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Working Paper

Does a Better Job Match Make Women Happier? Work Orientations, Work-Care Choices and Subjective Well-Being in Germany

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on Multidisciplinary Panel Data Research

361

Ruud Muffels • Bauke Kemperman

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and Subjective Well-Being in Germany**

Berlin, January 2011

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Abstract

The study examines the effects of work orientations and work-leisure choices alongside the effect of genes or personality traits on subjective well-being (SWB). The former effects are assumed to be mediated by the match between women's preferred and actual number of working hours indicating labor market and time constraints. Data come from 24 waves of the German (SOEP) Household Panel (1984-2007). Random and fixed-effect panel regression models are estimated. Work orientations and work-leisure choices indeed matter for women's SWB but the effects are strongly mediated by the job match especially for younger birth cohorts and higher educated women. Therefore, apart from the impact of genes or personality traits preferences and choices as well as labor market and time constraints matter significantly for the well-being of women, providing partial support to the role (scarcity-expansion) theory and the combination pressure thesis while at the same time challenging set-point theory.

Key words: Subjective well-being, set-point theory, life satisfaction, preference formation theory, role (scarcity-expansion) theory, job match, work-leisure choices, panel regression models

JEL: I32, J21, J24, J64

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Happiness studies in the various branches of the literature

There is abundant literature in economic psychology (see e.g. Diener, 1984, 1999, 2009) and behavioral economics (reviewed by Frey and Stutzer, 2002) on the direct measurement of happiness and subjective well-being (SWB). The sociological literature using survey measures of happiness and SWB, though growing, is still scant. Happiness studies (Veenhoven, 2008) were not part of mainstream sociology except in the sociology of work dealing with related concepts such as job satisfaction, work attitudes (e.g. work ethos) and work orientations (intrinsic versus extrinsic). Sociologists, though, have a long tradition in measuring values and orientations of people directly in survey questionnaires (e.g. the European and World Values Studies, the European Social Survey) whereas in mainstream economics the 'revealed preferences' approach according to which preferences are inferred from real choices is still dominant. There is however substantial evidence in the psychological and behavioral economic literature that people's 'true' preferences cannot be inferred from their real choices because people display 'bounded rationality'. People tend to make inconsistent choices, do not learn from previous experience, adapt their evaluation of the situation to how it is framed, or to how others judge it and don't act in many instances according to the economic rationality model (Kahneman & Krueger, 2006; Kahneman, Krueger, Schkade, Schwarz & Stone, 2006). For that reason direct measurement of preferences and hence utility (known as the stated preference approach) has become a large branch in the economic literature (Kapteyn, Goedhart, Halberstadt & Van Praag, 1977, Easterlin, 2001; Frey & Stutzer, 2002; Van Praag & Ferrer-i-Carbonell, 2004; Frijters, Haisken-DeNew & Shields, 2004; Clark, Frijters & Shields, 2008).

In sociology, the pioneering work in happiness studies by the Dutch sociologist Veenhoven (1994, 2008) evolve in the 2000s into a wider sociological treatment induced by the larger availability of survey data containing happiness or life satisfaction information such as the General Social Survey, the European Social Survey (Huppert, Marks, Clark, Siegrist, Stutzer, Vittersø & Wahrendorf, 2008; Boye, 2009), the Euro Barometer Survey and the European and World Values Studies. Also more longitudinal sources of information have become available such as the British Household Panel (BHPS), the Australian Panel (HILDA) and the German Panel Study (SOEP), all containing a life satisfaction questionⁱ, data which are now increasingly used by sociologists and social scientists in general (see Headey et al., 2008). Andersen used the BHPS to examine the relationship between unemployment, social class and SWB (Andersen, 2009). Other researchers (e.g. Headey, Muffels & Wagner, 2010) use the German panel data stretching over 25 years to challenge set-point theory by examining the role of choices and events versus genes and personality traits in explaining long-term changes in SWB.

SWB and Set Point Theory: Research Questions

According to Diener, Oishi, and Lucas (2009) SWB concerns the person's cognitive and affective evaluations of his or her life. In earlier work Diener (1984) argued that measuring well-being through life satisfaction is one of the three ways to measure SWB; the others refer to the normative meaning based on external criteria like success, virtue or holiness and the emotional meaning denoting the preponderance of positive over negative affect. In any event, the definition of SWB in terms of life satisfaction relies on the respondent's own standards of what the 'good life' for him or her means. Easterlin (2001) defines SWB as an individual statement about someone's personal satisfaction, happiness or utility. He believes that aspects concerning work and family life are, among others, important sources of (subjective) well-being though each person is free to define well-being as he or she likes. According to Veenhoven (2008) a person has a high SWB when he or she experience life satisfaction, frequent joy and only infrequently unpleasant emotions. Huppert et al. (2008) argue that the single item life satisfaction measures used here resembles the hedonic perspective, dealing with pleasure, enjoyment and satisfaction, but not the eudaimonic approach, which is concerned with functioning and the realization of people's potential. The latter is in their view much more in line with Sen's capability and functionings approach (Sen, 2003) or with Seligman's approach dealing with engagement and meaning (2002). Life satisfaction seems therefore a broadly accepted way of measuring the hedonic dimension of SWB by psychologists, economists and sociologists.

