ITALIAN JOURNAL OF PUBLIC HEALTH

Are there any associations between single and/or multiple social roles and self-rated physical health, psychiatric disorder and long-term sickness absence in women?

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ABSTRACT

BACKGROUND: The relationship between single and/or multiple social roles that women hold (occupational, partner, and parent) and health and sickness absence is an important public health issue. Few studies on the social roles held by women have been performed in the Swedish context of gender equality. The aim of this study was to analyse associations between occupational, partner and parent roles (and combinations of these roles) and their relation to self-rated physical health, psychiatric disorders and long-term sickness absence in a population based sample of women in Sweden.

METHODS: Women born in 1935, 1945, 1955, 1965, 1970 or 1975 (n=600) were interviewed at baseline and five years later. Cross-sectional data were analysed with multivariate logistic regression analysis adjusted for age, socio-economic position, alcohol dependence and abuse.

RESULTS: An occupational role was associated with lower odds for poor self-rated physical health, 0.28 (0.10-0.82), and sickness absence, 0.25 (0.10-0.86). A partner role was associated with lower odds for psychiatric disorder, 0.58 (0.35-0.98) while a parental role (children < 14 years) was associated with higher odds for sickness absence, 4.17 (1.86-9.38). The combination of holding an occupational and partner role was associated with lower odds for health outcomes compared with having three roles. Conclusion: Holding an occupational and partner role was related to lower odds for poor self-rated physical health, psychiatric disorder and long-term sickness absence, while having a parental role was adversely related to sickness absence. Results are important in the light of discussions on reconciliation of work and family, and are of interest in countries with high or increasing female labour force participation.

Key words: Multiple roles, Women, Self-rated health, Psychiatric disorder, Sickness absence

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INTRODUCTION

Paid labour force participation in European women has increased steadily during the last decades. The increase in Sweden occurred earlier than in most other countries and is among the highest in Europe, and even so when considering women with dependent children (1). Thus, many women in Sweden combine an occupational role with a role as partner and parent. Despite pronounced changes in women's participation in the labour market in Sweden, domestic roles (i.e. household work and caring for dependent persons) have remained fairly constant, with women

often having the major responsibility for domestic work (2, 3). Two contrasting theories, 'role strain' and 'role enhancement', have been put forward regarding the importance of multiple roles on health. According to the 'role enhancement' theory, multiple roles imply increased access to various kinds of benefits. Paid work, a partner and children could provide women with economic resources, social support and affirmation, factors that could influence health in a positive way (4). The 'role strain' theory, on the other hand, suggests that increased demands and conflicting expectations between the roles might result in stress-related symptoms and lowered psychological well-being (5-7).

Overall, fairly consistent empirical results have found a positive effect on general health and psychological well-being from holding multiple roles, thus supporting the enhancement theory (8-10). In a Swedish prospective study on the importance of changes in number of social roles, an increasing number of social roles was associated with well-being (11), and in a large sample of Dutch women, multiple roles in general was related to better mental health (12). However, Mastekaasa (2000) found very little support in a Norwegian study for either role strain or role enhancement when considering sickness absence (13).

The associations between multiple roles and health are complex, and health outcomes in relation to a specific role may vary depending on the other roles held by the woman (5). Earlier studies have also found that social roles could provide both stress and satisfaction depending on certain characteristics in occupation, workplace, partner relationship, parental situation and life-stage (12, 14-16). In a study from The Netherlands over a three year period on the combinations of roles (partner, parent, worker), no significant effect was found regarding the risk of developing depressive or anxiety disorders. However, a positive effect on mental health (SF-36) was found for the partner role (17).

The impact on health of combining multiple roles is also likely to be influenced by institutional setting and welfare system. The Swedish context, with a high female labour force participation (1), high birth rate compared with several other European countries (18) and universal social security system for parents and families (2), differs from the settings of several of the earlier studies.

The aim of this study was to assess associations between the occupational, partner and parent roles (and combinations of these roles) and their relation to self-rated physical health, psychiatric disorders and long-term sickness absence in a sample of women in Sweden.

