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Social roles and alcohol consumption: a study of 10 industrialised countries*

Sandra Kuntsche, M.A.¹, Ronald A. Knibbe, Ph.D.², and Gerhard Gmel, Ph.D.^{1,3}

¹Swiss Institute for the Prevention of Alcohol and Drug Problems, Av. Ruchonnet 14, P.O.B. 870, CH-1001 Lausanne, Switzerland ²Department of Health Promotion, University Maastricht. P.O.B. 616, NL-6200 MD Maastricht, Netherlands ³Alcohol Treatment Centre, Lausanne University Hospital, Mont-Paisible 16, CH-1011 Lausanne, Switzerland

Abstract

The empirical evidence as regards the precise association between alcohol use and social roles, and these associations across genders and cultures is heterogeneous. The literature tends to focus on two central but conflicting theories. The first - classic role theory - assumes that a higher number of social roles is associated with a more structured life and thus fewer opportunities to drink heavily. The second - the multiple burden hypothesis - posits that the increasing complexity of multiple social roles leads to higher stress levels, and thus to increased alcohol use. Survey data on 25- to 54-year olds in ten western industrialised countries which participate in the GenACIS project were used to test whether holding the three main social roles - partnership, parenthood, and paid labour - had a more protective or a more detrimental association with problematic alcohol use than holding fewer roles. Age and education were included as possible confounders, while the outcome variables were risky single occasion drinking (RSOD) and heavy-volume drinking. For both genders and in almost all countries, the study found that those who had all three roles were least likely to drink heavily or engage in RSOD, thus supporting the assumptions of classic role theory. It also found that the protective effect of multiple roles was more consistent for RSOD. There were a few countries where a two-role model gave a better fit. Results for Germany

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Correspondence address: Sandra Kuntsche, Research Department, Av. Ruchonnet 14, P.O. 870, 1001 Lausanne, Switzerland, Tel: 0041 (0)21 321 29 56, Fax: 0041 (0)21 321 29 40, skuntsche@sfa-isp.ch.

(RSOD), Switzerland, and the US (heavy volume) indicate that the role of paid labour appears to be particularly relevant for risky alcohol use among women. Despite some variability in the association between paid labour and heavy drinking or RSOD among women, in almost all countries the greater the number of roles a person held, the lower their risk of this type of alcohol use was.

Keywords

Social roles; alcohol; gender; international comparisons

Social roles which define the social position of an individual within a given social system are based on enduring relations with other people and provide both a sense of identity and behavioural guidance (e.g. McCall & Simmons, 1996; Stryker & Serpe, 1982; Thoits, 1991). Holding a variety of social roles, such as partnership, parenthood or paid labour, may affect the health of the individual since these provide the “object” and “meaning” to her or his life (Durkheim, 1951). For example, several studies have shown that social roles are related to depression (e.g. Brown, 2002), psychological distress (Menaghan, 1989; Wheaton, 1990), and subjective well-being (e.g. Burton, Armstrong, & Rushing, 1993), and substance use (e.g. Burton, Johnson, Ritter, & Clayton, 1996; Schulenberg, Bachman, O’Malley, & Johnston, 1994).

The primary focus of our study is the extent to which the relation between the number of roles and alcohol use is similar across countries and gender. For the purposes of our research, we selected 10 (western) industrialised countries, since most of these place greatest importance on three specific adult roles: taking care of oneself by earning an income (paid labour), taking care of dependents, in particular children (parenting), and forming a permanent and stable relationship with a partner (partnership).

Alcohol research literature often uses the concept of “roles” to explain associations between drinking behaviour and social characteristics like family background/support and working life (Jennison, 1992; Johnson, 1982). In the last twenty years several studies have demonstrated the link between alcohol use and individual social roles, such as being a partner or a parent (Gmel, Bloomfield, Ahlström, Choquet, & Lecomte, 2000; Knibbe, Drop, & Muijtjens, 1987; R. W. Wilsnack & Cheloha, 1987). Only a handful of studies have concentrated on how consistent this association is across genders (Knibbe et al., 1987) or across countries (Gmel et al., 2000). Consequently, the present paper does not focus on particular social roles or on all possible role combinations, but rather examines, based on two theoretical hypotheses, how the integration in societal networks provided by partners, colleagues or children or the absence thereof influences the association between these roles and drinking.

The first theoretical perspective concerns classic role theory, which focuses on the beneficial health effects of holding multiple social roles (Aneshensel, Frerichs, & Clark, 1981; Hibbard & Pope, 1991; Hong & Seltzer, 1995). As regards alcohol use, this theory posits that the greater the number of social roles a person holds, the more his or her life is structured by meaningful activities that others expect one to engage in. Partnership, parenthood, and paid

labour bring individuals into contact with others and are associated with activities that are defined by the expectations of significant others. It can be assumed that the more everyday life is structured by social activities which the individual and others deem important, the more likely it is that he or she will take care that the time spent in drinking situations and/or behaviour changes due to drinking (e.g. drunkenness) does not interfere with their role obligations (Knibbe et al., 1987; Neve, Lemmens, & Drop, 1997). There is the expectation that activities offering immediate gratification, such as drinking, should not interfere with the adequate performance of these roles. Therefore, the social control on drinking may be stronger among individuals who hold all three roles. These considerations lead one to expect that the more roles a person holds, the less likely he or she is to engage in heavy-volume drinking or risky single occasion drinking (Knibbe et al., 1987; S. C. Wilsnack & Wilsnack, 1991).

The second theoretical perspective, the multiple burden hypothesis, assumes that role overload arising from holding too many social roles and from possible conflicts between the demands of these roles (e.g. child care and having to take on paid labour) is related to stress, since each person only has a finite amount of time and energy. In alcohol regulation theory, for example, drinking is considered a possible mechanism for coping with distress or with negative stress-related emotions (e.g. McCreary & Sadava, 1998; Peirce, Frone, Russell, & Cooper, 1994).