Psychologists usually take the view that personality is quite stable, at least from the age of 25-30 onwards. 'Set-point theory', still being the dominant theory in psychology, states that every person has a stable set-point/equilibrium or baseline level of life satisfaction based on heritage and personality traits from which only temporarily departs due to the occurrence of adverse events like divorce or unemployment are possible. People are assumed to return rather quickly to their initial set-point level within a few years after the shock occurs. Headey (2008) questions set point theory by pointing to the work of positive psychologists (Lyubomirski, Sheldon, Kennon & Schkade, 2005; Sheldon & Lyubomirsky, 2007) who showed that inherited personality traits account for only half of the variation in SWB, suggesting that the other half is due to state, context or choice. These choices can be work-care choices or life choices (choice for a partner, children, divorce or life style). A revised SWB theory is therefore needed taking better account of long-term changes in SWB (Headey, Muffels & Wagner, 2010a).

In this paper the focus is on explaining SWB and whether work-care choices matter assuming that the impact of personality traits pertains to "affect" or the emotional dimension of life satisfaction and work orientations, work-care choices and job match to the social dimension.

The paper posits the question whether women who are oriented at combining work and care and able to meet their preferences for working time as revealed in their work-care choices and hours match, are more satisfied with their lives. Hence, the main research question concerns whether the match variable, indicating whether women can or cannot meet their aspirations or preferences for working time on the labor market, indeed play a mediating role in the impact of work orientations and work-care choices on SWB? Data come from the German Socio-Economic Panel containing information on life satisfaction in every out of the 24 waves used.

There is not much work done in this area except for a sociological study from 1981 in this Journal (Townsend & Gurin, 1981) and a few recent studies in social psychology looking at the relationship between emotional well-being and whether the job matches people's aspirations (see Jacob, 2008). The 1981 sociological study examined the mediating effect of the 'role fit' indicated by a simple measure derived from crossing home versus work-oriented women with women being homemakers or employed, and they found rather strong effects. One recent psychological study by Schnittker (2007) reports a positive relationship between mothers' larger involvement in work and longer working hours and self-rated health. Though measures of self-rated health correlate strongly with life satisfaction, the concept of health is dissimilar to well-being.

Work orientations reflect women's preferences for work and making a career whereas work-care choices and whether they match the working time preferences of women reflect the actual constraints on the labor market as well as time constraints. The focus on work-care choices and whether they match women's preferences allow to deal with labor market constraints while the combination of time spent (in weekly hours) to work and care and whether it fits women's working time preferences indicate the time squeeze or combination pressure women face (Van der Lippe & Van Dijk, 2002). Institutional constraints pertain to the institutional support or lack thereof to women to be able to combine work and care (e.g. parental leave, tax credits or family allowances) that can shift over time affecting different cohorts differently.

Shifting institutional support to women in Germany

Though Germany has in the last decennia departed from its long history of a "male breadwinner" society and shifted into a "dual earner" society (see Lewis, 1992; Lewis, Knijn, Martin & Ostner, 2008) the existing institutions and policy practices only slowly adapted to the new reality. The labor force participation rate of German women at working age increased from 52.5 percent in 1983 to 69.3 percent in 2007 and also part-time work for women increased gradually from 31% in 1984 to 46% in 2007ⁱⁱ. Germany being known for its generous parental leave scheme still illustrates women to drop from the labor force at high rates around childbirth, higher than

those of the Dutch and British women. Vlasblom & Schippers (2006) using panel data up to the early 2000s showed that the participation rates of women with one and two children at first childbirth were respectively 66% and 54% in the Netherlands, 31% for both in the UK and only 11% and 12% in Germany. Fouarge et al. (2010) using life course data up to 2005 confirmed these findings for the three countries including Germany. In any event, in many countries including Germany, more women than before have to combine working and caring duties and achieve this by shifting from full-time work to part-time work instead of full withdrawal raising the question whether these new choice options for women improve their well-being or on the contrary jeopardize it because of increased combination pressure.

Rational choice, constraints and SWB: theoretical expectations

The answers to this question are twofold: they either refer to 'rational or free choice' reasoning as in Hakim's preference formation theory (2000, 2002) suggesting that because women have more choices for combining work and care their SWB will be higher. Or reference can be made to the combination pressure thesis stating that more demanding work-care choices and lack of labor market opportunities for meeting women's working time preferences adversely affect their SWB. According to Hakim (2002) the majority of women in modern societies seem to choose for combining work and care once choices are open to them. These women are called 'adaptive' women who according to her calculations from the reviewed US literature consist of 60% of all women in the US. She further distinguished the 'home centered' or family oriented women consisting of 20% of all women and 'work centered' or career oriented women (also 20%) opting either for primarily caring and not working or primarily working without caring. Men are assumed to be mainly work-centered. Adaptive women prefer to combine work and family life without giving fixed priority to either of them, work centered women prefer to be engaged in paid work or in competitive activities in the public sphere and for whom family life is organized around their work, and home centered women want to give priority to home and family life after marriage (Hakim, 2002). An important assumption in Hakim's theory is that preferences are formed already prior to the career and that they don't change much over time; women are assumed to have clear views about what kind of career they prefer and which choices with a view to combining work and care they want to make. This idea of prior and 'stable preferences' is heavily debated in the literature since people might adapt themselves to a new reality once they encounter difficulties in meeting the work-care preferences due to constraints as embedded in labor market and welfare state institutions, that is when policy regulations and institutions make it more or less attractive for women to combine work and care (Crompton & Harris, 1999; Gash, 2008).

These constraints indicated by the hours match are now suspected to mediate the effects of life style preferences on women's well-being because they will determine

to what extent women are able to realize their preferences for working times independent of their actual work-care choices.

