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Article

Association of partner, parental, and employment statuses with self-rated health among German women and men



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ABSTRACT

The association of partner, parental, and employment statuses with health is usually discussed in terms of either the multiple role burden hypothesis or the multiple role attachment hypothesis. The first hypothesis states that combining work and family roles increases the burden of responsibility, which in turn increases the pressure and stress associated with competing roles, leading to poorer health. The multiple role attachment hypothesis argues that multiple responsibilities provide attachment to broader networks, which then provide social support and resources that enhance health.

We analyzed pooled data from the German Health Update carried out by the Robert Koch Institute in 2009, 2010, and 2012. The data were collected by computer-assisted telephone interviews. The sample comprised 28,086 people aged 30–54 years. The data were assessed with logistic regression analysis and interaction models. The gender-differentiated analysis of partnership, parenthood, and employment, after adjusting for social and demographic characteristics, revealed small interaction effects among all three social roles with self-rated health in women and men.

Non-employment showed the strongest relationship with poor self-rated health. It was significantly associated with lower self-rated health in both men and women in most of the family arrangements. These associations were higher in men than in women. Furthermore, in all family arrangements, female part-time employees were as healthy as female fulltime employees. A more subtle association was found in men: the odds of reporting poorer self-rated health were greater among non-parents employed part time than among those employed full time, but lower than among those who were non-employed. Among fathers, part-time employees did not have statistically better health than full-time employees. The findings support somewhat the multiple role attachment hypothesis, rather than the multiple role burden hypothesis. Because employment has great importance for both women's and men's health, the compatibility of work and family roles should be improved.

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1. Introduction

Partner, parent, and employee are the three main social roles occupied by middle-aged individuals. Profound changes in family and employment patterns have occurred in Germany during the last few decades. Pluralization of living arrangements is demonstrated by increasing rates of single-person households, cohabitation, same-sex unions, lone-parent families, and decreasing birth rates. In 2013, 14.0% of women and 24.2% of men aged 30–54 years were living in single-person households. Additionally, 21.4% of women and 19.6% of men in this age group were living with partners but without children, whereas 50.1% of women and 47.1% of men were living with their partners and children. The

percentage of single parents from all persons aged 30–54 years was 11.1% among women and 1.6% among men (Federal Statistical Office of Germany, 2015). Furthermore, there has been a significant increase in employment among women. In 2013, the employment rate for men aged 30–54 was 89.4%, and that for women was 79.2%. Whereas only 6.2% of men aged 30–54 work part time, more than half of women do (52.0%) (Federal Statistical Office of Germany, 2014). Thus, both women and men commonly play multiple roles.

The association between health and fulfilling multiple roles, such as living with a partner, having children, and being active in the labor market, is generally discussed from the viewpoint of two contrary hypotheses: the multiple role burden and multiple role attachment hypotheses (Benzeval, 1998; Hewitt, Baxter, & Western, 2006). The multiple role burden hypothesis states that combining work and family roles increases the burden of responsibility, especially for women; this, in turn, increases the pressure and stress associated with competing roles and

Abbreviations: GEDA, German Health Update; SRH, Self-rated health

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eventually has a negative impact on health. Multiple roles may create role conflicts or role overload owing to time and energy limitations, resulting in stress and poor health. Alternatively, the multiple role attachment hypothesis argues that multiple responsibilities provide attachment to broader networks and communities that provide people with social support, resources, self-esteem, social ties, and obligations that enhance health (Barnett & Hyde, 2001).

The associations of partner, parental, and employment statuses with health have been widely studied. With respect to each individual role, numerous studies have reported positive associations among partnership/marriage, employment, and health, whereas the relationship between parenthood and health is less clear.

Various studies have found that married persons are healthier and live longer than do single, divorced, or widowed persons (Clouston & Quesnel-Vallée, 2012; Helmert & Shea, 1998; Hu & Goldman, 1990; Joung, van de Mheen, Stronks, van Poppel, & Mackenbach, 1994; Joutsenniemi et al., 2006; Lindstrom, 2009). Findings for cohabitation are less clear than those for marriage (Artazcoz, Cortès, Borrell, Escribà-Agüir, & Cascant, 2011; Hewitt et al., 2006). Whereas some research has shown that men receive greater health benefits from marriage than do women (Hu & Goldman, 1990; Ross, Mirowsky, & Goldstein, 1990), other studies have found no gender differences (Hewitt et al., 2006; Muhammad & Gagnon, 2010; Umberson, Williams, Powers, Liu, & Needham, 2006).

Numerous investigations have confirmed that employment is a major determinant of health and life expectancy (Floderus, Hagman, Aronsson, Marklund, & Wikman, 2009; Popham, Gray, & Bamba, 2012; Roos, Burström, Saastamoinen, Lahelma, 2005; Roos, Lahelma, Saastamoinen, & Elstad, 2005). A high risk for poor health is associated, not only with unemployment, but also with inactivity in the labor market (e.g., homemakers) (Floderus et al., 2009; Roos, Lahelma et al., 2005). In men, employment is associated with good health particularly for those employed full time; in women, however, this association is less pronounced (Elstad, 1996; Floderus et al., 2009; Fokkema, 2002; Roos, Lahelma et al., 2005; Schoon, Hansson, & Salmela-Aro, 2005).

