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Social Contact with Family and Relatives and Happiness: Does the Association Vary with Defamilialization?

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Abstract

Numerous recent studies have reported that informal social contact with family and relatives generally improves happiness. However, several studies suggest that the effect of informal social contact with family and relatives might vary among countries. Therefore, by focusing on defamilialization, this article examines how the influence of informal social contact with family and relatives on happiness differs among less- and more-defamilialized countries. This article uses individual data from the 2007 International Social Survey Programme (ISSP) combined with country-level data and a country fixed-effects model with robust standard errors to examine the cross-level interaction effects of defamilialization and informal social contact with family and relatives on happiness. In a cross-national comparison, a moderation effect of defamilialization on the association between informal social contact with family and relatives and happiness was observed in the overall sample and in women. These results indicate that defamilialization might change the meaning of relationships with family and relatives.

Introduction

Over the past few decades, the focus on subjective well-being has increased in disciplines such as sociology, economics, political science, psychology, and epidemiology (Easterlin, 1974; Veenhoven, 1991; Layard, 2005). Subjective well-being is often measured using self-rating questions about happiness and life satisfaction; furthermore, happiness is treated as a central interpretation of subjective well-being (Helliwell and Putnam, 2004; Vanassche, Swicegood and Matthijs, 2013).[1] It is widely recognized that one of the major factor influencing happiness is social connections with family and relatives; informal social contact with family and relatives improves happiness (Helliwell and Putnam, 2004; Helliwell and Wang, 2011).[2] According to Helliwell and Putnam (2004), 'good relationships with family members. . .are prerequisites for. . .happiness' (Helliwell and Putnam, 2004: p. 1437). Statistically, previous studies have suggested that the main effect of informal social contact with family and relatives on happiness is generally positive.

In contrast, few studies have explored the differences among countries in the effect of informal social contact with family and relatives on happiness. However, Esping-Andersen (1990, 1999) suggested that the roles of family and relatives might vary among countries due to differences in welfare state characteristics, such as defamilialization. In addition, some recent studies

investigating a few countries and descriptive studies have implied that informal social contact with family and relatives might have more positive effects on subjective well-being in defamilialized countries, such as Nordic countries, than in Southern European and East Asian countries, which are less defamilialized (Dalla and Micheli, 2004; Delhey, 2004). Based on these studies, clarifying whether the effects of informal social contact with family and relatives on happiness differ due to defamilialization is important. Nevertheless, little studies have analysed the interaction effects of defamilialization and informal social contact with family and relatives on happiness.

Shifting the focus from the main effect to the interaction effect, this article analyses international survey data to examine the cross-level interaction effect of defamilialization and informal social contact with family and relatives on happiness. How does the effect of informal social contact with family and relatives on happiness vary with defamilialization? This research question is addressed in this study. The analysis performed in this article is significant because it not only contributes to the understanding of the association between informal social contact with family and relatives and happiness but also reveals new evidence regarding the consequences of defamilialization. Using a country fixed-effects model to analyse data from the 2007 International Social Survey Programme (ISSP Research Group, 2009), this article investigates the cross-level interaction effects of defamilialization and informal social contact with family and relatives on happiness.

Informal Social Contact with Family and Relatives and Subjective Well-Being

In recent decades, the association between informal social connections with family and relatives and happiness has received considerable attention in well-being studies, and studies have shown that informal social connections, as represented by informal social contact with family and relatives, positively affect happiness (Helliwell and Putnam, 2004; Ferlander, 2007; Huijts and Kraaykamp, 2012).

To explain this influence, researchers generally cite mechanisms such as greater feelings of belonging and embeddedness (Helliwell and Putnam, 2004; Pichler, 2006). Previous studies have suggested that happiness is the perceived degree of integration into society because a higher frequency of social contact affirms one's position in society and promotes a sense of belonging and a higher quality of life (Pichler, 2006). Moreover, family and relatives are regarded as the cornerstone of social connections (Bourdieu, 1983; Coleman, 1988; Newton, 2001). Building on these arguments, it is plausible that a higher frequency of informal social contact with family and relatives reduces sadness and loneliness and provides a basis for happiness (Helliwell and Putnam, 2004; Rodríguez-Pose and Von Berlepsch, 2014).