Work-care choices and labor market constraints

The second answer focuses on the role of labor market constraints on affecting actual work-care choices and argues that the undersupply of working time options on the labor market such as part-time jobs and flexible working times might force women into demanding work-care combinations that adversely affect women's life satisfaction. It also points to the impact of welfare state institutions being more or less successful in providing income and employment support options allowing women to combine work and care in the way they wish (Lewis et al., 2008; Stier, Lewin-Epstein & Braun; Uunk, Kalmijn & Muffels, 2005). If these work-care options are inadequate in terms of meeting women's preferences for working and leisure time women might be less satisfied with their lives.

Economic and time constraints

The actual work-care combinations might in addition lead to economic and time constraints affecting women's SWB adversely. Economic strain might force women to work and to contribute to family's income allowing the family to sustain a fair living standard though making women feel less satisfied with life. Time constraints might play a role suggesting that women due to the 'burden' of combining demanding work and caring roles, that is "combination pressure", are 'time squeezed' adversely affecting their happiness (see Jacobs & Gerson, 2001). Research starting from the notion of a work-family conflict with respect to the time constraints women face as a result of their work-care choices, indeed found that this conflict influences, amongst others, life satisfaction adversely (Carlson, Kacmar & Williams, 2000; Allen, Herst, Bruck & Sutton, 2000).

Role theory

With respect to the way in which work-care choices affect women's SWB, role theory can provide additional explanation. In role theory two competing approaches exist which appear relevant, the role scarcity theory and the role expansion theory. The scarcity thesis assumes that resources in terms of energy and time are limited and that resources spent on one role compete with resources remaining available for another (Marks, 1977). This idea means that participating in one role has a negative effect on another. The implications are that combining multiple roles might have a negative effect due to the time pressure it evokes leading to stress. The role expansion theory on the other hand assumes that roles can be complementary instead of being always substitutes as in the scarcity theory. Van Steenbergen, Ellemers & Mooijaart (2007) therefore argue that combining multiple roles might have positive effects. Instead of evoking stress and time pressure it also means that

participation in one role can have buffering effects for distress in another role; and participation in one role can produce positive experiences and outcomes in another. Wayne, Mussisca & Fleeson (2004) refer to claims of theoretical sociologists who argue in favor of the benefits of multiple role combinations, like providing security, giving purpose in life, enhancing self esteem, providing social support and protecting against role failure. The latter suggests that multiple role fulfillment might positively affect women's SWB.

Cohort changes

There is reason to believe that the time constraints have become more important over time confronting in particular younger cohorts as illustrated by the rise of double earner families and the risen work and productivity demands associated with increased competition and globalization. On the other hand changes in social norms and welfare state policies have improved the availability of work-care options and might have improved the hours match for women entering the labor market and therewith making younger cohorts of women combining work with caring duties better off. Due to increased education endowments and emancipation trends preferences of the younger female cohorts also shifted into being more oriented at combining work and care (Goldin, 2006; Fouarge et al., 2010).

Economic resources constraints: the role of human capital

Finally, with respect to economic or human resources constraints, it might be argued that the opportunities women possess for being engaged in rewarding positions or not in society largely depends on women's human capital endowments as human capital theory predicts (Becker, 1964, 1993). It follows from this theory that women who invested more/less in their careers with a view to education and training will have more/less opportunities to find a job that match their hours or working time preferences and therefore make them better/worse off in terms of SWB. We also expect that higher educated women have better labor market prospects with a view to wages and challenging jobs and are therefore more likely to be work oriented and choosing for work-care combinations with more working hours rendering them a higher SWB. The 'multiple roles' thesis will therefore presumably hold for high educated women more than for low educated women enrolled in less attractive jobs.

Conceptual model and estimation strategy

The conceptual model departs from the notion that not only our genes or personality traits matter for SWB as psychologists presume but also 'agency and structure' as economists and sociologists claim. Agency is indicated by work preferences or work orientations and work-care choices resulting from these; structure or context is indicated by the extent by which women given the constraints on the labor market

are able to realize their working time preferences as shown by the actual work-care choices and whether they match or fit women's preferred working hours. Other context variables refer to the economic conditions or the business cycle and the design of the welfare state institutions providing income and employment support and allowing women to engage in work-care combinations.

<Figure 1 around here>

The model controls for a number of well-known correlates with SWB such as people's health, personal demographics (indicated by gender and age and age squared) and household demographics (indicated by marriage and divorce, but also the age and number of children). The age of the youngest child is added because, as shown in the psychological literature (Diener, 1984), lower SWB levels are recorded in families with children at teenage. A control variable is added for the level of unemployment since there is ample literature about the adverse impact of unemployment (e.g. Burchell, 1994; Clark, & Oswald, 1994; Winkelmann & Winkelmann, 1997) on well-being but also because unemployment corrects for the cyclical effect of the economy on the availability of employment opportunities for women. Controls for own wage income and occupational class are left out since the first as well as the second might be endogenous to work-care choices. For the same reason, controls are left out for the partner's wage income and other non-wage household income which might act as a buffer for women to be engaged in employment and therefore raise their SWB.