With regard to the association between parenthood and health, some studies have reported positive associations (Fokkema, 2002; Helmert & Shea, 1998; Martikainen, 1995; Sachs-Ericsson & Ciarlo, 2000) or negative associations (Evenson & Simon, 2005; Floderus et al., 2009; Waldron, Weiss, & Hughes, 1998), and other studies have found no associations at all (David & Kaplan, 1995; Hibbard & Pope, 1993; Ross et al., 1990). Substantial gender-related differences have also been reported (Muhammad & Gagnon, 2010).

Most analyses of the effects of partner, parental, and employment statuses on health have shown complex interactions among the three roles. However, the results vary strongly according to the studied outcomes or measures used for partnership (marital status or whether living with a partner), parenthood (e.g., living together with children in one household, biological parents, number of children, and age of the children), and employment (whether employed, number of paid working hours, and activity in labor market). Furthermore, to explore the associations among these multiple roles, some studies have analyzed the effects of their interactions (Fokkema, 2002; Hewitt et al., 2006; Martikainen, 1995; Muhammad & Gagnon, 2010; Roos, Lahelma et al., 2005; Sachs-Ericsson & Ciarlo, 2000; Waldron et al., 1998), whereas other studies have analyzed the effects of the number of roles (Ahrens & Ryff, 2006; Janzen & Muhajarine, 2003; Lee & Powers, 2002).

Most research on multiple roles has focused on women. Women engaged in all three roles (partner, mother, and employee) reportedly have the lowest mortality rates (Martikainen, 1995) and are more likely to report good SRH (Janzen & Muhajarine, 2003)

than women engaged in one or two of these roles. Multiple roles are also reportedly associated with a lower rate of psychiatric disorders, whereas single motherhood is associated with a higher rate of psychiatric disorders (Sachs-Ericsson & Ciarlo, 2000). According to Fokkema (2002), the positive association of the three roles with health is especially pronounced in part-time working mothers and mothers with older children. By contrast, Floderus et al. (2009) reported a higher risk of poor SRH among employed mothers than among employed women without children. The risk of poor SRH increased among employed mothers as the number of children increased, and the risk was higher among women working 40 or more hours per week. Hewitt et al. (2006) also found evidence for the multiple role burden hypothesis: the combination of full-time employment and parenthood had a negative impact on women's health, but the combination of part-time employment or non-employment with parenthood was beneficial for health. Khlal, Sermet, & Le Pape (2000) showed that each role separately was positively associated with women's health but that the association between combined roles and health was very heterogeneous according to income level. Additionally, the effect of multiple roles seems to vary according to life stage. Whereas, among middle-aged women, multiple roles were associated with higher SRH, among younger and older women, higher SRH was associated with single-role status (Lee & Powers, 2002).

Fewer studies have explored the impact of multiple roles on health in men. While some studies have found that combining roles has no effect on men's health (Hewitt et al., 2006), others have reported a positive association between multiple roles and health (Ahrens & Ryff, 2006; Kuntsche, Knibbe, & Gmel, 2009; Sachs-Ericsson & Ciarlo, 2000). Janzen and Muhajarine (2003) found that older men occupying three roles had better SRH than did men occupying one or two social roles. Roos, Lahelma et al. (2005) and Hewitt et al. (2006) found that men exhibited a strong association between non-employment and poor SRH that was not influenced by marital or parental status. Similarly, Schoon et al. (2005) found that men reported an especially high degree of life satisfaction in association with full-time employment. Unemployed men and men working 48 h or more per week had mental health problems more frequently than full-time employed men working fewer hours, regardless of partner and parental statuses (Kroll, Müters, Rattay, & Lampert, accepted for publication).

The above-described results are mostly based on the assumption that partner, parental, and employment statuses influence the health status of men and women. However, there may be important selection effects other than the effect of social causation (Benzeval, 1998; Wyke & Ford, 1992). For example, the health selection theory holds that, compared with healthy people, unhealthy people are less likely to get partnered or married, more likely to experience marital breakdown, and less likely to remarry (Wyke & Ford, 1992). Unhealthy people are also less likely to have children and work full time (Benzeval, 1998; Fokkema, 2002).

In summary, there is evidence that associations between partner, parental, and working statuses, on the one hand, and health, on the other, may differ by gender and age. Significant differences also exist among countries (e.g., Lahelma, Arber, Kivelä, & Roos, 2002; Roos, Lahelma et al., 2005), which may be due to cultural differences or patterns and norms regarding the combination of the three social roles. To our knowledge, no studies in Germany have analyzed the association of partner, parental, and employment statuses with SRH.

