In a modern way of life, does marital status influence self-assessed health?

Searching for potential disparities between men and women in the Netherlands

Abstract

This quantitative study aimed to investigate (1) the impact of marital status on individuals' self-assessed health in the Netherlands and (2) whether there are gender differences in this relationship. Additionally, the study explored the potential role of (3) educational attainment and (4) labour-force participation in explaining potential gender differences. Data, "ESS round 10 - 2020. Democracy, Digital social contacts", from 1470 Dutch citizens collected through face-to-face interviews were analyzed using multiple regression. The findings indicate (1) that being married or in a registered partnership does not influence self-assessed health, and (2) there is no difference between men and women in terms of marital status and self-assessed health. Furthermore, (3) educational attainment and (4) labour-force participation cannot provide an indication of any explanation for the difference between men and women in the association between marital status and self-assessed health because no gender difference was discovered. However, after controlling for the impact of labour-force participation, the results show that marital status does have an impact on self-assessed health. Further research is suggested for understanding the impact of paid employment within this relationship.

Introduction

In 1858, a British epidemiologist named William Farr set out to determine the "conjugal condition" of the French people. Farr was one of the first scholarly works to propose that marriage has a health benefit and to identify marital loss as a significant risk factor for poor health. Research indicates that married individuals generally experience longer, happier, and healthier lives compared to those who are unmarried (Parker-Pope, 2010). "Marriage is a healthy estate," Farr concluded. "A single person is more likely to be wrecked on his voyage than two lives joined together in matrimony."

Researchers then continued to investigate the link between marital status and health. Some argue that marriage benefits men's health more than women's, and marital dissolution has a greater negative impact on men's health (Williams & Umberson, 2004). Marriage has been found to be associated with better outcomes for health conditions, such as heart disease, hypertension, and arthritis (Zhang & Hayward, 2006), and men and women who get and stay married are less likely to experience depression (Koball et al., 2010). A Norwegian study concluded that long marriages reduce the risk of dementia. Adults who live with their spouse throughout middle age have the lowest risk of developing dementia. Divorce or remaining single during these years, on the other hand, results in the highest disease rates (Melore, 2023).

In this study, the concept of 'marital status' is used in a broader sense, combining married individuals and those in registered partnerships into one category. Further elaboration on this will be provided later on.

The problem statement

Societal changes, such as increasing divorce rates, women's labour participation, shifting gender roles, same-sex marriage, a rise in educational attainment, growing labour market uncertainties, and changing attitudes toward marriage and cohabitation may alter the link between marital status and health (Liu & Umberson, 2008). Social transitions are an unavoidable part of modern life (Mental Health Foundation, 2010). Women are becoming more financially independent and less reliant on the financial resources that marriage used to offer. The average age of marriage has risen, as has the likelihood of marrying while having a child (Leonard & Eiden, 2007).

This study examines developments occurring in the Netherlands, where these trends are evident, women made up a larger share of the highly educated population than men did. And the number of people participating in the workforce has increased overall and among women in particular (van der Mooren & de Vries, 2021). In the Netherlands, the average age at first

marriage has risen, partly due to the increasing prevalence of unmarried cohabitation before formal marriage (CBS, 2022).

According to some family scholars, these shifts demonstrate how marriage is becoming less popular and valued. Divorce and unmarried cohabitation have also gained acceptance over time (Thornton, 1989; Rijken & Liefbroer, 2011). In recent decades, Dutch residents' attitudes towards cohabitation, marriage, and divorce have become more liberal (Esveldt et al., 2001). Changes in values and norms have contributed to these developments, as have processes such as secularisation, modernisation, emancipation, and individualisation (Lesthaeghe, 2014).

The current study aimed to examine the potential explanatory effects, between men and women, of *labour-force participation and educational attainment* on the relationship between marital *status* and *self-assessed health* among Dutch adults in modern society.

Because this study is not longitudinal, it cannot determine whether the relationship between marital status and health has changed over time.

Scientific and social relevance

Scholars hold divergent views on the health benefits of marriage. Some argue in favour of promoting marriage (Waite & Gallagher, 2000), while others contend that alternatives such as cohabitation and same-sex unions offer similar benefits (Musick & Bumpass, 2006). Examining the relationship between marital status and health can provide insights into individuals' well-being. However, much of the research on this topic might be outdated, and critics suggest that societal changes have led to decreased social support and a sense of belonging (Meadows & Arber, 2015). Traditional gender roles have evolved, and the modern way of life is associated with reduced social connections and negative health outcomes (Mental Health Foundation, 2010). It seems that the changing meaning of marital status has created a gap in the existing literature.