The German Socio-Economic Panel Data

Data come from 24 waves of the German SOEP covering the period 1984-2007. The SOEP was first conducted in 1984 as a longitudinal survey of private persons and households in the Federal Republic of Germany. Its aim was to collect representative socio-economic panel data at the individual level in order to measure stability and change in the incomes and living conditions of people living in West-Germany. In 1990 after the fall of the German Wall the SOEP sample was extended with people from the German Democratic Republic. All the samples used in the SOEP are regionally clustered random multi stage samples, and the respondents or households are selected randomly (see Haiken-DeNew and Frick, 2005). The data are collected through questionnaires, which were conducted as face to face interviews with household members aged 16 years or older (Haiken-DeNew and Frick, 2005). The data provide a unique source of studying long-term trends in SWB and explaining its variation across people and time due to its length and depth. The sample consists of women between 20 and 55 years of age since the combination of working and caring responsibilities occurs especially in this phase of the life course. All women are selected and not only those with children because the decision to have children or

not is partly endogenous to the choice for work-care combinations that is assumed to be explained by women's work-care orientations.

Measures

The dependent variable is life satisfaction measured in SOEP on a 0-10 ('totally dissatisfied' to 'totally satisfied') scale. Single item measures are plainly not as reliable or valid as multi-item measures of SWB, but are widely used in international surveys and have been reviewed as acceptably valid (Diener, Suh, Lucas & Smith, 1999). In this paper as in most recent papers on life satisfaction, though being ordinal the scale is treated at interval levelⁱⁱⁱ. Our own tests of linearity using plotted kernel density estimates, confirm earlier results (cf. Headey, Muffels & Wagner, 2010b).

Personality traits

The 2005 SOEP wave is the only wave (to date) that contains measures of personality traits. The instrument used was a short version of the Big Five Personality Domains – NEO-AC^{iv}. The traits in the Big Five are neuroticism, extroversion, openness, agreeableness and conscientiousness. The short SOEP list was reported to be satisfactorily correlated with the much longer versions developed by psychologists (Schwartz & Strack, 1999). To test the basic assumption about the added value of including work orientations, work-care combinations and the hours match variable in the model, the Big Five traits observed for 2005 only were imputed for the missing years. Hence, it is posited that personality traits are relatively stable over time. There is little reason to argue otherwise except that there is scarce evidence that personality traits tend to change after the occurrence of a dramatic event like the loss of a child but such events are relatively rare (see also Headey & Wearing, 1989).

Work orientations: adaptive, home-centered and work-centered women

For work orientations use is made of Hakim's classification scheme of adaptive, home and work centered women as highlighted earlier (Hakim, 2002). She classified the three groups according to their family life priorities and their preferences for work as well as their commitment to a work career. The German SOEP has in four of the 24 years asked questions to the respondents about their life priorities and their preferences for work in 1990, 1992, 1995 and 2004. This allows identifying medium-term changes in work orientations over time. However, the results show that the distribution of work orientations seem to be rather stable over time as indicated by the coefficient of variation^v that is shown to be very similar across these four years (0.325 in 1990, 0.330 in 1992, 0.308 in 1995 and 0.303 in 2004) but also by the very low individual change scores^{vi}. This finding supports Hakim's assumption that preferences for combining work and care are rather stable attributes of women. In order to be able to account for changes in life satisfaction due to changes in states or

context and since preferences do not change much, the missing values were imputed^{vii}. Though the SOEP questions on life style preferences are not identical to the questions Hakim herself used to test her preference formation theory they provide an excellent opportunity to make similar classifications and to test her theory for these years. Hakim used the 1999 British Survey that was purposely set up to identify the life style preferences of particularly women. The three questions aimed at measuring life style preferences dealt with peoples' ideas or preferences about the way work duties are split between the partners, their work commitment by asking what they would do if they did not have to work for financial reasons and whether they consider themselves as the principal earner, their partner, somebody else or whether they see it as a joint responsibility. The life goals questions in the SOEP were different but ask for people's preferences in a very straightforward and direct way as to how important in life the respondent thinks it is to have children or to have success in a job ranging from 1, very important to 4, very unimportant. These two life priority questions were then used to classify people into four groups. First, the four categories of each variable are transformed into two, important versus unimportant. Then women who stated that they consider having children important in life but work unimportant are called 'home centered'. Women, who judge having children unimportant in life but work important are classified as 'work centered', women who judge children as well as success in work important in life as 'adaptive women' and finally women who don't consider children nor work important as adaptive women without strong preferences and possibly reflecting a group that Hakim has called a category without clear family life nor work plans, the so-called 'drifters and women with unplanned careers'^{viii}.

Work care combinations

The SOEP panel offers the unique possibility to derive the exact number of weekly hours spent to work in first but also in second jobs and especially on the time spent in hours per week to caring for children. These data are not readily available in surveys not being time use data, since it requires people to fill in diaries. The panel asks for hours spent at ordinary weekdays and at Saturdays and Sundays though the hours spent during week-ends were missing in 10 out of the 24 years^{ix}. Use was therefore made of the usual weekdays information only since that was provided for nearly all years (except for 1984). We then transformed the weekdays' information to 'hours spent per week to caring' excluding time spent during week-ends so as to make it comparable with the working hours information. In the next step we classified the women according to their combinations of working and caring hours. Table 1 shows these combinations. Included are all women between 20 and 55 years of age, working or not working. About one in four women combine work and caring duties.

<Table 1 about here>

The Hours Match measure

Respondents in the SOEP panel are asked both how many hours per week they actually work (in all jobs combined, if they have more than one job), and how many they would prefer to work. The gap between these two figures is treated as indicating the match between women's hours' preferences and the actual working hours.