Consistent with this mechanism, the association between informal social contact with family and relatives and subjective well-being has been investigated worldwide. For example, Helliwell and Putnam (2004) and Helliwell and Wang (2011) revealed that frequent interactions with extended family members and frequent contact with close relatives were associated with greater happiness and life satisfaction in Canada and the United States. Similarly, in Europe, Powdthavee (2008) and Winkelmann (2009) found that meeting with friends or relatives more frequently enhanced life satisfaction in Great Britain and Germany. Moreover, emerging evidence from international comparative analyses indicates that informal social contact with relatives or friends improves happiness and life satisfaction in European countries (Pichler, 2006; Rodríguez-Pose and Von Berlepsch, 2014). In contrast, Oshio (2012) reported that in East Asia, high levels of contact with parents-in-law were not associated with greater life satisfaction among Japanese women. In summary, although numerous studies show that informal social contact with family and relatives is positively associated with happiness and life satisfaction, emerging evidence from East Asian countries suggests that the effect of informal social contact with family and relatives on subjective well-being may vary among countries.

Although these studies add to our understanding of the effects of informal social contact with family and relatives on happiness, they have the following limitations. First, with respect to the association between informal social contact with family and relatives and happiness, there has been little research of how the macro-social context (i.e. welfare state policies) changes the effect of informal social contact with family and relatives on happiness (Rodríguez-Pose and Von Berlepsch, 2014). Secondly, international comparisons of the association between informal social contact and happiness often include informal social contact with colleagues, family, or friends, therefore incorporating various types of informal social interactions. To investigate the association between defamilialization and the effect of informal social contact with family and relatives on happiness, it is important to separate informal social contact with family and relatives from other types of relationships. Thirdly, previous international comparative analyses of informal social contact and happiness have used data

from European countries. However, it is plausible that analysing international comparative survey data from both European and non-European countries might identify more general tendencies.

Theoretical Framework: Defamilialization as a Moderator

To overcome the limitations outlined in the previous section, this article adopts the following three approaches. First, this article evaluates the cross-level interaction effect of the country-level macro context and informal social contact with family and relatives on happiness. Secondly, it examines the effects of informal social contact on happiness, focusing on family and relatives. Thirdly, this article employs international comparative survey data that include not only European countries but also non-European countries such as North American, Oceanic, and East Asian countries.

Following these approaches, this study treats welfare state policies such as defamilialization as the macro-social context and the moderator of the association between informal social contact with family and relatives and happiness. Defamilialization can be defined as 'the degree to which social welfare family benefits [and services] reduced the individual's dependence on kinship' (Gilbert, Parton and Skivenes, 2011: p. 6). Nordic countries are often regarded as a representative example of a highly defamilialized society. Esping-Andersen (1999) situates defamilialization in the centre of welfare state regime theory and suggests that defamilialization may change the roles played by family and relatives. Since Esping-Andersen's (1990, 1999) seminal works, defamilialization is regarded as central to welfare state policies (Esping-Andersen, 1999; Bloome, Keck and Alber, 2009). For example, one study noted that '"defamilialization"... has increasingly become the new yardstick for welfare state policy' (Bloome, Keck and Alber, 2009: p. 11). In several fields of the social sciences, much attention has been given to the question of how strong welfare states and defamilialization affect family and relatives (Glazer, 1988; Esping-Andersen, 1990, 1999; Daatland 2001; Van Oorschot and Arts, 2005; Bradshaw and Hatland, 2006; Gilbert, Parton and Skivenes, 2011).

Previous studies have discussed this issue from two perspectives. The first perspective, which is the traditional perspective, is referred to as the 'crowding out' hypothesis. From this perspective, many studies suggest that generous welfare states and defamilialization diminish relationships with family and relatives (Esping-Andersen 1999; Künemund and Rein, 1999; Motel-Klingebiel, Tesch-Roemer and Von Kondratowitz, 2005). Under the 'crowding out' hypothesis, it is assumed that strong welfare states and defamilialization reduce the needs, willingness, and obligations related to supporting and empathizing with family members and relatives (Janowitz, 1976; Wolfe, 1989; Etzioni, 1993; Esping-Andersen, 2009). Thus, the 'crowding out' hypothesis focuses on the unintended consequences of a strong welfare state and defamilialization and argues that the solidarity and contributions of family and relatives are undermined in defamilialized societies (Cox and Jakubson, 1995; Künemund and Rein, 1999).

The second perspective is referred to as the 'crowding in' hypothesis. In contrast to the 'crowding out' hypothesis, this hypothesis states that defamilialization promotes informal social relationships with family and relatives and some of their functions. The rationale underlying this view is that through the formal provision of family support and by shouldering the burdens of familial care, a strong welfare state and defamilialization enable citizens to devote more time and resources to family and relatives. Consequently, the 'crowding in' hypothesis posits that a generous welfare policy and defamilialization encourage familial help and the solidarity of family and relatives (Künemund, 2008; Igel and Szydlik, 2011; Rostila, 2013).

Although recent studies have focused on the consequences of the welfare state and defamilialization, how defamilialization affects the association between informal social contact with family and relatives and happiness remains unclear. This article attempts to address this gap in knowledge by examining the cross-level interaction effects of defamilialization and informal social contact with family and relatives on happiness.