In the present study, we closely investigated the associations between SRH and social role statuses (i.e., having children, living with a partner, and being employed) among German men and women. SRH is a person's subjective evaluation of his or her general health and is an established health measure instrument

that is simple and easy to administer (Bombak, 2013). SRH is a valid and powerful predictor of mortality and morbidity (Ferraro & Yu, 1995; Idler & Benyamini, 1997) and a better measure than any other combination of objective and self-reported measures investigated to date (Picard, Juster, & Sabiston, 2013). When answering the question, “How is your general state of health?”, respondents consider many aspects of their health status (McCullough & Laurenceau, 2004; Simon, De Boer, Joung, Bosma, & Mackenbach, 2005), such as physical health problems, functional capacities, health behaviors, and psychological aspects (Idler, Hudson, & Leventhal, 1999; Krause & Jay, 1994). Low psychological well-being and negative emotional states are reportedly associated with lower SRH (Benyamini, Idler, Leventhal, & Leventhal, 2000).

The present study focused on the associations between self-rated health (SRH) and social roles; how parental, partner, and employment statuses interact in the relation with SRH; and differences in these associations between men and women.

2. Methods

2.1. Data

We pooled the 2009, 2010, and 2012 data from the German Health Update (GEDA), a study carried out by the Robert Koch Institute on behalf of the German Federal Ministry of Health (Lange et al., 2015). Each GEDA round was approved by The Federal Commissioner for Data Protection and Freedom of Information, and verbal informed consent was obtained in advance from all participants. The GEDA is a regular telephone survey conducted among a nationally representative sample of German-speaking adults who live in private households and have a landline phone connection (Robert Koch-Institut, 2011, 2012; Lange et al., 2015). Data were collected using computer-assisted telephone interviews. The whole sample comprised 62,606 respondents aged 18 years and older. The respondent cooperation rates, based on all contacted target subjects in 2009, 2010, and 2012, were 51.2%, 55.8%, and 76.7%, respectively (Lange et al., 2015). For the present study, we limited the sample to respondents aged 30–54 years. Evidence of inconsistency in the measure of household membership led to omission of two respondents, resulting in a sample of 28,883 people. For the current analysis, we also excluded students and people in retirement owing to illness, which limited the sample to 28,086 individuals.

2.2. Measures

2.2.1. Outcome variable

We measured SRH with the question, “How is your general state of health? Is it very good, good, fair, poor, or very poor?” The respondents' answers were grouped into two categories: “very good/good” and “fair/poor/very poor.” For simplicity, these groups are hereafter termed “good” and “fair/poor.”

2.2.2. Predictors

We included two different measures of children in the household. The first was a variable indicating the presence of any children in the household younger than 18 years (yes/no). We did not differentiate among the respondents' own children, adopted children, or stepchildren. We also did not consider the respondents' own children living in other households at the time of the interview. The dichotomous categories are termed “parent” and “non-parent” hereafter. The second measure of children in the household was the presence of preschool-aged children (aged 6 years or younger); this variable was also dichotomized (yes/no).

To measure partner status, we built a variable with two categories indicating whether the person was living with a partner in

the household or not. We did not differentiate either between married and cohabiting or among never married, divorced, and widowed. For simplicity, the two groups are hereafter termed “non-partnered” and “partnered.”

For measurement of employment status (self-defined) (Eurostat, 2016), we differentiated among “employed full time,” “employed part time,” and “non-employed.” The category “non-employed” includes unemployed individuals and homemakers. We excluded students and pensioners from the sample. This category is highly gendered; the majority (62%) of men in the non-employed category were looking for a job, compared with only a small minority (12%) of women.

2.2.3. Control variables

Age was included in the models as a categorical variable divided into five groups: 30–34; 35–39; 40–44; 45–49; 50–54. Socio-economic status was calculated using a scale, based on level of education, household income, and professional status, with possible scores between 3 and 21 points (Lampert & Kroll, 2009). For the analysis, the scores were categorized as ‘low’, ‘middle’, and ‘high’. Additionally, we introduced a control variable to measure whether the individuals had been unemployed in the last five years owing to illness. The inclusion of this variable should account for the potential selection effect between unemployment and fair/poor health.

2.3. Statistical analysis

We conducted descriptive analyses for people who rated their health status as fair/poor; we then performed logistic regression analyses for the same outcome. All models were stratified by sex. We performed interactions with the intention of disentangling the joint influences of partnership, parenthood, and employment on SRH among men and women in Germany. The results of the logistic regression analyses are presented in two tables, one each for men and women. Each table shows five models. Model 1 is the full model, which includes the main effects for all variables without any interactions. Model 2 includes the interaction between parental and partner statuses, Model 3 includes the interaction between partner and employment statuses, and Model 4 includes the interaction between parental and employment statuses. Finally, Model 5 includes the three-way interaction among parental, partner, and employment statuses. All results were adjusted for age, socioeconomic status, and unemployment in the last five years owing to illness. Weighting factors were used to minimize biases due to sampling design and nonresponse and to adjust the sample iteratively according to sex, age, education, and federal state (Lange et al., 2015). The analyses were conducted with StataSE 13 statistical software (StataCorp, College Station, TX, USA) using the survey (svy) module. Statistical significance in the descriptive analysis was determined using 95% confidence intervals, whereas that in the multivariate analysis was determined using p values ($p < 0.05$).