Examining the impact of marital status on health holds significant social value, particularly considering the evolving attitudes toward marriage. Changing family structures pose significant challenges and concerns in modern societies. Analyses of these transitions highlight personal autonomy and individual freedom of choice in family and household formation (Lesthaeghe & Surkuyn, 1988; Stacey, 1990; Thornton, 1989). Public attitudes towards alternative family types, cohabitation, and divorce have become more open and permissive (Axinn et al., 2007; De Coninck et al., 2020). This shift reflects a departure from traditional

views on marriage. Rezai et al. (2023) note that people's attitude toward marriage plays a crucial role in their decision to marry.

Overview of existing literature

Extensive research indicates that marriage positively affects health. Married individuals report better health, lower rates of illness, reduced depression, and increased longevity compared to unmarried individuals (House et al., 1988; Schoenborn, 2004; Wingen & Otten, 2009). Academic studies consistently highlight the health benefits of marriage, while divorce is associated with more health issues (Waite & Gallagher, 2001; Joung, 1997).

Historically, it has been suggested that marriage benefits men's health more than women's, and the negative impact of marital dissolution on health is greater for men (Hemstrom, 1996; Lillard & Waite, 1995; Rogers, 1995; Williams & Umberson, 2004). Marriage offers men advantages such as a healthier lifestyle, emotional support, and physical comfort. Women, on the other hand, often have greater economic resources after marriage, which can benefit their health (Ross et al., 1990). Over time, societal norms and attitudes toward marriage and non-married statuses have changed more for women than for men. This is due to women's increased social and financial advancements, leading to shifts in their views and norms regarding marriage and non-married statuses (Thornton, 1989).

Umberson and Karas Montez (2010) distinguishes three types of social ties that impact health: behavioural, psychosocial, and physiological. Behavioural factors involve how a spouse can influence health behaviours for the better. Psychosocial factors encompass the symbolic meanings associated with marriage and the sense of responsibility to maintain health. Physiological factors related to the positive effects of supportive interactions on cardiovascular and immune functions. Marriage provides protection through socioeconomic reasons, prevention of social isolation, and the ability to monitor and influence each other's health behaviours (Umberson, 1992).

Marital status is believed to influence health through factors such as psychosocial (e.g., psychosocial stress, social and emotional support), material circumstances (e.g., income, economic resources, housing), and health behaviours (e.g., substance use, healthy lifestyle) (Goldman et al., 1995; Lillard & Waite, 1995; Rogers, 1995). The composition of marital status groups has changed over time, with associated sociodemographic characteristics that also affect health (Liu & Umberson, 2008). Controlling for confounding factors like age and education is common when examining the relationship between marital status and health (Waldron et al., 1997).

Theoretical framework

Different theories and models are used to explain the relationship between marital status and health. The 'social causation theory' suggests that marital status influences health, while the 'health selection theory' suggests that health influences marital status (Joung, 1997). Researchers often focus on the 'marital dissolution/stress model' and the 'marital resource model' to explain the causal effect of marital status on health.

The Social Causation Theory

According to the social causation theory, marriage can have a positive impact on health, while being unmarried may have negative health effects (Verbrugge, 1979; Wyke & Ford, 1992). In marriage, social causation occurs when the marital role influences individuals' characteristics and behaviours. Within marriage, social causation can manifest through the promotion of desirable behaviours, such as engaging in family meals with healthy foods, or the limitation of physical activity due to familial obligations (Hanson et al., 2014).

The Health Selection Theory

According to the health selection theory, the higher health status observed in married individuals can be explained by the tendency to select healthier individuals for marriage, while those with poorer health may be less likely to get married (Goldman, 1993). The concept of health being a selection criterion raises the question of why health is used as a determining factor. Two types of selection are discussed in the literature: direct and indirect. Direct selection is based on the individual's health, while indirect selection takes into account other factors associated with health, such as socioeconomic status, education, or alcohol consumption (Goldman, 1993). However, this study does not specifically test the health selection theory.

The Marital Stress Model

The marital dissolution/stress model (also known as the "crisis" model) focuses on the event of marital dissolution rather than marital status itself. The stresses of marital dissolution, according to the crisis model, undermine the health of the divorced, separated, and widowed, resulting in marital status differences in health (Williams & Umberson, 2004). According to this perspective, the health disparity between married and unmarried people is caused by the stress of marital dissolution rather than marriage itself (Booth & Amato 1991; Williams, Takeuchi, and Adair 1992).