Hypotheses

This section presents the two hypotheses of this article. First, from the traditional, 'crowding out' viewpoint, defamilialization is expected to weaken the association between informal social contact with family and relatives and happiness. This is because the benefits and services provided by a defamilialization policy may replace familial help, aid, and roles (Esping-Andersen, 1999; Künemund and Rein, 1999; Bloome, Keck and Alber, 2009). Furthermore, based on the traditional assumption that family and relatives provide emotional protection (Zaretsky, 1973), it is plausible that defamilialization may erode the roles of family and relatives not only in providing care but also in contributing to happiness. Statistically speaking, this hypothesis means that there is a negative interaction effect of defamilialization

and informal social contact with family and relatives on happiness. Considering these arguments, the present study tests the following hypothesis:

Hypothesis 1: Defamilialization undermines the effect of informal social contact with family and relatives on happiness.

Conversely, defamilialization could reasonably strengthen the positive effect of informal social contact with family and relatives on happiness (Dalla and Micheli, 2004; Delhey, 2004). This is because defamilialization relieves people of excessive familial burden and pressures to provide care at the cost of their lives and careers (Esping-Andersen, 1999, 2009). Several studies suggested that this may change relationships with family and relatives from obligatory to more spontaneous and that families in defamilialized societies may have less conflict (Brandt, Haberkern and Szydlik, 2009; Silverstein *et al.*, 2010). Regarding this issue, Silverstein *et al.* noted that families 'in nations with more evolved welfare systems may also have less conflict' (Silverstein *et al.*, 2010: p. 1009). In contrast, some studies suggest that families in less-defamilialized societies tend to be more obligatory and exhibit more conflict (Brandt, Haberkern and Szydlik, 2009; Chang, 2010; Ochiai, 2011). For these reasons, it can be postulated that defamilialization might reinforce the positive effect of informal social contact with family and relatives on happiness. Therefore, the second hypothesis is formulated as follows:

Hypothesis 2: Defamilialization strengthens the positive effect of informal social contact with family and relatives on happiness.

Statistically, *Hypothesis 2* means that there is a positive interaction effect of defamilialization and informal social contact with family and relatives on happiness. The present study tested these two hypotheses.

Data, Variables, and Model

Data

This study employed data from the 2007 ISSP, which provides one of the few data sets that contains the variables needed for the analysis performed in this article and information from both European and non-European countries. Although 34 countries were included in the 2007 ISSP, countries that lacked data regarding key micro and macro variables were excluded from the analyses in this article. As a result, this article included data from 22 countries or areas: Australia, Austria, Belgium, Chile, the Czech Republic, Finland, France, Germany East, Germany West, Great Britain, Ireland, Israel, Japan, Mexico, Norway, Poland, the Republic of Korea, Slovakia, Slovenia, Sweden, Switzerland, and the United States. Following listwise deletion, this study included 20,088 cases. The sample sizes ranged from 360 (Germany East) to 1,816 (Australia). Additional information on the 2007 ISSP can be found in GESIS (2015).

Dependent Variable

The dependent variable was happiness, which 'would be central to most interpretations of subjective well-being' (Vanassche, Swicegood and Matthijs, 2013: p. 506). In the 2007 ISSP, happiness was measured by asking the respondents the following question: 'If you were to consider your life in general these days, how happy or unhappy would you say you are, on the whole . . .' The four response options were as follows: '1. Very happy', '2. Fairly happy', '3. Not very happy', and '4. Not at all happy'. In this study, scores were reversed such that higher scores indicated greater happiness.[3]

Predictor Variable: Informal Social Contact with Family and Relatives

The analyses performed in this study adopted the key variable of informal social contact with family and relatives as an individual-level independent variable. This variable was measured in terms of the frequency of informal contact with relatives, including family members. In the 2007 ISSP data, this variable was measured using a five-level response: '1. Daily', '2. Several times a week', '3. Several times a month', '4. Several times a year or less often', and '5. Never'. Consistent with prior studies (Scheepers, Te Grotenhuis and Gelissen, 2002; Huijts and Kraaykamp, 2012), this study used reverse scores ranging from 0 (never) to 4 (daily) for informal social contact with family and relatives, and higher scores indicate more frequent contact.

Country-Level Variables

Regarding country-level variables, at the outset this article used the public social expenditure on family benefits and services (PSEFBS) from gross domestic product (GDP) (per cent) as an indicator of the degree of defamilialization.[4] This indicator was selected because Esping-Andersen and later studies used PSEFBS as a core indicator of defamilialization (Esping-Andersen, 1999; Bradshaw and Hatland, 2006; Ruppanner and Bostean, 2014). According to Gilbert, Parton, and Skivenes (2011), '[f]amily policy expenditure is one of the major measures

used to operationally define the degree of defamilialization' (Gilbert, Parton and Skivenes, 2011: p. 6). The values for this variable in 2007 were obtained from the OECD Social Expenditure Database (Organisation for Economic Co-operation and Development, 2007b).

