Associations between relationship status and mental well-being in different life phases from young to middle adulthood

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A B S T R A C T

The aim of this study was to assess the associations between relationship status and mental well-being in four different phases during the life course, and to identify whether relationship quality moderated these associations. We used a broader concept of relationship status (instead of marital status) and also included the positive dimension of mental health. Participants in a Finnish cohort study were followed up at ages 22 (N = 1,656), 32 (N = 1,471), 42 (N = 1,334), and 52 (N = 1,159). Measures in all study panels covered relationship status (marriage, cohabitation, dating, single and divorced/widowed), Short Beck Depression Inventory (S-BDI), self-esteem (seven items) and relationship quality (six items). Analyses were carried out using linear regression.

Compared to marriage, being single or being divorced/widowed were associated with depressive symptoms at every age in men. For women, in turn, being single – but not being divorced/widowed – was associated with depressive symptoms. Among men, being single or being divorced/widowed were also associated with lower self-esteem at age 32, 42 and 52, but in women, only one association between lower self-esteem and being single was found at age 32. Of the age stages, the age 32 is highlighted in men, at which point all relationship statuses were risk factors compared to marriage. There were only few indications of the moderating role of the relationship quality.

Compared to marriage, being single or being divorced/widowed were quite consistently associated with poorer mental well-being during the life course, especially among men. For dating and cohabiting the associations were more fragmented depending on age and gender; particularly among women, these relationship statuses tended not to differ from marriage in terms of mental well-being. These observations on mental well-being across five relationship statuses are important in our contemporary society, where the number of marriages is decreasing, and other forms of relationships are becoming more common.

1. Introduction

Marital status and an intimate relationship are of vital importance regarding mental well-being. Many studies have focused specifically on marriage, which has been found to be associated with better mental well-being compared to other relationship statuses (e.g., Bulloch et al., 2017; LaPierre, 2009; Wadsworth, 2016). However, cohabitation and intimate relationships are perceived to produce similar benefits in some studies, as studies have suggested that these relationship statuses are associated with better mental well-being relatively the same way as marriage (Musick & Bumpass, 2012; Rapp & Stauder, 2020; Zella, 2017). The better mental well-being of those in marriage or in intimate

relationship have been suggested to be due to the fact that these provide more social support, financial support, and purpose of life (Soulsby & Bennett, 2015; Umberson et al., 2013). Although marriage or intimate relationships may lead to better mental well-being via the above-mentioned mechanisms, the potential selection effect must be considered, in which those with better mental well-being are more likely to marry or form relationships (Mastekaasa, 1992; see; Braithwaite & Holt-Lunstad, 2017).

1.1. Relationship status, mental well-being, and age stages

While the association between different relationship statuses and

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mental well-being has been studied from many perspectives, it remains unclear whether these associations change during the life course. Most studies have used age only as a control variable (e.g., Hsu & Barrett, 2020; see Bulloch et al., 2017) or compared different age groups (e.g., Jang et al., 2009; LaPierre, 2009). However, there are different expectations and goals for relationship at different ages and life stages, which are reflected in the relationship and its importance for mental well-being (Sassler, 2010). There are also cultural and social age-normative expectations related to relationship statuses, which likely further affect their relative meaning to individual (Wadsworth, 2016). For example, in young adulthood, it is typical to explore options, have a number of partners, and emphasize the meaning of more passionate relationships (Arnett, 2015; Bierhoff & Schmohr, 2004). At this age, being single may still be fairly normative, with marriages and cohabitation becoming more common with age. In later life, however, most are already married, and solidarity and friendship are valued in a relationship (Bierhoff & Schmohr, 2004). A similar age-specific phenomenon may also be related to divorces. In young adulthood, romantic relationships change quite often before settling down, resulting in more dissolutions of relationships (Arnett, 2015; Umberson et al., 2013). Later in life, dissolution of a relationship often means divorce that might occur in long term relationships and involve more than just a relationship between two adults, but also children and shared housing (Mulder & Wagner, 2010; Williams & Dunne-Bryant, 2006).

A few studies have taken the effects of age into account when examining, for example, the association between marital status and depressive symptoms (LaPierre, 2009) and self-assessed health (Williams & Umberson, 2004) in different age groups or how age modifies these associations (Bulloch et al., 2017). Bulloch et al. (2017) found that singles and those in common-law relationships had an elevated risk of depression compared to those who were married, and these associations intensified with increasing age. However, there are also studies showing that remaining or becoming single is more strongly associated with depression in young adults than in midlife adults (Marks & Lambert, 1998) or in older adults (LaPierre, 2009). LaPierre (2009) explained this by saying that those who are 60 or older have adapted to being single, while for 19- to 39-year-old singles, marriage and a family can still represent something they may want to pursue or achieve. In addition, Jang et al. (2009) found that married Korean women had lower depressive symptom scores than unmarried women in mid-life, but the gap narrowed in the older age group as depressive symptoms increased among older married women. In contrast, for men, the situation remained fairly stable at all ages (Jang et al., 2009). According to Bell (2014), in turn, unmarried people were found to have poorer mental health in middle age than in young adulthood and older age, but no such U-shaped trend was found in married people.

Gender differences have also been found at different ages. In young women in particular, romantic relationship has found to be more important for mental well-being than it is for young men (Simon & Barrett, 2010; Whitton et al., 2013). As age increases, associations change, and the results of studies have been mixed and inconsistent. However, most studies have suggested that marriage is particularly important for men's mental well-being (Williams et al., 2010), which has been explained by the fact that men tend to relay more on their partners for social support than women, as women tend to have larger social support networks outside the relationship (Stronge et al., 2019; Umberson et al., 1996).

The relationship quality can moderate the association between mental well-being and relationship status (Carr et al., 2014; Leach et al., 2013), as studies have consistently suggested that individuals who are in happy relationships tend to have better well-being or are less likely to have depression than individuals in unhappy relationships (Leach et al., 2013). There are also studies showing that an unhappy relationship is worse for mental well-being and health than being single or divorced (Holt-Lunstad et al., 2008; Lawrence et al., 2019). Women, in particular, have been found to be affected by the poor relationship quality

(Chapman & Guven, 2016; Leach et al., 2013).

1.2. Present study

Our aim was to examine the association between relationship status and mental well-being at four ages with the same cohort, and whether these associations change during the life course for men and women. This perspective is important as it can provide systematic knowledge of how diverse meanings and expectations of an intimate relationship at different ages turn into variation in how relationship status and mental well-being are linked with each other during the life course. We studied these associations in a prospective age cohort with 30 years of follow-up time from age 22 to 52, while most previous studies have addressed these issues by comparing age groups from different cohorts. As the study cohort had been examined first time already in adolescence at age 16, we were also able to take into account factors relating to selection. In addition to the association between relationship status and mental well-being, we also investigated whether (among those in an intimate relationship) the relationship quality moderates the association. Unlike in most previous studies concentrating on marital status, we used a broader concept of relationship status and included dating as one of its categories. Dating has remained rather unexplored in previous studies, although a recent study has suggested that it has a similar positive association to mental well-being, especially for women, as marriage and cohabitation (Rapp & Stauder, 2020). In addition, mental well-being has usually been conceptualized as mental ill-health (disorders and symptoms) (see, Hsu & Barrett, 2020; Umberson et al., 2013), but we adhered more fully to the concept by including both a negative (depressive symptoms) and a positive (self-esteem) measure of mental well-being in our analysis.