The Marital Resource Model

Becker's (1981) marital resource model suggests that as women's education and employment increase, the economic benefits of marriage decline. This is due to changes in household labour division, specialisation between spouses, and economic gains. Economic independence motivates women to leave unhappy marriages, as it affects marital expectations, time together, control over finances and division of household tasks. According to Becker's theory, marriage provides economic resources, social support, and control over health behaviours, but the value of marriage as an economic stability source has declined (Ross et al. 1990; Umberson 1992). Consequently, the positive effects of marriage on health may diminish over time (Teachman et al., 2000; Liu & Umberson, 2008).

The impact of marriage on health varies depending on gender. Previous research, largely conducted decades ago, suggested stronger associations between marriage and men's health. However, societal changes in gender roles, increased female economic independence, and higher levels of education and labour-force participation for women have diminished the benefits of traditional gender division within marriage.

This study

This study examines the potential factors contributing to gender differences in the relationship between marital status and self-assessed health. The increasing participation of women in the labour force and higher educational attainment may help explain these differences. It should be noted that this is not a longitudinal study, the past and modern way of life serve as the context for this research. This study adopts a quantitative approach, utilizing standardized measures and instruments to analyze data from an existing dataset. This ensures consistent measurement and enables reliable comparisons and data analysis (Field, 2017).

Relevant and crucial details

It's important to highlight a key aspect regarding the concept of 'marital status' in this study. As defined by CBS, marital status encompasses the formal status of marriage and registered partnerships. With the growing popularity of cohabitation as an alternative to marriage since the introduction of registered partnerships in 1998, it's noteworthy that this study considers both married individuals and those in registered partnerships within the 'married' category.

Research Questions and Hypotheses

The main research question is "To what extent does marital status influence self-assessed health in the Netherlands, and how do educational attainment and labour-force participation contribute to gender differences in this relationship?"

Sub-question 1: Does educational attainment explain the difference between men and women?

Sub-question 2: Does labour-force participation explains the difference between men and women?

The following hypotheses will be tested based on existing theory and research:

H1: Marital status has a positive effect on Dutch adults' self-assessed health.

H2: Gender moderates the relationship between marital status and self-assessed health.

H3: The main effect changes between marital status and self-assessed health when educational attainment is included as a moderator.

H4: The relationship between marital status and self-assessed health changes when labour-force participation is included as a moderator.
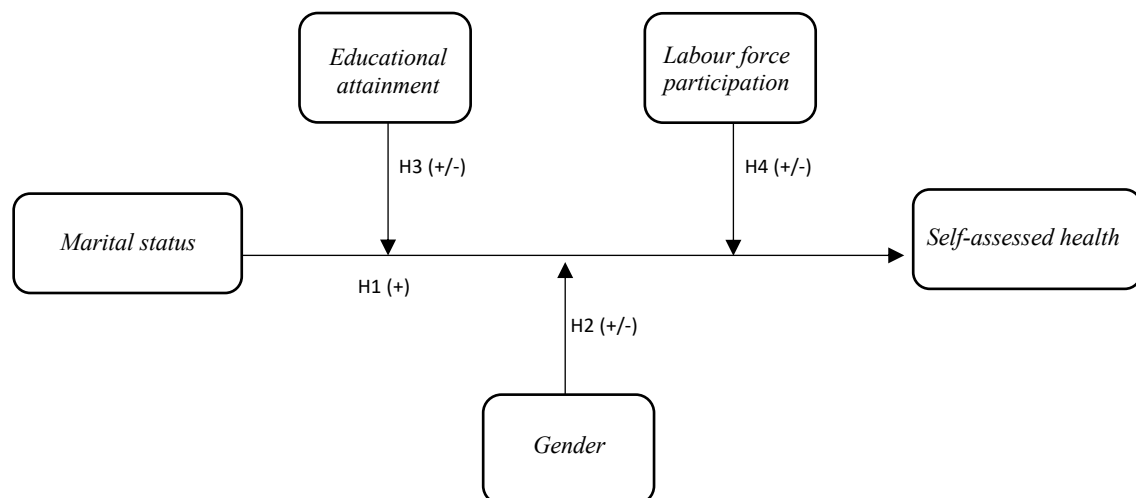
Figure 1: Graphical model

Methods

Participant sample and recruitment

This study utilizes the "ESS round 10 - 2020. Democracy, Digital social contacts" dataset, derived from the European Social Survey (ESS). The ESS is a scholarly survey conducted across 40 nations since 2001. In its tenth round, the ESS covered 32 countries (N = 33351), incorporating inquiries on essential themes from previous rounds. Participants' ages span from 15 to 90, and the response rate in the Netherlands stood at 35.7%.