Furthermore, this analysis included GDP per capita and the Gini coefficient because public social expenditures are generally correlated with both country-level economic development and income inequality (Ono and Lee, 2013; Rostila, 2013; Ellwardt *et al.*, 2014). This analysis used GDP per capita (US dollars) in 2007 provided by the United Nations (United Nations, 2007), and the Gini coefficient in 2007 obtained from the OECD Income Distribution Database (Organisation for Economic Co-operation and Development, 2007a).[5] Based on previous studies (Ruppanner and Bostean, 2014), in this article, GDP per capita was log-transformed to restrict the influence of extreme countries. Table 1 shows the sample sizes of each country and the descriptive statistics for individual-level key variables and country-level variables,[6] and Table 2 indicates correlations between country-level variables.

Control Variables

Referencing the previous literature on international comparative analyses involving welfare state policies and subjective well-being (Helliwell and Putnam, 2004; Huijts and Kraaykamp, 2012; Rodríguez-Pose and Von Berlepsch, 2014), the models in this study controlled for some individual-level demographic characteristics such as gender (female = 1, male = 0), age, age squared,[7] education (tertiary degree = 1), employment status (paid employment, unemployed, retired, or other), household income,[8] marital status (married, widowed, divorced, or separated, never married), single (living alone = 1), religious attendance (ranging from 0 ('Never') to 7 ('Several times a week')), self-rated health (ranging from 1 ('Poor') to 5 ('Excellent')), civic participation (ranging from 0 to 5),[9] generalized trust (ranging from 0 ('You almost always can't be too careful in dealing with

Table 1. Descriptive statistics of key and macro variables and sample size (*N*) by country

Country	*N*	Individual-level mean (SD)		Country-level		
		Happiness	Informal social contact with family and relatives	Public social expenditure on family benefits and services (per cent of GDP)	GDP per capita (US dollars)	Gini coefficient
Australia	1,816	3.204 (0.628)	1.605 (0.788)	2.5	47,009	0.336
Austria	714	3.160 (0.592)	2.101 (0.876)	2.6	46,552	0.285
Belgium	977	3.232 (0.585)	1.794 (0.873)	2.6	44,073	0.274
Chile	1,114	3.079 (0.796)	1.671 (1.037)	1.0	10,514	0.511
Czech Republic	641	3.101 (0.603)	1.989 (0.834)	1.9	18,278	0.257
Finland	880	2.957 (0.624)	1.820 (0.758)	2.8	48,280	0.270
France	1,378	2.837 (0.675)	1.783 (0.747)	2.9	41,588	0.292
Germany East	360	2.911 (0.631)	1.886 (0.855)	1.9	42,543	0.295
Germany West	708	3.055 (0.654)	1.897 (0.883)	1.9	42,543	0.295
Great Britain	454	3.244 (0.616)	1.934 (0.918)	3.3	48,566	0.341
Ireland	927	3.434 (0.584)	1.831 (0.894)	2.9	61,455	0.303
Israel	902	3.014 (0.780)	2.629 (0.995)	2.0	25,946	0.371
Japan	852	3.025 (0.638)	2.315 (1.273)	0.8	34,235	0.329
Mexico	643	3.379 (0.660)	2.026 (1.031)	1.0	9,220	0.471
Norway	889	3.237 (0.588)	1.913 (0.755)	2.8	84,995	0.250
Poland	1,068	3.093 (0.678)	1.964 (0.924)	1.1	11,136	0.318
Republic of Korea	1,341	2.894 (0.663)	1.434 (0.767)	0.5	23,290	0.312
Slovakia Republic	862	2.818 (0.612)	2.151 (0.899)	1.8	14,229	0.244
Slovenia	496	2.946 (0.660)	2.014 (0.810)	1.7	23,848	0.241
Sweden	960	3.172 (0.580)	1.892 (0.790)	3.4	53,294	0.259
Switzerland	737	3.332 (0.578)	1.853 (0.871)	1.2	63,150	0.298
The United States	1,369	3.322 (0.608)	1.795 (0.956)	0.7	47,994	0.376

Table 2. Correlations between country-level variables ($N^{\text{countries}} = 22$)

Variable	(1)	(2)
(1) PSEFBS		
(2) GDP per capita	0.558***	
(3) Gini coefficient	−0.457**	−0.410*

*$P < 0.10$; **$P < 0.05$; ***$P < 0.01$; ****$P < 0.001$ (two-tailed tests).

people') to 4 ('People can almost always be trusted')) and informal social contact with friends (ranging from 0 ('Never') to 4 ('Daily')).[10]

Analytical Approach

In this study, the data set from the 2007 ISSP was used to examine the cross-level interaction effects of PSEFBS and informal social contact with family and relatives on happiness. However, the international comparative data, which contain information about individuals nested within each country, violate the assumption of the independency of observations (Hox, 2010).