The multiple burden hypothesis has been mainly used in studies of women (e.g. Doyal, 1995). These found that being a single mother was particularly disadvantageous (e.g. Bernstein, 2001; Whitehead, Burstrom, & Diderichsen, 2000), since this group may experience contradictory pressures of working outside the home and their possible desire to be stay-at-home mothers (Ali & Avison, 1997). The main reasons behind the assumption that women are more likely to feel overburdened by holding all three roles compared to men are: (1) they may spend more time running the (shared) household than men; and (2) they may spend more time on childcare than men. This unequal distribution of work may mean that women feel overburdened by holding all three roles (Arber & Khlal, 2002; Lahelma, Arber, Kivela, & Roos, 2002). Given that previous research, which took the multiple burden hypothesis as their starting point, focused on physical and mental health issues (e.g. Maclean, Glynn, & Ansara, 2004) and not on alcohol use, our study, to the best of our knowledge, will therefore be the first to investigate the relevance of this theory for alcohol use in a multi-country context. To be able to identify countries where the multiple burden hypothesis sheds greater light than classic role theory on the relation between social roles and drinking, especially among women, we shall adopt a gender-specific approach to evaluate the relevance of the two theories in explaining alcohol use.

The starting point of the present study was classic role theory, which posits that holders of all three social roles should have the lowest alcohol consumption. For this reason, we investigated whether the risk of harmful alcohol use decreased as the number of social roles increased, and whether this held for both genders.

In a second step, the study aimed to shed more light on those countries in which a higher number of social roles was not associated with a lower risk of harmful alcohol use.

Particular attention was paid to countries supporting the multiple burden hypothesis. We examined which specific role or combination of roles may be responsible for the finding that holding all three social roles increases the risk of harmful alcohol use. Please note that for the purposes of this study, we defined harmful alcohol use as monthly risky single occasion drinking (RSOD) and heavy-volume drinking, measured as the average consumption in grams of ethanol per day.

Method

The study was based on data from the project *Gender, Alcohol and Culture: An International Study (GenACIS)*. At the time of writing, this project comprised 40 surveys from more than 30 countries. The present study focused on ten industrialised countries from Europe and North America (Austria, Czech Republic, Finland, France, Germany, Norway, Sweden, Switzerland, UK, and the United States); the national data provided sufficient information on social roles and harmful alcohol use. The focus on western industrialised countries ensured a minimum level of comparability regarding the measurement and the meaning of the three social roles - parenthood, partnership and paid labour - across societies. It should be noted that all surveys were nationally representative (see Table 1 for a general overview of the surveys and their characteristics).

Survey-based estimates usually cover between 30 and 70% of a country's per capita consumption, as derived from sales statistics (e. g Knibbe & Bloomfield, 2001; Rehm, 1998). While a major concern is the possible difference in under-reporting between social categories, which are defined by the roles held, previous studies have shown that rank orders of drinking were preserved and thus do not influence associations between variables (see Gmel & Rehm, 2004). We therefore assumed that it was unlikely that categories of respondents who differed in terms of the social roles they held also differed in terms of under-reported consumption. In addition, the study aimed to analyse the effects within countries and not to focus on prevalence comparisons across countries (see Bloomfield, Stockwell, Gmel, & Rehn, 2003).

The GenACIS project developed a core questionnaire which was used by the majority of participating countries. However, countries could also take part by providing a nationally representative survey on alcohol use that used similar questions; this was primarily the case in Europe. To enable a comparison of these surveys, a centralised data bank management system was installed, which encoded variables according to fixed rules. The results were summarised in a codebook, which was accessible to all participants (Gmel, Kuntsche, Grisel-Staub, Astudillo, Inglin, Kuendig et al., 2008).

Dependent variables

The present study focused exclusively on drinkers. Drinkers were defined as individuals who consumed alcohol during the past 12 months. The decision to exclude abstainers was motivated by our main research aim: to explain problematic alcohol use, not abstention. Previous studies which focused on abstention indicate that the factors which distinguish abstainers from drinkers are quite different from those which differentiate drinkers according to their level of consumption (e.g. Shaper & Wannamethee, 1998). The

percentage of current drinkers within all countries can be found in Table 2. Among drinkers two measures were used. First, we used a dichotomised heavy-volume drinking measure based on the volume of drinking, with a cut-off of 20 grams of pure ethanol a day for women and 30 grams for men; this reflects a compromise between the various thresholds commonly used in the literature (Bondy, Ashley, Rehm, & Walsh, 1999; Edwards, Anderson, Babor, Casswell, Ferrence, Giesbrecht et al., 1994; World Health Organization (WHO), 2000), as well as the need to have a sufficiently large number of individuals per country in the heavy-volume drinking group. Ethanol measures were derived from beverage-specific, quantity-frequency instruments for the last 12 months and for most countries. The exceptions were France, where the usual quantity was derived from the consumption “yesterday” and “last Saturday”, as well as the UK and Austria, where the drinking volume was derived from a recall period of seven days.

The second alcohol use measure was risky single occasion drinking during the past 12 months (RSOD; also called heavy episodic or binge drinking). France, Austria, and the UK were unable to provide RSOD data and therefore were not included in the respective analyses. For the other countries, RSOD was determined by questions that dealt with the consumption of a given amount of alcohol on a single occasion. The number of drinks varied across countries. For Switzerland a gender-specific measure was used: six glasses (about 60g pure ethanol) for women and eight glasses (about 80g) for men. In Finland (60g) and Sweden (72g), the measure was six glasses or more; in Germany (70g), the US (60g), and the Czech Republic (90g) it was five glasses, although these differed in terms of size and alcohol content. Norway asked for the following maximum beverage-specific, consumption frequencies: two litres of beer, or $\frac{3}{4}$ litre of wine or $\frac{1}{3}$ litre of spirits; it does not use a measure for beverage combinations (e.g. 1l of beer and $\frac{1}{2}$ l of wine). RSOD was dichotomised with a cut-off of experiencing such occasions at least on a monthly basis.

Independent variables

The “partnership” role was dichotomised into married or cohabiting (code=1) versus other (code=0).

The “parenthood” role included information about the existence of children in the household. It was dichotomised into child(ren) (1) versus no child(ren) (0).

The third role, “paid labour”, summarises the employment situation of the respondent. Paid workers, independent of whether they were employed part-time or full-time, as well as the self-employed were coded as 1; all others, including those in education, housewives, those not working for payment and those with an occupational disability, were coded as 0.

The indicator “number of social roles” is the sum of the three codes, ranging from zero to three, with all roles carrying equal weight.

