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Self-reported health among
lone mothers:
Do employment and
education matter?

Research Paper

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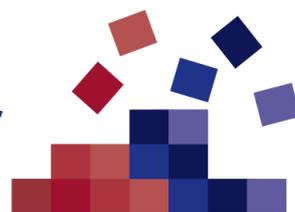
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A u t e u r - e - s

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A b s t r a c t

Lone motherhood is often associated to factors that increase women's risk of developing poor health, such as being unemployed or poor. Employment fosters better physical health by attenuating economic hardship and improving overall well-being. However, employment can also represent an additional stress factor for lone mothers who face the dual role of main caregiver and main earner. Taking a life course perspective, we investigate how employment associate to self-assessed health of lone mothers in comparison to mothers living with a partner. In Switzerland, weak welfare provisions for families, expensive public childcare, and marriage-based taxation translate into a high incompatibility between work and family, in turn resulting in high shares of maternal part-time work. In this context, being a lone mother might be associated with worse health. Our analyses of the Swiss Household Panel (waves 1999-2011) compared lone mothers and mothers living with a partner, suggesting that lone mothers who are out of the labor market, especially those holding an upper-secondary degree, have a higher probability of poor health. We found that lone mothers working full-time were in better health than those working part-time but that the opposite applied to mothers living in couples. We argue that the negative association between health and paid work for lone mothers is the result of intersections between employment, education, and lone parenthood in a context of poor welfare support.

K e y w o r d s

Lone mothers | Health | Employment | Education | Life course | Multiple disadvantages | Family structure

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1. Introduction

Research in different fields shows health to be unevenly distributed across social groups. Differentials in health outcomes have been attributed to a number of individual-level, family-level, and society-level characteristics (Dannefer, 2003; Fritzell, Ringbäck Weitoft, Fritzell, & Burström, 2007; Weitoft Ringbäck, Haglund, Hjern, & Rosén, 2002; Whitehead, Burström, & Diderichsen, 2000). At the individual level, well-known characteristics associated with better health outcomes include being employed and living with a partner (Cullati, 2014; Huber, Lechner, & Wunsch, 2011). Although employment status and partnership status have separately received much attention as determinants of health, less is known about the effect of their interaction. Changes in family structures due to increasing divorce rates can trigger unexpected associations between employment and health. Lone mothers' health for instance may still benefit from paid work: in many countries, lone mothers work on average more than mothers living with a partner (OECD 2013). At the same time, the increased strain due to the dual roles of lone mothers (as main caregiver and main earner) may result in a decrease in health consequent to the transition to lone parenthood (Bianchi & Milkie, 2010).

The few studies on the relationship between paid work and health for lone parents offer mixed empirical evidence (Friedland & Price, 2003; Macran, Clarke, Sloggett, & Bethune, 1994). Some find a negative relationship between paid work and lone parents' health resulting from difficulties in work-family reconciliation; when mothers cover multiple roles, paid work creates additional stresses that nullify the potential benefit to health (Avison, Ali, & Walters, 2007; Burstrom et al., 2010; Dziak, Janzen, & Muhajarine, 2010). Other studies show better health outcomes for working lone mothers, at least partly resulting from a higher level of income (Conger & Elder, 1994; Hope, Power, & Rodgers, 1999; Wickrama et al., 2006). Some evidence exists of positive effects of employment even after taking the improved economic situation into account (Ross & Bird, 1994).

We contribute to the existing literature on the interaction between family structure, health, and employment by considering the association between lone motherhood and health. In particular, we analyze whether health and labor market participation interact differently for lone mothers and for mothers living in couples. We further explore the heterogeneities in these main interactions according to education and the number of working hours. Our major

outcome of interest is self-reported health (SRH), which is the best proxy for a global evaluation of health status (WHO, 2013). We zoom in on two factors related to employment that mediate the association between lone parents' paid work and their health: education and working hours. Highly educated mothers may have greater health benefits from paid work because they have access to more relational and economic resources than less-educated mothers do. Resources may be used to reduce the caregiver-earner trade-off. In addition, compared to their less-educated peers, highly educated women show stronger labor market attachment and have more power to bargain with employers for favorable work-family conditions (DiPrete & Buchmann, 2013; Esping-Andersen, 2009). Working part-time might facilitate the combination of work and care and thus might reduce stress, but the resulting diminished financial resources can have detrimental effects on health. Evidence of differential health outcomes associated with working part-time or full-time for lone mothers is mixed (Burström, Diderichsen, Shouls, & Whitehead, 1999; Conway & Briner, 2002; Costa, Sartori, & Akerstedt, 2006; Waldron, Hughes, & Brooks, 1996).

Switzerland is a particularly interesting context for studying how mothers' partnership status can differently affect health when women are engaged in paid work or are unemployed. In Switzerland, low levels of welfare support for parents (OFS, 2015) match with a highly gendered division of labor, a high share of part-time employment among women, and a high gender pay gap (Anonymous 2013; Büttler & Ruesch, 2007; Stutz & Knupfer, 2012). In such a context, when experiencing lone parenthood and potentially facing an even stronger work-care trade-off, women can be exposed to additional disadvantages in other life domains, such as health. Given the existing evidence on the intergenerational transmission of patterns of marital instability (Dronkers & Härkönen, 2008; Wolfinger, 2011), and thus potentially of lone parenthood, detecting multiple disadvantages for lone parents is crucial in understanding the mechanisms of social inequality reproduction.

2. The Swiss context

In Switzerland, 13% of children under 25 live in one-parent households (OFS 2015, based on data from 2013), and the large majority of lone parents are women (89% in 2000: cf. (Bühler, 2002)). Lone-mother households are overrepresented among households at risk of

poverty (OFS, 2013). Such a situation is not surprising given the combination of low levels of welfare provision targeting families and mothers' weak labor market position. In fact, Switzerland provides only residual welfare for families (Monnier, 2006): both expensive public childcare and marriage-based taxation discourage women's labor force participation (Bütler & Ruesch, 2007). This welfare arrangement is based on the one-and-a-half-earner model in which men work full-time while women who become mothers adjust their working hours due to care obligations (Giraud & Lucas, 2009). Such a combination, produces a high incompatibility between the work and family spheres and a high share of maternal part-time work (OFS, 2013).

The Swiss labor market provides little employment protection, scoring below the OECD average (OECD, 2013). Unemployment insurance is based on individual contributions and benefits. Therefore, working mothers—who are more likely than men to hold unstable, part-time, and low-paid jobs—are particularly penalized unless they can count on their partners' income and security (Stutz & Knupfer, 2012).