The survey uses strict random probability sampling, has a high response rate, and follows strict translation protocols. The ESS data is gathered through a one-hour face-to-face interview. The data collection changed to a self-completion (online and paper) due to the COVID-19 pandemic. Both in-person and online interviews were conducted by the Dutch research firm "I&O Research." Another result of the pandemic was that the fieldwork lasted longer than usual. The information was gathered in the Netherlands between 01-10-2021 and 03-04-2022.

Study variables and operationalisation

<u>Dependent variable – self-assessed health</u>

Self-assessed health will be assessed by the question: "How is your overall health? Would you characterise it as..." The question was classified into 5 categories: (1) very good, (2) good, (3) fair, (4) bad, and (5) very bad.

<u>Independent variable – marital status</u>

Marital status will be assessed by the question: "Which (one) of the descriptions on this card best describes your current legal marital status?" This question was classified into 6 categories: (1) Married, (2) In a registered partnership, (3) Divorced, (4) Divorced (after marriage or registered partnership), (5) Widowed (after marriage or registered partnership), and (6) None of the above (NEVER married or in a registered partnership). Marital status is recoded into a dummy variable: (0) legally married or in a legally registered partnership and (1) unmarried counterparts.

<u>Moderators – Gender, Educational attainment, Labour-force participation</u>

Gender acts as a moderator in this analysis. With a difference between (0) men and (1) women.

Educational attainment is assessed by the question: "What is the highest level of education you have attained?" This question was classified into 19 categories. Based on CBS, the education level has been reduced to five categories (Centraal Bureau voor de Statistiek, 2023).

The classification levels are: (1) Basic education, (2) vmbo, mbo1, avo substructure, (3) higher education (havo/vwo) and vocational training (mbo-2, mbo-3, mbo4), (4) bachelor's degree (hbo, wo bachelor), and (5) wo-masters and doctoral programs.

Labour-force participation is assessed by the question: "Doing last 7 days: paid work?" Answer (0) not marked or (1) marked. According to CBS, paid employment refers to work regardless of working hours (Centraal Bureau voor de Statistiek, n.d.-d).

<u>Control variable – Age</u>

The study controls for age due to its correlation with marital status and health (Waldron et al., 1997). The age range of participants is adjusted from 15-90 to 25-75 years. Education level is considered for individuals aged 25 and above, as younger individuals are often still pursuing their education (Centraal Bureau voor de Statistiek, 2023). Data on net employment rates are typically reported for the population up to the age of 75 (Centraal Bureau voor de Statistiek, n.d.-d).

Data management and data analysis approach

To test the different hypotheses in this study the data analysing program SPSS (version 27) is used, with a significance level of $\alpha = .05$. With the dataset narrowed to exclusively contain Dutch people, a final sample size of 1470 Dutch people was obtained. Due to the ordinal level of measurement of educational attainment, the variable is initially centred on the mean. Three interaction terms were created to perform the moderation analyses.

This study has obtained approval from the Ethics Committee of the Faculty of Social and Behavioral Sciences at Utrecht University. The study uses a dataset from the ESS, which follows the Declaration on Ethics of the International Statistical Institute (ISI).

Assumptions

Assumptions for the data were examined using various analyses. Outliers were not found based on the analysis of standard residuals. The linearity assumption was violated based on scatterplot examination. Normality was assessed through histograms and the Kolmogorov-Smirnov test, indicating that variables did not follow a normal distribution. The assumption of collinearity was satisfied, as multicollinearity was not a concern.

Results

Descriptive Statistics

The average age of the participants is 49 years (M = 48.62; SD = 18.50), which is higher than the average population age in the Netherlands, which is 42.4 years (Centraal Bureau voor de Statistiek, n.d.-c). The participants consist of 50.9% males and 49.1% females (M = .49; SD = .50). Most participants (76%) reported being in good health (1; very good, 2; good), with a smaller percentage reporting fair health (19.9%) and poor health (4.1%) (M = 2.09; SD = .77).

Regarding marital status, 52.3% of the participants are married or in a registered partnership (M = .20; SD = .40). In the Netherlands, 45.7% of people who were 15 or older were

married or in a registered partnership in 2020 (Centraal Bureau voor de Statistiek, n.d.-b). Among the participants, the majority (33.6%) hold a bachelor's degree (hbo or wo), while a small percentage (2.2%) completed primary school as their highest level of education (M = 3.34; SD = 1.06). In comparison, the percentage of people in the Netherlands with a high level of education (hbo or wo degree) was 35.5% in 2021 for individuals aged 15 to 75 (van der Mooren & de Vries, 2021). In terms of labour force participation, 72.9% of the Dutch population was engaged in paid work in 2022 (Centraal Bureau voor de Statistiek, n.d.-e). Correspondingly, the majority of participants (72.3%) in this study are in paid employment (M = .66; SD = .48) (See Table 1).