In short, in this study we aimed to answer two research questions: 1) How is relationship status (i.e. marriage, cohabitation, single, dating, divorced/widowed) associated with depressive symptoms and self-esteem at four different age stages during the life course in women and in men? 2) Does the relationship quality moderate the association between relationship status and mental well-being?

Based on previous research, we expected that the associations between relationship statuses and mental well-being are different at different ages during the life course. However, since previous studies have yielded mixed results, we did not make specific hypotheses. For example, opposite findings have been obtained on whether being single is more strongly associated with depression in young adulthood or later in life. Based on the literature, we also expect that there are gender differences in these associations, especially that the positive association between marriage and mental well-being is more pronounced among men. Regarding the moderating role of relationship quality, we expected that among those with better relationship quality any ill effects of other relationship statuses compared to marriage on mental well-being are smaller or non-existent.

2. Methods

2.1. Study design and data

The original study population included all Finnish-speaking ninth-grade pupils attending secondary schools in the spring of 1983 in Tampere, an industrial university city in southern Finland with 166,000 inhabitants at that time. In 1983, 2,194 pupils (96.7% of the target population, mean age 15.9) completed a questionnaire during school hours. Participants were followed up by postal questionnaires in 1989 (N = 1,656; 75.5%), 1999 (N = 1,471; 67.0%), 2009 (N = 1,334; 60.8%), and 2019 (N = 1,159; 52.8%) when they were aged 22, 32, 42, and 52 years, respectively. In all waves, the original study population that participated at the 1983 baseline (N = 2,194) were reached. In the present study, only those participants that participated in at least one of the 1989, 1999, 2009 and 2019 follow-up surveys between ages 22 and

52 were included (N = 1,955). The study protocol has been approved by the Ethics Committee of Tampere University Hospital and the Institutional review board of the Finnish Institute for Health and Welfare.

2.2. Measures

2.2.1. Relationship status

Information on relationship status was obtained through a question about marital status, which had five possible categories: unmarried, cohabiting, married, divorced or separated, and widowed. In addition, those who were unmarried, divorced/separated, or widowed were asked whether they were dating (yes/no) and for those who answered yes, the relationship status was changed to dating. Furthermore relationship status was cross-checked against reported living arrangements and based on that, those who were unmarried, divorced/separated, widowed, or dating, but who reported living together with a partner (and also indicated otherwise having an intimate relationship, e.g. by answering questions relating to quality of intimate relationship, see below), were changed to the category "cohabiting". As there were very few widow(er)s (ranging from 0 at age 22 to 12 at age 52), they were included in the same category as divorced ("divorced/widowed"). The final relationship status variable used in the analyses included the following five categories: single, dating, cohabiting, married and divorced/widowed. Note that while we used the term divorced/widowed in the results section, the simpler term divorced was utilized in the discussion, as the majority of respondents in this category were divorced.

2.2.2. Mental well-being

Aspects of mental well-being were studied using two variables: depressive symptoms and self-esteem.

Depressive symptoms were measured using the Finnish modified version of the short 13-item Beck Depression Inventory (S-BDI) (Beck & Beck, 1972; Raitasalo, 1995). The Finnish modification includes an additional positive choice of answer for each item (Raitasalo, 1995). These positive choices were combined with the neutral choices of the original measure (both coded 0) so the scale for each item ranges from 0 (positive/neutral) to 3 (the most severe symptom category) and the theoretical range of the sum score for depressive symptoms is 0–39, as in the original S-BDI. Questions in S-BDI cover e.g., mood/sadness, pessimism, dissatisfaction, self-harm, loss of appetite, and tiredness. Cronbach's alphas ranged from 0.81 to 0.85 in the different study waves.

Self-esteem was assessed with seven statements resembling those used in Rosenberg's (1965) measure. The statements (assessed on a 5-point scale, 1 = totally disagree – 5 = totally agree) were: "I believe in myself and in my possibilities", "I wish I was different from how I am" (reversed), "I suffer from feelings of inferiority" (reversed), "I think I have many good qualities", "I feel I lack self-confidence" (reversed), "I am capable of doing the same as others", and "I am often dissatisfied with myself" (reversed). The self-esteem score was calculated as the mean of the seven items (scale 1–5), with a higher score indicating better self-esteem. Cronbach's alphas ranged from 0.85 to 0.90 in the different study waves.

2.2.3. Relationship quality

Relationship quality was assessed with six items ("Our relationship is warm", "We are close to each other", "Our relationship includes mutual trust", "We have many problems" (reversed), "Our relationship is cooling off" (reversed), "We often quarrel" (reversed)) scored on a 5-point scale (1 = totally disagree – 5 = totally agree) (Palosaari & Aro, 1995). The relationship quality score was calculated as the mean of item scores (scale 1–5), with a higher score indicating better relationship quality. Cronbach's alphas ranged from 0.86 to 0.91 in the different study waves.

2.2.4. Control variables

To control for selection effects we used parental divorce (yes/no), parental socio-economic status (primarily based on father's occupation, "manual", "lower non-manual", "upper non-manual") and respondent's self-esteem or depressive symptoms from the baseline study wave at age 16. As the S-BDI or any other standard measure of depressive symptoms was not available at baseline, the depressive symptoms measure at age 16 was construed from a 17-item psychosomatic symptoms checklist using seven items (on a scale from 0 to 3) indicative of depressiveness (lack of energy, sleeping difficulties, nightmares, fatigue, irritability, loss of appetite, and nervousness/anxiety). The measure has been used earlier and described more in detail in Pelkonen et al. (2003).

Concurrently at each wave we controlled the analyses for respondent's basic education (compulsory comprehensive school only vs. completed high school) and having children (yes/no). Higher education has been found to be positively related to mental well-being and marriage (Mirowsky & Ross, 2003), and studies also indicate that having children is associated with mental well-being (Helbig et al., 2006; Mckenzie & Carter, 2013). We also calculated the duration in the current relationship status (at age 22 duration of the relationship) and used it as a control variable (for singles and divorced or widowed coded as mean). In order to account for recent divorces or break-ups, we also controlled for experiencing dissolution of an intimate relationship (marriage, cohabitation or dating) over the last 12 months (yes/no).

2.3. Analyses of drop-out

Drop-out analyses were carried out by comparing selected baseline measures between those included in the study (N = 1,955) and those, who were not, i.e. not participating in any of the four follow-ups between 1989 and 2019 (N = 239). In addition to the baseline control variables of the present study (see above), gender and grade point average at age 16 were examined. In these analyses drop-out was predicted by male gender (OR 2.7, $p < 0.001$) and lower grade point average (OR 1.7, $p < 0.001$), while not by parental divorce, parental socio-economic status, depressive symptoms measure at age 16 or self-esteem at age 16 (all $p > 0.05$).

2.4. Statistical analysis

All analyses were performed using IBM SPSS Statistics 26. The analyses were carried out separately for men and women, as well as for different ages. In all analyses all available cases and data were used for the given study wave. Within each analysis (within women/men at different ages) cases with missing information were deleted listwise, i.e., only cases with valid information on all variables in the given analysis were included. The number of women and men at each study wave are given in Table 1 as well as the variation in number of valid cases due to missing information. Valid number of cases for each analysis are given in the Tables. For categorical variables, frequencies and percentages and for continuous variables, means and standard deviations were reported. Gender differences were tested using the chi-square test (categorical variables) and ANOVA (continuous variables). P-values <0.05 were considered to be statistically significant.