The Swiss welfare state guarantees relatively fair social protection rights (Bertozzi, Bonoli, & Gay-des-Combes, 2005). Such measures, while taking care of immediate and urgent needs, might represent little incentive to take up paid work for lone mothers with unfavorable labor market prospects to take up paid work. Whereas in the short run this may appear a good strategy to optimize scarce economic and time resources, especially for less-educated lone mothers, staying out of the labor market can bring a number of negative consequences in the long run, including the depreciation of both social capital and skills, which in turn undermines future employability prospects. Given that being unemployed or on welfare assistance is negatively associated to good SRH, the interplay of education, employment, and health outcomes may be crucial in the production of multiple disadvantages.

3. Theoretical background

The relationship between family structure, employment, and health

Research has also consistently shown that individuals in couples experience better physical and psychological health and longer life expectancy than widowed, divorced, or

never-married individuals (Cairney, Boyle, Offord, & Racine, 2003; Mirowsky & Ross, 2003; Schumacher & Vilpert, 2011; Wickrama et al., 2006). The positive association between employment, physical health, and psychological well-being has been widely assessed (Huber et al., 2011; Machin & Manning, 1999; Waghorn & Lloyd, 2005). In most cases, employment is beneficial irrespective of working hours or job quality (Bardasi & Francesconi, 2004; Caroli & Godard, 2014), and this relationship is particularly strong for women (Cai, 2010; Ross & Mirowsky, 1995).

The literature provides two explanations for these associations. The *social causation hypothesis* states that labor market participation improves health because it eases economic hardship and drives social support (Bird & Fremont, 1991; Ross & Mirowsky, 1995), arguing that individuals in couples benefit from additional emotional support that fosters better health. The *selection hypothesis* argues that healthy individuals are more likely both to be part of the active working population (Cai & Kalb, 2006; Goldman, 2006; Macran et al., 1994), and to positively select themselves into unions. While both hypotheses are attractive, it is hard to distinguish between selection and environmental factors that may affect health differences between lone mothers and mothers in couples. In addition, unobservable variables that affect both health and employment may intervene in the relationship between health and family structure (Zapf, Dormann, & Frese, 1996). We acknowledge that health and work profiles are jointly shaped and that causality may go in both directions (Adams, Hurd, McFadden, Merrill, & Ribeiro, 2003). We consequently do not focus on the causal link; we rather test, first, whether family structure is associated with health, and secondly, whether the combination of employment and family structure is associated with a health disadvantage.

Even though the transition to lone parenthood due to separation from a conflict-ridden partnership might foster improvements in women's health and well-being (Baranowska-Rataj, Matysiak, & Mynarska, 2013), it is nevertheless a stressful transition (see Benzeval [1998] for a review). First, it implies, in most cases, a major change in roles; lone mothers usually become the only breadwinner and caregiver in the household. Second, lone mothers face a perceived decrease in emotional and economic support (Cairney et al., 2003). Finally, the transition to lone parenthood translates into an overall reduction in disposable income for women, who usually have custody over the children (de Regt, Mortelmans, & Marynissen,

2013; Manting & Bouman, 2006). We expect, consistent with this literature, that *lone mothers in Switzerland will report worse health than mothers living in couples* (H1).

One major challenge for lone mothers' health is represented by their economic and administrative responsibility for their children. Women who become mothers, in general, experience less-continuous working histories than either men or women without children. Even when employed, women who live with a partner often are secondary earners (Blossfeld & Drobnic, 2001), making them financially vulnerable in the case of separation or divorce. When occurring before the transition to lone motherhood, weak labor market attachment or underemployment increase the difficulty of reacting to the new configuration of care and income needs (Friedland & Price, 2003). Cross-national studies show that lone mothers work less than mothers in couple, and that more flexible work policies foster a stronger lone mothers' labor market (Plantenga et al., 2010). Although paid work is not always the most effective path out of poverty, it is often a necessary condition to improve psychological and physical health (Ross & Bird, 1994). More generally, the accumulation of roles might represent an enrichment (Greenhaus & Powell, 2006; Sieber, 1974), as diversifying one's investment in different social spheres (such as family and work) can have a positive effect on individuals' health and well-being. Multiple roles can bring about more economic and noneconomic resources. In addition, having multiple roles permits individuals to better compensate for failures in one life domain with successes in other domains. However, multiple roles are hard to fulfill: the stress resulting from coping with multiple social roles may have serious and lasting negative health consequences (Barrett & Turner, 2005; Mejer & Siermann, 2000). Systematic reviews of SRH's determinants and its evolution over time show that employment has a positive effect on women with few family burdens (childless women or mothers with older children) and a negative effect when combined with other stress factors, such as heavy work and care loads (Cullati, Rousseaux, Gabadinho, Courvoisier, & Burton-Jeangros, 2014).

The interplay between family structure, employment, and health has not been widely considered by previous research, and the evidence is mixed. Some findings suggest that multiple roles prevent lone mothers from profiting from the positive association between paid work and health (Avison et al., 2007; Burström et al., 1999; Dziak et al., 2010), but other studies find that, compared to those without jobs, employed lone mothers experience better

physical health conditions. Given the characteristics of the Swiss context, where work-life balance policies are scarce, we advance the hypothesis that *paid work is negatively associated with health for lone mothers to a greater extent than it is for mothers living in couples* (H2a).

The literature is inconclusive on the effect of income on health and lone parenthood; some studies find that health disparities between lone mothers and mothers living in couples are almost completely explained by their income (Benzeval 1998), but other findings suggest that the positive association between employment and health for lone mothers is persistent even after controlling for socioeconomic status and income (Rodriguez, 2002). In Switzerland, the possibility of external care, which can reduce the stress related to lone mothers' dual burden, is highly dependent on income. Therefore, in this context, we expect that the *differences in health between lone mothers (jobless or employed) and mothers living in couples will be fully explained by income* (H2b).

The roles of education and working hours

Although differences in educational attainments between lone mothers and mothers living with partners were larger in the past, they persist to some extent (Avison et al. 2007). When examining the role of work in lone mothers' health outcomes, it is crucial to take into account variations in educational levels, as these affect the ways in which work may be beneficial for health.