To avoid this problem, a random-effects model (multilevel model) has been repeatedly applied to international survey data in previous studies (Bryan and Jenkins, 2016). Using a random-effects model and international survey data, investigating the main effects of the country- and the individual-level variables and the cross-level interaction effects of country- and individual-level variables is possible. However, recent studies have suggested that for analyses that include fewer than 25 countries, the application of a random-effects regression model that uses conventional maximum likelihood estimation to assess international survey data results in unreliable main effects for country-level variables and cross-level interaction effects caused by problems with the small number of macro-level units and the low level of freedom at the country level (Maas and Hox, 2005; Bryan and Jenkins, 2016).

For this reason, this article utilizes a country fixed-effects model for international survey data; this type of model facilitates a more appropriate examination of cross-level interaction effects even when the number of country-level units is small (Allison, 2009; Möhring, 2012). The country fixed-effects model is illustrated by the following equation:

$$y_{ij} - \bar{y}_j = \gamma_0 + \sum_{k=1}^{K} \beta_k (x_{kij} - \bar{x}_{kj}) + e_{ij} - \bar{e}_j,$$

where y_{ij} is a dependent variable for individual i in country j, and γ_0 is the intercept. In addition, β_k is the coefficient of the kth individual-level variable, x_{kij} is the kth individual-level independent variable; e_{ij} is the idiosyncratic error, $\bar{y}_j$ is the average of the individual-level dependent variable in country j, $\bar{x}_{kj}$ is the average of the kth individual-level independent variable in country j, and $\bar{e}_j$ is the average of the idiosyncratic error in country j. If n countries are included in the data, the country fixed-effects model is essentially identical to an ordinary least squares regression controlling for $n-1$ dummy variables for countries (Allison 2009).[11] Thus, this model allows the assessment of the main effects of individual variables and the cross-level interaction effects of country-level variables and individual-level variables by controlling for any unobserved country characteristics. The main effects of country-level variables cannot be examined using this model because of the problem of freedom at the country level. In contrast, given a small number of country-level units, the country fixed-effects model has the advantage of estimating the cross-level interaction effects more appropriately than a conventional random-effects model (Möhring, 2012). In this regard, Möhring argued that '[country] fixed effects models are fruitful for analyses with a small number of countries to examine the effect of individual-level variables… and of cross-level interactions controlling for other factors and "random noise" related to the country level' (Möhring, 2012: p. 5). Given this advantage, the country fixed-effects model naturally appears suitable for the purpose of this article. The country fixed-effects model is often used to analyse country panel data but is rarely used to analyse international survey data that contain individuals nested within countries. However, Möhring (2012) underscored that this model could be applied to all types of multilevel data, including not only country panel data but also international survey data such as ISSP data (Möhring, 2012; Terraneo, 2015). Thus, in this article, the country fixed-effects model is used to assess the 2007 ISSP data.

In addition, to avoid the problem of heteroscedasticity, analyses in this article use the country fixed-effects model with robust standard errors (Allison, 2009).[12] Furthermore, this article analysed both the overall sample and the samples of men and women separately because previous studies have noted that the determinants of happiness differ between men and women (Dolan, Peasgood and White, 2008).

Results

Table 3 presents the results obtained from the country fixed-effects regressions. This study analysed the data for the overall sample at the outset (Model 1).