3. Results

3.1. Descriptive statistics

Table 1 shows the basic demographic characteristics in men and women and the percentages of respondents reporting fair/poor SRH. Of all the respondents, 20.3% ($n=5026$) reported fair/poor health (21.0% of women and 19.7% of men). Both men and women more often assessed their health as fair/poor with increasing age (about 28% of people aged 50–54 years).

Women and men with children reported poorer health significantly less often than did those without children.

Table 1
Sample structure and weighted prevalence of fair/poor self-rated health, stratified by sex (N = 28,086).

Variable	Women			Men		
	N (total sample)	Fair/poor SRH (%)	95% CI	N (total sample)	Fair/poor SRH (%)	95% CI
Total	15,724	21.0	20.2–21.8	12,338	19.7	18.8–20.7
Age in years						
30–34	2412	15.2	13.4–17.1	1802	13.7	11.7–16.0
35–39	2758	17.3	15.6–19.1	2039	15.2	13.2–17.4
40–44	3859	18.2	16.6–19.8	3066	17.9	16.1–19.8
45–49	2766	23.5	21.5–25.6	2341	20.6	18.5–22.8
50–54	3263	28.3	26.4–30.3	2563	27.7	25.5–30.0
Parental status						
Non-parent	6981	25.1	23.9–26.4	6582	22.8	21.5–24.2
Parent	8743	17.6	16.6–18.7	5756	16.6	15.3–17.9
Preschool-aged child						
No	12,422	23.0	22.0–23.9	9911	21.6	20.5–22.7
Yes	3297	13.7	12.3–15.3	2422	12.7	11.0–14.6
Partner status						
Non-partnered	4505	26.2	24.5–27.9	3250	24.3	22.3–26.4
Partnered	11,141	19.7	18.8–20.7	9012	18.7	17.7–19.8
Employment status						
Non-employed	2645	29.6	27.4–31.8	636	53.5	48.5–58.5
Employed part time	7174	19.0	17.9–20.2	804	26.1	22.2–30.3
Employed full time	5838	18.8	17.5–20.1	10,858	16.8	15.9–17.8
Unemployment owing to illness in the last 5 years						
Yes	410	57.1	51.1–62.9	317	65.8	58.9–72.0
No	15,275	19.9	19.1–20.7	11,999	18.2	17.3–19.1
Socioeconomic status						
Low	1229	34.9	31.8–38.1	984	34.1	30.6–37.7
Middle	8890	21.5	20.5–22.6	6200	21.0	19.7–22.2
High	5569	12.1	11.2–13.1	5130	9.2	8.3–10.2

SRH, self-rated health; CI, confidence interval.

Respondents of both sexes who lived with preschool-aged children assessed their health as fair/poor less often than did those who lived with older children. Non-partnered women and men rated their health as fair/poor more often than partnered respondents. Non-employment was also associated with poor SRH, especially in men. The majority of men were employed full time, followed by part-time employees and non-employed men. Men employed full time reported poorer health significantly less often than did men employed part time or non-employed. Among women, there were no differences between full-time and part-time employment. Respondents who stated that they had been unemployed in the last five years owing to illness were significantly more likely to report fair/poor health compared with those who did not experience unemployment owing to illness. Furthermore, a lower socioeconomic status was associated with a higher prevalence of poorer SRH.

3.2. Multivariate analyses

The results of the regression models for women and men are presented in Tables 2 and 3, respectively. As Model 1 shows, women living with children were less likely to report fair/poor SRH than those not living with children. No significant differences were found in men. However, both men and women living with at least one child of preschool age were less likely to report poorer SRH. There were no differences in SRH between partnered and non-partnered men. Non-partnered women, though, were more likely to report fair/poor SRH. Non-employment was highly related to

poorer SRH in both women and men. Additionally, part-time employed men were more likely to report fair/poor SRH than were full-time employed men.

Model 2 (interaction between parental and partner status) showed a difference in the interaction effects in men and women. Regardless of partner status, women living without children were significantly more likely to report poorer health than partnered women living with children (OR, $1.29 \times 1.32 \times 0.80 = 1.36$ [non-partnered] and 1.29 [partnered], respectively). Non-partnered mothers were also more likely to report poorer SRH (OR, 1.32) compared with partnered mothers. Altogether, partnered women with children had the lowest odds of poorer SRH. Among men, only non-partnered men living without children had higher odds of fair/poor SRH than partnered men living with children (OR, 1.22). No other statistically significant interaction effects were found.