Overall, there is a well-established association between education and health (Huber et al., 2011; Machin & Manning, 1999; Ross & Mirowsky, 2010), even after controlling for socioeconomic status and income (Rodriguez, 2002). This association has been found to be causal by a vast amount of research (see Grossman [2004] for a review). Highly educated women show a stronger labor force attachment (DiPrete & Buchmann, 2013) and have access to better-paying jobs and more stable contracts (Barbieri, 2009; Kalleberg, 2000). Given these advantageous conditions, highly educated mothers are more likely than less-educated ones to reap health benefits from labor market involvement. When becoming lone parents, the latter group has a relatively narrow range of options to cope with the increase in demands for income and care. Moreover, less-educated mothers are more likely to be unemployed, have less access to social support, and are more prone to fully rely on welfare and low-paid or temporary jobs, which do not ward off poverty (Ross & Mirowsky, 2010). Low-paid and

temporary jobs, much like unemployment, are associated with worse health (Caroli & Godard, 2014; Pirani & Salvini, 2015; Schaffner & Ehlert, 2011): thus, less-educated lone mothers may suffer additional disadvantages. Thus, in the case of Switzerland, we expect that *employment is positively related to SRH for highly educated mothers and negatively or not at all related to SRH for less-educated mothers (H3a). These effects should be stronger for lone mothers (H3b).*

A second factor that may make a difference in how employment correlates with mothers' health is whether women work part-time or full-time. Part-time jobs imply less disposable income; if differences in income drive the positive association between employment and health, then lone mothers holding part-time jobs would not benefit from working, especially in contexts with gender wage gaps (Bardasi & Gornick, 2008). If, on the contrary, the effect of part-time work is mainly to reduce stress due to work-care reconciliation, then we may observe better health outcomes for mothers holding part-time jobs. So far, empirical evidence on the net effect of part-time or full-time work on lone mothers' health is mixed; some studies find that full-time or stable employment improves poor single mothers' mental health (Zabkiewicz, 2010), but others find that working (especially full-time) more negatively affects lone mothers' health than that of mothers living in couples (Burström et al., 1999; Macran et al 1996). Thus, we expect that *part-time work is more negatively associated with health for lone mothers than it is for other mothers (H4)*. In Switzerland, working prevents lone mothers from accessing welfare plans that target poor households, but the income from part-time employment is typically not sufficient to ease the economic distress of being the sole earner for a family with children.

4. Data and methods

Data and Sample

The Swiss Household Panel (SHP) is a nationally representative survey that has followed a random sample of households in Switzerland on an annual basis since 1999. All household members older than 14 are interviewed by telephone. We use all waves available until 2011. Until 2011, the SHP consisted of two samples: the 1999 sample (5,074 households

and 7,799 household members) and the 2004 refreshment sample (2,538 households and 3,654 household members)¹.

For the present study, we selected a subsample of lone mothers and mothers living in couples who were aged 19 to 54 and residing in households with at least one child younger than 18. Lone mothers are defined as unmarried, separated, or divorced women not living in a couple (though they may have a nonresident partner), regardless of their legal marital status. Mothers living in couples are defined as women who are either married or cohabiting. In 1999, the sample included 137 lone mothers and 929 mothers living in couples (which may or may not include the father of the resident children). All waves taken together yielded a sample of 2,111 persons and 10,542 observations (14% of which regarded lone mothers). To test our hypothesis about working hours, we only used working episodes (1,815 individuals and 7,689 observations, 17% of which concerned lone mothers).

Dependent Variable

SRH is measured by the question “Talking about your health, how do you feel right now?”. We dichotomized the answers by collapsing the categories *very well* and *well* to indicate good health and the *so-so (average)*, *not very well*, and *not well at all* to reflect bad health. This choice is consistent with previous research (Cullati et al., 2014), which showed that, when five options are available, the intermediate choice (usually “good” or “average”) is much closer to the negative options than the positive ones. Furthermore, considering the category *so-so* as good health would have left us with a highly unbalanced dependent variable, as only 1.6% of the observations would have been coded as “bad health.”². The skewed distribution of SRH on the highest level of the scale is consistent with previous findings in different contexts (Calmonte, Galati-Petracca, Lieberherr, Neuhaus, & Kahlmaier, 2005; Liu & Hummer, 2008).

Explanatory Factors

Our main independent variables are employment status, income, and education. Employment status has two categories: holding a paid job or not. Unemployed and inactive individuals were grouped together in the *jobless* group. Of the total sample, 73% had paid employment. To measure income, we used income after taxes, including social benefits.

Education was measured as the highest level of education achieved and was coded into three categories: lower secondary education, upper secondary education, and tertiary education.

When examining episodes involving paid work, the main explanatory factor in interaction with the family structure was working hours, which was split into three categories: small part-time (less than 50% of 40 hours per week), part-time (50-80%), and full-time (80-100%). The majority of the episodes in the sample related to underemployment (64%), and only 12% related to a full-time arrangement.

Control variables

In line with the literature on the topic, we control for characteristics of the household, including number of children in the household, age of the youngest child, and age of the mother³ (Baker, North, Alspac, & Team, 1999). We also control for practical help and emotional support potentially available from family and friend networks (Cairney et al., 2003; Osborne, Berger, & Magnuson, 2012). Potential support is measured on a scale from 0 to 10, where 0 is *not at all* and 10 is *a great deal*, in answering two questions: “In your opinion, to what extent can these relatives or friends provide you with practical help (concrete help or useful advice) if necessary?” and “To what extent are these relatives or friends available to show understanding, by talking with you, for example?” We also control for the use of paid help with housework or childcare (*yes* or *no*). All models additionally control for the year of the survey. Table 1 displays the descriptive statistics for all variables in our models.

Table 1: Distribution of the main dependent and independent variables.