Table 3. Country fixed-effects model results for happiness

	Model 1 (overall)		Model 2 (men)		Model 3 (women)	
	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE
Intercept	1.937****	0.061	1.961****	0.068	1.972****	0.070
Individual characteristics						
Gender (1 = female)	0.043****	0.009	-	-	-	-
Age	0.000	0.001	0.000	0.001	0.000	0.001
Age squared	0.000****	0.000	0.000****	0.000	0.000****	0.000
Education (1 = tertiary)	−0.016	0.013	−0.033	0.018	0.001	0.016
Employment status (paid employment as reference)						
Unemployment	−0.194****	0.032	−0.242****	0.052	−0.137***	0.033
Retired	0.063***	0.021	0.077***	0.027	0.052**	0.025
Other	0.032*	0.017	0.015	0.028	0.043**	0.017
Household income (*Z*-score)	0.033****	0.006	0.036****	0.007	0.033****	0.007
Marital status (never married as reference)						
Married	0.160****	0.023	0.161****	0.031	0.156****	0.021
Widowed	−0.053**	0.023	−0.094**	0.042	−0.042*	0.024
Divorced or separated	−0.020	0.023	−0.068*	0.036	0.011	0.025
Single	−0.072***	0.021	−0.099***	0.031	−0.037	0.022
Religious attendance	0.016****	0.003	0.012***	0.003	0.018****	0.003
Self-rated health	0.210****	0.010	0.212****	0.012	0.206****	0.011
Participation in voluntary organizations	0.004	0.005	0.005	0.005	0.002	0.006
Generalized trust	0.058****	0.009	0.057****	0.009	0.059****	0.012
Informal social contact with friends	0.036****	0.006	0.031**	0.011	0.040****	0.005
Informal social contact with family and relatives	0.035****	0.005	0.035****	0.007	0.034****	0.006
Cross-level interaction						
PSEFBS × informal social contact with family and relatives	0.017**	0.007	0.016	0.011	0.020***	0.006
GDP per capita × Informal social contact with family and relatives	−0.015	0.009	−0.042***	0.013	−0.002	0.008
Gini coefficient × Informal social contact with family and relatives	0.121	0.075	0.129	0.119	0.101	0.080
R^2 (within)	0.185		0.199		0.175	
R^2 (between)	0.251		0.232		0.294	
R^2 (overall)	0.185		0.196		0.181	
N individual level	20,088		9,221		10,867	
N country level	22		22		22	

*$P < 0.10$; **$P < 0.05$; ***$P < 0.01$; ****$P < 0.001$ (two-tailed tests).

In addition to Model 1, this article analysed the subsamples of men (Model 2) and women (Model 3) separately.

Model 1 examined the main effects of individual-level independent variables and the cross-level interaction effects of country-level variables and informal social contact with family and relatives on happiness for the overall sample. The coefficient for the effect of informal social contact with family and relatives on happiness is 0.035 ($P < 0.001$), and thus, consistent with previous research, informal social contact with family and relatives improves happiness in cases with mean levels of PSEFBS. Moreover, in accordance with *Hypothesis 2*, Model 1 indicates the positive cross-level interaction effect of PSEFBS and informal social contact with family and relatives on happiness (0.017, $P < 0.05$). In other words, for each increase in PSEFBS of 1 per cent, the coefficient for the effect of informal social contact with family and relatives on happiness increases by 0.017. In summary, with respect to the overall sample, this result supports *Hypothesis 2* (Figure 1).

With regard to the sample of men, Model 2 revealed that informal social contact with family and relatives

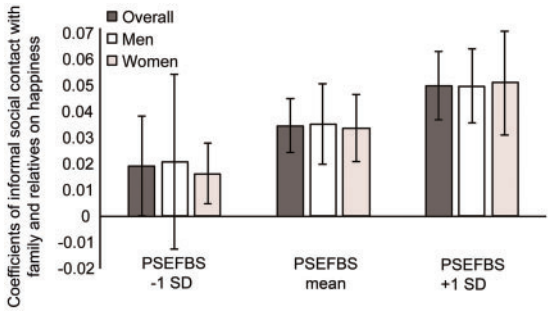

Figure 1. Coefficients of informal social contact with family and relatives due to PSEFBS and 95 per cent confidence intervals

improves happiness. If the PSEFBS is average, the coefficient of informal social contact with family and relatives on happiness is 0.035 ($P < 0.001$). However, in Model 2, the cross-level interaction effect of PSEFBS and informal social contact with family and relatives on happiness was not significant.[13]

Additionally, for the sample of women, Model 3 indicated that happiness was associated with informal social contact with family and relatives and that the coefficient of informal social contact with family and relatives on happiness is 0.034 in cases with mean levels of PSEFBS ($P < 0.001$). Furthermore, Model 3 shows that the cross-level interaction effect of PSEFBS and informal social contact with family and relatives on happiness is positive and significant (0.020, $P < 0.01$). In summary, if PSEFBS increases by 1 per cent, the coefficient of informal social contact with family and relatives on happiness increases by 0.020 in women. Thus, these results support *Hypothesis 2* in women (Figure 1).

To evaluate the robustness of the analyses performed in this study, further analyses, which are described in the Appendix, were carried out. First, using a hierarchical linear model (Supplementary Appendix A1) and a multilevel ordered logit model (Supplementary Appendix A2), the results of the country fixed-effects model were compared to the results of the random-effects models. Thus, the cross-level interaction effects of PSEFBS and informal social contact with family and relatives on happiness in the overall sample and in women are significant in common.[14] In addition, because the predictor variable and several covariates (e.g. the frequency of contact with family and relatives, the frequency of contact with friends, religious attendance, and health) can also be considered as ordinal scales, the results of the analyses were compared with those using dummy variables for frequent contact with family and relatives ('Daily', 'Several times a week', or 'Several times a month' = 1), frequent contact with friends ('Daily', 'Several times a week', or 'Several times a month' = 1), frequent religious attendance ('Several times a week', 'Once a week', 'Two or three times a month', or 'Once a month' = 1), and good health ('Excellent', 'Very good', or 'Good' = 1) (Supplementary Appendix A3). Consequently, the two sets of results did not substantially differ. These results indicate that the findings of this article are robust on the whole. Moreover, to examine the differences in the cross-level interaction effect between men and women, Supplementary Appendix A4 presents the results of the three-way interaction of PSEFBS, informal social contact with family and relatives and gender. As shown in Supplementary Appendix A4, this three-way interaction on happiness was significant at the 10 per cent level.