Model 3 (interaction between partner and employment statuses) showed that both non-partnered and partnered women who were non-employed were more likely to report fair/poor SRH (OR, $1.04 \times 1.57 \times 1.28 = 2.09$ [non-partnered], OR, 1.57 [partnered]) than partnered women employed full time. There was no significant difference between women employed part time and full time. For men, the odds of fair/poor SRH among non-employed respondents were even higher than for women. Non-partnered, non-employed men had an OR of 3.36 ($1.05 \times 3.11 \times 1.03$), and partnered non-employed men had an OR of 3.11 for poorer SRH compared with partnered men employed full time. Unlike women, men working part time were significantly more likely to report fair/poor SRH in both partner statuses (OR, $1.05 \times 1.53 \times 0.94 = 1.51$ [non-partnered] and 1.53 [partnered]).

Model 4 (interaction between parental and employment statuses) showed that non-employed women without children (OR, $0.86 \times 1.15 \times 1.96 = 1.94$) were significantly more likely to report fair/poor SRH than full-time employed women with children. Additionally, mothers working part time had significantly lower odds of reporting fair/poor SRH than mothers working full time (OR, 0.78). The relationship between parenthood and employment statuses was somewhat different in men. Among non-parents, non-employed men were most likely to report poorer SRH (OR, $1.16 \times 3.11 \times 0.93 = 3.57$), followed by those employed part time (OR, $1.16 \times 1.33 \times 1.23 = 1.90$), compared with full-time employed fathers. The odds of reporting fair/poor SRH were also higher for non-employed men living with children (OR, 3.31) than for those living with children and employed full time. No difference between part-time and full-time working fathers was found.

Finally, Model 5 (three-way interaction model; see also Fig. 1) confirmed to a great extent the results from the previous models. In women and men, the highest odds of reporting fair/poor SRH occurred in non-employed persons, regardless of parental or partner status. In women, the only exception was found in the group of partnered mothers; non-employed, partnered mothers did not have significantly different odds of reporting fair/poor SRH compared with full-time employed, partnered mothers. There were no other differences in the odds of reporting poorer SRH between women employed part time and full time.

Men showed the strongest association between full-time employment and SRH. The highest odds of reporting fair/poor SRH were observed among non-employed men in all parental and partner statuses (non-partnered men without children: OR, $1.17 \times 1.33 \times 3.43 \times 0.75 = 4.00$; partnered men without children: OR, $1.17 \times 3.43 \times 0.81 = 3.25$; non-partnered fathers: OR, $1.33 \times 3.43 \times 0.40 = 1.82$; partnered fathers: OR, 3.43) compared with full-time working partnered fathers. Unlike for women, the odds of reporting fair/poor SRH for men employed part time and living without children were significantly higher than those for men employed full time and living with children.

Table 2
Odds ratios for having fair/poor self-rated health according to parental, partner, and employment status among women aged 30–54 years.

Variable	Model 1			Model 2			Model 3			Model 4			Model 5		
	OR	p	95% CI	OR	p	95% CI									
Parental status															
Non-parent	1.22	0.004	0.07–1.39	1.29	0.001	1.11–1.51	1.22	0.004	1.06–1.39	0.86	0.120	0.70–1.04	0.96	0.716	0.75–1.22
Parent	Ref			Ref			Ref			Ref			Ref		
Preschool-aged child															
No	1.39	< 0.001	1.16–1.66	1.37	0.001	1.14–1.65	1.38	< 0.001	1.15–1.65	1.34	0.002	1.11–1.60	1.33	0.002	1.11–1.59
Yes	Ref			Ref			Ref			Ref			Ref		
Partner status															
Non-partnered	1.15	0.017	1.03–1.30	1.32	0.002	1.11–1.57	1.04	0.667	0.87–1.24	1.15	0.016	1.03–1.30	1.38	0.051	1.00–1.90
Partnered	Ref			Ref			Ref			Ref			Ref		
Employment status															
Non-employed	1.66	< 0.001	1.41–1.96	1.67	< 0.001	1.42–1.96	1.57	< 0.001	1.30–1.89	1.15	0.224	0.92–1.44	1.18	0.203	0.91–1.54
Employed part time	1.04	0.584	0.91–1.18	1.04	0.574	0.91–1.18	1.00	0.961	0.86–1.16	0.78	0.008	0.64–0.94	0.81	0.064	0.64–1.01
Employed full time	Ref			Ref			Ref			Ref			Ref		
Interaction: parental/partner status															
Non-parent*non-partnered				0.80	0.050	0.63–1.00									
Interaction: partner/employment status															
Non-partnered*non-employed							1.28	0.131	0.93–1.77						
Non-partnered*part-time							1.15	0.275	0.89–1.48						
Interaction: parental/employment status															
Non-parent*non-employed										1.96	< 0.001	1.44–2.67			
Non-parent*part-time										1.58	< 0.001	1.23–2.03			
Interaction: parental/partner/employment status															
Non-parent*non-partnered*non-employed													1.58	0.144	0.86–2.91
Non-parent*non-partnered*part-time													1.21	0.496	0.70–2.09
Non-parent*non-partnered*full-time													0.70	0.073	0.48–1.03
Non-parent*partnered*non-employed													1.76	0.003	1.22–2.55
Non-parent*partnered*part-time													1.43	0.021	1.06–1.93
Parent*non-partnered*non-employed													0.95	0.824	0.58–1.53
Parent*non-partnered*part-time													0.88	0.515	0.59–1.30