A variable was created indicating whether the actual hours fit women's preferences or not. Women whose actual working time is within three hours of their preferred time were classified as having their preferences met and recorded as having a 'fit' or 'match'. Those who work over three hours more than they want are recorded as 'overworked', and those who work over three hours less than they want are recorded as 'underworked'. Other hours 'gaps' were tested, but the 3-hour gap variables showed the highest correlation with life satisfaction. Additionally, the information in SOEP was used about whether people are actively searching for a job, whether they are available for work and whether they are interested in working full-time, part-time or both. It permitted to include the (involuntarily) unemployed women, who explicitly expressed that they search for a job or are available for it. These women can be assumed to regard themselves as underworked. Finally, there are two groups who are not currently in the labor force ('inactive') but who can be assumed being underworked when they say they are available for work in the next four weeks or showed interest in working part-time or full-time. The second group currently wants no paid work and includes students, homemakers and retired people and they are placed in the fit category. The hours match measure as it is constructed here indicates therefore preferences as well as labor market and time constraints (availability of jobs with preferred working times). It turns out that actually only 14% of the non-working women are satisfied with their non-working status and 83% can be classified as being underworked. It shows that if all inactive women are treated as being satisfied with their situation the magnitude of women's "match" on the labor market is overestimated. About half of the employed women (46% in 2007) had a close match between the numbers of hours they want to work and actually did. Still 54% consider themselves as either underworked (22%) or overworked (32%) in 2007. More than 42% of the self-employed women consider themselves overworked and 28% underworked.

Controls

The usual controls were next added known as important correlates of SWB. The first is health for which there is ample evidence that a bad health adversely affect one's

SWB. Due to the subjective or self-rated health status being possibly endogenous to SWB, objective health measures were used even though self-rated health is known as being a fairly good predictor of objective health status^x. Three indicators most relevant to work were selected: the sum of annual visits to doctors, whether people are handicapped and therefore hampered to work, and people's official disability status^{xi}. Covariates were included controlling for the impact of the life course such as age and age squared accounting for the non linearity in the relationship between age and SWB (U-shaped), but also the number of children and the age of the youngest child. Categorical variables were added for marriage including cohabiting people and for divorce or separation. We did not control for the partner's earnings or the wages of other household members because they might be considered endogenous to work orientations and work-care choices. But even non-wage household income that can be regarded as affecting SWB while acting as an income buffer in bad times and therefore making women feel better off might be endogenous to work-care choices^{xii}. Well-known correlates of life satisfaction were next added such as the unemployment rate, indicating the business cycle, migrant status and being born in East-Germany. Education is measured by using the rather detailed CASMIN classification scale of education level making a distinction between finished and uncompleted primary education (drop-outs), basic, intermediate and maturity certified vocational and general education, and between lower and higher tertiary education^{xiii}. The last two categories are considered high educated, whereas people with only primary education are classified as low educated and all others as having intermediate education. Birth cohort is finally added to examine shifts in work-care choices across cohort over time (consisting of seven cohorts: before 1929, 1929-1940, 1940-1945, 1945-1955, 1955-1965, 1965-1975, 1975-2007). We finally added a control for the number of years in the panel to correct for possible panel conditioning effects due to 'social desirability bias' or to 'learning effects' to use the middle points of the 0-10 scale rather than the extremes in particular the top end; the control turns out insignificant in most cases (see also Frijters & Haisken-DeNew, 2004) and is therefore left out.

The empirical model

The added-value of our agency-structure or 'states' model was first tested viewing the impact of the main effects of work orientations, work-care combinations and the job match on well-being compared to the psychological 'traits' model. The assumption that the effects of *states* indicated by the main sociological variables of interest but also by the other correlates of SWB (the controls) will remain more or less the same after inclusion of the 'personality traits' variables (the State-Traits Model) was confirmed. The effects of work orientation, work-care combinations and the hours match indeed remain strongly significant and appear hardly affected by the inclusion of 'personality traits' in the model. Subsequently, the other parameters

of interest were added to examine the relationships between work orientations, work-care combinations and subjective well-being (Model 2 to 6)^{xiv}.

Model 2 being the ‘*main effects*’ or *baseline* model, is a model without interactions but including the main effects of the three main concepts, work orientations, work-care choices and job match and the control variables. This provides a first test of the ‘free choice’, ‘labor market constraints’ and ‘multiple role’ theses by viewing the main effects of the three variables on SWB. The model is estimated with GLS random and fixed effects panel regression to account for time-constant unobserved heterogeneity. The specification given below is the random effects model; in the fixed effects specification all variables are expressed in differences from the mean over time for which reason the time constant effects (e.g. birth cohort and born in East-Germany) are removed from the model. The fixed effect specification is though more efficient if the individual unobserved heterogeneity term correlates with the observed characteristics. A Hausman specification test shows whether the random or fixed effect specification should be preferred. In formula:

$$ls_{it}^{BLINE} = \alpha_{it} + \overbrace{[\beta_i C_i + \gamma_{it} C_{it} + \sigma_{it} ORIENT_{it} + \delta_{it} WCC_{it} + \varepsilon_{it} MATCH_{it}]}^{Main\ Effects} + \mu_i + \epsilon_{it} \quad (1)$$

where ls is life satisfaction, C_i and C_{it} are time constant (like born in East-Germany, being a migrant and birth cohort) and time varying covariates respectively (health, education, age, number of children, marital status, unemployment rate), $ORIENT$ the work orientations, WCC the work-care combinations and $MATCH$ the hours match variable, μ_i represent the individual time constant random or fixed effect and ϵ_{it} the error variance. The equation between the brackets represents the main effects of the three variables in the model. The time pressure thesis predicts a lower SWB with more demanding role combinations but the multiple roles thesis a higher SWB. Likewise, adaptive women might have a higher or lower SWB than home centered women dependent on which assumption is made. The worse the match the unhappier women are contended to be.