Analysis was limited to respondents aged between 25 and 54. Within this age range it can be assumed that either the child or at least one of the children living in the household was a minor. Consequently, we further assumed that the presence of a child or children in the household implied that the parent still had child-rearing responsibilities. Based on the

assumption that people in this age range are no longer in education, being in paid labour should reflect more stable personal circumstances than being in temporary employment (e.g. students working to finance their studies).

Age and educational level were taken as two possible confounders. Educational level accounts for the confounding effects of socio-economic status on alcohol use and has the advantage over confounders, such as income or occupation, in that it varies less over time (Gottfredson & Deary, 2004). To derive comparable educational groups across countries, we applied the ISCED-97 (International Standard Classification of Education; (UNESCO Institute for Statistics, 1997). In addition, three levels - low, average and high - were defined in such a way that the majority of respondents were classified in the average category (for more details, see Bloomfield, Grittner, Kramer, & Gmel, 2006). Individuals with missing values on education, age, or one of the three social roles (2.8% of the total sample (including men)) were excluded from the analysis.

Statistical analysis

Two approaches were used to analyse the data. Using SPSS 15.0 a set of logistic regression models, stratified by gender and country, formed the basis of a two-stage analysis of the association between the number of social roles and drinking:

1. Taking as our starting point classic role theory which posits that those holding all three social roles have the lowest risk of alcohol use, logistic regressions of the number of social roles on the two alcohol measures - heavy-volume drinking and RSOD - were examined. The number of social roles was used as a categorical variable to enable the identification of situations where there is neither a monotonically increasing nor a monotonically decreasing association between the number of roles and alcohol consumption (see Hosmer & Lemeshow, 2000). According to this theory, holding any one of these roles should be associated with an OR < 1, compared with holding no role at all; as the number of roles increases, there should be a corresponding decrease in the OR. The strongest protective effect should be found in the three-role model. Furthermore, according to this theory detrimental effects will be indicated by odds ratios greater than 1 for holding three roles.
2. In countries where fewer social roles rather than the three-role combination were shown to have the greatest beneficial effect, a further analysis was carried out to identify which particular roles or role combination(s) led to an increase in the risk of heavy-volume drinking or RSOD. This involved examining the different role combinations of: a) holding no role, b) single roles and c) two roles. Using multiple logistic regression models, the individual impact of each possible role combination was examined for all countries where the three-role model was not associated with the lowest risks of heavy-volume drinking or RSOD.

The description and discussion of the findings were based not only on their significance but also on their consistency across countries. Significance is largely dependent on sample size and, following the suggestions of Rothmann (2002), the strength or importance of the findings also depends on the consistency of the direction of effects across different studies

(or, in our case, countries). As the number of social roles was tested as a categorical variable, significances for categories of one, two and three roles compared to the reference category (no role) can be derived. Furthermore, the significance level of the overall test for the number of roles, where the variable was taken as a block with three degrees of freedom (Hosmer & Lemeshow, 2000), and aligned to the reference groups in Tables 3 to 6.

To estimate the impact of the number of social roles across countries, the association between the number of social roles and alcohol use was analysed using a multilevel approach. A random intercept, random slope model (Hox, 2002) on binary data was estimated in HLM 6.0 (Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2004). To account for the differences in sample size across countries (see Table 1), we decided to weight all countries equally, according to a uniform sample size of 1,000 per gender for all four multilevel models (heavy-volume drinking and RSOD for men and women separately). Logistic HLM models were stratified by gender and adjusted for age and educational level. While all ten countries were included in the analysis of heavy-volume drinking, the RSOD models were limited to those seven countries where the variable was available.

Results

In almost all countries around nine out of ten male respondents reported alcohol use during the past 12 months. Among women the prevalence of current drinkers was slightly lower, but still exceeded 80% in eight out of ten countries. Exceptions were found among women in the United States and Switzerland (see Table 2). Among those who drank in the past 12 months, the percentage of heavy-volume drinking and RSOD varied widely across countries. Despite these differences, men in all countries showed a higher prevalence of RSOD and heavy-volume drinking, even though the cut-off for heavy-volume drinking was higher for them (30g pure ethanol per day) than it was for women (20g pure ethanol per day).

Regarding social roles, women in all countries were less often in paid labour than men and, with the exception of Switzerland, more frequently had children living with them. No gender differences could be found for the partnership role. The majority of men held all three social roles (partner, parent and paid worker), while women most often held only two.

As can be seen in Table 3, in most countries the greater the number of social roles a person has, the lower his or her risk of heavy-volume drinking is. Likewise, taking all countries together (see the total effect across countries at the bottom of Table 3), the number of social roles has significantly negative associations with heavy-volume drinking for men and for women. In general, the more roles both genders had, the lower their risk of heavy-volume drinking was.

Nevertheless, if tested as a block, the number of social roles had no significant effect on heavy-volume drinking in five countries for either men (Austria, Czech Republic, Finland, France, and Switzerland) or women (Czech Republic, Finland, France, Switzerland, and UK). Also, among these countries it appeared that for Finnish men and for women from the UK, the Czech Republic and Finland, the three-role model had the lowest OR. Among

Swedish and Norwegian women no heavy-volume drinking was reported by those holding two social roles in Sweden and those with three roles in Norway.

With regard to the multiple burden hypothesis, the most interesting countries were those in which individuals holding three roles presented a higher risk than individuals holding two. There were two countries where for men holding three roles was not more protective than having two roles: the Czech Republic and Switzerland. For women in the United States and Switzerland, holding three roles was less protective than two. Another notable case was France, where women holding no roles had the lowest risk of heavy-volume drinking, although the difference was not significant. Table 4 shows the impact of specific role combinations on heavy-volume drinking for Czech and Swiss men, as well as for French, Swiss and US women, i.e. for those countries in which the three-role model did not produce the lowest odds ratios. Given that all countries had a very small group of unemployed single fathers, this role combination was not included in the analysis of alcohol use among men.

The differences in the number of roles held by men in Switzerland and in the Czech Republic, and those held by French women were not statistically significant. In contrast, among women in Switzerland and the United States a significant relation was found between heavy-volume drinking and specific role combinations. The risk of heavy-volume drinking was lower among Swiss women who were not in paid labour and shared a household with partners and children (OR=0.423) than among those with three roles. All other role combinations resulted in higher risks than the three-role model, and significantly for single women in paid labour with (OR=2.723) or without children (OR=1.610).