Additionally, to further consider another measure, this article also examined the cross-level interaction effects using data regarding the amount of unpaid work (average minutes spent per day in each country) (Organisation for Economic Co-operation and Development, 2017). The result shows that the cross-level interaction effect between the amount of unpaid work and informal social contact with family and relatives on happiness was significant only in women (Supplementary Appendix A5). Finally, to examine the differences in the cross-level interaction effect among age groups, this study also evaluated the cross-level interaction effects between PSEFBS and informal social contact with family and relatives on happiness by age (less than 65 years and more than or equal to 65 years). However, no differences were observed in the cross-level interaction effects by age group (Supplementary Appendix A6).

Discussion

Does defamilialization decrease or increase the effect of informal social contact with family and relatives? To answer this question, this study examined how PSEFBS affects the association between informal social contact with family and relatives and happiness through an international comparative analysis using data from the 2007 ISSP and the country fixed-effects model with robust standard errors. Contrary to the traditional, 'crowding out' perspective and *Hypothesis 1*, this article obtained the following two findings. First, by examining the sample as a whole, this study found that PSEFBS strengthens the association between informal social contact with family and relatives and happiness. Secondly, dividing samples into men and women, the moderation effect of defamilialization was found in women, not in men.

Concerning these results, it seems appropriate to draw the following conclusions regarding the relationships with family and relatives. As *Hypothesis 2* indicates, defamilialization may not only release people from onerous care and the risk of familial overburden at the expense of their lives and careers but also change the nature of relationships with family and relatives from compulsory to more volitional (Esping-Andersen, 1999, 2009; Brandt, Haberkern and Szydlik, 2009; Silverstein *et al.*, 2010). As a consequence, defamilialization may decrease conflicts among family members (Brandt, Haberkern and Szydlik, 2009; Silverstein *et al.*, 2010). Furthermore, previous studies have shown that limited PSEFBS is particularly likely to increase women's burden and share of care (Moss and Korintus, 2008; Chang, 2010). This also means that defamilialization may imply gaining time and freedom from the risks of familial overburden for women, who are traditionally charged with caring for needy family members. Therefore, defamilialization strengthens the effect of informal social contact with family and relatives on happiness in the overall sample and women.

Regarding the findings in this study, three limitations should be noted for future studies. The first concerns the use of imprecise measures. Like previous studies (Helliwell and Putnam, 2004; Bradshaw and Hatland, 2006; Helliwell and Wang, 2011), this study uses many single-item measures (e.g. happiness, informal social contact with family and relatives, and PSEFBS). It is currently impossible to adopt multi-item measures concerning key variables based on data from a single international survey, and findings in this study need to be carefully interpreted in light of this limitation. Additionally, the theoretical model in this study should be tested more comprehensively using other indicators of family and relatives (e.g. the number of close family members and relatives), satisfaction with contact, and treating happiness as binomial or ordinal scale.

Secondly, this article recommends that future studies examine other moderator variables at the country level. Although this study adopted PSEFBS as the indicator of defamilialization following previous studies (Esping-Andersen, 1999; Bradshaw and Hatland, 2006; Ruppanner and Bostean, 2014), it would also be of interest to treat other welfare policy measurements, familialism, gender ideology, and amount of unpaid family labour as moderator variables. In particular, norms, such as familialism, should eventually be examined in tandem with PSEFBS in future studies because several studies have revealed that both PSEFBS and familialism influence the meanings of family relationships (Esping-Andersen, 1999, 2009).

Thirdly, I note a changing association between defamilialization and the effect of relationships with family and relatives over time. In terms of family formation, previous studies found that determinants of fertility in the 1990s are different from those in the 1970s (Gautheir, 2007). Taking this into account, the association between defamilialization and the effect of relationships with family and relatives might also vary over time and among age cohorts. Therefore, this article recommends that future studies should more carefully investigate the association between defamilialization and the effect of informal social contact with family and relatives focusing on the differences in this association over time and among age cohorts. Moreover, it would be ideal to research how the change in PSEFBS affects the change in the effect of family relationships in each country.