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
Marital Status	954	0	1	.20	.397
Self-assessed health	1470	1	5	2.09	.770
Gender	1470	0	1	.49	.500
Labour-force participation	1470	0	1	.66	.475
Educational attainment	1431	1	5	3.34	1.064
Age	1465	25	75	48.62	18.502
Valid N (listwise)	935				

Correlations

Spearman correlations were employed to examine relationships between variables. Pearson correlations were unsuitable because the variables gender, marital status, and labour-force participation are dichotomous and not normally distributed. Furthermore, because the variables of educational attainment and health have only five response categories, they are classified as categorical rather than continuous variables. A Spearman correlation was also used for this reason. Two-tailed testing was used based on the hypotheses. The Spearman correlation test results for all variables are shown in Table 2.

According to Cohen (1990), correlation coefficients (r_s) around .1 can be considered small, .3 can be considered medium, and .5 can be considered large. The correlation coefficients presented in Table 2 are generally small to medium, indicating that the relationships observed are not strongly related. Marital status and self-assessed health are significantly and positively correlated (r_s = .122, p = <.001). There is a significant correlation between gender and self-assessed health (r_s = .068, p = .009), suggesting an association between gender and individuals' perception of their own health. Similarly, there is a significant correlation between gender and marital status (r_s = .096, p = <.001).

Labour-force participation is significantly and negatively correlated with both self-assessed health (r_s = -.298, p = <.001) and marital status (r_s = -.215, p = <.001). The negative correlation implies that one variable increases while the other variable decreases. Educational attainment is significantly negatively correlated with self-assessed health (r_s = -.195, p = <.001) and marital status (r_s = -.132, p = <.001). Additionally, there is a significant positive correlation between educational attainment and labour-force participation (r_s = .293, p = <.001). These findings suggest that education level is linked to self-assessed health, marital status, and labour force participation. Age shows a significant positive correlation with self-assessed health (r_s = .229, p = <.001) and marital status (r_s = .256, p = <.001). On the other hand, age is negatively correlated with labour-force participation (r_s = -.444, p = <.001) and educational attainment (r_s = -.080, p = .002). These results indicate that age is associated with self-assessed health, marital status, labour-force participation, and educational attainment.

Table 2. Correlations

			1.	2.	3.	4.	5.	6.
Spearman's rho	1. Self-assessed health	Correlation Coefficient	--					
		Sig. (2-tailed)	.					
		N	1470					
	2. Marital status	Correlation Coefficient	.122**	--				
		Sig. (2-tailed)	<.001	.				
		N	954	954				
	3. Gender	Correlation Coefficient	.068**	.096**	--			
		Sig. (2-tailed)	.009	.003	.			
		N	1470	954	1470			
	4. Labour-force participation	Correlation Coefficient	-.298**	-.215**	-.036	--		
		Sig. (2-tailed)	<.001	<.001	.165	.		
		N	1470	954	1470	1470		
	5. Educational attainment	Correlation Coefficient	-.195**	-.132**	-.006	.293**	--	
		Sig. (2-tailed)	<.001	<.001	.832	<.001	.	
		N	1431	938	1431	1431	1431	
	6. Age	Correlation Coefficient	.229**	.256**	-.030	-.444**	-.080**	--
		Sig. (2-tailed)	<.001	<.001	.258	<.001	.002	.
		N	1465	950	1465	1465	1427	1465

**. Correlation is significant at the 0.01 level (2-tailed).

Hypotheses testing – Main effect (H1)

A multiple linear regression analysis was conducted to see if the relationship between marital status (X) and self-assessed health (Y) is moderated by gender, educational attainment, and labour-force participation.

The first model examines the impact of marital status on self-assessed health (X on Y). Marital status contributed non-significantly to the model, $t(947) = 1.923$, $p = .055$. However, age is a significant predictor of self-assessed health, $t(947) = 6.396$, $p = <.001$ (see Table 3).

      Multiple linear regression was calculated to predict self-assessed health based on marital status and age. A significant regression equation was found ($F(2, 947) = 27.441$, $p = <.001$), with an R^2 of 5.5%.

Table 3. Linear Regression Analysis [a]

	B	95% CI	SE	t	*p*
(Constant)	1.489	[1.295, 1.683]	.099	15.076	<.001[*]
Marital status	.124	[-.003, .250]	.064	1.923	.055
Age	.011	[.008, .0.14]	.002	6.396	<.001[*]
R^2	.055				
N	950				

   a. Dependent Variable: Self-assessed health

     Note: CI = confidence interval.   * p = <.05

The findings suggest no link between marital status and self-assessed health in Dutch adults. Being legally married or in a registered partnership does not appear to improve one's perceived health. Therefore, Hypothesis 1 (H1) is rejected based on these results.