All models are controlled for age, social status, and unemployment owing to illness in the last 5 years.
Ref= 1.00.

Additionally, part-time employed, non-partnered fathers had the lowest odds of reporting fair/poor SRH (OR, $1.33 \times 1.39 \times 0.26 = 0.48$), although the result was not statistically significant.

4. Discussion

This study revealed new evidence for an association between the three most important social roles and SRH among men and women in Germany. The main result is that non-employment showed the strongest relationship with fair/poor SRH. It was significantly associated with fair/poor SRH in both men and women in most of the family arrangements. The only exceptions were non-employed, partnered mothers and non-partnered fathers, for whom no association with fair/poor SRH was found. This could result from the fact that the non-employed, partnered mothers in our sample were predominantly homemakers who were not seeking work. The finding for the non-partnered fathers was not significant owing to the small number of cases. Therefore, definitive conclusions cannot be drawn for them. With regard to part-time employment, gender differences were outlined.

Our results supported existing international studies to a large extent. Numerous previous findings show that non-employment is related to poorer health, both in women and men (Fokkema, 2002; Hewitt et al., 2006; Kostianen, Martelin, Kestilä, Martikainen, & Koskinen, 2009; Kroll, Müters, & Lampert, 2015; Norström, Virtanen, Hammarstrom, Gustafsson, & Janlert, 2014; Popham

et al., 2012; Roos, Lahelma et al., 2005). Furthermore, there is evidence that the effects of non-employment are greater in men than in women (Kroll et al., 2015; Norström et al., 2014). Regarding male health, many international studies have also demonstrated a negative association with part-time work (Bartoll, Cortes, & Artazcoz, 2014; Burr, Rauch, Rose, Tisch, & Tophoven, 2015). In our study, we could confirm this only for the group of men living without children, whereas, in fathers, we found no differences in health between part-time and full-time employees.

In women, findings from previous studies regarding the association between employment and health differ and seem to be shaped by parental status. Whereas, for childless women, most studies have found that being employed may be associated with better health or at least an absence of adverse health (Klumb & Lampert, 2004), findings regarding the health of women living with children vary greatly. A few studies have shown that the combination of employment (part time or full time) and parenthood has a positive relationship with women's health (Buehler & O'Brien, 2011). In contrast to our results, some studies have found that part-time employment is associated with better health than is full-time employment among mothers (Floderus et al., 2009; Fokkema, 2002; Hewitt et al., 2006). McDonough, Worts, Booker, McMunn, and Sacker (2015) found that American married mothers working part time rated their health better than their counterparts working full time, whereas, in British married mothers, no differences between full-time and part-time employment were found. The authors attributed this to differences in nations' approaches to

Table 3
Odds ratios for having fair/poor self-rated health according to parental, partner, and employment status among men aged 30–54 years.

Variable	Model 1			Model 2			Model 3			Model 4			Model 5		
	OR	p	95% CI												
Parental status															
Non-parent	1.17	0.069	0.99–1.38	1.17	0.082	0.98–1.39	1.17	0.070	0.99–1.38	1.16	0.096	0.97–1.38	1.17	0.090	0.98–1.40
Parent	Ref														
Preschool-aged child															
No	1.28	0.023	1.03–1.59	1.28	0.024	1.03–1.60	1.29	0.023	1.04–1.60	1.28	0.025	1.03–1.59	1.29	0.024	1.03–1.60
Yes	Ref														
Partner status															
Non-partnered	1.04	0.614	0.88–1.24	1.03	0.915	0.58–1.84	1.05	0.637	0.87–1.26	1.04	0.622	0.88–1.24	1.33	0.364	0.72–2.49
Partnered	Ref														
Employment status															
Non-employed	3.15	< 0.001	2.44–4.08	3.15	< 0.001	2.44–4.08	3.11	< 0.001	2.21–4.37	3.31	< 0.001	2.11–5.19	3.43	< 0.001	2.15–5.46
Employed part time	1.50	0.001	1.17–1.92	1.50	0.001	1.17–1.92	1.53	0.006	1.13–2.07	1.33	0.174	0.88–1.99	1.39	0.120	0.92–2.11
Employed full time	Ref														
Interaction: parental/partner status															
Non-parent*non-partnered				1.01	0.966	0.55–1.85									
Interaction: partner/employment status															
Non-partnered*non-employed							1.03	0.891	0.64–1.67						
Non-partnered*part-time							0.94	0.822	0.57–1.57						
Interaction: parental/employment status															
Non-parent*non-employed										0.93	0.794	0.55–1.58			
Non-parent*part-time										1.23	0.426	0.74–2.05			
Interaction: parental/partner/employment status															
Non-parent*non-partnered*non-employed													0.75	0.518	0.32–1.77
Non-parent*non-partnered*part-time													0.86	0.734	0.36–2.05
Non-parent*non-partnered*full-time													0.77	0.435	0.40–1.48
Non-parent*partnered*non-employed													0.81	0.524	0.42–1.56
Non-parent*partnered*part-time													1.24	0.495	0.67–2.28
Parent*non-partnered*non-employed													0.40	0.260	0.81–1.98
Parent*non-partnered*part-time													0.26	0.122	0.05–1.43