METHODS

Study base and design

In this study, we used data from the population-based longitudinal cohort study 'Women and Alcohol in Göteborg' (WAG), which is designed as a two-phase epidemiological study

TABLE 1

STUDY DESIGN AND PARTICIPATION IN THE STUDY 'WOMEN AND ALCOHOL IN GÖTEBORG' (WAG), SWEDEN, 1986-2000, AND STUDY GROUP IN THE PRESENT STUDY

Study phase	Data collection Year	Selected N	Participation rate % (n)
Screening of all women born in 1925, 1935, 1945, 1955, 1965	1986	3130	78 (2 432)
Baseline 1 interview – stratified sample of women born in 1925, 1935, 1945, 1955, 1965	1990	479	83 (399)
Follow-up of baseline 1	1995	399	78 (313)
Screening of all women born in 1970, 1975	1995	2910	77 (2 247)
Baseline 2 interview - stratified sample of women born in 1970, 1975	1995	829	74 (615)
Follow-up of baseline 2	2000	615	72 (442)
Study group in present study: Women born in 1935, 1945, 1955, 1965, 1970, 1975	1990-1995		84 (600)*

** 84% corresponding to the of number of women participated in a complete baseline and follow up interview and responded to the question on occupation*

including a screening questionnaire, a baseline interview and follow-up interviews. All women (n=3 130) born in 1925, 1935, 1945, 1955 or 1965 and registered on 31 December 1985 in a district of Göteborg (N=99 328 inhabitants) were included in WAG and received a postal screening questionnaire called Screening Women and Alcohol in Göteborg' (SWAG, thirteen items)(19). In the first study phase in 1990, a stratified sample (n=479) was selected for face-to-face interview. Stratification groups were formed in relation to SWAG scores; groups with 0, 1-3 and ≥4 points on SWAG with an oversampling of women with higher scores. In the second study phase, in 1995, new cohorts of women born in 1970 and 1975 (n=2910) were included and a stratified sample (n=829) based on the SWAG scores was selected for interview. In these younger cohorts, women from two districts of Gothenburg were included. Further details of the sampling and stratification process have been published elsewhere (20). In the third study phase in 2000, interviews were re-conducted with women from study phase 2. Numbers and participation rates in the different study phases are shown in Table 1. Face-to-face interviews comprised questions about health and living conditions from childhood up until the time of interview. Interviews in all three study phases were conducted by health and social care professionals.

Study group in the present study

Cross-sectional data from baseline and follow up interviews were used in this study. Women born in 1935, 1945, 1955, 1965, 1970 and 1975, who participated in a complete baseline interview and a complete follow up interview, and answered the question about occupation, were included (n=600). Study group characteristics are outlined in Table 2.

Independent variables

The independent variables in this study were social roles (occupation, partner and parent). Roles were analysed either as a single role or combinations of roles. Occupational role was defined as working full- or part-time in paid work, or studying. It is not unusual among students in Sweden to work part-time while studying full- or part-time, thus students' demands could be considered as similar to those of women working full- or part-time in paid work. Partner role was defined as being married or cohabiting for > 3 months. Parental role was defined in two ways; i) 'Ever parent', defined as having or ever having had a parenting role be it biological parent, step- or adopted children, and ii) 'parent with child/children <14 years of age living at home' when the interview was undertaken.

Five combinations of social roles were examined as follows: "occupation, partner, parent", "occupation, not partner, parent", "occupation, partner, not parent", "occupation, not partner, not parent" and "no occupation and different combination of the other roles". The reasons for not holding an occupational role were disability pension, homemaker or unemployment.

Dependent variables

Three different health outcomes were analysed: self-rated physical health, psychiatric disorders and long-term sickness absence.

Self-rated physical health was measured by the following question in the interviews carried out in 1990 and 1995: 'In general, how would you say that your physical health has been in the last year?' with response categories 'excellent', 'good', 'reasonable' and 'bad'. In 2000, the question asked in the questionnaire was: 'In general, how would you rate your health? with response categories 'excellent', 'very good', 'good', 'reasonable', 'bad'. In the analyses, self-rated physical health was dichotomised to classify the response categories: good health comprised women who had responded 'excellent', 'very good' and 'good' , and poor health comprised women who had responded 'reasonable' and 'bad' . Information on psychiatric disorder was generated on the basis of structured diagnostic questions in the interview setting, according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R) (in 1990) and DSM-IV (in 1995 and 2000) (21). In the follow up interview, the interviewees were asked to give information only relative to the previous five years. Disorders included in this study were mainly anxiety and depressive disorders. In the analyses, psychiatric disorders were dichotomised at baseline as 'no disorder' or 'at least one disorder during lifetime' or 'in the last year', and at follow up as 'no disorder' or 'at least one disorder during the last five years'.