In the so-called ‘rational choice’ model all variables of the baseline model were included plus a two-way interaction term between work orientations and the match between preferred and actual hours (Model “RCHOICE”) to account for the work-leisure choice. The interaction effects of the mismatch variable (underworked or overworked) with work orientations were contended to be negative indicating a higher SWB with a better fit or match for especially adaptive women.

$$ls_{it}^{RCHOICE} = BLINE + [\varphi_{it}ORIENT_{it} * MATCH_{it}] \quad (2)$$

In the third ‘time pressure, multiple roles interaction’ model the two-way interaction terms between work-care combinations and the job match variable (Model “MROLES”) were added. The interaction effects with a bad fit or mismatch were expected to have a negative impact on SWB which effects following the time pressure thesis are larger the more demanding work-care combinations are. When the negative effects turn out to be smaller for work-care combinations than for non-combining options (only caring, only working) support is provided to the multiple roles thesis.

$$ls_{it}^{MROLES} = BLINE + [MATCH_{it} * WCC_{it}] \quad (3)$$

In the fourth so-called ‘birth cohort interaction’ model the two and three-way interactions between birth cohort, work-care combinations and the job match variable were added (Model “BCOH”). The three-way interactions between cohort, work-care combinations and match were expected to be positive because for younger cohorts especially when they combine work and care the better the match the higher their SWB will be.

$$ls_{it}^{BCOH} = BLINE + \rho_{it}COHORT * WCC_{it} + \rho_{it}COHORT * MATCH + \rho_{it}COHORT * WCC_{it} * MATCH_{it} \quad (4)$$

Finally, in the fifth ‘human capital interaction’ model, the two and three-way interaction terms between education level, work-care combinations and the job match variable (Model “HCAP”) were added. Because the high educated are assumed to have more options on the labor market and therefore are more likely to fulfill their preferences the three-way interactions with work-care combinations and match are likely to be positive.

$$ls_{it}^{HCAP} = BLINE + \rho_{it}EDUC * WCC_{it} + \rho_{it}EDUC * MATCH + \rho_{it}EDUC * WCC_{it} * MATCH_{it} \quad (5)$$

Results: Descriptive information on model variables

Table 2 portrays the prevalence of different work orientations in society among particular categories of women whereas Table 3 shows the descriptive information on the model variables and discusses the bivariate relationship (approximated by the Pearson’s R) between life satisfaction and the main variables of interest. In Table 2 the composition of Hakim’s life style groups for 1999, the reference year of Hakim’s

data, is compared with the latest year in the panel, 2007. The results for Germany for 1999 look very similar to Hakim's findings for the UK in the same year. In 1999 about 58% of all women belong to the adaptive women, 16% to the work centered and 26% to the category of home centered women. Between 1999 and 2007 the percentage of adaptive women increased to 61% whereas the percentage of home centered women reduced with 10% to 16% and the share of work centered women increased to 19%. The table shows that the reduction in the share of home centered women is entirely due to the reduced share of full-timers (23% in 1999 and 15% in 2007) in favor of the part-timers which share increased from 31% in 1999 to 44% in 2007.

<Table 2 around here>

The magnitude of these shifts seem to portray shifts in employment patterns while more and more home centered women choose for working part-time and combining work and care whereas these women before stopped working around childbirth. Especially in this period Germany has widened the institutional support to working mothers by increasing the generosity and extending the availability of child care and parental leave schemes. The share of high educated turns out to be much larger for the adaptive and work centered women than for the home centered women. The low educated are concentrated in 2007 in the home centered category. Younger cohorts (born after 1965) are more work oriented (19%) and less home centered (17%) than the older cohorts (10% and 26% respectively). The share of adaptive women is however remarkably stable by cohort (61% for both the younger and older cohorts). Table 2 signals a remarkable shift between 1999 and 2007 in the composition of the work centered women now consisting of more high and much less low educated. This might partly be due to rising female education and partly to the impaired situation of the low skilled in the knowledge economy.

The correlations as reported in Table 3 between the main variables of interest and life satisfaction are not particularly strong; the correlation between work orientation and life satisfaction is rather low. The highest though negative correlations with life satisfaction are observed for 'born in former East-Germany', bad objective health, being divorced, age and age squared, unemployment rate and low education. Women born in former East-Germany are substantially worse off in terms of SWB than women born in former West-Germany.

<Table 3 around here>

Results of model estimations: Traits and States Models

Table 4 shows the findings of the 'States' and 'States-Traits' models. The effects of our variables of interest including work orientations appear hardly affected by the inclusion of the personality 'traits'. The work orientations and 'job match' variables have a direct and significant impact on SWB confirming that the sociological covariates exert a significant and independent effect on subjective well-being compared to the personality traits variables and that they indeed seem to measure a different 'social' dimension of SWB.