The associations between relationship status and mental well-being were analyzed using linear regression. As depressive symptoms variables (S-BDI) were skewed they were transformed using natural log transformation before conducting regression analyses. For predictors of depressive symptoms and self-esteem, unstandardized regression coefficients were presented and R squared reported for model fit. For both depressive symptoms and self-esteem, an unadjusted model was estimated first with relationship status as the only predictor in the model (Supplementary tables S2 and S3). Then an adjusted model was estimated to which control variables at age 16 (parental divorce, parental socio-economic status and either depressive symptoms or self-esteem depending on the outcome) were added (Model 1). Then, in addition

Table 1
Study variables at different ages by sex.

Variable	Age 22 years			Age 32 years			Age 42 years			Age 52 years		
	Women (n = 890)[a]	Men (n = 766)[a]		Women (n = 805)[a]	Men (n = 666)[a]		Women (n = 734)[a]	Men (n = 600)[a]		Women (n = 648)[a]	Men (n = 512)[a]	
	% (n)	% (n)	p[b]	% (n)	% (n)	p[b]	% (n)	% (n)	p[b]	% (n)	% (n)	p[b]
Relationship status			<0.001			0.090			0.003			0.095
Married	8.9 (79)	3.4 (26)		49.4 (397)	46.5 (309)		58.0 (426)	60.2 (361)		59.7 (387)	61.7 (316)	
Cohabiting	29.8 (265)	16.7 (128)		27.6 (222)	26.4 (175)		16.9 (124)	20.0 (120)		14.4 (93)	16.4 (84)	
Dating	32.5 (289)	38.3 (293)		7.3 (59)	8.1 (54)		8.6 (63)	5.5 (33)		7.4 (48)	4.5 (23)	
Single	28.4 (253)	41.5 (318)		12.3 (99)	16.9 (112)		9.4 (69)	11.0 (66)		9.7 (63)	11.1 (57)	
Divorced/widowed	0.4 (4)	0.1 (1)		3.2 (26)	2.1 (14)		7.1 (52)	3.3 (20)		8.8 (57)	6.3 (32)	
Depressive symptoms, mean (SD)	1.9 (3.2)	1.4 (2.8)	<0.001	2.2 (3.2)	1.7 (3.4)	0.010	2.4 (3.6)	1.8 (3.5)	0.003	3.1 (4.1)	2.2 (3.6)	<0.001
Self-esteem, mean (SD)	3.6 (0.7)	3.9 (0.7)	<0.001	3.9 (0.7)	4.1 (0.7)	<0.001	3.9 (0.8)	4.1 (0.7)	<0.001	3.9 (0.8)	4.1 (0.7)	<0.001
Relationship quality, mean (SD)[c]	4.3 (0.7)	4.3 (0.6)	0.485	4.2 (0.8)	4.2 (0.7)	0.415	4.1 (0.8)	4.2 (0.7)	0.017	4.2 (0.8)	4.2 (0.8)	0.570
High-school (yes)	54.3 (483)	43.6 (334)	<0.001	57.0 (458)	44.2 (294)	<0.001	59.9 (437)	44.4 (263)	<0.001	60.7 (392)	49.0 (250)	<0.001
Children (yes)	9.1 (81)	4.1 (31)	<0.001	62.0 (493)	53.7 (351)	0.001	77.4 (568)	74.3 (446)	0.194	81.1(514)	80.4(405)	0.761
Duration of current relationship status, mean (SD)[d]	2.8 (1.6)	2.4 (1.3)	<0.001	5.7 (3.2)	4.8 (2.9)	<0.001	11.2 (6.0)	10.7 (5.6)	0.127	17.4 (8.8)	17.1 (8.4)	0.579
Dissolution of relationship in past 12 months (yes)	23.5 (209)	27.4 (209)	0.075	10.6 (85)	12.2 (81)	0.332	10.0 (73)	7.0 (42)	0.055	4.8 (31)	5.3 (27)	0.696

[a] Due to missing information number of valid cases vary between 886-890 (age 22), 795–804 (age 32), 729–734 (age 42), 634–648 (age 52) in women and between 761-766 (age 22), 654–665 (age 32), 592–600 (age 42), 504–512 (age 52) in men according to measure (excluding relationship quality).

[b] Test of sex difference: Chi-square for categorical/dichotomous and t-test for continuous variables.

[c] Among those married, cohabiting or dating; number with missing information vary between 2-4 in women and 0–3 in men at different ages.

[d] For those single or divorced/widowed coded as mean; at age 22 duration of relationship.

Table 2
Linear regression analyses of relationship status predicting depressive symptoms[a] at different ages among women and men.

Relationship status	Age 22 years		Age 32 years		Age 42 years		Age 52 years	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
	B (SE) p	B (SE) p	B (SE) p	B (SE) p	B (SE) p	B (SE) p	B (SE) p	B (SE) p
Women	n = 878	n = 876	n = 789	n = 780	n = 720	n = 713	n = 636	n = 619
Married (ref)								
Cohabiting	0.09 (0.10) 0.373	0.12 (0.11) 0.284	0.05 (0.07) 0.511	0.06 (0.08) 0.395	0.17 (0.08) **0.047**	0.14 (0.09) 0.110	0.05 (0.10) 0.615	0.00 (0.10) 0.986
Dating	0.05 (0.10) 0.635	0.04 (0.11) 0.736	0.01 (0.12) 0.943	-0.02 (0.13) 0.871	0.28 (0.11) **0.010**	0.25 (0.13) **0.047**	0.07 (0.13) 0.594	0.01 (0.14) 0.971
Single	0.28 (0.10) **0.005**	0.28 (0.12) **0.015**	0.17 (0.09) 0.071	0.17 (0.11) 0.143	0.35 (0.11) **0.001**	0.32 (0.12) **0.007**	0.36 (0.12) **0.002**	0.34 (0.13) **0.009**
Divorced/widowed[b]			0.36 (0.17) **0.033**	0.18 (0.19) 0.348	0.24 (0.12) **0.047**	0.25 (0.13) 0.054	0.16 (0.12) 0.206	0.13 (0.13) 0.310
R Square	0.094	0.108	0.059	0.064	0.087	0.090	0.077	0.083
Men	n = 746	n = 743	n = 651	n = 639	n = 585	n = 577	n = 500	n = 490
Married (ref)								
Cohabiting	0.14 (0.16) 0.357	0.22 (0.18) 0.207	0.23 (0.07) **0.002**	0.25 (0.08) **0.002**	0.14 (0.08) 0.088	0.08 (0.09) 0.391	0.30 (0.10) **0.004**	0.27 (0.11) **0.013**
Dating	0.10 (0.15) 0.524	0.15 (0.18) 0.395	0.36 (0.11) **0.001**	0.42 (0.13) **0.001**	0.27 (0.14) 0.059	0.09 (0.17) 0.600	0.35 (0.18) 0.051	0.24 (0.19) 0.202
Single	0.34 (0.15) **0.022**	0.39 (0.18) **0.027**	0.52 (0.08) **<0.001**	0.60 (0.11) **<0.001**	0.41 (0.11) **<0.001**	0.28 (0.13) **0.032**	0.38 (0.12) **0.001**	0.24 (0.14) 0.093
Divorced/widowed[b]			0.58 (0.21) **0.005**	0.62 (0.22) **0.004**	0.60 (0.18) **0.001**	0.45 (0.19) **0.020**	0.55 (0.16) **0.001**	0.51 (0.17) **0.002**
R Square	0.119	0.131	0.097	0.106	0.079	0.099	0.080	0.085

Model 1: Adjusting for parental divorce, parental SES and depressive symptoms at age 16.
Model 2: Model 1 + education, having children, duration of the current relationship status and dissolution of a relationship during the past 12 months.
 [a] Natural log transformed depressive symptoms variables were used in the analysis.
 [b] Due to the small number of cases (<5), divorced/widowed were excluded from the analyses at age 22.