Information on long-term sickness absence was self-reported and considered as continuous sick-leave > 3 months, measured at baseline with the single question: have you ever been sick-listed for more than three months

TABLE 2

CHARACTERISTICS OF THE STUDY GROUP (N =600) AT BASELINE

Characteristics at baseline	Women born in 1935, 1945, 1955, 1965 with baseline interview 1990 and follow up interview 1995 (N=239)	Women born in 1970, 1975 with baseline interview 1995 and follow up interview 2000 (N=361)
	% (n)	% (n)
Age cohorts		
1935	6 (38)	
1945	11 (68)	
1955	10 (61)	
1965	13 (72)	
1970		31 (184)
1975		29 (177)
Occupation		
Full-time work	54 (129)	37 (134)
Part-time work	29 (69)	7 (25)
Student	9 (23)	44 (158)
Other	8 (18)	12 (44)
Socio-economic position*		
Manual (unskilled/skilled)	29 (68)	27 (93)
Non-manual	22 (50)	22 (81)
High non-manual and self-employed	40 (90)	6 (22)
Students	9 (20)	41 (148)
Unemployed	0 (0)	4 (14)
Civil status*		
Single	28 (66)	59 (210)
Married/Cohabiting	72 (170)	41 (151)
Parent*		
Parent ever	89(148)	12 (42)
Parent with children < 14 years of age	39 (94)	12 (42)

**Information was missing for a number of respondents*

running? At follow up, interviewees were asked whether they had been on continuous sick-leave for > 3 months during the last five years. In the analyses of social roles in relation to sickness absence, a smaller sample was used (n=553), since women already on long-term sickness absence for > 3 months and on full or partial disability pension were excluded as not belonging to the risk population.

Confounding

Due to nonlinearity, and since it was likely that there was a covariance between role occupancy and age, age was treated as a categorical variable (20-25, 30-40 and 45-55 years old). Socio-economic position was stratified over five groups; manual (unskilled/skilled), non-manual, high non-manual, students and unemployed. This was accounted for in the analyses, since earlier studies had found that associations between social roles and health differ as regards socio-economic conditions (8). Since data was stratified at baseline according to SWAG scores, alcohol dependence and alcohol abuse (DSM-III-R and DSM-IV) were adjusted for. In an extended confounding analysis in relation to long-term sickness absence, the women's marital status, level of responsibility

for domestic work and extent of caring activities for children with additional needs, were adjusted for since factors related to domestic work have been found to influence health in women (22).

Attrition

External attrition in this study included those selected for screening or interviewed in WAG who declined to participate or could not be reached. Telephone interviews indicated low alcohol consumption and shortage of time as the most common reasons for non-participation (19). Internal attrition explains the lack of information in certain questions.

Statistics

Cross-sectional analyses between single role occupancy, and occupancy of combinations of roles, in relation to health outcomes were performed using data from baseline and follow-up interviews. Analyses were performed by multivariate logistic regression in two models; with adjustment for age, adjustments for alcohol dependence and abuse, and adjustment for socio-economic position, yielding odds ratios (OR) and their 95% confidence intervals.

All analyses were processed in SAS, version 8.2 (SAS institute Inc., Carry, NC, USA). In addition, analyses were processed in SUDAAN (23) in order to handle the weighted data properly.

The project was approved by the Regional Ethics Committee for Human Research at the Gothenburg University, Sweden.