The single role of being in paid labour was associated with a lower risk of heavy-volume drinking (OR=0.818) among US women compared to those holding all three roles. The effects of also being a mother (OR=0.494) or partner (OR=0.223) further reduced the risk. It should be noted, however, that women in the United States who held all three roles were at lower risk than those who held none of the three (OR=4.139), or who were single mothers and not in paid labour (OR=2.734).

Regarding the link between the number of social roles and RSOD (see Table 5), having three roles was associated with the lowest risk of RSOD for both genders and across most countries. Correspondingly, the total multi-level effect across all countries and across genders resulted in a significant decrease in the risk of RSOD as the number of social roles increased (see last line of Table 5). Nevertheless, some variations were found in individual countries. In Germany, the risk of RSOD was lower for men holding one role or a combination of the three, regardless of the number of roles they held. Among German women the two-role model resulted in the lowest risk of RSOD. Significant associations between the number of social roles (tested as a block) and RSOD could not be found for Swedish and Finnish women, or for German men.

Since the risks of RSOD among German men decreased for all social role combinations, we decided against an analysis of the relevance of specific role combinations. Therefore, the analysis for countries in which the three-role model did not produce the best protection is limited to German women (see Table 6). The risk of RSOD was lower for those living with

partners and children, but who were not in paid labour (OR=0.654) than it was for women holding all three social roles. All other role combinations resulted in higher risks of RSOD compared to those with the three-role model.

Discussion

The present study used two alcohol measures to investigate the association between the number of social roles and alcohol use in ten countries. For both genders and in almost all countries, the higher the number of social roles was, the stronger the protective effect it had on both alcohol measures (heavy-volume drinking and RSOD). However, on closer examination, this finding does not hold. In many countries the single-role model was associated with a more detrimental pattern than no role. Generally, the main results of the study were in line with classic role theory, which posits that the more social roles a person holds the lower his or her risk of heavy-volume drinking and RSOD is. Moreover, this theory generally also held for both genders, thereby supporting the results of previous research on alcohol use, which found a significant association exclusively among men (Knibbe et al., 1987). Potential confirmation of the multiple burden hypothesis was found in the United States, Switzerland and Germany; all three cases concerned heavy-volume drinking (US and CH), and RSOD (DE).

As regards heavy-volume drinking, no clear pattern for its association with the number of social roles was found among Swiss and Czech men, or among French women. All three countries are known for their high integration of alcohol in everyday life - wine in Switzerland and France, beer in the Czech Republic. Correspondingly, the Global Burden of Disease study (Rehm, Room, Monteiro, Gmel, Graham, Rehn et al., 2004) classified them as “wet” countries. It has been suggested that in such countries, there is less variation in drinking between sub-categories of the population, including subpopulations defined by roles (Skog, 1985).

In terms of heavy-volume drinking among women in Switzerland and the US, the two-role model was associated with a lower risk of heavy-volume drinking than the three-role model. A comparable pattern was found among German women regarding RSOD. Among Swiss and German women the lower risks were due to the high prevalence of the most protective two-role model (parent and partner). Interestingly, the situation was different for women in the United States. Those at the lowest risk of heavy-volume drinking were gainfully employed women (with or without a partner and with children). In contrast to their Swiss and German counterparts, women in the United States benefited from being employed but not from living at home with children despite the presence of a partner. A possible explanation may lie in the nature of paid labour within these societies. Whereas in the United States, paid labour seems to play a central role in one's sense of identity irrespective of gender, it may be a source of conflict for women in Switzerland and Germany, where a more traditional role model of being a partner and mother is favoured, and where paid labour may therefore constitute an additional source of stress. This explanation is also confirmed by the results of earlier studies (e.g. Gmel et al., 2000; Lahelma et al., 2002). Trying to reconcile the need to earn money and raise a family may create a conflict of roles, particularly among individuals who cannot share child-rearing responsibilities with a

partner, or who live in countries where day care is less readily available (affordable), as is the case in Switzerland. In such instances, the three cases cited above may support the multiple burden hypothesis for women in these countries. To evaluate this further, future research should focus on the possible association between social roles and alcohol use among women in these countries.

However, there is another explanation for this finding. Previous studies reported that being employed offers more opportunities for alcohol use among women (e.g. Haavio-Mannila, 1991; Hammer & Vaglum, 1989; Shore, 1997). Based on our findings, it remains unclear whether it was the simple fact of having more opportunities to drink or the resulting stress of combining family obligations with a career that led women with three roles to drink more.

Some drawbacks of the present study must be mentioned. It focused on a comparison of several western industrialised countries that participated in the GenACIS project. In the interests of comparability, the analysis was restricted to rather crude measures of social roles, which in turn only permits a generalized interpretation of the results. Future studies should focus on the impact of possible confounders, including family factors like the number of children, their age, and job-related variables, such as being in part-time or full-time employment. Nevertheless, despite the lower specificity and the cross-country differences in alcohol use measures and social roles, a rather consistent association was found between the number of social roles and alcohol use: the more roles that a person had, the lower their risk of detrimental alcohol use was. This strengthens the likelihood that the associations found in this study are robust rather than spurious.

Given the wide age range of the study (25 to 54 year olds), broad categories like having no children, no partner or no paid labour may have a different meaning for each age group. For example, in the younger age groups having no children at home may mean that pregnancy has not been considered, while in older age groups children may have already left home. Similarly, unemployment may have different effects in older age groups than among those who have recently completed their further education. Given the design of the present study, it was not possible to address these issues. More specific studies are needed to establish whether the association between roles and alcohol use varies according to the nature of or the time spent on paid labour, the age of the respondent, the age of his or her children and his or her relationship with a partner.

Owing to the cross-sectional design of the study, we were unable to establish any causal association between the number of social roles and alcohol use. Thus, we cannot categorically say whether the number of social roles someone holds results in reduced alcohol use or that someone's alcohol use limits his/her access to certain social roles, such as finding a partner or work. Another limitation concerns the drinker-only focus; conclusions can be drawn exclusively for individuals who have consumed alcohol in the past 12 months. This selection may be problematic in countries with high abstention rates, which means that sub-populations may be over- or under-represented in the group of abstainers.

The present study found that for both genders and in most countries, the existence of one social role was associated with an OR below 1. Thus, we posit that all three social roles

(parenthood, partnership and paid labour) impose a structure on everyday life, hence the possible association with alcohol use. Consequently, we perceive social roles more as a measure of how well a person is integrated in a society and how the responsibilities which these roles bring lead to fewer opportunities to drink. The only notable exceptions were found in countries where alcohol use is highly integrated into everyday life (men in France, Switzerland and the Czech Republic) and among women in certain societies (US, Germany, and Switzerland).