Table 3
Linear regression analyses of relationship status predicting self-esteem at different ages among women and men.

Relationship status	Age 22 years		Age 32 years		Age 42 years		Age 52 years	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
	B (SE) p	B (SE) p	B (SE) p	B (SE) p	B (SE) p	B (SE) p	B (SE) p	B (SE) p
Women	n = 876	n = 874	n = 787	n = 779	n = 721	n = 714	n = 634	n = 618
Married (ref)								
Cohabiting	0.00 (0.08) 0.995	-0.00 (0.09) 0.974	-0.09 (0.06) 0.121	-0.10 (0.06) 0.115	0.01 (0.07) 0.846	0.01 (0.08) 0.948	-0.01 (0.09) 0.940	0.00 (0.09) 0.983
Dating	-0.00 (0.08) 0.969	0.01 (0.09) 0.935	-0.09 (0.10) 0.382	-0.10 (0.11) 0.342	-0.05 (0.10) 0.611	-0.08 (0.11) 0.464	-0.03 (0.12) 0.814	-0.08 (0.13) 0.518
Single	-0.11 (0.08) 0.189	-0.11 (0.09) 0.244	-0.27 (0.08) **0.001**	-0.28 (0.10) **0.004**	-0.15 (0.09) 0.112	-0.19 (0.10) 0.073	-0.11 (0.10) 0.276	-0.15 (0.12) 0.185
Divorced/widowed[a]			-0.33 (0.15) **0.026**	-0.22 (0.16) 0.188	-0.14 (0.11) 0.201	-0.17 (0.11) 0.143	-0.17 (0.11) 0.130	-0.19 (0.12) 0.108
R Square	0.254	0.258	0.124	0.135	0.124	0.130	0.111	0.120
Men	n = 747	n = 744	n = 644	n = 633	n = 581	n = 573	n = 497	n = 486
Married (ref)								
Cohabiting	0.00 (0.13) 0.983	-0.05 (0.15) 0.741	-0.16 (0.06) **0.011**	-0.16 (0.07) **0.024**	-0.06 (0.07) 0.350	-0.02 (0.07) 0.790	-0.17 (0.09) 0.055	-0.17 (0.09) 0.066
Dating	0.01 (0.13) 0.923	-0.04 (0.16) 0.803	-0.21 (0.10) **0.030**	-0.24 (0.11) **0.032**	-0.12 (0.12) 0.295	-0.02 (0.14) 0.876	-0.11 (0.15) 0.478	-0.09 (0.16) 0.590
Single	-0.22 (0.13) 0.075	-0.28 (0.15) 0.073	-0.52 (0.07) **<0.001**	-0.56 (0.09) **<0.001**	-0.45 (0.09) **<0.001**	-0.37 (0.11) **<0.001**	-0.43 (0.10) **<0.001**	-0.35 (0.12) **0.003**
Divorced/widowed[a]			-0.30 (0.18) 0.088	-0.31 (0.18) 0.092	-0.41 (0.15) **0.006**	-0.38 (0.16) **0.015**	-0.47 (0.14) **0.001**	-0.49 (0.14) **0.001**
R Square	0.199	0.203	0.155	0.164	0.125	0.132	0.137	0.124

Model 1: Adjusting for parental divorce, parental SES and depressive symptoms at age 16.
Model 2: Model 1 + education, having children, duration of the current relationship status and dissolution of a relationship during the past 12 months.
 [a] Due to the small number of cases (<5), divorcees were excluded from the analyses at age 22.

to the control variables in Model 1, education, having children, duration of current relationship status and dissolution of intimate relationship during the last 12 months were added to the fully adjusted model (Model 2). In all analyses, the relationship status "married" was used as the reference category. The group comprising divorcees and widow(er)s was omitted from the analyses at age 22 because there were only five cases in

this category.

In order to address whether relationship quality moderated the association between relationship status and mental well-being, interaction terms between relationship status and relationship quality were analyzed in the unadjusted models and fully adjusted Models 2. All interaction terms with p-value <0.10 were considered potentially relevant.

3. Results

Table 1 presents descriptive statistics of the study variables. At age 22, the most common categories of relationship status were dating and being single, while being married was quite rare (women 8.9%, men 3.4%). At age 32, almost half of the participants were married, and about a quarter were cohabiting. The proportion of marriages increased to 60% at ages 42 and 52, while less than 10% of participants were single, dating or divorced/widowed in these phases. At all ages, women reported more depressive symptoms and lower self-esteem than men. At all ages, the relationship quality (on a scale of 1–5) was rather high (>4) for both men and women. The means of depressive symptoms and self-esteem by different relationship status at different ages can be found in Supplementary Table S1.

Regarding control variables at age 16, 23.8% of the participants reported that their parents had divorced, and percentages of parental socio-economic statuses were 49.8%, 31.2% and 19.1% for manual, lower non-manual and upper non-manual categories, respectively. The mean of depressive symptoms measure at age 16 was 4.1 (SD = 2.8) and of self-esteem 3.6 (SD = 0.9). For other control variables descriptive statistics are given in Table 1.

Results from regression models are shown in Table 2 (depressive symptoms) and Table 3 (self-esteem). For women, being single (with marriage as a reference category) was the only relationship status that was associated with higher depressive symptoms at age 22, while at the age of 32, no relationship status was a risk factor for depressive symptoms in Model 2. The associations of dating and being single with depressive symptoms were significant at the age of 42, while for being divorced the association did not quite reach the level of significance (p = 0.054). Being single was the only relationship status that was significantly associated with depressive symptoms at the age of 52. For men, being single at age 22 was associated with higher depressive symptoms in Model 2 (Table 2). At age 32, all other relationship statuses, compared to marriage, were significant predictors of depressive symptoms. At age 42 being single and being divorced and at age 52 cohabiting and being divorced were associated with depressive symptoms among men.

The relationship status had little effect on self-esteem in women in the adjusted models (Table 3). There was only one significant association between relationship status and self-esteem in Model 2: at age 32, being single was a significant predictor of lower self-esteem. For men, at age 22, there were no significant associations between relationship status and self-esteem, but at age 32, cohabiting, dating and being single were significant predictors of lower self-esteem in Model 2 (Table 3). Being single and being divorced were risk factors for lower self-esteem at ages 42 and 52.

Among those in a relationship (marriage, cohabitation, dating), it was also examined whether relationship quality moderated the association between relationship status and mental well-being. All interaction

Table 4

Regression coefficients of relationship status on depressive symptoms[a] and self-esteem among those with lower and higher levels of intimate relationship quality[b,c].