TABLE 3

ASSOCIATIONS BETWEEN SOCIAL ROLES, HEALTH AND SICKNESS ABSENCE AT BASELINE AND FOLLOW UP INTERVIEW

Social roles	Poor self-rated physical health		Psychiatric disorder		Long-term sickness absence	
(n)	Model 1[1a] OR (95%CI)*	Model 2[2a] OR (95%CI)*	Model 1[1a] OR (95%CI)*	Model 2[2a] OR (95%CI)*	Model 1[1a] OR (95%CI)*	Model 2[2a] OR (95%CI)*
Occupation						
Baseline (532)	**0.38 (0.18-0.80)**	0.89 (0.37-2.13)	0.52 (0.25-1.10)	0.38 (0.15-1.02)	1.05 (0.22-5.00)	1.03 (0.17-6.12)
Follow up (530)	**0.33 (0.14-0.80)**	**0.28 (0.10-0.82)**	**0.44 (0.21-0.93)**	0.46 (0.19-1.10)	**0.23 (0.10-0.77)**	**0.25 (0.10-0.86)**
Partner						
Baseline (321)	1.32 (0.77-2.24)	1.10 (0.63-1.93)	0.63 (0.39-1.04)	**0.58 (0.35-0.98)**	1.25 0.56-2.80)	1.10 (0.49-2.44)
Follow up (400)	0.79 (0.40-1.57)	0.88 (0.43-1.79)	0.66 (0.40-1.09)	0.64 (0.39-1.09)	0.60 (0.24-1.51)	0.61 (0.23-1.59)
Parent (ever)						
Baseline (145)	**2.10 (1.10-4.01)**	1.64 (0.83-3.24)	0.81 (0.45-1.47)	0.75 (0.41-1.38)	**5.71 (2.49-13.07)**	**5.16 (2.04 13.04)**
Follow up (236)	1.77 (0.81-3.88)	1.47 (0.65-3.33)	0.71 (0.41-1.22)	0.57 (0.33-1.00)	1.05 (0.88-2.30)	0.78 (0.26-2.33)
Parent (child <14 years)						
Baseline (136)	1.09 (0.58-2.05)	0.93 (0.49-1.79)	1.08 (0.61-1.91)	1.02 (0.56-1.84)	**4.52 (2.10-9.72)**	**4.17 (1.86-9.40)**
Follow up (204)	1.33 (0.60-2.93)	1.24 (0.54-2.81)	0.80 (0.47-1.35)	0.68 (0.39-1.17)	1.03 (0.38-2.79)	0.80 (0.28-2.30)

[1] Model 1 adjusted for age (20-25 years of age, 30-40 years of age, 45-55 years of age)
[2] Model 2 adjusted for age (20-25 years of age, 30-40 years of age, 45-55 years of age), alcohol dependence and abuse, and socio-economic position.
** Figures in bold indicate significant difference compared with reference group.*
[a] The references used are good self-rated physical health, no psychiatric disorder, the reference for sickness absence was no sickness absence > 3 months.

RESULTS

Having solely an occupational role was associated with with poor self-rated physical health, OR 0.28 (0.10-0.82), and long-term sickness absence, OR 0.25 (0.10-0.86) at follow up. To have a partner was significantly associated with psychiatric disorder with an OR of 0.58 (0.35-0.98) in the fully adjusted model at baseline. For the parental roles (ever been a parent and parent with child/children < 14 years of age living at home), significant associations were found in relation to long-term sickness absence, OR 5.16 (2.04-13.04), and 4.17 (1.86- 9.40) respectively (Table 3). After adjustment for level of domestic responsibility and children with special needs, the associations between parental roles and sickness absence were still significant with an OR of 3.0 (1.01-8.86) and OR 2.8 (1.10-6.95) (data not shown in tables).

In the analysis of different combinations of social roles, all associations were in relation to a reference group; having an occupational, partner- and parental role (children <14 years