References

- Ali J, Avison WR. Employment transitions and psychological distress: the contrasting experiences of single and married mothers. *Journal of Health and Social Behavior*. 1997; 38(4):345–362. [PubMed: 9425779]
- Aneshensel CS, Frerichs RR, Clark VA. Family roles and sex differences in depression. *Journal of Health and Social Behavior*. 1981; 22(4):379–393. [PubMed: 7320475]
- Arber S, Khlat M. Introduction to ‘social and economic patterning of women’s health in a changing world.’. *Social Science and Medicine*. 2002; 54(5):643–647. [PubMed: 11999483]
- Bernstein AB. Motherhood, health status, and health care. *Womens Health Issues*. 2001; 11(3):173–184. [PubMed: 11336859]
- Bloomfield K, Grittner U, Kramer S, Gmel G. Social inequalities in alcohol consumption and alcohol-related problems in the study countries of the EU concerted action ‘Gender, Culture and Alcohol Problems: A Multi-National Study’. *Alcohol and Alcoholism*. 2006; 41(Suppl 1):i26–i36. [PubMed: 17030500]
- Bloomfield K, Stockwell T, Gmel G, Rehn N. International comparison of alcohol consumption. *Alcohol Research and Health*. 2003; 27(1):95–109. [PubMed: 15301404]
- Bondy SJ, Ashley MJ, Rehm J, Walsh GW. Do Ontarians drink in moderation? A baseline assessment against Canadian low risk drinking guidelines. *Canadian Journal of Public Health*. 1999; 90(4):272–276. [PubMed: 10489726]
- Brown GW. Social roles, context and evolution in the origins of depression. *Journal of Health and Social Behavior*. 2002; 43(3):255–276. [PubMed: 12467252]
- Burton RPD, Armstrong DA, Rushing B. Social roles and subjective well-being: a decomposition of race differences. *Sociological Spectrum*. 1993; 13:415–431.
- Burton RPD, Johnson RJ, Ritter C, Clayton RR. The effects of role socialization on the initiation of cocaine use: an event history analysis from adolescence into middle adulthood. *Journal of Health and Social Behavior*. 1996; 37(1):75–90. [PubMed: 8820312]
- Doyal, L. *What Makes Women Sick, Gender and the Political Economy of Health*. London: Macmillan; 1995.
- Durkheim, E. *Suicide: A Study in Sociology*. New York, NY: Free Press; 1951.
- Edwards, G.; Anderson, P.; Babor, TF.; Casswell, S.; Ferrence, RG.; Giesbrecht, N., et al. *Alcohol Policy and the Public Good*. New York, NY: Oxford University Press; 1994.
- Gmel G, Bloomfield K, Ahlström S, Choquet M, Lecomte T. Women’s roles and women’s drinking: a comparative study in four European Countries. *Substance Abuse*. 2000; 21(4):249–264. [PubMed: 12466663]
- Gmel, G.; Kuntsche, S.; Grisel-Staub, E.; Astudillo, M.; Inglin, S.; Kuendig, H., et al. *Gender, Alcohol, and Culture: An International Study (GENACIS)*. Lausanne: Schweizerische Fachstelle für Alkohol- und andere Drogenprobleme (SFA); 2008. Retrieved from <http://www.genacis.org>
- Gmel G, Rehm J. Measuring alcohol consumption. *Contemporary Drug Problems*. 2004; 31(Fall):467–540.
- Gottfredson LS, Deary IJ. Intelligence predicts health and longevity, but why? *Current Directions in Psychological Science*. 2004; 13(1):1–4.
- Haavio-Mannila E. Impact of co-workers on female alcohol use. *Contemporary Drug Problems*. 1991; 18(4):597–627.

- Hammer T, Vaglum P. The increase in alcohol consumption among women: a phenomenon related to accessibility or stress? A general population study. *British Journal of Addiction*. 1989; 84(7):767–775. [PubMed: 2788019]
- Hibbard JH, Pope CR. Effect of domestic and occupational roles on morbidity and mortality. *Social Science and Medicine*. 1991; 32(7):805–811. [PubMed: 2028275]
- Hong J, Seltzer MM. The psychological consequences of multiple roles: The nonnormative case. *Journal of Health and Social Behavior*. 1995; 36(December):386–398. [PubMed: 8719056]
- Hosmer, DW.; Lemeshow, S. *Applied Logistic Regression*. New York, NY: John Wiley & Sons, Inc; 2000.
- Hox, JJ., editor. *Multilevel Analysis: Techniques and Applications*. Mahwah, NJ: Lawrence Erlbaum Associates; 2002.
- Jennison KM. The impact of stressful life events and social support on drinking among older adults: a general population survey. *International Journal of Aging and Human Development*. 1992; 35(2): 99–123. [PubMed: 1399077]
- Johnson PB. Sex differences, women's roles and alcohol use: preliminary national data. *Journal of Social Issues*. 1982; 38(2):93–116.
- Knibbe RA, Bloomfield K. Alcohol consumption estimates in survey in Europe: comparability and sensitivity for gender differences. *Substance Abuse*. 2001; 22(1):23–38. [PubMed: 12466667]
- Knibbe RA, Drop MJ, Muijtens A. Correlates of stages in the progression from everyday drinking to problem drinking. *Social Science and Medicine*. 1987; 24(5):463–473. [PubMed: 3576264]
- Lahelma E, Arber S, Kivela K, Roos E. Multiple roles and health among British and Finnish women: the influence of socioeconomic circumstances. *Social Science and Medicine*. 2002; 54(5):727–740. [PubMed: 11999489]
- Maclean H, Glynn K, Ansara D. Multiple roles and women's mental health in Canada. *BMC Women's Health*. 2004; 4(Suppl 1):S3. [PubMed: 15345066]
- McCall, G.; Simmons, R. *Identities and Interactions*. New York: Free Press; 1996.
- McCreary DR, Sadava SW. Stress, drinking, and the adverse consequences of drinking in two samples of young adults. *Psychology of Addictive Behaviors*. 1998; 12(4):247–261.
- Menaghan EG. Role changes and psychological well-being: variations in effects by gender and role repertoire. *Social Forces*. 1989; 67:693–714.
- Neve RJ, Lemmens PH, Drop MJ. Gender differences in alcohol use and alcohol problems: mediation by social roles and gender-role attitudes. *Substance Use and Misuse*. 1997; 32(11):1439–1459. [PubMed: 9336859]
- Peirce RS, Frone MR, Russell M, Cooper ML. Relationship of financial strain and psychosocial resources to alcohol use and abuse: the mediating role of negative affect and drinking motives. *Journal of Health and Social Behavior*. 1994; 35(4):291–308. [PubMed: 7844327]
- Raudenbush, SW.; Bryk, AS.; Cheong, YF.; Congdon, R.; du Toit, M. *HLM 6: Hierarchical Linear and Nonlinear Modeling*. Lincolnwood, IL: SSI Scientific Software International; 2004.
- Rehm J. Measuring quantity, frequency, and volume of drinking. *Alcoholism: Clinical and Experimental Research*. 1998; 22(2 Suppl):4S–14S.
- Rehm, J.; Room, R.; Monteiro, MG.; Gmel, G.; Graham, K.; Rehn, N., et al. Alcohol use. In: Ezzati, M.; Lopez, AD.; Rodgers, A.; Murray, CJL., editors. *Comparative Quantification of Health Risks. Global and Regional Burden of Disease Attributable to Selected Major Risk Factors*. Geneva: World Health Organization (WHO); 2004. p. 959-1108.
- Rothman, KJ. *Epidemiology - An Introduction*. Oxford: Oxford University Press; 2002.
- Schulenberg J, Bachman JG, O'Malley PM, Johnston LD. High school educational success and subsequent substance use: a panel analysis following adolescents into young adulthood. *Journal of Health and Social Behavior*. 1994; 35(1):45–62. [PubMed: 8014429]
- Shaper, AG.; Wannamethee, SG. The J-shaped curve and changes in drinking habit. In: Chadwick, DJ.; Goode, JA., editors. *Alcohol and Cardiovascular Diseases: Novartis Foundation Symposium 216*. New York, NY: John Wiley & Sons; 1998. p. 173-188.