<Table 4 around here>

The fixed effects 'States' model shows that the estimates for the match variable are only slightly lower in size compared to the random effects estimate and that they remain strongly significant. The work orientations variables become insignificant in the fixed effects model possibly due to a low variation of orientations over time but the effect sizes for the work-care combinations variable are even larger showing that the results are fairly robust. For substantive reasons the random effect specification might be preferred. One is the mentioned lack of variation of work orientations over time; another pertains to the large effects of birth cohort, born in East-Germany and being an immigrant on life satisfaction which time invariant effects are removed in the fixed effects specification. A Hausman specification test shows however that the fixed effect model is more efficient due to the correlation between the individual time constant effect capturing the effect of unobserved heterogeneity (such as personality, motivation, ability, effort) and the observed characteristics.

The results confirm the negative effects of a mismatch indicated by being underworked or overworked which effects are rather strong with the first however much larger in strength. These findings reveal that both, the 'multiple roles' and the 'combination pressure' thesis are relevant but the first more than the second. Home centered women attain higher levels of well-being, than adaptive women, though adaptive women higher levels than work centered women or drifters. This unexpected high SWB level for home centered women appears to be caused by a better job match of these women of whom more than half also combines work and care though with shorter working hours. Also contrary to what we suspected, women who only work or who spend less than 25 hours to care but work more than 24 hours a week are best off in terms of subjective well-being. Work raises women's SWB more than care. Third best off are women who only care and subsequently women who combine work and care but spend more than 24 hours per week to each. Worst off are the women without work or caring duties of which most consider themselves underworked. The number of hours spent to either care or work seems more important for well-being than combining per se providing support to the time pressure thesis. Combining work and care tend to raise well-being but up to a certain

hours' threshold, after which well-being declines again^{xv}. The Table also shows the effects of the controls. They all have the expected effects known from the literature, the U-shaped relationship with age, the large negative effects of bad health and unemployment on SWB and the positive effects of a high education.

Rational Choice and Multiple Roles Models

Table 5 shows the results of the baseline or the 'rational choice-constraints' model containing the main effects only and the 'multiple roles' interaction models reporting on the interaction effects between job match and work orientations (model 2) and work-care combinations (model 3). Random and fixed effects models were again estimated. The baseline model includes the effects of belonging to different birth cohorts showing that younger birth cohorts exhibit lower levels of SWB than the oldest pre-war cohort. The youngest cohort though, born after 1975, seems to attain somewhat higher levels of well-being than their immediate predecessors born between 1955 and 1975. The results of the roles interaction models confirm earlier presented results. They show that a mismatch in terms of being underworked or overworked makes nearly all women worse off in terms of SWB but to a different extent dependent on their work orientations and work-care choices. The interaction effects of job match with work orientations turn out to be strongly significant though with work-care choices only weakly significant, the first exerting apparently a stronger effect on SWB than the latter.

<Table 5 around here>

Simulations: Two-way Interaction Models

To be able to interpret the two-way interaction effects more clearly some simulations were performed. These simulations are based on the estimates derived from the interaction models 2 and 3 while fixing the levels for the control variables (married, one kid of 8 years old, native, born in West-Germany, median age, intermediate education level and average unemployment level). The effects of the interactions of the match with work orientations (model 2) and work-care combinations (model 3) are shown in Figure 2. The slopes of the interaction effects show clearly that being underworked exhibit a stronger negative effect on SWB than being overworked in both models. The steepest slopes are observed for work centered women (first graph) and women only working and not combining (second graph). They are less steep for adaptive women or women combining work and care (see last graph) and flattest for home centered women or women only caring (second graph). Since the majority of the latter category of women appears underworked, this might be due to the discouraged worker effect inducing these women to lower their work aspirations. The low SWB level and strong effects of a mismatch indicated by a steep slope for combining women either spending more

than 25 hours to work or to care clearly supports the 'time pressure' thesis. The graph confirms the effects of a mismatch to be stronger in the work orientations interaction model than in the work-care combination interaction model as shown by the steeper slopes for being underworked indicating stronger drops in SWB due to a mismatch.

<Figure 2 around here>

Simulations: Three-way Interaction models

Two three-way interaction models were next estimated, one with birth cohort and one with education level. We used the random effects panel regression results for presentation instead of the fixed effects although, again, the fixed effects specification turns out to be more efficient according to the Hausman specification test. We included the three-way as well as the two-way interaction effects between these variables and the job match and work care combinations respectively, making the overall effects however hard to judge. For that reason the results of the simulations are presented only graphically. Figure 3 shows the results of the interaction model with birth cohort and Figure 4 with education level. For ease of interpretation a distinction is only made between whether a match occurred or not and not whether women are under- or overworked. The graph confirms the positive and strong effects of a fit or match on women's SWB but it also shows that the slopes are becoming less steep by birth cohort for some categories of women but steeper for others. They became steeper by cohort for women not working nor caring, women combining work and care for less than 25 hours a week and for women combining work and care for more than 25 hours. They became flatter for women working more than 25 hours a week and caring less than 25 hours or women working less than 25 hours but caring more hours. The interpretation might be that younger cohorts especially when they work longer hours but not very long hours generally have a better fit through the larger availability of part-time work or more flexible working time arrangements. When younger cohorts however combine work and care for very long hours a mismatch seem to exert a stronger adverse effect on their SWB than for older cohorts providing support to the alleged increased time pressure for younger cohorts.