	Full sample			Only working episodes		
	%	Mean	s.d.	%	Mean	s.d.
<i>Self-reported health</i>						
Bad	12.0			11.3		
Good	88.0			88.7		
<i>Family structure</i>						
Mothers living in couples	85.9			82.8		
Lone mothers	14.1			17.2		
<i>Working status</i>						
Employed	73.2			-		
Jobless	26.8			-		
<i>Education</i>						
Lower secondary	12.2			11.1		
Upper secondary	74.2			74.0		
Tertiary	13.6			14.9		
<i>Age of the mother (19-59)</i>		39.6	6.1		40.0	6.0
<i>Age of the youngest kid in the household (0-18)</i>		7.5	4.9		8.1	4.9
<i>Number of kids in the household (0-8)</i>		2.0	0.8		1.9	0.8
<i>Household income logged (3.5/7.0-15.3)</i>		11.2	0.6		11.3	0.5
<i>Practical help from family (0-10)*</i>		7.4	2.4		-	-
<i>Practical help from friends (0-10)*</i>		7.4	2.1		-	-
<i>Emotional help from family (0-10)*</i>		8.0	1.9		-	-
<i>Emotional help from friends (0-10)*</i>		8.2	1.6		-	-
<i>External help (0-1)*</i>		0.3	0.4		-	-
<i>Working arrangement</i>						
Small part-time (less than 50%)	-			63.7		
Part-time (50%–80%)	-			23.6		
Full-time (81%–100%)	-			11.9		
<i>Number of observations/individual (1-12)</i>		5.4	3.6		5.8	3.6
<i>N. observations</i>		10,542			7,689	
<i>N. individuals</i>		2,111			1,815	

Source: SHP data, waves 1999-2011.

* 9,402 observation nested in 2,033 individuals

Analytical Strategy

We used multilevel mixed-effects logistic regressions to model our binary outcome variable. The log odds of the outcome are modeled as a linear combination of the predictor variables when data are clustered or when there are both fixed and random effects (Brüderl,

2010; Halaby, 2004); and observations at different points in time (Level 1) are nested within individuals (Level 2). This modeling strategy is suitable when one wants to control for within-person, time-invariant, unobserved factors that might be correlated with the independent variable.

First, we assess the SRH of lone mothers compared to mothers living in couples. Second, we test the interaction between family structure and employment status, progressively adjusting for the potential confounding factors mentioned above. Third, we consider if and to what extent heterogeneities exist according to educational group. Lastly, a second set of models scrutinizes the correlation between family structure and SHR only for working episodes and by different work-hour arrangements. Results from the main associations are reported as odd ratios in tabular form, and the estimates for the interaction terms of the variables of interest are presented in graphical form showing the main predicted probabilities (Jaccard & Turrisi, 2003).

5. Results

Models 1 through 8 in Table 2 show results from the first set of analyses, which estimate the association between family structure and SRH. The first research aim concerned the differential of SRH between lone mothers and mothers living in couples. Consistent with Hypothesis 1, compared to mothers living in couples, lone mothers have a statistically significant lower probability of being in good SRH (Model 1). This effect persists even after controlling for employment status (Model 2), for the interaction between employment status and family structure (Model 3), and for social support from the network (Model 4). However, Models 5 through 8 show that the overall difference in SRH between lone mothers and mothers living in couples is no longer significant once adjusting for income, even though the

size of the effect persists in the expected direction and is not negligible.

Highly educated mothers have a relatively higher probability of good SRH than lower-educated ones, despite the fact that the only significant difference between groups is between mothers with an upper secondary education and those with a lower secondary education. Nonworking mothers also are less likely to report good health than working mothers, both single and partnered, are (Model 2).

Table 2: Mixed effects logistic regression model predicting the probability of good self-reported health. Odds ratios (OR) and z-scores (z). Models control for age, age of the youngest kid, number of kids in the household, year of the survey. Source: SHP data, waves 1999-2011.

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7		Model 8	
	OR	z	OR	z	OR	z	OR	z	OR	z	OR	z	OR	z	OR	z
<i>Family structure</i>																
Mothers living in couples (ref.)	1	-	1	-	1	-	1	-	1	-	1	-	1	-	1	-
Lone mothers	0.64	-2.8	0.62	-2.98	0.34	-3.24	0.67	-2.48	0.82	-1.21	0.55	-1.72	0.64	-1.18	0.68	-0.58
<i>Education</i>																
Lower secondary (ref.)	1	-	1	-	1	-	1	-	1	-	1	-	1	-	1	-
Upper secondary	1.97	3.91	1.91	3.77	1.88	3.67	1.76	3.18	1.78	3.38	1.77	3.34	1.65	2.79	2.25	3.26
Tertiary	1.56	2.03	1.49	1.82	1.48	1.8	1.5	1.78	1.28	1.13	1.28	1.15	1.31	1.17	1.58	1.25
<i>Working status</i>																
Jobless (ref.)			1	-	1	-	1	-	1	-	1	-	1	-	1	-
Employed			1.33	2.66	1.22	1.79	1.38	2.84	1.22	1.89	1.17	1.4	1.26	1.92	1.61	2.04
<i>Income (log)</i>																
									1.37	3.93	1.35	3.69	1.34	3.22	1.34	3.66
<i>Working status*family structure</i>																
Employed#Lone mothers					2.07	2.1	1.74	1.46			1.58	1.3	1.4	0.88	1.04	0.05
<i>Education*family structure*working status</i>																
Upper sec.#mothers living in couples#employed															0.68	-1.45
Upper sec.#lone mothers#jobless															0.55	-0.75
Upper sec.#lone mothers#employed															0.85	-0.29
Tertiary#mothers living in couples#employed															0.67	-1.02
Tertiary #lone mothers#jobless															2.73	1.06
Tertiary #lone mothers#employed															0.88	-0.19
Practical help from family							1.03	1.41					1.03	1.22		
Emotional help from family							1.04	1.56					1.04	1.55		
Practical help from friends							0.99	-0.54					0.99	-0.48		
Emotional help from friends							1.04	0.99					1.04	1.01		
External help							0.83	-1.62					0.81	-1.88		
Cons.	21.69	6.31	17.95	5.93	19.2	6.07	7.82	3.53	0.68	-0.39	0.87	-0.14	0.41	-0.78	0.74	-0.30
N.	10,542		10,542		10,542		9,402		10,542		10,542		9,402		10,542	

Plot (a) in Figure 1 displays the predicted probabilities of being in good health by family structure and working status. Estimates show that only lone mothers who are not in paid work stand out for having bad SRH (0.86), even though the differences are significant only when compared to employed mothers living in couples, not when compared to employed lone mothers. This significant difference disappears after adjusting for income (H2b). Because most lone mothers have paid work, the sample of nonworking lone mothers is rather small, producing relatively large confidence intervals. Overall, contrary to our expectations (H2a), neither for lone mothers nor for mothers in couples can we find significant differences in the probability of reporting good health based on employment status.



Figure 1: Mixed effects logistic regression model predicting the probability of good self-reported health (SRH) according to family and working status ((a) estimates from model 6 in Table 2), and according to education, family and working status ((b)-(d) estimates from Model 8 in Table 2). Source: SHP data, waves 1999-2011.