- Shore ER. The relationship of gender balance at work, family responsibilities and workplace characteristics to drinking among male and female attorneys. *Journal of Studies on Alcohol*. 1997; 58(3):297–302. [PubMed: 9130222]
- Skog OJ. The collectivity of drinking cultures: a theory of the distribution of alcohol consumption. *British Journal of Addiction*. 1985; 80(1):83–99. [PubMed: 3856453]
- Stryker, S.; Serpe, RT. Commitment, identity salience, and role behavior. In: Ickes, W.; Knowles, ES., editors. *Personality, roles and social behavior*. New York, NY: Springer-Verlag; 1982. p. 199–218.
- Thoits PA. On merging identity theory and stress research. *Social Psychology Quarterly*. 1991; 54:101.
- UNESCO Institute for Statistics. *International Standard Classification of Education 1997*. Montreal: UNESCO; 1997.
- Wheaton B. Life Transitions, Role Histories, and Mental Health. *American Sociological Review*. 1990; 55(2):209–223.
- Whitehead M, Burstrom B, Diderichsen F. Social policies and the pathways to inequalities in health: A comparative analysis of lone mothers in Britain and Sweden. *Social Science and Medicine*. 2000; 50(2):255–270. [PubMed: 10619694]
- Wilsnack RW, Cheloha R. Women's roles and problem drinking across the lifespan. *Social Problems*. 1987; 34(3):231–248.
- Wilsnack SC, Wilsnack RW. Epidemiology of women's drinking. *Journal of Substance Abuse*. 1991; 3(2):133–157. [PubMed: 1821278]
- World Health Organization (WHO). *International Guide for Monitoring Alcohol Consumption and Related Harm*. Geneva: WHO, Department of Mental Health and Substance Dependence, Noncommunicable Diseases and Mental Health Cluster; 2000.

Table 1

Survey characteristics and sample size by age and sex among all respondents aged between 25 and 54

	Survey year	Survey mode	Women	Men	Total
Austria	1993	face-to-face	2071	2077	4148
Czech Republic	2002	face-to-face	825	796	1621
Finland	2000	face-to-face /	563	587	1150
France	1999	telephone	4265	3452	7717
Germany	2000	postal	3253	2675	5928
Norway	1999	face-to-face /	663	608	1271
Sweden	2002	telephone	1418	1373	2791
Switzerland	2002	telephone	5253	4817	10070
UK	2000	face-to-face (CAPI)	591	570	1161
USA	1995/1996	face-to-face	1650	1439	3089

Remarks:

/ partly self-administered

CAPI: computer assisted personal interviewing

Table 2

Percentages of alcohol use in the past 12 months (among all respondents), heavy-volume drinking, RSOD and social roles (among drinkers) by country and by gender

	Austria	Czech Republic	Finland	France	Germany	Norway	Sweden	Switzerland	UK	USA
Men										
Alcohol use in the past 12 months ¹	94.8	91.8	94.0	96.2	96.0	94.9	92.6	88.4	91.4	72.8
Heavy-volume drinking (at least 30g pure ethanol a day)	27.3	38.9	11.3	21.0	18.7	8.7	3.0	12.6	19.0	13.9
RSOD	-	30.5	52.1	-	41.5	21.0	19.8	8.3	-	31.9
Partnership	62.3	67.2	72.6	57.3	73.4	71.8	72.4	69.4	67.2	69.4
Paid labour	92.7	91.9	85.1	91.1	84.7	87.7	89.1	95.0	80.4	85.9
Parenthood	44.0	46.2	47.3	48.8	64.3	55.8	51.7	45.7	47.8	53.9
Number of social roles										
0	3.1	3.6	8.2	4.7	6.2	4.2	5.0	2.5	7.7	5.8
1	31.6	28.2	20.8	30.7	18.2	25.3	21.1	28.9	25.1	24.0
2	28.5	27.6	28.8	27.3	22.4	21.7	29.6	27.6	31.3	25.5
3	36.8	40.6	42.2	37.3	53.2	48.9	44.3	44.0	35.9	44.8
Women										
Alcohol use in the past 12 months ¹	86.2	81.2	94.3	92.4	94.8	94.6	86.9	73.5	86.8	56.0
Heavy-volume drinking (at least 20g pure ethanol a day)	7.1	13.7	3.8	6.6	11.2	3.0	0.6	5.0	10.5	7.7
RSOD	-	10.3	12.7	-	11.8	7.0	3.2	2.6	-	11.0
Partnership	67.0	70.0	76.1	56.0	77.8	70.7	74.1	71.6	69.0	46.3
Paid labour	62.8	80.7	77.8	73.9	55.8	76.1	83.3	76.3	62.8	70.3
Parenthood	51.2	54.2	55.0	53.7	73.5	65.6	55.4	42.1	62.4	65.9
Number of social roles										
0	4.5	1.8	3.4	4.8	2.8	4.3	3.2	2.7	4.1	3.6
1	30.8	22.2	18.5	32.2	15.7	17.2	18.0	30.4	25.7	32.8
2	43.8	45.2	44.1	37.4	53.1	40.4	41.5	41.2	42.1	41.1
3	20.9	30.7	34.1	25.6	28.4	38.1	37.3	25.7	28.1	22.5