All models are controlled for age, social status, and unemployment owing to illness in the last 5 years.
Ref= 1.00.

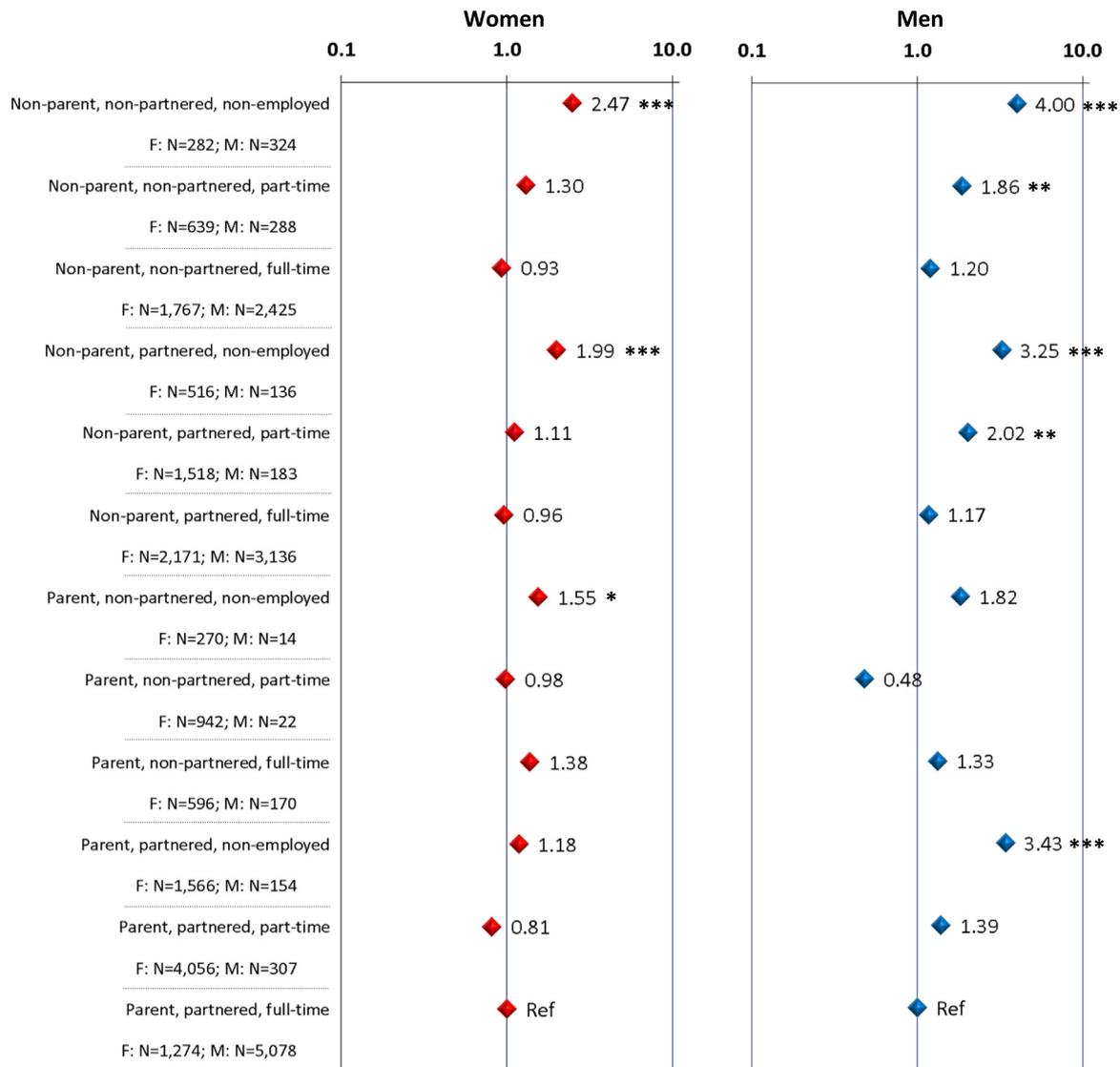
social welfare. Although our study found no differences in health between part-time and full-time employed mothers, it should be noted that, with the transition to motherhood, many employed women reduce their working hours, whereas employed men usually invest more effort in their occupations and withdraw from household tasks (Schulz & Blossfeld, 2006). However, the odds of poorer SRH are probably underestimated in the present study, especially in unemployed women, because no distinction between homemakers and unemployed women was made. In other studies, female homemakers reported better SRH than did unemployed women (Floderus et al., 2009).