We further explored whether these first results hide heterogeneities according to educational attainment. Plots (b) through (d) in Figure 1 show the predicted probabilities for the association between working and family structure and SRH by education. Contrary to our

expectation (H3a), we found no significant difference in the relationship between employment and health based on the level of education for lone mothers or for mothers living in couples (H3b). However, one group in plot (c) stands out: jobless lone mothers with an upper-secondary education score the lowest on SRH (0.83), though the difference with the other groups is not significant.

Models 9 through 12 in Table 3 show the results from the second set of analyses, estimating the probability of reporting good SRH on a selected sample of working episodes. Before we move to our interaction of interest, it is worth mentioning that the main difference between lone mothers and mothers living in couples remains significant even after controlling for income.

Table 3: Mixed effects logistic regression model predicting the probability of good self-reported health. Odds ratios (OR) and z-scores (z). Models control for age, age of the youngest kid, number of kids in the household, year of the survey. Source: Swiss Household Panel, waves 1999-2011, only working episodes selected.

	Model 9		Model 10		Model 11		Model 12	
	OR	z	OR	z	OR	z	OR	z
<i>Family structure</i>								
Mothers living in couples (ref.)	1	-	1	-	1	-	1	-
Lone mothers	0.76	-1.54	0.91	-0.5	0.5	-2.94	0.61	-2.05
<i>Education</i>								
Lower secondary (ref.)	1	-	1	-	1	-	1	-
Upper secondary	1.62	2.27	1.57	2.13	1.6	2.19	1.55	2.07
Tertiary	1.14	0.52	1.03	0.12	1.14	0.51	1.04	0.15
<i>Working hours</i>								
Small part-time (less than 50%) (ref.)	1	-	1	-	1	-	1	-
Part-time (50%-80)	1.25	1.6	1.22	1.38	1.12	0.7	1.1	0.61
Full-time (81%-100%)	0.89	-0.62	0.86	0.81	0.69	-1.81	0.67	-1.95
<i>Income (log)</i>								
			1.28	2.26			1.25	2.06
<i>Working hours*family structure</i>								
Part-time 50%-80%#lone mothers					1.84	1.85	1.74	1.7
Full-time 81%-100%#lone mothers					2.79	2.61	2.76	2.57
Cons.	23.91	5.55	1.73	0.43	24.92	5.62	2.31	0.65
N.	7,689		7,689		7,689		7,689	

Figure 2 displays the predicted probability of good SRH according to family structure and work-hour arrangements. Estimates are quite similar for all subgroups except for lone mothers with small part-time (less than 50% work), who score lower in SRH (0.91) than any other combination of family structure and work-hour arrangement. Even though differences fail to reach statistical significance of 95%, this finding suggests that fewer work hours may imply more flexibility for work-life balance but also a weaker position on the labor market, which comes with negative health outcomes. Such findings support our expectations on the negative association between part-time work and health for lone mothers.

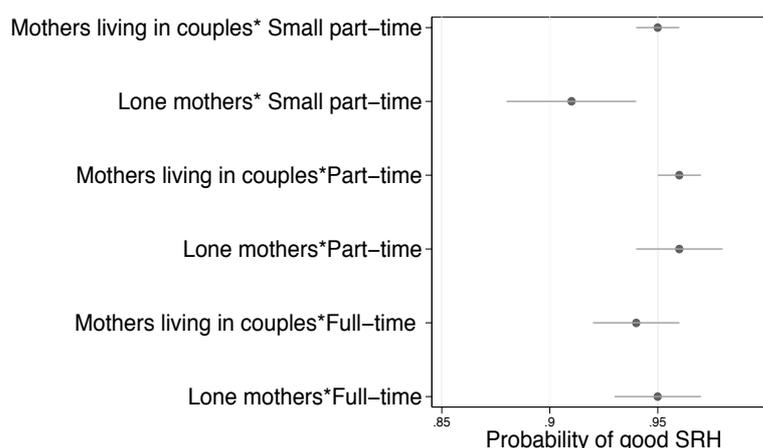


Figure 2: Mixed effects logistic regression model predicting the probability of good self-reported health (SRH) according to education, family structure and working status. Estimates from Model 12 in Table 3. Source: SHP data, waves 1999-2011, only working episodes selected.

6. Discussion and concluding remarks

The aim of this paper was to contribute to the literature on the interrelation between health, family, and employment. We focused in particular on the association between SRH,

family structure, and labor market participation for mothers. The life course perspective underlines the importance of interdependencies in the life course domains (Elder, Johnson, & Crosnoe, 2003), yet previous research led to mixed empirical evidence on the way in which family, health, and employment domains interact. We think this is mostly for two reasons. First, such evidence often comes from different empirical contexts, and the corresponding studies do not consider the extent to which work-family reconciliation policies may buffer health effects by reducing the strain on mothers experiencing non-normative living arrangements like lone parenthood. Second, employment characteristics like the number of work hours are rarely considered in conjunction with education when analyzing the association between family structure and health.

We drew on data from Switzerland, a social and policy context characterized by generous welfare protection against poverty but poor work-family reconciliation policies and a rather conservative gender division of labor. This combination discourages Swiss women from being on equal footing with men in the labor market, and when they become mothers, it pushes them take up the role of secondary earners. We expected that when working in such conditions, lone mothers would suffer from worse health than mothers in couples—even more so when working full-time—because of their dual role as main earner and primary caregiver. Contrary to our expectations, this was not the case: lone mothers who worked showed similar health to mothers living in couples, provided that they had sufficient income.

We examined health differentials by considering mothers' education and employment, and we found that these two characteristics moderate the association between family structure and SRH. Those lone mothers who reported worse SRH than mothers in couples with similar characteristics were jobless or had small part-time jobs; this correlation was especially strong

among those mothers holding secondary degrees (the intermediate level of education in Switzerland). Jobless and mothers working small part-time also have worse health than lone mothers working full-time.

In sum, our results suggest that lone mothers who do not rely on welfare support but who do have a low level of bargaining power on the labor market (signaled by their underemployment and poor qualifications) represent a vulnerable group suffering from specific health disadvantages in the Swiss context. These effects may be driven by limited financial, social, and time resources for conciliating work and family responsibilities, on the one hand, and uncertain prospects in the labor market, on the other hand.