Hypotheses testing – gender as a moderator (H2)

To check if the gender moderation effect was significant, a linear regression was performed between marital status and self-assessed health, with gender as a moderator and age controlled for.

Individual predictors were examined and marital status, $t(945) = 1.198$, $p = .231$, was found to be a non-significant predictor of how people think about their health in general. There wasn't a significant interaction found by gender on marital status and self-assessed health, $t(945) = -.194$, $p = .846$. However, gender, $t(945) = 2.532$, $p = .011$, and age, $t(945) = 6.671$, $p = <.001$, are significant predictors of self-assessed health (see Table 4).

Results of the multiple linear regression indicated that there was a significant regression equation ($F(4, 945) = 15.662$, $p = <.001$), with a variance of 6.2%.

Table 4. Linear Regression Analysis [a]

	B	95% CI	SE	t	*p*
(Constant)	1.393	[1.186, 1.600]	.106	13.194	<.001[*]
Marital status	.116	[-.074, .306]	.097	1.198	.231
Gender	.140	[.032, .249]	.055	2.532	.011[*]
Gender * Marital status	-.024	[-.272, .223]	.126	-.194	.846
Age	.012	[.008, .015]	.002	6.671	<.001[*]
R^2	.062				
N	950				

   a. Dependent Variable: Self-assessed health

      Note: CI = confidence interval.   * p = <.05

The second hypothesis (H2) proposed a gender difference in the association between marital status and self-assessed health. However, the analysis found no significant differences to support this distinction. The analysis revealed no evidence of a moderating effect, leading to the rejection of this hypothesis based on the current findings.

Hypotheses testing – educational attainment as a moderator (H3)

A linear regression analysis was conducted to examine the relationship between marital status and self-assessed health. Educational attainment was considered as a moderator, and age was controlled to explore any potential gender differences. However, no gender difference was found, indicating that educational attainment does not explain the disparity between men and women in the relationship between marital status and self-assessed health.

After controlling for the moderator educational attainment, the relationship between marital status and self-assessed health remains non-significant, $t(930) = 1.414$, $p = .158$. However, educational attainment, $t(930) = -3.496$, $p = <.001$, and age, $t(930) = 4.900$, $p = <.001$, are significant predictors of how people think about their health in general. The interaction effect of educational attainment is not significant, $t(930) = -.727$, $p = .467$ (see Table 5).

A significant regression equation was found ($F(4, 930) = 18.159$, $p = <.001$), with an R^2 of 7.2%.

Table 5. Linear Regression Analysis [a]

	B	95% CI	SE	t	*p*
(Constant)	1.606	[1.405, 1.806]	.102	15.747	<.001*
Marital status	.096	[-.037, .230]	.068	1.414	.158
Educational attainment	-.095	[-.148, -.042]	.027	-3.496	<.001*
Educational attainment * Marital status	-.042	[-.154, .071]	.057	-727	.467
Age	.009	[.005, .012]	.002	4.900	<.001*
R^2	.072				
N	935				

a.   Dependent Variable: Self-assessed health

Note: CI = confidence interval.   * p = <.05

The third hypothesis (H3) posited that the inclusion of educational attainment would alter the relationship between marital status and self-assessed health. However, after controlling for the moderator, the main effect remains nonsignificant (from $p = .055$ to $p = .158$). Based on the current findings, this hypothesis is rejected.

Hypotheses testing – labour-force participation as a moderator (H4)

To examine if the relationship between marital status and self-assessed health is influenced by labour-force participation, a linear analysis was conducted, controlling for age. Labour-force participation cannot provide an indication of any explanation for the difference between men and women in the association between marital status and self-assessed health because no gender difference was discovered.

The relationship between marital status and self-assessed health is significant after controlling for the moderator labour-force participation, $t(945) = 2.333$, $p = .020$. Labour-force participation is a significant predictor of self-assessed health, $t(945) = -5.892$, $p = <.001$. In contrast, the interaction effect of labour-force participation is not significant, $t(945) = -1.845$, $p = .065$. Finally, age had no significant impact on the model, $t(945) = .807$, $p = .420$ (see Table 6).

Results of the multiple linear regression indicated that there was a significant regression equation, $(F(4, 945) = 27.776, p = <.001)$, with an R^2 of 10.5%.