	Women				Men			
	Unadjusted model		Model 2		Unadjusted model		Model 2	
	Lower quality B (SE) p	Higher quality B (SE) p	Lower quality B (SE) p	Higher quality B (SE) p	Lower quality B (SE) p	Higher quality B (SE) p	Lower quality B (SE) p	Higher quality B (SE) p
Depressive symptoms[a]								
Age 22 years					Cohabitation 0.45 (0.24) 0.062	0.01 (0.16) 0.970	Cohabitation 0.60 (0.29) **0.044**	0.15 (0.17) 0.360
Age 32 years	Dating -0.17 (0.17) 0.329	0.19 (0.14) 0.192			Dating 0.47 (0.17) **0.005**	0.13 (0.12) 0.312	Dating 0.35 (0.19) 0.069	0.15 (0.15) 0.317
Age 42 years			Cohabitation 0.12 (0.11) 0.284	-0.06 (0.13) 0.637				
Age 52 years								
Self-esteem								
Age 22 years								
Age 32 years					Dating -0.39 (0.14) **0.006**	0.05 (0.11) 0.637	Dating -0.21 (0.16) 0.196	0.05 (0.13) 0.710
Age 42 years								
Age 52 years	Cohabitation -0.22 (0.14) 0.109	0.19 (0.12) 0.114						

Model 2: Adjusting for parental divorce, parental SES and depressive symptoms at age 16, education, having children, duration of the current relationship status and dissolution of a relationship during the past 12 months.

[a] Natural log transformed depressive symptoms variables were used in the analysis.

[b] Lower and higher relationship quality categories were split by median.

[c] Only reported for those effects with corresponding interaction term p < 0.10 (see Supplementary Table S4); marriage was used as the reference category.

terms between relationship status and relationship quality on the outcomes with p < 0.10 are reported in Supplementary Table S4. Considering both unadjusted and fully adjusted models, there were nine such interactions, while only the interaction between dating and relationship quality on self-esteem in men at age 32 was significant (p = 0.008) in Model 2. To interpret the interactions, regression coefficients of relationship statuses on the outcomes were estimated separately in the groups with lower and higher (split by median) relationship quality (Table 4). Among 22- or 32-year-old men with lower relationship quality, cohabitation or dating tended to be related mental well-being, while no such associations were observed among men with higher relationship quality.

4. Discussion

The current study examined the association between relationship status and mental well-being in four different life phases during the life course, and whether relationship quality moderated these associations. The study extended prior research by monitoring these associations in one prospective age cohort from young adulthood to middle age, while also taking into account factors in adolescence relevant for selection. Contrary to our expectations the associations between relationship status and mental well-being showed more consistency than variation by age. Being single and being divorced were found to be risk factors for depressive symptoms and lower self-esteem throughout the 30-year-long study period, especially in men. For dating and cohabiting, the associations were more fragmented depending on age and gender. In line with our expectations, we found more associations between relationship status and mental well-being in men than in women. Regarding self-esteem in particular, there were hardly any significant associations between relationship status and self-esteem among women. We found relatively little support for our expectation that relationship quality would moderate the association between relationship status and mental well-being.

Age 22, namely young adulthood, differs from other age stages in our study as at this age marriage – and therefore being divorced – is still relatively rare. At this age, cohabitation, dating, and being single are common and more normative age-related relationship statuses, which was also evident in our study. Compared to marriage, being single was the only risk factor for depressive symptoms in both men and women. Previous studies have also found similar results for depressive symptoms and mental well-being in young adulthood, suggesting that at this age, the legal status or living arrangements of the relationships are not that important. Rather, the mere existence of a romantic relationship is what matters (Simon & Barrett, 2010; Uecker, 2012). Since it is typical to form a romantic relationship at this age (Fincham & Cui, 2010), being left out can be associated with poorer mental well-being. Interestingly, however, in terms of self-esteem, there were no associations with relationship status in either gender at age 22. This is in line with the results of some previous studies that have suggested that being single is more socially acceptable and thus does not jeopardize one's self-esteem in this life phase (Bulloch et al., 2017). However, in this study, the associations were similar in 22-year-old men and women, which contradicts some previous studies showing that the linkage between relationship status and mental well-being is stronger in young women (Simon & Barrett, 2010; Whitton et al., 2013).

At age 32, marriages were much more common compared to age 22, which is consistent with the fact that the average age of entering into the first marriage was 28 years at the time of the data collection (Official Statistics of Finland, 2020a). Thus, entering marriage before one's thirties can, for this cohort, be thought of as age-normative behavior,

and deviating from this can have a negative effect on an individual's mental well-being. A similar train of thought also appears in Elder's Life Course Theory (Elder, 1998) and its principle of 'timing', which postulates that the consequences of life transitions vary according to their timing in a person's life. In our study, marriage appeared to be better than other relationship statuses for mental well-being in 32-year-old men, as all other relationship statuses tended to be associated with an increased risk of depressive symptoms and lower self-esteem. This is in line with study by Rapp and Stauder (2020), which found that in men, only marriage has positive effects on mental health. No similar results were found for women, as no association with depressive symptoms was found in women at this age. These findings are linked to previous studies highlighting the association between marriage and mental well-being among men in particular (Brown et al., 2005; Horwitz et al., 1996). One reason for this may lie in social support, as women report receiving more social support outside of marriage, while men, in turn, report receiving more support from their spouses (Lewin, 2017; Stronge et al., 2019; Umberson et al., 1996). Among women, being single was associated with lower self-esteem at this age and was the only association between self-esteem and relationship status in women regarding all age phases. This association for single women in this cohort may be related to the expectations that exist for those in their thirties, as many get married and start families, and for singles these events might seem quite distant compared to those cohabiting or dating. Overall, however, the results related to self-esteem suggest that women's self-esteem may be built on something other than being married.

By one's forties, most of the age-normative transitions related to family, such as marriage and having children, have already been experienced. Likewise, in our study almost 60% of the participants were married and over 75% had children at age 42. At this age, being divorced and being single were associated with depressive symptoms in men and women, and with lower self-esteem in men. This might be due to the fact that deviating from these age-related expectations or desired timing of marriage can have a negative effect on mental well-being (Carlson, 2012). Another possible explanation for these observations may also lie in economic resources which singles and divorcees tend to have less than those in marriage or cohabitation (Ross, 1995; Wu & Hart, 2002). While some singles and divorcees might be seeking a romantic relationship, moving out of these relationship statuses is not necessarily easy, as forming a relationship at this age, and middle age in general, might be more challenging because most people are already involved in romantic relationships (Bierhoff & Schmohr, 2004; Rapp, 2018).

At age 52, for men, the results hardly changed compared to age 42 – the only change being that cohabitation was also a risk for depressive symptoms. In women, on the other hand, the associations relating to depressive symptoms disappeared at the age of 52 for all but the singles. At this age, divorced women did not differ from married women in terms of mental well-being. This result is similar to finding by Marks and Lambert (1998), who found that in middle age (40–60 years), divorce does not affect mental well-being in the same way as at a younger age. Marks and Lambert suggested that middle-aged people have already developed ways to deal with various life changes and problems that allow better well-being to be maintained, which is why divorce may not affect mental well-being as strongly as at earlier ages. Often at this age, children are grown-up and have already left home, so the process of divorce itself might be easier as issues of parental custody or the children's adjustments are not involved (Williams & Dunne-Bryant, 2006), especially for women, who still often bear the main responsibility for childcare and housework (Sani, 2014). However, it should be noted that in our study, for men, divorce was associated with depressive symptoms and lower self-esteem also in middle age. This is in line with findings by

Jang et al. (2009), who showed that for men, the association between relationship status and mental well-being remained fairly consistent in different age groups, with divorced men reporting more depressive symptoms than married men, while for women the differences between being married and unmarried decreased with age and eventually disappeared. Overall, previous research has found divorce to be more associated with poorer mental well-being in women (Simon, 2002). However, our results indicate that, for men, being divorced was associated with both depressive symptoms and lower self-esteem quite systematically during adulthood, in contrast to women.