TABLE 4

ASSOCIATIONS BETWEEN ROLE COMBINATIONS AND HEALTH AND SICKNESS ABSENCE AT BASELINE AND FOLLOW UP INTERVIEW

Role combinations (n)	Poor self-rated physical health		Psychiatric disorder		Long-term sickness absence	
	Model 1[1a] OR (95%CI)*	Model 2[2a] OR (95%CI)*	Model 1[1a] OR (95%CI)*	Model 2[2a] OR (95%CI)*	Model 1[1a] OR (95%CI)*	Model 2[2a] OR (95%CI)*
Occupation – Partner – Parent [b]						
Baseline (95)	1.00	1.00	1.00	1.00	1.00	1.00
Follow up (152)						
Occupation – Not partner – Parent						
Baseline (26)	0.89 (0.39-2.06)	0.90 (0.38-2.12)	1.70 (0.83-3.49)	1.76 (0.83-3.75)	1.24 (0.37-4.14)	1.24 (0.36-4.27)
Follow up (26)	1.02 (0.35-2.98)	0.81 (0.39-1.68)	1.45 (0.62-3.37)	1.47 (0.90-2.38)	0.60 (0.17-2.13)	0.66 (0.20-2.20)
Occupation – Partner – Not parent						
Baseline (187)	0.90 (0.55-1.47)	1.01 (0.61-1.66)	0.64 (0.41-1.00)	**0.62 (0.39-0.97)**	**0.26 (0.10-0.70)**	**0.27 (0.10- 0.77)**
Follow up (205)	0.64 (0.32-1.31)	**0.47 (0.23-0.97)**	0.83 (0.51-1.35)	0.80 (0.51-1.21)	0.42 (0.14-1.27)	**0.28 (0.11-0.72)**
Occupation – Not partner – Not parent						
Baseline (216)	**0.50 (0.30-0.85)**	0.74 (0.43-1.27)	0.76 (0.49-1.19)	0.74 (0.47-1.17)	**0.21 (0.08-0.53)**	**0.25 (0.10-0.65)**
Follow up (144)	0.58 (0.28-1.18)	1.15 (0.64-2.08)	0.80 (0.48-1.33)	**0.65 (0.44-0.95)**	1.12 (0.46-2.76)	1.36 (0.54-3.45)
No Occupation – Different combinations[c]						
Baseline (67)	1.87 (1.01-3.47)	1.20 (0.63-2.28)	1.22 (0.67-2.25)	1.34 (0.68-2.66)	0.31 (0.06-1.61)	0.38 (0.06-2.48)
Follow up (66)	2.14 (0.98-4.68)	**2.09 (1.16-3.76)**	1.48 (0.75-2.89)	1.44 (0.92-2.24)	**3.07 (1.13-8.39)**	**3.33 (1.25-8.87)**

[1]Model 1 adjusted for age (20-25 years of age, 30-40 years of age, 45-55 years of age)
[2] Model 2 adjusted for age (20-25 years of age, 30-40 years of age, 45-55 years of age), alcohol dependence and abuse, and socio-economic position.
** Figures in bold indicate significant difference compared with reference group*
[a] The reference for self-rated physical health was good self-rated physical health, the reference for having at least one psychiatric disorder was no psychiatric disorder, the reference for sickness absence was no sickness absence > 3 months
[b] Parent included only parents with children < 14 years of age living at home
[c] Following combinations are included in this category; no occupation - no partner – no parent (n 26), no occupation – partner – no parent (n 13), no occupation – no partner – parent (n 3), no occupation – partner – parent (n 25)

living at home). In the fully adjusted model, the combination of occupation and partner role was associated with psychiatric disorder with an OR of 0.62 (0.39-0.97), and related to long-term sickness absence, with an OR of 0.27 (0.10-0.77) at baseline. At follow up, this combination was associated with poor self-rated physical health, with an OR of 0.47 (0.23-0.97), and to long-term sickness absence, with an OR of 0.28 (0.11-0.72). Not having an occupational role and different combinations of partner and parental roles, was associated with poor self-rated physical health, with an OR of 2.09 (1.16-3.76), and long-term sickness absence, with an OR of 3.33 (1.25-8.87) at follow up. No significant associations were found between having only an occupational role, or a parental role but no partner role and the examined health outcomes, either at baseline or on follow up (Table 4).

DISCUSSION

In this study, occupation was associated with lower odds for poor self-rated physical health and for long-term sickness absence, which was in line with earlier findings (9, 12). Occupation, per se, has a beneficial effect as a primary source of benefits such as income, social relations or skill development (4), and may also buffer against strain experienced in other social roles. Health selection has been discussed in relation to role occupancy, and a healthy worker selection cannot be ruled out in this cross-sectional study. However, as mentioned, the labour force participation rate among Swedish women is very high and it is likely that health selection is less pronounced in this general population study.