Table 6. Linear Regression Analysis [a]

	B	95% CI	SE	t	*p*
(Constant)	2.264	[1.970, 2.559]	.150	15.093	<.001[*]
Marital status	.194	[.031, .358]	.083	2.333	.020[*]
Labour-force participation	-.404	[-.539, -.270]	.069	-5.892	<.001[*]
Labour-force participation * Marital status	-.231	[-.476 .015]	.125	-1.845	.065
Age	.002	[-.002, .006]	.002	.807	.420
R^2	.105				
N	950				

a. Dependent Variable: Self-assessed health

Note: CI = confidence interval.   * p = <.05

After including labour-force participation as a moderator and controlling for its influence, the relationship between marital status and self-assessed health did show a significant change, supporting hypothesis 4 (H4). The significance level shifted from $p = .055$ to $p = .020$. Based on these findings, it can be concluded that this hypothesis is supported.

In summary, hypotheses 1, 2, and 3 were rejected in this study, while hypothesis 4 was supported. However, it's important to note that hypothesis 4 cannot be an indication to explain the gender differences since no significant gender difference was found in this study.

Discussion

This study sought to address the following research question: *"To what extent does marital status influence self-assessed health in the Netherlands, and how do educational attainment and labour-force participation contribute to gender differences in this relationship?"*

Surprisingly, in this study being married or in a registered partnership did not influence individuals' perception of their own health, contradicting previous research (see, e.g., Hemstrom 1996; Lillard & Waite 1995; House et al., 1988;).

Furthermore, the findings of this study indicate that there is no difference between men and women regarding marital status and self-assessed health. This contradicts claims made by Becker (1981) and many researchers (see, e.g., Williams & Umberson, 2004; Ross et al., 1990) that marriage is better for men's health than for women's.

Additionally, the study looked into whether educational attainment and labour-force participation could explain the difference between men and women. Educational attainment and labour-force participation cannot provide an indication of any explanation for the difference between men and women in the association between marital status and self-assessed health because no gender difference was discovered. It was expected that after controlling one or both moderators, the gender difference disappeared.

However, controlling for labour-force participation reveals that marital status does have an impact on self-assessed health. The role of paid work in this association requires further investigation to better understand its influence.

Despite the fact that this wasn't a longitudinal study, the results might be interesting. These results differ from what previous research has discovered. The diminishing importance of marriage can be attributed to women's increasing economic independence, which has historically played a significant role in marriages but has lost its significance among younger generations. The welfare state grew in size beginning in the 1960s. The government gradually began to ensure that everyone received a minimum subsistence income. The introduction of the General Assistance Act in 1965 was one of the most significant changes to the social security system in the case of divorce (Sebrechts et al., 2021; Van den Akker, 1984). Following the implementation of the law in 1971, divorced women who were not employed became eligible for benefits,

thereby reducing their economic dependence on their former partners (Fokkema & Liefbroer, 2015).

Strengths and limitations

The European Social Survey (ESS) has established itself as the leading source of information on evolving social values in Europe by employing meticulous methods including probability sampling, question-testing, and response rate enhancement. The use of a large sample size enhances the representativeness of the sample, as it includes a greater number of elements and captures a wider range of variation within the population.

The study combines sociology and psychology approaches to gain a comprehensive understanding of the relationship between marital status and self-assessed health. Sociology investigates social structures and inequalities, frequently considering marital status (see, e.g., McGee, 2014; Phillips, 2015; Danigelis & Pope, 1979), while psychology focuses on individuals' perceptions and behaviours and their impact on mental well-being.

However, it is important to note that this study is not longitudinal, definitive conclusions cannot be drawn and statements should be taken with caution. Furthermore, the absence of official scales for measuring the variables poses a limitation to the study. Certified scales have the advantage of being widely tested. Because only one item is used for each variable, Cronbach's alpha could not be tested. External validity, which determines the generalizability of study findings to other populations or contexts (Andrade, 2018), may be limited in this case due to the absence of a validated scale.

Furthermore, the data was gathered between 01-10-2021 and 03-04-2022. Given the potential impact of the COVID-19 pandemic on attitudes and behaviours, the timing of the fieldwork conducted during this round becomes particularly crucial. The crisis has led to a significant rise in job insecurity for many individuals.

Given the rise in unmarried relationships and non-formalized cohabitation arrangements, it is important to recognize that not all of these relationship forms are officially recognized as marital status categories. The absence of these groups could limit the generalizability of the findings, thus impacting the external validity of the study.

Implications and recommendations

This study contributes to scientific knowledge about the gender differences in marital status and self-assessed health, aligning with government efforts for gender equality (Centraal Bureau voor de Statistiek, 2022).

The decline of marriage as a societal institution and the rise of unmarried cohabitation reflect changing norms and values. By studying how people look toward marriage, researchers can gain insights into cultural, social, and generational shifts in attitudes and expectations. These insights are valuable for understanding broader trends and changes in relationship patterns, family structures, and the role of marriage in society. This can be done through qualitative research.