Remarks:

¹ Percentage of drinkers in the entire sample

Table 3

Cell sizes, odds ratios, CI 95% and significance level of heavy-volume drinking on the number of social roles by gender and by country; multilevel model by gender; all adjusted for age and educational level; drinkers only

	Men					Women						
	n	OR	CI 95%	Sig.	n	OR	CI 95%	Sig.	n	OR	CI 95%	Sig.
Austria					79							
no role	59			0.082								0.043
one role	615	1.021	0.564 – 1.850	0.945	536	0.782	0.368 – 1.661	0.522				
two roles	556	0.769	0.421 – 1.405	0.393	776	0.499	0.234 – 1.061	0.071				
three roles	720	0.769	0.425 – 1.391	0.385	371	0.439	0.191 – 1.008	0.052				
Czech Republic					12							
no role	26			0.512								0.051
one role	206	0.796	0.346 – 1.831	0.591	149	1.293	0.264 – 6.331	0.751				
two roles	202	0.627	0.272 – 1.447	0.274	303	0.862	0.179 – 4.143	0.853				
three roles	297	0.794	0.350 – 1.797	0.579	206	0.540	0.108 – 2.690	0.452				
Finland					18							
no role	45			0.277								0.151
one role	114	0.500	0.202 – 1.241	0.135	98	0.454	0.081 – 2.555	0.370				
two roles	159	0.433	0.179 – 1.046	0.063	234	0.290	0.056 – 1.501	0.140				
three roles	233	0.434	0.186 – 1.013	0.054	181	0.131	0.020 – 0.871	0.035				
France					191							
no role	156			0.455								0.051
one role	1019	1.070	0.629 – 1.820	0.803	1270	1.853	0.731 – 4.697	0.193				
two roles	908	0.891	0.525 – 1.512	0.668	1471	1.814	0.724 – 4.548	0.204				
three roles	1239	0.908	0.541 – 1.523	0.714	1009	1.222	0.477 – 3.127	0.676				
Germany					86							
no role	160			0.000								0.049
one role	468	0.639	0.440 – 0.927	0.018	485	0.528	0.279 – 0.999	0.050				
two roles	575	0.588	0.405 – 0.854	0.005	1638	0.429	0.235 – 0.782	0.006				
three roles	1366	0.402	0.280 – 0.577	0.000	876	0.418	0.222 – 0.787	0.007				
Norway					27							
no role	24			0.000								0.000
one role	146	0.534	0.197 – 1.448	0.217	108	0.458	0.126 – 1.688	0.236				
two roles	125	0.164	0.051 – 0.529	0.003	253	0.163	0.044 – 0.609	0.007				
three roles	282	0.048	0.014 – 0.161	0.000	239	0.000	–	0.994				
Sweden					40							
no role	63			0.001								0.001
one role	267	0.798	0.225 – 2.824	0.726	222	1.380	0.120 – 15.921	0.796				

	Men					Women						
	n	OR	CI 95%	Sig.	n	OR	CI 95%	Sig.	n	OR	CI 95%	Sig.
Switzerland	two roles	376	0.739	0.214 – 2.555	0.633	510	0.000	–				0.992
	three roles	563	0.168	0.042 – 0.667	0.011	459	0.115	0.006 – 2.413				0.164
	no role	105			0.753	103						0.184
UK	one role	1230	0.912	0.464 – 1.793	0.790	1175	1.226	0.405 – 3.709				0.718
	two roles	1048	0.993	0.509 – 1.934	0.983	1590	0.801	0.269 – 2.390				0.691
	three roles	1873	1.045	0.543 – 2.012	0.896	994	0.867	0.288 – 2.611				0.800
USA	no role	40			0.000	21						0.405
	one role	131	1.507	0.668 – 3.402	0.323	132	0.546	0.161 – 1.850				0.331
	two roles	163	0.589	0.256 – 1.356	0.213	216	0.444	0.135 – 1.458				0.181
Total effect across all countries [/]	three roles	187	0.399	0.170 – 0.935	0.035	144	0.350	0.100 – 1.227				0.101
	no role	60			0.000	33						0.023
	one role	251	1.173	0.501 – 2.745	0.713	302	0.306	0.073 – 1.275				0.104
Remarks: Block likelihood ratio tests are aligned to the references group (no role).	two roles	266	0.460	0.194 – 1.093	0.079	380	0.129	0.030 – 0.552				0.006
	three roles	469	0.444	0.192 – 1.027	0.058	208	0.241	0.058 – 1.010				0.052
	no role											
* no woman drinking at least 20g pure ethanol per day	one role		0.817	0.594 – 1.125	0.197		0.665	0.520 – 0.850				0.006
	two roles		0.702	0.586 – 0.841	0.002		0.579	0.450 – 0.747				0.001
	three roles		0.700	0.551 – 0.891	0.011		0.566	0.430 – 0.748				0.001

Remarks: Block likelihood ratio tests are aligned to the references group (no role).