Our analyses suffer from one major limitation: we focus on associations between health, employment, and family structure rather than on causal relationships. This is a limitation when we consider the fact that, in a dynamic perspective, processes affecting interrelated life domains are likely to be associated because of double-causation mechanisms. We acknowledge that jointly shaped processes and reverse causality are pervasive in many studies involving subjective assessments of life satisfaction, well-being, and levels of happiness. In our case, determinants of SRH are likely to also be consequences of it (Headey & Muffels, 2014). Therefore, we cannot exclude the possibility that a two-way-selection process might affect our empirical results given the existence of complex inter-temporal relations, which can be disentangled only through time-lagged models over an extended period of time. Unfortunately, the small number of lone mothers and the relatively small number of observations available over time for this subgroup result in large confidence intervals in our estimates and reduce the significance of the differences across subgroups.

While disregarding causality may be considered a limitation, we believe that exploring

simultaneous associations in life-course conditions across interdependent life domains has a value in itself. With our analysis, we identified conjunctures that are sources of multiple disadvantages, including bad health outcomes. For both individuals and families, such disadvantages across life-course domains predict situations of multidimensional vulnerability that, if not addressed by timely policy interventions, may become chronic.

In Switzerland, it is beneficial to monitor work-family stresses and the needs of lone mothers with weaker positions in the labor market. Those who have some professional skills (intermediate levels of education) might particularly benefit from fewer labor market disadvantages. In this respect, our research shows that employment, family, and SRH are interrelated. The simultaneous occurrence of critical states in a variety of dimensions (lone parenthood, unemployment or underemployment of the only earner, and bad health) indicates a state of disadvantage that may produce further vulnerability. This is particularly the case when welfare policies that should compensate for vulnerability are based on a normative understanding of family (a couple with a main earner and secondary earner/primary caregiver) and labor market participation (full employment for the main earner and part-time employment for the secondary earner).

Notes

¹ About 65% of the original 1999 and 2004 samples still participated in 2011. Overall nonresponse bias in the SHP is mild and comparable to other panel studies (e.g., Lipps 2009).

² For a review on SRH's predictive power for mortality, see Idler and Benyamini (1997). We ran the same models using different subjective measures of health, such as depression, optimism, and life satisfaction; the results (available upon request) are in the same direction and have the same significance as those using SRH (both continuous and dichotomized).

³ From a life-course perspective, it would have been interesting to test whether the age of the child had a different effect on the health of lone mothers compared to the health of mothers living with a partner. Unfortunately, the sample size did not allow for additional interactions.

7. References

- Adams, P., Hurd, M. D., McFadden, D., Merrill, A., & Ribeiro, T. (2003). Healthy, wealthy, and wise? Tests for direct causal paths between health and socioeconomic status. *Journal of Econometrics*, *112*(1), 3–56. [http://doi.org/10.1016/S0304-4076\(02\)00145-8](http://doi.org/10.1016/S0304-4076(02)00145-8)
- Anonymous (2013).
- Avison, W. R., Ali, J., & Walters, D. (2007). Family structure, stress, and psychological distress: a demonstration of the impact of differential exposure. *Journal of Health and Social Behavior*, *48*(3), 301–317. <http://doi.org/10.1177/002214650704800307>
- Baker, D., North, K., Alspac, T., & Team, S. (1999). Does employment improve the health of lone mothers? *Social Sciences & Medicine*, *49*, 121–131.
- Baranowska-Rataj, A., Matysiak, A., & Mynarska, M. (2013). Does lone motherhood decrease women's happiness? Evidence from qualitative and quantitative research. *Journal of Happiness Studies*. <http://doi.org/10.1007/s10902-013-9486-z>
- Barbieri, P. (2009). Flexible employment and inequality in Europe. *European Sociological Review*, *25*(6), 621–628.
- Bardasi, E., & Francesconi, M. (2004). The impact of atypical employment on individual wellbeing: evidence from a panel of British workers. *Social Science & Medicine*, *58*(9), 1671–1688. [http://doi.org/10.1016/S0277-9536\(03\)00400-3](http://doi.org/10.1016/S0277-9536(03)00400-3)
- Bardasi, E., & Gornick, J. C. (2008). Working for less? Women's part-time wage penalties across countries. *Feminist Economics*, *14*(1), 37–72.
- Barrett, A. E., & Turner, R. J. (2005). Family structure and mental health: the mediating effects of socioeconomic status, family process, and social stress. *Journal of Health and Social Behavior*, *46*(2), 156–169. <http://doi.org/10.1177/002214650504600203>
- Benzeval, M. (1998). The self-reported health status of lone parents. *Social Science & Medicine*, *46*(10), 1337–53.
- Bertozzi, F., Bonoli, G., & Gay-des-Combes, B. (2005). *La réforme de l'État social en Suisse*. Presse polytechnique et universitaires romandes.

- Bianchi, S. M., & Milkie, M. A. (2010). Work and family research in the first decade of the 21st century. *Journal of Marriage and Family*, 72(3), 705–725. <http://doi.org/10.1111/j.1741-3737.2010.00726.x>
- Bird, C. E., & Fremont, A. M. (1991). Gender, time use, and health. *Journal of Health and Social Behavior*, 32(2), 114. <http://doi.org/10.2307/2137147>
- Blossfeld, H.-P., & Drobnic, S. (2001). *Careers of Couples in Contemporary Societies: from Male Breadwinner to Dual Earner Families*. Oxford: Oxford University Press.
- Brüderl, J. (2010). Kausalanalyse mit Paneldaten. In C. Wolf & H. Best (Eds.), *Handbuch der sozialwissenschaftlichen Datenanalyse* (pp. 963–994). Wiesbaden: VS Verlag für Sozialwissenschaften.
- Bühler, E. (2002). *Atlas suisse des femmes et de l'égalité*. Zürich: Seismo, Sciences sociales et problèmes de société.
- Burström, B., Diderichsen, F., Shouls, S., & Whitehead, M. (1999). Lone mothers in Sweden: trends in health and socioeconomic circumstances, 1979-1995. *Journal of Epidemiology and Community Health*, 53(12), 750–6.
- Burstrom, B., Whitehead, M., Clayton, S., Fritzell, S., Vannoni, F., & Costa, G. (2010). Health inequalities between lone and couple mothers and policy under different welfare regimes - the example of Italy, Sweden and Britain. *Social Science & Medicine*, 70(6), 912–20. <http://doi.org/10.1016/j.socscimed.2009.11.014>
- Bütler, M., & Ruesch, M. (2007). Annuities in Switzerland. *Policy Research Working Paper*, (4438).
- Cai, L. (2010). The relationship between health and labour force participation: Evidence from a panel data simultaneous equation model. *Labour Economics*, 17(1), 77–90. <http://doi.org/10.1016/j.labeco.2009.04.001>
- Cai, L., & Kalb, G. (2006). Health status and labour force participation: evidence from Australia. *Health Economics*, 15(3), 241–261. <http://doi.org/10.1002/hec.1053>
- Cairney, J., Boyle, M., Offord, D. R., & Racine, Y. (2003). Stress, social support and