A limited number of studies have examined the association between dating and mental well-being (Rapp & Stauder, 2020). Individuals who are dating are usually combined within the same category of relationship status as singles, in which case they have not been studied as a separate relationship status of their own. However, the results of the present study, in line with previous study by Rapp and Stauder (2020), suggest that dating should continue to be studied as a separate category. This was evident in both genders, as being single was a risk factor for depressive symptoms at almost every age, but dating, in turn, was a risk factor only at one age for each gender.

Regarding the moderating role of the relationship quality, some indications were found that in dating and cohabiting men (compared to married men), good relationship quality behaved like a protective factor against depressive symptoms. Overall, however, there were only few significant interactions to suggest a moderating role for the relationship quality. This may be due to the fact that, in the present study, the average relationship quality was already high to begin with. Furthermore, poor marital quality and divorce are usually associated (Williams et al., 2010), i.e. many of those who have had poor marital quality have already been divorced. As all the compared groups in the analyses of moderation had an intimate relationship, there might have been too little variance in the relationship quality measure for any moderating effect to exert its influence.

4.1. Strengths and limitations

The follow-up design enabled us to study the association between five categories of relationship status and mental well-being at four different ages in the same study cohort. In the first data collection, almost the entire age cohort from one municipality was included, with a response rate of 96.7%. Since then, although the data have been collected during a 36-year-long follow-up period, the response rates have remained relatively high. When we analyzed drop-out, male gender and lower school performance in adolescence were significant predictors of non-response, whereas factors considered relevant for selection effects in the present study were not. Furthermore, in their study on the problem of attrition in this study project, Eerola et al. (2005) concluded that attrition did not affect the estimation of depression prevalence at age 22 or 32.

One limitation of the present study is that the data have been collected every ten years, and we did not have comprehensive data available on all possible relationship status changes that could have occurred between the study waves. However, we were able to account for any dissolutions of relationships during the last 12 months, and these likely have a greater impact on mental well-being compared to status changes that have taken place many years earlier. We were also able to account for the time in the present relationship status. Nevertheless, the purpose of this study was not to focus on the transitions or individual life paths, but rather on whether the associations between relationship status and mental well-being appear different across the life course.

We also did not examine the direction of associations between relationship status and mental well-being. However, we were able to take into account selection effects by adding control variables from the baseline study at age 16. Including these selection factors in the analyses had only little effect on the associations between relationship status and mental well-being and most of the statistically significant associations remained as such.

The cohort effect should also be considered in the study. All subjects were born at the same time in the late 1960s. The meaning of relationship status, and marriage in particular, as well as the number of marriages, have changed in different eras. Those born later than this cohort may view marriage differently and it may not play the same role as before. It is therefore possible that some of the results are not applicable to other cohorts.

4.2. Conclusion

Our findings indicate more consistency than age variation in the associations between relationship status and mental well-being. Being single and being divorced were found to be risk factors for depressive symptoms and lower self-esteem quite consistently throughout the 30-year-long study period, especially in men. For dating and cohabiting, the associations were more fragmented depending on age and gender; particularly among women, these relationship statuses tended not to differ from marriage in terms of mental well-being. These findings suggest that the presence of a partner may be more important for mental well-being than the institution of marriage. With regard to depressive symptoms, the results were clearer and stronger, which may be due to the fact that depression is a deviation from the norm (i.e. an illness), while self-esteem taps into individual differences in positive psychological resources. Taken together our observations on mental well-being across five relationship statuses are important in our contemporary society, where the number of marriages is decreasing and other forms of relationships are becoming more common.

Author statement

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Compliance with ethical standards

The study protocol has been approved by the Institutional review broad of the Finnish Institute for Health and Welfare. Participants were informed of the purposes of the study and that participation was voluntary and they indicated their consent by answering the survey questionnaire.

Declarations of competing interest

None.

Appendix

Table S1
Depressive symptoms and self-esteem by relationship status at different ages among women and men.

	Age 22 years		Age 32 years		Age 42 years		Age 52 years	
	Depressive symptoms	Self-esteem	Depressive symptoms	Self-esteem	Depressive symptoms	Self-esteem	Depressive symptoms	Self-esteem
Relationship status	mean (SD)	mean (SD)	mean (SD)	mean (SD)	mean (SD)	mean (SD)	mean (SD)	mean (SD)
Women	n = 887	n = 886	n = 802	n = 801	n = 731	n = 733	n = 648	n = 647
Married	1.5 (2.4)	3.5 (0.7)	1.9 (2.7)	3.9 (0.7)	1.9 (2.9)	3.9 (0.7)	2.6 (3.7)	3.9 (0.8)
Cohabiting	1.8 (2.9)	3.6 (0.7)	2.3 (3.5)	3.8 (0.7)	2.6 (3.5)	3.9 (0.8)	3.0 (4.4)	3.9 (0.9)
Dating	1.6 (3.1)	3.6 (0.7)	2.1 (3.2)	3.8 (0.8)	3.2 (3.9)	3.8 (0.9)	3.8 (5.1)	3.8 (1.0)
Single	2.4 (3.7)	3.5 (0.8)	2.7 (3.8)	3.7 (0.8)	3.8 (5.4)	3.7 (0.8)	4.7 (5.0)	3.7 (0.9)
Divorced/ widowed	5.8 (5.1)	3.0 (0.9)	4.0 (5.0)	3.6 (0.9)	3.6 (4.6)	3.7 (0.9)	3.6 (4.5)	3.8 (0.7)
Men	n = 761	n = 764	n = 663	n = 661	n = 598	n = 597	n = 510	n = 511
Married	0.5 (1.0)	4.0 (0.6)	1.0 (2.3)	4.3 (0.6)	1.3 (2.4)	4.3 (0.6)	1.5 (2.6)	4.2 (0.7)
Cohabiting	1.1 (2.1)	4.0 (0.6)	1.8 (3.3)	4.1 (0.7)	2.0 (4.4)	4.2 (0.7)	2.7 (3.6)	4.0 (0.7)
Dating	1.0 (2.2)	4.0 (0.6)	2.3 (3.3)	4.0 (0.7)	2.3 (3.4)	4.0 (0.8)	3.0 (4.0)	4.1 (0.9)
Single	1.9 (3.6)	3.8 (0.7)	3.3 (4.9)	3.7 (0.9)	3.3 (4.9)	3.7 (0.8)	3.6 (5.6)	3.8 (0.9)
Divorced/ widowed	6 (n/a)[1]	4.1 (n/a)[1]	2.9 (4.2)	3.9 (0.6)	4.5 (5.6)	3.8 (0.8)	4.5 (5.3)	3.7 (1.0)

[1]SD cannot be computed due to only one case in the group.