* no woman drinking at least 20g pure ethanol per day

[/] as estimated in a random slope, random intercept model in HLM

Table 4

Cell sizes, odds ratios, CI 95% and significance level of heavy-volume drinking on the combination of social roles by gender and by country, adjusted for age and educational level; drinkers only

	Men*				Women			
	n	OR	CI 95%	Sig.	n	OR	CI 95%	Sig.
Czech Republic	297			0.595				
all roles								
no role	26	1.261	0.557 – 2.854	0.578				
partner	14	0.892	0.293 – 2.713	0.840				
child(ren)								
paid labour	191	0.998	0.684 – 1.457	0.992				
partner & child(ren)	18	0.835	0.310 – 2.250	0.722				
child(ren) & paid labour	22	1.464	0.609 – 3.517	0.394				
partner & paid labour	162	0.718	0.475 – 1.083	0.114				
France	1009							
all roles								
no role	191	0.828	0.324 – 2.116	0.693				
partner	212	2.095	1.264 – 3.472	0.004				
child(ren)	189	1.812	0.888 – 3.698	0.102				
paid labour	869	1.204	0.767 – 1.888	0.420				
partner & child(ren)	435	1.771	1.131 – 2.775	0.013				
child(ren) & paid labour	485	1.184	0.705 – 1.991	0.523				
partner & paid labour	551	1.542	1.018 – 2.336	0.041				
Switzerland	1873							
all roles								
no role	105	0.957	0.497 – 1.843	0.895				
partner	45	0.827	0.368 – 1.860	0.647				
child(ren)								
paid labour	1185	0.877	0.679 – 1.134	0.317				
partner & child(ren)	61	0.797	0.410 – 1.550	0.503				
child(ren) & paid labour	12	1.373	0.413 – 4.563	0.605				
partner & paid labour	975	0.956	0.773 – 1.183	0.679				
USA	208							
all roles								
no role	33	4.139	0.957 – 17.568	0.054				

	Men*				Women			
	n	OR	CI 95%	Sig.	n	OR	CI 95%	Sig.
partner	34	1.274	0.409 – 3.973	0.676				
child(ren)	112	2.734	0.989 – 7.560	0.053				
paid labour	156	0.818	0.331 – 2.021	0.664				
partner & child(ren)	94	1.237	0.485 – 3.156	0.657				
child(ren) & paid labour	194	0.494	0.140 – 1.737	0.272				
partner & paid labour	92	0.223	0.060 – 0.827	0.025				

Remarks:

* Unemployed single fathers were not taken into account due to small cell sizes

Block likelihood ratio tests are aligned to the references group (all roles).

Table 5

Cell sizes, odds ratios, CI 95% and significance level of RSOD on number of social roles by gender and by country; multilevel model by gender; all adjusted for age and educational level; drinkers only

	Men				Women			
	n	OR	CI 95%	Sig.	n	OR	CI 95%	Sig.
Czech Republic	no role	26		0.041	12			0.048
	one role	206	0.512	0.223 – 1.175	147	1.123	0.222 – 5.673	0.888
	two roles	202	0.648	0.283 – 1.483	302	0.927	0.190 – 4.527	0.925
	three roles	296	0.405	0.179 – 0.918	206	0.425	0.081 – 2.215	0.309
Finland	no role	40		0.022	17			0.090
	one role	107	1.658	0.785 – 3.501	87	1.150	0.321 – 4.124	0.830
	two roles	153	1.269	0.625 – 2.575	216	0.642	0.190 – 2.172	0.476
	three roles	212	0.811	0.405 – 1.625	169	0.436	0.121 – 1.567	0.204
Germany	no role	160		0.066	86			0.002
	one role	468	0.662	0.482 – 0.910	485	0.950	0.520 – 1.733	0.866
	two roles	575	0.694	0.505 – 0.955	1638	0.550	0.308 – 0.981	0.043
	three roles	1365	0.677	0.498 – 0.920	876	0.698	0.378 – 1.288	0.250
Norway	no role	24		0.000	27			0.000
	one role	146	1.724	0.068 – 4.453	108	0.388	0.138 – 1.094	0.074
	two roles	125	0.757	0.277 – 2.066	253	0.152	0.055 – 0.422	0.000
	three roles	282	0.318	0.121 – 0.838	239	0.065	0.021 – 0.207	0.000
Sweden	no role	64		0.000	40			0.151
	one role	267	0.957	0.531 – 1.725	222	1.033	0.239 – 4.471	0.965
	two roles	376	0.532	0.294 – 0.963	510	0.789	0.188 – 3.313	0.746
	three roles	563	0.398	0.222 – 0.715	458	0.354	0.074 – 1.705	0.196
Switzerland	no role	97		0.000	102			0.002
	one role	1207	1.154	0.611 – 2.180	1154	0.789	0.296 – 2.103	0.636
	two roles	977	0.635	0.330 – 1.222	1548	0.398	0.151 – 1.048	0.062
	three roles	1739	0.453	0.238 – 0.862	981	0.264	0.094 – 0.744	0.012
USA	no role	61		0.002	33			0.025
	one role	250	0.530	0.264 – 1.065	302	0.549	0.129 – 2.332	0.417
	two roles	266	0.354	0.178 – 0.704	380	0.363	0.086 – 1.532	0.168

	Men				Women			
	n	OR	CI 95%	Sig.	n	OR	CI 95%	Sig.
three roles	468	0.346	0.177 – 0.677	0.002	207	0.215	0.049 – 0.948	0.042
no role								
one role		1.052	0.636 – 1.740	0.833		0.744	0.480 – 1.153	0.186
two roles		0.875	0.741 – 1.033	0.124		0.665	0.486 – 0.910	0.029
three roles		0.793	0.700 – 0.899	0.008		0.617	0.481 – 0.791	0.006

Total effect across all countries¹

Remarks: Block likelihood ratio tests are aligned to the references group (no role).

¹ as estimated in a random slope, random intercept model in HLM

Table 6

Cell sizes, odds ratios, CI 95% and significance level of RSOD on the combination of social roles among German women; adjusted for age and educational level; drinkers only

	n	OR	CI 95%	Sig.
Germany				
all roles	876			0.001
no role	86	1.451	0.784 – 2.684	0.236
partner	69	1.140	0.547 – 2.376	0.726
child(ren)	99	1.111	0.580 – 2.127	0.751
paid labour	317	1.511	1.023 – 2.233	0.038
partner & child(ren)	1109	0.654	0.475 – 0.899	0.009
child(ren) & paid labour	182	1.280	0.785 – 2.088	0.322
partner & paid labour	347	0.994	0.657 – 1.502	0.977

Remarks: Block likelihood ratio tests are aligned to the references group (all roles).