- depression in single and married mothers. *Social Psychiatry and Psychiatric Epidemiology*, 38(8), 442–9. <http://doi.org/10.1007/s00127-003-0661-0>
- Calmonte, R., Galati-Petracca, M., Lieberherr, R., Neuhaus, M., & Kahlmaier, S. (2005). *Santé et comportements vis-à-vis de la santé en Suisse 1992-2002: Enquête suisse sur la santé*. Neuchâtel: OFS.
- Caroli, E., & Godard, M. (2014). Does job insecurity deteriorate health ? A causal approach for Europe, *IZA Discussion Paper* (8299).
- Conger, R. D., & Elder, G. H. (1994). *Families in troubled times*. New York: Aldine de Gruyter.
- Conway, N., & Briner, R. B. (2002). Full-time versus part-time employees: understanding the links between work status, the psychological contract, and attitudes. *Journal of Vocational Behavior*, 61(2), 279–301. <http://doi.org/10.1006/jvbe.2001.1857>
- Costa, G., Sartori, S., & Akerstedt, T. (2006). Influence of flexibility and variability of working hours on health and well-being. *Chronobiology International*, 23(6), 1125–1137.
- Cullati, S. (2014). The influence of work-family conflict trajectories on self-rated health trajectories in Switzerland: A life course approach. *Social Science & Medicine*, 113, 23–33. <http://doi.org/10.1016/j.socscimed.2014.04.030>
- Cullati, S., Rousseaux, E., Gabadinho, A., Courvoisier, D. S., & Burton-Jeangros, C. (2014). Factors of change and cumulative factors in self-rated health trajectories: A systematic review. *Advances in Life Course Research*, 19, 14–27. <http://doi.org/10.1016/j.alcr.2013.11.002>
- Dannefer, D. (2003). Cumulative advantage/disadvantage and the life course: Cross-fertilizing age and social science theory. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 58(6), S327–S337.
- De Regt, S., Mortelmans, D., & Marynissen, T. (2013). Financial consequences of relationship dissolution: a longitudinal comparison of formerly married and unmarried cohabiting men and women. *Sociology*, 47(1), 90–108.

- DiPrete, T. A., & Buchmann, C. (2013). *The rise of women*. New York: SAGE.
- Dronkers, J., & Härkönen, J. (2008). The intergenerational transmission of divorce in cross-national perspective: Results from the Fertility and Family Surveys. *Population Studies*, 62(3), 273–288. <http://doi.org/10.1080/00324720802320475>
- Dziak, E., Janzen, B. L., & Muhajarine, N. (2010). Inequalities in the psychological well-being of employed, single and partnered mothers: the role of psychosocial work quality and work-family conflict. *International Journal for Equity in Health*, 9, 6. <http://doi.org/10.1186/1475-9276-9-6>
- Elder, G. H., Johnson, M. K., & Crosnoe, R. (2003). The Emergence and Development of Life Course Theory. In J. T. Mortimer & M. J. Shanahan (Eds.), *Handbook of the Life Course* (pp. 3–19). Springer.
- Esping-Andersen, G. (2009). *Incomplete revolution: adapting welfare states to women's new roles*. UK: Polity Press.
- Friedland, D. S., & Price, R. H. (2003). Underemployment: Consequences for the health and well-being of workers. *American Journal of Community Psychology*, 32(1-2), 33–45.
- Fritzell, S., Ringbäck Weitoft, G., Fritzell, J., & Burström, B. (2007). From macro to micro: The health of Swedish lone mothers during changing economic and social circumstances. *Social Science & Medicine*, 65(12), 2474–2488. <http://doi.org/10.1016/j.socscimed.2007.06.031>
- Giraud, O., & Lucas, B. (2009). Le renouveau des régimes de genre en Allemagne et en Suisse. *Cahiers du Genre*, 46(1), 17. <http://doi.org/10.3917/cdge.046.0017>
- Goldman, N. (2006). Social inequalities in health: Disentangling the underlying mechanisms. *Annals of the New York Academy of Sciences*, 954(1), 118–139. <http://doi.org/10.1111/j.1749-6632.2001.tb02750.x>
- Greenhaus, J. H., & Powell, G. N. (2006). When work and family are allies: A theory of work-family enrichment. *Academy of Management Review*, 31(1), 72–92.
- Grossman, M. (2004). The demand for health, 30 years later: a very personal retrospective

- and prospective reflection. *Journal of Health Economics*, 23(4), 629–636.
- Halaby, C. N. (2004). Panel models in sociological research: theory into practice. *Annual Review of Sociology*, 30, 507–544.
- Headey, B., & Muffels, R. (2014). Two-way causation in life satisfaction research: Structural equation models with Granger-causation. *IZA Discussion Paper No. 8665*.
- Hope, S., Power, C., & Rodgers, B. (1999). Does financial hardship account for elevated psychological distress in lone mothers? *Social Science & Medicine*, 49(12), 1637–49.
- Huber, M., Lechner, M., & Wunsch, C. (2011). Does leaving welfare improve health? Evidence for Germany. *Health Economics*, 20(4), 484–504. <http://doi.org/10.1002/hec.1615>
- Idler, E. L., & Benyamini, Y. (1997). Self-rated health and mortality: A review of twenty-seven community studies. *Journal of Health and Social Behavior*, 38(1), 21. <http://doi.org/10.2307/2955359>
- Jaccard, J., & Turrisi, R. (2003). *Interaction effects in multiple regression*. Newbury Park: SAGE.
- Kalleberg, A. L. (2000). Nonstandard employment relations: Part-time, temporary and contract work. *Annual Review of Sociology*, 26, 341–365.
- Lipps, O. (2009). Attrition of households and individuals in panel surveys. *SOEP paper 164*. Berlin.
- Liu, H., & Hummer, R. A. (2008). Are educational differences in U.S. self-rated health increasing?: An examination by gender and race. *Social Science & Medicine*, 67(11), 1898–1906. <http://doi.org/10.1016/j.socscimed.2008.09.021>
- Machin, S., & Manning, A. (1999). Chapter 47 The causes and consequences of longterm unemployment in Europe. In *Handbook of Labor Economics* (Vol. 3, pp. 3085–3139). Elsevier.
- Macran, S., Clarke, L., Sloggett, A., & Bethune, A. (1994). Women’s socio-economic status and self-assessed health: identifying some disadvantaged groups. *Sociology of Health and*