Self-assessed health and marital status are correlated. Potentially supporting Health Selection Theory, even if it was not the study's goal. After an additional analysis using self-assessed health as a predictor, because the link with marital status as a predictor could not be established, a relationship was discovered. More research will be required to determine whether the health selection theory is accurate.

Variables like religiosity and psychological characteristics, could potentially influence both marital status and health outcomes, although they are often not accounted for in studies (Fu and Goldman, 1996; Waldron and Lye, 1989). Additionally, the assessment of self-assessed health now relies on a single item, warranting exploration into the disparities between individuals' objective and subjective health perceptions. It would also be valuable to investigate the potential gender differences in metabolic, cardiovascular, and physical health. Further research should aim to examine the effects of these factors to gain a more comprehensive understanding of their impact.

Furthermore, this study solely focused on individuals who were legally married or in a legally registered partnership, overlooking the increasing prevalence of unmarried relationships and alternative forms of cohabitation that lack formal contracts. This raises questions about whether the formal contract itself provides economic security or if it is primarily driven by the emotional connection between individuals.

To further investigate these matters, future research should encompass a broader range of marital status groups and delve into women's economic (in)dependence. Exploring the factors behind this and understanding whether women can experience reduced economic dependence would be valuable. Conducting a qualitative study would provide insights into the underlying predictors. The absence of a relationship between marital status and self-assessed health found in this study adds support to the findings of the qualitative study, providing a solid research foundation.

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Syntax

* Encoding: UTF-8.
DATASET ACTIVATE DataSet1.
FILTER OFF.
USE ALL.
SELECT IF (cntry = 'NL').
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (agea >= 25 & agea <= 75).
EXECUTE.

RECODE edlvenl (2=1) (3 thru 5=2) (6 thru 11=3) (13 thru 16=4) (17 thru 18=5)
(ELSE=SYSMIS) INTO
    opleidingsnvo.
EXECUTE.

RECODE maritalb (1 thru 2=0) (3 thru 5=1) INTO maritalst.dummy.
EXECUTE.

DATASET ACTIVATE DataSet1.
RECODE gndr (1=0) (2=1).
EXECUTE.

COMPUTE geslacht_burgst=gndr * maritalst.dummy.
EXECUTE.

COMPUTE arbeidpart_burgst=pdwrk * maritalst.dummy.
EXECUTE.

COMPUTE Opl_C=opleidingsnvo - 3.48.
EXECUTE.

```
COMPUTE opleid_burgst_C=Opl_C * maritalst.dummy.
EXECUTE.


DATASET ACTIVATE DataSet1.
DESCRIPTIVES VARIABLES=maritalst.dummy health gndr pdwrk opleidingsnvo agea
  /STATISTICS=MEAN STDDEV MIN MAX SEMEAN.


NONPAR CORR
  /VARIABLES=health maritalst.dummy gndr pdwrk opleidingsnvo agea
  /PRINT=SPEARMAN TWOTAIL NOSIG LOWER
  /MISSING=PAIRWISE.


REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT health
  /METHOD=ENTER maritalst.dummy agea.


REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT health
  /METHOD=ENTER maritalst.dummy agea gndr geslacht_burgst.


DATASET ACTIVATE DataSet1.
USE ALL.
COMPUTE filter_$=(gndr = 0).
```

VARIABLE LABELS filter_$ 'gndr = 0 (FILTER)'.

VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.

FORMATS filter_$ (f1.0).

FILTER BY filter_$.

EXECUTE.

REGRESSION

  /DESCRIPTIVES MEAN STDDEV CORR SIG N

  /MISSING LISTWISE

  /STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE

  /CRITERIA=PIN(.05) POUT(.10)

  /NOORIGIN

  /DEPENDENT health

  /METHOD=ENTER maritalst.dummy agea.

USE ALL.

COMPUTE filter_$=(gndr = 1).

VARIABLE LABELS filter_$ 'gndr = 1 (FILTER)'.

VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.

FORMATS filter_$ (f1.0).

FILTER BY filter_$.

EXECUTE.

DATASET ACTIVATE DataSet1.

REGRESSION

  /DESCRIPTIVES MEAN STDDEV CORR SIG N

  /MISSING LISTWISE

  /STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE

  /CRITERIA=PIN(.05) POUT(.10)

  /NOORIGIN

  /DEPENDENT health

  /METHOD=ENTER maritalst.dummy pdwrk arbeidpart_burgst agea.

REGRESSION

/DESCRIPTIVES MEAN STDDEV CORR SIG N

/MISSING LISTWISE

/STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE

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