With regard to the multiple role theories, it seems that the results support the multiple role attachment hypothesis, rather than the multiple role burden hypothesis. We did not find a higher risk for poorer health in any of the full-time employed subgroups. Nevertheless, the three roles do not have the same value and strength of association with health. We found that employment is the most important social role, perhaps owing to the provision of economic independence to employed individuals in an affluent society like Germany, though it does not necessarily require a full-time commitment. Even parents who have the everyday responsibility of childcare seem to benefit from the advantages of paid employment (e.g., social integration, social support, own income, compensation to familial demands). However, parenthood and partnership can have diverse combinations involving different obligations for men and women that can lead to unequal

distribution of family responsibilities (Artazcoz, Benach, Borrell, & Cortès, 2004). Work and family commitments often operate differently for men and women (Hewitt et al., 2006; Molarius, Granström, Lindén-Boström, & Elo, 2014), and combining roles does not have equal meaning for both genders. Thus, for men, combining a full-time job with partner and parental roles is easier than for women, especially if the partner is more engaged in the household and family arrangements. Because so many women, particularly mothers, work part time, it can be concluded that combining roles continues to be an important issue for women.

Although many studies have addressed the association of different roles with health, a comparison of results across studies is difficult (Hewitt et al., 2006). One problem arises from the fact that the impact factors and outcome variables are measured in different ways in each study. Further, analysis methods also differ among studies. Our research approach of analyzing the interactions among three roles has an advantage over that of analyzing the number of social roles because it enables us to identify diverse groups occupying just one or two social roles. Another reason for disparities in the findings among different studies may involve different welfare systems (e.g., arrangements for parental leave, public childcare services, and tax laws), which probably have a strong influence on the balance between family and work efforts in everyday life (Roos, Burström et al., 2005). This applies to women in particular.

One of the limitations of our analysis is the use of cross-sectional data. The results provide no evidence regarding the



N = Sample size (unweighted); F = Female; M = Male

Ref = 1.00

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Fig. 1. Odds ratios for having fair/poor self-rated health: three-way interactions among parental, partner, and employment statuses for women and men aged 30–54 years, adjusted for age, social status, presence of preschool-aged children, and unemployment owing to illness in the last 5 years (Model 5).

direction of the relationship between social roles and SRH. Not only do the partner, parental, and employment statuses impact the health status (causality), but health status can also impact the transitions into partnership, parenthood, and employment (selectivity). To account for this, we included an additional variable indicating recent unemployment owing to illness in our analysis. However, to outline the direction of the relationship between social roles and SRH, longitudinal data need to be analyzed. Most recent studies on this topic have also used cross-sectional data and did not reveal possible causation effects.

Another limitation of our study is the measure of the three social roles. Non-employment is defined as inactivity in the labor market, regardless of whether one is searching for a job. This leads to a mixed group of homemakers and job seekers. With respect to partner status, we did not distinguish between persons who are single, living apart, divorced, or widowed. Furthermore, children living in the household of a divorced partner and children who have already left the parental home could not be taken into

account. Finally, the partner's employment status could not be considered. However, the buffering effect of the partner's employment status on poorer SRH in women seems to be low (Floderus et al., 2009).

Regardless of the number of roles held by men and women, the quality or characteristics of these multiple roles may also affect health (Hibbard & Pope, 1993; Plaisier et al., 2008). Moreover, partners' participation in childcare and homework are other interesting aspects of the interactions among partnership, parenthood, and employment, and remain to be further studied.

5. Conclusions

Overall, our results provide evidence that the best strategy to promote the health of women and men is to enable their activity in the labor market. When drawing such conclusions, however, we must note that employment equality between women and men

has not yet been achieved in Germany (Federal Ministry for Family Affairs, Senior Citizens, Women and Youth, 2014). Furthermore, women are engaged in part-time and fixed-term employment significantly more often and receive lower salaries than do men. Additionally, women still shoulder the vast majority of family-related responsibilities and thus experience difficulty reconciling work and family life (Federal Ministry for Family Affairs, Senior Citizens, Women and Youth, 2014). Because of the strong association between employment and health, the compatibility of work and family life should be improved for both women and men. In Germany, working in the low-wage sector and living in poverty are much more common among non-partnered parents than for partnered mothers and fathers (German Ministry of Labor and Social Affairs, 2014); thus, it seems especially important to provide this group with access to paid employment in combination with childcare services.

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