Earlier research, showing a positive effect of partnership on women's mental health (24, 25), was confirmed in this study. To be a partner and to have a partner might give complementary contributions, for example through social networks or by giving and receiving social support. In a well-functioning partner relationship, emotional and material support could be gained, and earlier studies have found support for the importance of both social network and social support for health (26, 27). Due to the cross-sectional design, the results in the present study might also be influenced by selection into the partner role, as discussed by Khlat (28). In addition, the fact that psychiatric disorder at baseline was measured over a life span could have influenced the result in that responses could be reflections of earlier life experiences and not an effect of the partner role per se.

The impact on sickness absence of the parental roles was adverse and remained significant after controlling for both domestic responsibility and children with additional needs. The parental role could, on the one hand, contain health promoting features, such as being needed, having a meaningful role to fulfil and being closer to a social network, but, on the other hand, may bring increased amount of work tasks, feelings of worry and increased opportunities for conflicts between the needs of children and family and other work tasks which might affect health negatively. Results from this study indicated that, at least for some women with a parental role, demands might be increased which could influence sickness absence. In this study, we have no information about the certification of sickness diagnosed, and the result might be influenced by ill-health related to, for example, pregnancy. Earlier research of the influence that children may have on women's sickness absence has been inconsistent and it has been difficult to assess both whether children influence sickness absence or not and, if so, what duration of sick-leave is most strongly associated to having children (29).

Health outcomes in relation to a specific role may vary depending on what other roles a person holds (5), and thus findings on combinations of roles in this study could be of advantage. A combination of two roles (occupation and partner), or having solely an occupational role, was positive for women's health and sickness absence. Results were viewed in comparison with women combining all three roles (occupation, partner and parent with children < 14 years) and thus in relation to a group where role strain could be expected as high. The findings could reflect difficulties in balancing work and family demands, which was found in an earlier study in relation to long-term sickness absence in Sweden (30). The cultural concept of high female labour force participation and gender equality in domestic work, including care for children, is strong in Sweden. However, statistics and research of everyday life do not fully support the embeddings of gender equality in daily family life (2, 3). Interestingly, the result from the present study was also in line with an Icelandic study, a country that has a similar context to

Sweden regarding labour participation and welfare system for parents, showing that employed parents with more than one child living at home were more exposed to strain associated with the parental role (31).

The results showed that combining an occupational and a partner role was positive in relation to the health outcomes analysed, which could be seen as support for the suggestion that more social roles can give access to different resources and influence health in a positive way, as suggested in the 'role enhancement' theory. However, the result was found in comparison with women also having a parental role that entailed having younger children living at home, which might be an indication that certain social roles can increase demands and produce conflicting expectations between roles, with possible negative effects on health as described in the 'role strain' theory.

The findings point to a need to go beyond simplified expectations regarding the importance of single or multiple roles for health outcomes. Thus, the contexts within which social roles are enacted must be examined and can be advantageous to gathering further knowledge about the complexity between social roles, health and sickness absence. Studies focusing on specific country contexts are of importance since associations between social roles and health might depend on factors such as the degree of labour force participation, parental support systems and gender equality. Further prospective studies are warranted, especially studies that have the ability to follow the importance of these roles for health over time, and those which have an ability to include health status prior to the social role held during the analysis.

Strengths and limitations

A major limitation of this study is that no causal inferences can be made between social roles, health outcomes and sickness absence due to the cross-sectional design. The strengths are that data from a general population was used. By controlling for alcohol dependence and abuse, and using statistical techniques taking the weighted data into account (SUDAAN), we do not consider that the baseline stratification has influenced the results in a crucial way. A further strength is brought by the well-defined, validated and clinically important health measures.

Conclusion

To have an occupational role, or a combination of an occupational role and a partner role, was related to lower odds for poor self-rated physical health and psychiatric disorder as well as to lower odds for long-term sickness absence, while a parental role was related to higher odds for long-term sickness absence in this study. The result might be an indication that certain social roles, and their interplay with work (i.e. having an occupational role) and family (i.e. partner and parental role), might be an important issue in relation to the outcome of women's health. Pointing to work and family reconciliation, results from this study could be of interest in countries with high or increasing female labour force participation.

ACKNOWLEDGEMENTS: The study was granted by The Swedish Research Council. The authors thank Valter Sundh for statistical advice and data management. No conflict of interest was reported.

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