Table S2
Linear regression analyses of relationship status predicting depressive symptoms[1] at different ages among women and men (unadjusted model).

	Age 22 years	Age 32 years	Age 42 years	Age 52 years
Relationship status	B (SE) p	B (SE) p	B (SE) p	B (SE) p
Women	n = 887	n = 802	n = 731	n = 648
Married (ref)				
Cohabiting	0.07 (0.10) 0.523	0.05 (0.07) 0.446	0.18 (0.08) **0.032**	0.05 (0.10) 0.640
Dating	-0.01 (0.10) 0.928	0.06 (0.12) 0.624	0.37 (0.11) **0.001**	0.16 (0.13) 0.214
Single	0.22 (0.10) **0.032**	0.15 (0.09) 0.099	0.39 (0.11) **<0.001**	0.46 (0.12) **<0.001**
Divorced/widowed[2]		0.43 (0.17) **0.010**	0.35 (0.12) **0.005**	0.17 (0.12) 0.168
R Square	0.014	0.011	0.035	0.025
Men	n = 761	n = 663	n = 598	n = 510
Married (ref)				
Cohabiting	0.18 (0.16) 0.265	0.25 (0.07) **0.001**	0.15 (0.08) 0.065	0.35 (0.10) **0.001**
Dating	0.10 (0.15) 0.520	0.38 (0.11) **0.001**	0.29 (0.14) **0.044**	0.35 (0.18) **0.049**
Single	0.33 (0.15) **0.028**	0.53 (0.09) **<0.001**	0.44 (0.11) **<0.001**	0.39 (0.12) **0.001**
Divorced/widowed[2]		0.55 (0.21) **0.009**	0.60 (0.18) **0.001**	0.65 (0.15) **<0.001**
R Square	0.023	0.068	0.046	0.062

[1] Natural log transformed depressive symptoms variables were used in the analysis.

[2] Due to the small number of cases (<5), divorced/widowed were excluded from the analyses at age 22.

Table S3

Linear regression analysis of relationship status predicting self-esteem at different ages among women and men. (unadjusted model)

Relationship status	Age 22 years B (SE) p	Age 32 years B (SE) p	Age 42 years B (SE) p	Age 52 years B (SE) p
Women	n = 886	n = 801	n = 733	n = 647
Married (ref)				
Cohabiting	0.05 (0.09) 0.606	-0.11 (0.06) 0.067	-0.06 (0.08) 0.467	-0.02 (0.09) 0.826
Dating	0.05 (0.09) 0.564	-0.15 (0.10) 0.138	-0.12 (0.10) 0.227	-0.09 (0.12) 0.454
Single	-0.07 (0.09) 0.448	-0.28 (0.08) **0.001**	-0.19 (0.10) 0.056	-0.17 (0.11) 0.119
Divorced/widowed[1]		-0.34 (0.15) **0.021**	-0.20 (0.11) 0.074	-0.15 (0.11) 0.187
R Square	0.006	0.020	0.009	0.006
Men	n = 764	n = 661	n = 597	n = 511
Married (ref)				
Cohabiting	0.01 (0.14) 0.920	-0.17 (0.07) **0.008**	-0.10 (0.07) 0.160	-0.24 (0.09) **0.008**
Dating	0.06 (0.14) 0.636	-0.25 (0.10) **0.013**	-0.24 (0.12) **0.040**	-0.11 (0.16) 0.477
Single	-0.21 (0.13) 0.114	-0.59 (0.08) **<0.001**	-0.53 (0.09) **<0.001**	-0.49 (0.10) **<0.001**
Divorced/widowed[1]		-0.41 (0.19) **0.030**	-0.49 (0.15) **0.001**	-0.58 (0.13) **<0.001**
R Square	0.037	0.088	0.071	0.072

[1] Due to the small number of cases (<5), divorced/widowed were excluded from the analyses at age 22.

Table S4

Interaction terms between relationship status and relationship quality on depressive symptoms[1] and. self-esteem[2].

	Women		Men	
	Unadjusted model B (SE) p	Model 2 B(SE) p	Unadjusted model B (SE) p	Model 2 B (SE) p
Depressive symptoms[1]				
Age 22 years			Cohabitation -0.40 (0.20) **0.044**	Cohabitation -0.37 (0.20) 0.067
Age 32 years	Dating 0.24 (0.13) 0.071		Dating -0.30 (0.17) 0.075	Dating -0.30 (0.17) 0.067
Age 42 years		Cohabitation -0.15 (0.09) 0.082		
Age 52 years				
Self-esteem				
Age 22 years				
Age 32 years			Dating 0.32 (0.14) **0.026**	Dating 0.36 (0.14) **0.008**
Age 42 years				
Age 52 years	Cohabitation 0.20 (0.10) 0.068			

[1] Natural log transformed depressive symptoms variables were used in the analysis.

[2] Only those terms with p < 0.10 reported; marriage was used as the reference category.

References

Arnett, J. J. (2015). In *Emerging adulthood: The winding road from the late teens through the twenties* (2nd ed.). New York: Oxford University Press.

Beck, A. T., & Beck, R. W. (1972). Screening depressed patients in family practice. A rapid technic. *Postgraduate Medicine, 52*(6), 81–85.

Bell, A. (2014). Life-course and cohort trajectories of mental health in the UK, 1991–2008 – a multilevel age–pedior–cohort analysis. *Social Science & Medicine, 120*, 21–30.

Bierhoff, H.-W., & Schmohr, M. (2004). Romantic and marital relationships. In F. R. Lang, & K. L. Fingerman (Eds.), *Growing together. Personal relationships across the life span* (pp. 103–129). Cambridge University Press.

Braithwaite, S., & Holt-Lunstad, J. (2017). Romantic relationships and mental health. *Current Opinion in Psychology, 13*, 120–125.

Brown, S. L., Bulanda, J. R., & Lee, G. R. (2005). The significance of nonmarital cohabitation: Marital status and mental health benefits among middle-aged and older adults. *Journal of Gerontology, 60B*(1), 21–29.

Bulloch, A. G. M., Williams, J. V. A., Lavorato, D. H., & Patten, S. B. (2017). The depression and marital status relationship is modified by both age and gender. *Journal of Affective Disorders, 223*, 65–68.

Carlson, D. L. (2012). Deviations from desired age at marriage: Mental health differences across marital status. *Journal of Marriage and Family, 74*(4), 743–758.

Carr, D., Freedman, V. A., Cornman, J. C., & Schwarz, N. (2014). Happy marriage, happy life? Marital quality and subjective well-being in later life. *Journal of Marriage and Family, 76*(5), 930–948.

Chapman, B., & Guven, C. (2016). Revisiting the relationship between marriage and wellbeing: Does marriage quality matter? *Journal of Happiness Studies, 17*, 533–551.

Eerola, M., Huurre, T., & Aro, H. (2005). The problem of attrition in a Finnish longitudinal survey on depression. *European Journal of Epidemiology, 20*(1), 113–120.

Elder, G. H., Jr. (1998). The life course as developmental theory. *Child Development, 69* (1), 1–12.

Fincham, F. D., & Cui, M. (2010). Emerging adulthood and romantic relationships: An introduction. In F. D. Fincham, & M. Cui (Eds.), *Romantic relationships in emerging adulthood* (pp. 3–12). Cambridge University Press.