The major contribution of this study is new evidence in terms of the larger question of whether defamilialization erodes relationships with family and relatives. Because the study of the influences of a strong welfare state and defamilialization on the effects of relationships with family and relatives is in its infancy, the important remarks above might lead to a better understanding of this issue. Collectively, when contemplating the meanings of informal social connection such as family, we should also consider the degree of welfare state policies such as defamilialization.[15] Two sociological perspectives—defamilialization and informal social contact—facilitate the above discussion, and it is likely that the integration of these perspectives will become increasingly important.

Notes

1 Generally, happiness appears to measure relatively short-term well-being, whereas life satisfaction reflects relatively long-term well-being (Helliwell and Putnam, 2004). However, previous studies have shown that the equation of happiness is nearly identical to the equation of life satisfaction and have used the terms 'subjective well-being', 'happiness', and 'life satisfaction' as synonyms (Veenhoven, 1991; Blanchflower and Oswald, 2004; Helliwell and Putnam, 2004; Rodríguez-Pose and Von Berlepsch, 2014).

2 Previous international comparative studies have repeatedly adopted the distinction between formal and informal social capital (Ferlander, 2007). Formal social capital is represented by generalized trust and participation in voluntary organizations (Huijts and Kraaykamp, 2012). In contrast, informal social contact with family, relatives, and

friends represents informal social capital (Bourdieu, 1983; Coleman, 1988; Huijts and Kraaykamp, 2012).

3 Regrettably, this study is unable to treat happiness as a binomial variable: because of the large number of cases in the data, the country fixed-effects logit models do not converge. However, present study obtained similar results for cross-level interaction effects by hierarchical linear model and multilevel ordered logit model analyses (Supplementary Appendix A1 and A2).

4 According to the Organisation for Economic Co-operation and Development (2007b), PSEFBS include cash benefits and benefits in kind. Cash benefits include family allowances, maternity and parental leave, and other cash benefits. Benefits in kind include early childhood education and care and other benefits in kind. Although the moderation effects of cash benefits and benefits in kind were separately confirmed, these moderation effects are similar to those of total PSEFBS. Therefore, it is reasonable to suppose that both cash benefits and benefits in kind contribute to defamilialization in total.

5 For certain countries, the Gini coefficient in 2007 from the OECD Income Distribution Database could not be used. In these cases, the Gini coefficient nearest to 2007 was used.

6 Moreover, when I created the cross-level interaction terms, I centred the individual- and country-level variables at the grand mean to avoid multicollinearity.

7 This study included subjects between 18 and 89 years of age for two reasons. First, the subjects from the 2007 ISSP were generally older than 18 years of age. Secondly, some countries did not include individuals older than 90 years. In addition, this study included age and age squared because previous studies suggested a *U*-shaped curve of subjective well-being (Dolan, Peasgood and White, 2008). For creating the age squared, I centred the age at the grand mean to avoid multicollinearity.

8 Following Ruiter and Van Tubergen (2009), this article used *Z*-scores of household income per country.

9 In the 2007 ISSP data, participation in five types of voluntary organizations—sports associations, cultural associations, churches or other religious organizations, community-service or civic associations, and political parties or organizations—was measured. I considered participation in voluntary organizations on a scale from 0 to 5 based on the associations and groups in which the respondents participated during the past 12 months.

10 This article treats the frequency of contact with family and relatives and several covariates (e.g. the frequency of contact with friends, religious attendance, and health) as continuous variables following previous studies (Helliwell and Putnam, 2004; Helliwell and Wang, 2011; Huijts and Kraaykamp, 2012).

11 This model is known as the least squares dummy variable model.

12 Moreover, because the Hausman test that is in common use is not available for models with robust standard errors, the robust Hausman test was confirmed in all analyses (Wooldridge, 2002; Hoechle, 2007). This test indicates that the country fixed-effects models with robust standard errors are more appropriate than the random-effects models with robust standard errors in all of the analyses in this study.

13 One interpretation of the cross-level interaction effect between GDP per capita and informal social contact with family and relatives on happiness for men is that economic development may weaken patriarchal value and is especially likely to increase men's burden in family life (Van der Lippe *et al.*, 2011).

14 However, the cross-level interaction effect of PSEFBS and informal social contact with family and relatives on happiness is positive and significant in the multilevel-ordered logit model in men (Supplementary Appendix A2). Therefore, further studies investigating the cross-level interaction effect in men are needed.

15 This article also found that the cross-level interaction effect of PSEFBS and informal social contact with friends on happiness was significant in the overall sample at the 1 per cent level. This result reveals the possibility that PSEFBS may change the effect of informal social capital generally. Therefore, this article recommends that future studies investigate whether defamilialization changes the effect of informal social capital in general.

Supplementary Data

Supplementary data are available at *ESR* online.

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