Illness, 16(2), 182–208. <http://doi.org/10.1111/1467-9566.ep11347322>

- Manting, D., & Bouman, A. M. (2006). Short-and long-term economic consequences of the dissolution of marital and consensual unions. The example of the Netherlands. *European Sociological Review*, 22(4), 413–429.
- Mejer, L., & Siermann, C. (2000). *La pauvreté monétaire dans l'union européenne: la situation des enfants, les différences entre les sexes et l'écart de pauvreté*. Eurostat.
- Mirowsky, J., & Ross, C. E. (2003). *Social causes of psychological distress*. New York: Aldine de Gruyter.
- Monnier, A. (2006). *Démographie contemporaine de l'Europe. Evolutions, tendances, défis*. Paris: Armand Colin.
- OECD. (2013). *OECD Employment Outlook 2013. Protecting jobs, enhancing flexibility: A new look at employment protection legislation*. OECD.
- OFS. (2013). *Labour market indicators for 2013* (Vol. Employment and income). Neuchâtel: Office fédéral de la statistique: Statistique suisse.
- OFS. (2015). *Enquête sur les familles et les générations 2013. Premiers résultats* (Office fédéral de la statistique: Statistique suisse). Neuchâtel.
- Osborne, C., Berger, L. M., & Magnuson, K. (2012). Family structure transitions and changes in maternal resources and well-being. *Demography*, 49(1), 23–47. <http://doi.org/10.1007/s13524-011-0080-x>
- Pirani, E., & Salvini, S. (2015). Is temporary employment damaging to health? A longitudinal study on Italian workers. *Social Science & Medicine*, 124, 121–131. <http://doi.org/10.1016/j.socscimed.2014.11.033>
- Plantenga, J., Remery, C., Mairhuber, I., Meulders, D., Beleva, I., Ellina, C., ... Emerek, R. (2010). *Flexible working time arrangements and gender equality: a comparative review of thirty European countries*. European Commission.
- Rodriguez, E. (2002). Marginal employment and health in Britain and Germany: does unstable employment predict health? *Social Science & Medicine*, 55(6), 963–979.

[http://doi.org/10.1016/S0277-9536\(01\)00234-9](http://doi.org/10.1016/S0277-9536(01)00234-9)

Ross, C. E., & Bird, C. E. (1994). Sex stratification and health lifestyle: Consequences for men's and women's perceived health. *Journal of Health and Social Behavior*, 35(2), 161. <http://doi.org/10.2307/2137363>

Ross, C. E., & Mirowsky, J. (1995). Does employment affect health? *Journal of Health and Social Behavior*, 36(3), 230. <http://doi.org/10.2307/2137340>

Ross, C. E., & Mirowsky, J. (2010). Why education is the key to socioeconomic differentials in health. In C. E. Bird, P. Conrad, A. M. Fremont, & S. Timmermans (Eds.), *Handbook of Medical Sociology* (pp. 33–51). Nashville, Tennessee: Vanderbilt University Press.

Schaffner, S., & Ehlert, C. R. (2011). Health effects of temporary jobs in Europe. *Ruhr Economic Papers*, (295).

Schumacher, R., & Vilpert, S. (2011). Gender differences in social mortality differentials in Switzerland (1990-2005). *Demographic Research*, 25(8), 285–310.

Sieber, S. D. (1974). Toward a Theory of Role Accumulation. *American Sociological Review*, 39(4), 567. <http://doi.org/10.2307/2094422>

Stutz, H., & Knupfer, C. (2012). Absicherung unbezahlter Care-Arbeit von Frauen und Männern. Anpassungsbedarf des Sozialstaats in Zeiten sich ändernder Arbeitsteilung. Bern.

Waghorn, G., & Lloyd, C. (2005). The employment of people with mental illness. *Australian E-Journal for the Advancement of Mental Health*, 4(4).

Waldron, I., Hughes, M. E., & Brooks, T. L. (1996). Marriage protection and marriage selection—Prospective evidence for reciprocal effects of marital status and health. *Social Science & Medicine*, 43(1), 113–123. [http://doi.org/10.1016/0277-9536\(95\)00347-9](http://doi.org/10.1016/0277-9536(95)00347-9)

Weitoft Ringbäck, G., Haglund, B., Hjern, A., & Rosén, M. (2002). Mortality, severe morbidity and injury among long-term lone mothers in Sweden. *International Journal of Epidemiology*, 31(3), 573–580. <http://doi.org/10.1093/ije/31.3.573>

Whitehead, M., Burström, B., & Diderichsen, F. (2000). Social policies and the pathways to

inequalities in health: a comparative analysis of lone mothers in Britain and Sweden. *Social Science & Medicine*, 50(2), 255–70.

WHO. (2013). Joint meeting of experts on targets and indicators for health and well-being in Health 2020. Copenhagen, Denmark: World Health Organization.

Wickrama, K. a S., Lorenz, F. O., Conger, R. D., Elder, G. H., Todd Abraham, W., & Fang, S. (2006). Changes in family financial circumstances and the physical health of married and recently divorced mothers. *Social Science & Medicine*, 63(1), 123–36. <http://doi.org/10.1016/j.socscimed.2005.12.003>

Wolfinger, N. H. (2011). More evidence for trends in the intergenerational transmission of divorce: a completed cohort approach using data from the general social survey. *Demography*, 48(2), 581–92. <http://doi.org/10.1007/s13524-011-0025-4>

Zabkiewicz, D. (2010). The mental health benefits of work: do they apply to poor single mothers? *Social Psychiatry and Psychiatric Epidemiology*, 45(1), 77–87. <http://doi.org/10.1007/s00127-009-0044-2>

Zapf, D., Dormann, C., & Frese, M. (1996). Longitudinal studies in organizational stress research: A review of the literature with reference to methodological issues. *Journal of Occupational Health Psychology*, 1(2), 145–169. <http://doi.org/10.1037/1076-8998.1.2.145>