Regressing life satisfaction, relationship satisfaction, self-esteem, and mastery on caregiver status and interaction terms with controls for sociodemographic background variables. Unstandardized regression coefficients.

	Life satisfaction		Relationship satisfaction		Self-esteem		Mastery	
	Men	Women	Men	Women	Men	Women	Men	Women
Age/10	-0.40 **	-0.40 **	-0.20 *	-0.30 **	-0.03 *	0.01	-0.01 **	-0.01 **
Age ²	0.04 **	0.04 **	0.03 **	0.04 **				
Education (1–3)	0.02	0.10 **	-0.07 **	0.05 *	0.11 **	0.15 **	0.10 **	0.14 **
Partnered	0.43 **	0.40 **			0.16 **	0.09 **	0.11 **	0.05 *
Employed	0.13 **	0.10 **	-0.01	-0.03	0.14 **	0.16 **	0.17 **	0.20 **
Caregiver status (CS) ^a								*
Resident caregiver	0.09	-0.12	0.09	-0.04	0.10	-0.10	0.17	-0.12
Non-resident caregiver	0.01	0.02	0.11	0.06	-0.03	-0.04	0.01	0.13 *
<i>CS interactions</i>	Interactions with gender, age, education, partnership status, and employment status are not significant							
Adj R ²	0.09	0.09	0.01	0.01	0.04	0.04	0.07	0.07

* p < .05, ** p < .01. All dependent variables range from 1-5. Parameters not presented in the table (e.g., standardized coefficients, SE) are available upon request from the authors. LOGG data.^a

Excluded category: non-caregiver.

Table 3 Regressing happiness, positive affect, negative affect, depression, and loneliness on caregiver status and interaction terms with controls for sociodemographic background variables. Unstandardized regression coefficients.

	Happiness		Positive affect		Negative affect		Depression		Loneliness	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Age/10	-0.29 **	-0.31 **	-0.09 **	-0.07 **	-0.11 **	-0.11 **	0.13 **	0.06	0.40 **	0.35 **
Age ²	0.03 **	0.03 **					-0.02 **	-0.01 *	-0.04 **	-0.04 **
Education (1–3)	-0.05	0.09 **	0.16 **	0.19 **	-0.05	-0.12 **	-0.04	-0.11 **	-0.02	-0.12 **
Partnered	0.33 **	0.30 **	0.08 *	-0.04	-0.06 *	-0.10 **	-0.14 **	-0.11 **	-0.29 **	-0.23 **
Employed	0.14 **	0.04	0.06	0.04	-0.08 *	-0.08 **	-0.13 **	-0.09 **	-0.14 **	-0.18 **
Caregiver status (CS) ^a		*				*		**		*
Resident caregiver	0.25	-0.31 *	0.09	0.08	0.06	0.15 *	-0.11	0.18 **	-0.09	0.16 *
Non-resident caregiver	0.12	-0.02	0.02	0.03	0.02	0.03	0.02	0.03	-0.04	-0.08
<i>CS interactions^b</i>										
CS × Gender		3.82 *		0.24		0.10		5.39 **		3.12 *
CS × Education	0.20	3.01 *	1.40	4.08 *	5.92 **	3.43 *	0.77	3.20 *	0.34	1.67
CS × Partner	1.04	0.31	0.35	3.88 *	1.37	5.47 **	1.86	8.19 **	1.89	6.36 **
Adj R ²	0.03	0.03	0.03	0.04	0.05	0.05	0.05	0.06	0.05	0.05

* p < .05, ** p < .01. All dependent variables range from 1-5. Parameters not presented in the table (e.g., standardized coefficients, SE) are available upon request from the authors. LOGG data. ^a

Excluded category: non-caregiver. ^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). Interactions with age and employment status are nonsignificant and thus not presented.

Table 4 Regressing well-being (life satisfaction, relationship satisfaction, self-esteem, and mastery) at time 2 on non-resident parental caregiving and interaction terms with controls for sociodemographic background variables and time 1 well-being. Unstandardized regression coefficients.

	Life satisfaction		Relationship satisfaction		Self-esteem		Mastery	
	Men	Women	Men	Women	Men	Women	Men	Women
Age/10	0.02	-1.53 *	0.04	-0.03	-0.35	-7.25	-1.03 *	0.20
Age ²		0.15 *					0.10 *	
Education (1–3)	-0.01	0.04	-0.04	0.01	0.05	0.25	-0.37	0.19
Partnered	0.13	0.14 *			0.17	1.01 *	-0.07	0.65
Employed	0.04	0.11	-0.01	0.02	-0.34	0.66	1.32 *	0.94
Well-being at t1	0.61 **	0.61 **	0.57 **	0.68 **	0.72 **	0.67 **	0.55 **	0.53 **
Non-resident caregiver	0.15	0.00	0.08	-0.06	0.07	0.30	-0.29	0.24 †
Adj R ²	0.42	0.41	0.25	0.33	0.52	0.47	0.33	0.29

† p < .10, * p < .05, ** p < .01. Parameters not presented in the table (e.g., standardized coefficients, SE) are available upon request from the authors). Interactions with gender, age, education, partnership status, and employment status are nonsignificant. NorLAG panel data.

Table 5 Regressing well-being (happiness, positive affect, negative affect, depression, and loneliness) at time 2 on non-resident parental caregiving and interaction terms with controls for sociodemographic background variables and well-being at time 1. Unstandardized regression coefficients.

	Happiness		Positive affect		Negative affect		Depression		Loneliness	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Age/10	0.05	-0.03	-0.05	-0.03	-0.03	-0.14 **	-0.63	-0.05	0.08 *	0.05
Education (1–3)	-0.11	0.07	0.03	0.18 **	-0.05	0.01	0.67	-0.58	0.00	-0.01
Partnered	0.00	0.24 **	-0.09	0.03	-0.08	-0.15 *	-0.95	-1.29	-0.26 **	-0.28 **
Employed	0.06	0.08	0.08	0.06	-0.03	-0.15 *	-0.89	-1.56	-0.09	-0.11
Well-being at t1	-0.39 **	-0.35 **	0.59 **	0.45 **	0.57 **	0.41 **	0.57 **	0.50 **	0.32 **	0.36 **
Non-resident caregiver	0.16	-0.16 †	0.07	0.02	0.05	0.06	1.58	0.69 †	0.01	-0.13
Adj R ²	0.14	0.15	0.38	0.28	0.35	0.19	0.34	0.30	0.28	0.34

† p < .10, * p < .05, ** p < .01. Parameters not presented in the table (e.g., standardized coefficients, SE) are available upon request from the authors). Interactions with gender, age, education, partnership status, and employment status are nonsignificant. NorLAG panel data.

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