Helbig, S., Lampert, T., Klose, M., & Jacobi, F. (2006). Is parenthood associated with mental health? Findings from an epidemiological community survey. *Social Psychiatry and Psychiatric Epidemiology, 41*, 889–896.

Holt-Lunstad, J., Birmingham, W., & Jones, B. Q. (2008). Is there something unique about marriage? The relative impact of marital status, relationship quality, and network social support on ambulatory blood pressure and mental health. *Annals of Behavioral Medicine, 35*(2), 239–244.

Horwitz, A. V., White, H. R., & Howell-White, S. (1996). Becoming married and mental health: A longitudinal study of a cohort of young adults. *Journal of Marriage and Family, 58*(4), 895–907.

Hsu, T.-L., & Barrett, A. E. (2020). The association between marital status and psychological well-being: Variation across negative and positive dimensions. *Journal of Family Issues.* https://doi.org/10.1177/0192513X20910184

Jang, S.-N., Kawachi, I., Chang, J., Boo, K., Shin, H.-G., Lee, H., & Cho, S.-i. (2009). Marital status, gender and depression: Analysis of the baseline survey of the Korean Longitudinal Study of Ageing (KLoSA). *Social Science & Medicine, 69*(11), 1608–1615.

LaPierre, T. A. (2009). Marital status and depressive symptoms over time: Age and gender variations. *Family Relations, 58*(4), 404–416.

Lawrence, E. M., Rogers, R. G., Zajacoxa, A., & Wadsworth, T. (2019). Marital happiness, marital status, health, and longevity. *Journal of Happiness Studies, 20*, 1539–1561.

Leach, L. S., Butterworth, P., Olesen, S. C., & Mackinnon, A. (2013). Relationship quality and levels of depression and anxiety in a large population-based survey. *Social Psychiatry and Psychiatric Epidemiology, 48*, 417–425.

Lewin, A. C. (2017). Health and relationship quality later in life: A comparison of living apart together (LAT), first marriages, remarriages, and cohabitation. *Journal of Family Issues, 38*(12), 1754–1774.

Marks, N. F., & Lambert, J. D. (1998). Marital status continuity and change among young and midlife adults: Longitudinal effects on psychological well-being. *Journal of Family Issues, 19*(6), 652–686.

Mastekaasa, A. (1992). Marriage and psychological well-being: Some evidence on selection into marriage. *Journal of Marriage and Family, 54*(4), 901–911.

Mckenzie, S. K., & Carter, K. (2013). Does transition into parenthood lead to changes in mental health? Findings from three waves of a population based panel study. *J Epidemoil Community Health, 67*, 339–345.

Mirowsky, J., & Ross, C. E. (2003). *Education, social status, and health: Social institutions and social change.* Aldine de Gruyter.

Mulder, C. H., & Wagner, M. (2010). Union dissolution and mobility: Who moves from the family home after separation? *Journal of Marriage and Family, 72*(5), 1263–1273.

Musick, K., & Bumpass, L. (2012). Reexamining the case for marriage: Union formation and changes in well-being. *Journal of Marriage and Family, 74*, 1–18.

Official Statistics of Finland. (2020a). *Changes in marital status 2019.* Helsinki: Statistics Finland. Referred 20.05.2020. Access method: https://www.stat.fi/til/ssaaty/2019/ssaaty_2019_2020-05-08_tie_001_en.html.

Palosaari, U. K., & Aro, H. M. (1995). Parental divorce, self-esteem and depression: An intimate relationship as a protective factor in young adulthood. *Journal of Affective Disorders, 35*, 91–96.

Pelkonen, M., Marttunen, M., & Aro, H. (2003). Risk for depression: A 6-year follow-up of Finnish adolescents. *Journal of Affective Disorders, 77*, 41–51.

Raitasalo, R. (1995). *Elämänhallinta sosiaalipolitiikan tavoitteena.* Helsinki: Kansaneläkelaitos.

Rapp, I. (2018). Partnership formation in young and older age. *Journal of Family Issues, 39*(13), 3363–3390.

Rapp, I., & Stauder, J. (2020). Mental and physical health in couple relationships: Is it better to live together? *European Sociological Review, 36*(2), 303–316.

Rosenberg, M. (1965). *Society and the adolescent self-image.* Princeton University Press.

Ross, C. E. (1995). Reconceptualizing marital status as a continuum of social attachment. *Journal of Marriage and Family, 57*(1), 129–140.

Sani, G. M. D. (2014). Men's employment hours and time on domestic chores in European Countries. *Journal of Family Issues, 35*(8), 1023–1047.

Sassler, S. (2010). Partnering across the life course: Sex, relationships and mate selection. *Journal of Marriage and Family, 72*(3), 557–575.

Simon, R. W. (2002). Revisiting the relationship among gender, marital status, and mental health. *American Journal of Sociology, 107*(4), 1065–1096.

Simon, R. W., & Barrett, A. E. (2010). Nonmarital romantic relationships and mental health in early adulthood: Does the association differ for women and men? *Journal of Health and Social Behavior, 51*(2), 168–182.

Soulsby, L. K., & Bennett, K. M. (2015). Marriage and psychological wellbeing: The role of social support. *Psychology, 6*, 1349–1359.

Stronge, S., Overall, N. C., & Sibley, C. G. (2019). Gender differences in the associations between relationship status, social support, and wellbeing. *Journal of Family Psychology, 33*(7), 819–829.

Uecker, J. E. (2012). Marriage and mental health among young adults. *Journal of Health and Social Behavior, 52*(1), 67–83.

Umberson, D., Chen, M. D., House, J. S., Hopkins, K., & Slaten, E. (1996). The effect of social relationships on psychological well-being: Are men and women really so different? *American Sociological Review, 61*(5), 837–857.

Umberson, D., Thoomer, M. B., & Williams, K. (2013). Family status and mental health: Recent advances and future directions. In C. S. Aneshensel, J. C. Phelan, & A. Bierman (Eds.), *Handbook of the sociology of mental health* (2nd ed., pp. 405–431). Springer Science + Business Media.

Wadsworth, T. (2016). Marriage and subjective well-being: How and why context matters. *Soc Indic Res, 126*, 1025–1048.

Whitton, S. W., Weitbrecht, E. M., Kuryluk, A. D., & Bruner, M. R. (2013). Committed dating relationships and mental health among college students. *Journal of American College Health, 61*(3), 176–183.

Williams, K., & Dunne-Bryant, A. (2006). Divorce and adult psychological well-being: Clarifying the role of gender and child age. *Journal of Marriage and Family, 68*(5), 1178–1196.

Williams, K., Frech, A., & Carlson, D. L. (2010). Marital status and mental health. In T. L. Scheid, & T. N. Brown (Eds.), *A handbook for the study of mental health, social contexts, theories and systems* (2nd ed., pp. 306–320). Cambridge University Press.

Williams, K., & Umberson, D. (2004). Marital status, marital transitions, and health: A gendered life course perspective. *Journal of Health and Social Behavior, 45*(1), 81–98.

Wu, Z., & Hart, R. (2002). The effects of marital and nonmarital union transition on health. *Journal of Marriage and Family, 64*(2), 420–432.

Zella, S. (2017). Marital status transitions and self-reported health among Canadians: A life course perspective. *Applied Research Quality Life, 12*, 303–325.