<Figure 3 around here>

Figure 4 depicts the interaction effects between job match, work-care combinations and education level. The slopes of the lines show that the match generally exerts a larger effect on SWB for the high and intermediate educated than for the low educated except for women only working and women working more than 25 hours but caring less than 25 hours. The slope for women working and caring for more than

25 hours is very flat though and negative for the low educated. Higher educated are therefore better off in terms of SWB because of a better fit but only when they either don't work or care or when they combine work and care with shorter hours. When they combine work and care with long hours a better job match does not seem to make them better off. This indicates that the positive effect of the better fit of the high educated women on SWB cannot compensate for the negative effects of the 'time pressure' these women also face.

<Figure 4 around here>

Conclusions

The paper uses 24 years of German panel data to examine the impact of sociological covariates such as work orientations and work-care choices on life satisfaction or SWB assuming that these effects are mediated by the job match indicating labor market constraints. The aim is to add to the scarce sociological literature on life satisfaction by scrutinizing various claims about the impact of preferences, choices and constraints on women's well-being, referring to the 'rational choice', 'multiple roles' and the 'combination or time pressure' theses. The first of these claims pertains to Hakim's well-known preference formation theory concerning the impact of work orientations and life style preferences on women's career choices. It is argued that this theory should be supplemented with human capital theory, role expansion and gender-based institutional theories to capture the impact of institutional and labor market constraints on women's careers and therewith on their SWB. The paper also renders evidence on the effects of the job match on well-being for different education levels assuming that higher educated because of having a better fit are better off. Finally, it focuses on the long-term career effects of work orientations and work-care choices for women's well-being by viewing cohort effects. Some of the claims we are trying to test with these data are confirmed while others are challenged.

Work orientations and work-care choices indeed matter for women's well-being. Best off though are work and home centered women instead of the adaptive women as contended. Best off are also women only working or combining work and care but with short working or caring hours. Women working long hours while also caring long hours appear worse off in terms of SWB than the former categories independent of the job match. This is likely to be due to the combination or time pressure they face. An inverse U-shaped or curvilinear relationship between time spent to care and work and women's well-being was observed. After some hours threshold women's SWB seem to decline again. The job match indeed acts as an important mediating factor as we contended. The better the job match for women who are home or work centered or belong to the adaptive women the better off

women are in terms of SWB. Home centered women are however no worse off than work centered or adaptive women. The reason seems to be that the conditions for women changed and home centered women belonging to the younger cohorts are increasingly able to meet their preferences and to combine their caring duties with part-time work or flexible working hours. Institutions might have adapted to a situation in which more women want and are able to work and combine with care. Germany, especially in the late 1990s and early 200s adapted to this new reality through increased institutional support to mothers (family allowances and parental leave schemes) improving the opportunities for women to combine work and care. Still, many women experience job mismatches by working less or more hours than they actually prefer. Being underworked exerts a larger negative impact on women's well-being than being overworked suggesting that the role scarcity-expansion theory holds more than the combination pressure thesis. The interactions between job match and orientations on the one hand and with combinations on the other show that the mediating effect of the job match is stronger for the different life style groups than for the different work-care choices. The contended mediating effect of the job match on work-care choices is therefore confirmed though the effect is not as strong as we suspected.

The overall conclusion that may be drawn from these findings is that women gain in well-being by fulfilling 'multiple roles' while combining work and care but up to a particular limit or ceiling in terms of hours spent after which SWB declines strongly due to the time pressure they face. The positive effect of a job match or fit on well-being can in these circumstances not compensate anymore for the negative effect of the 'time pressure' these women face. This therefore put a strong proviso to the 'multiple roles' thesis. Younger birth cohorts are opposite to what we believed beforehand not necessarily better off than the older cohorts. On the contrary, younger cohorts are generally worse off but again strongly mediated by the fit or hours match. Younger cohorts are combining more but whether they gain in well-being compared to the older cohorts indeed depend strongly on the job match especially when they are engaged in demanding work-care combinations.

It was found that in particular the well-being of the high educated women who are engaged in more demanding work-care combinations is affected by whether the job meets women's working time preferences. The impact of the match on the well-being of the lower educated women is much lower except for women only working or working long hours while caring short hours. Even though high educated are generally better off time pressure constraints related to being engaged in demanding work-care combinations reduces their well-being especially when they face a mismatch. The 'multiple roles' and 'time pressure' theses therefore seems equally relevant for low and high educated, therewith only partially confirming the contended positive effect of education on SWB associated with a better job match.

Though the findings confirm most of the scarce evidence in the existing literature, further work is needed to better account for the impact of the institutional context using comparative evidence instead of single country data. Unfortunately, we had information on work orientations for a few measurement occasions only, but time varying evidence on work orientations of women and how they change dependent on changes in women's conditions would enrich the analyses. It would allow us to arrive at more efficient estimates with better ways to correct for unobserved heterogeneity related to the impact of personality, ability, motivation and effort. A further advancement would be to carefully register the changes in institutional support to women with caring duties over time to arrive at more robust estimates of the effects of policy changes independent of the changes in the economic context. Finally, a more detailed questioning of the orientations women have and the reasons for the choices women make in terms of work-care combinations in panel studies like these would allow us to improve our models.

What can be learned from the findings for the theoretical treatment of the issue? First of all, the evidence presented tend to relax the premise as derived from the 'preference formation' or 'rational choice' thesis that primarily preferences matter. Due to the diversity of women's preferences, life-courses and contexts it appears that what really matters are not only preferences, but also choices and constraints. Work-care choices involving time constraints and constraints associated with labor market opportunities, resources (educational endowments) and institutional support to women matter greatly for the well-being of women whatever preferences they have. An 'agency-structure' perspective in which credit is given to each of the three dimensions seems therefore a promising and challenging way to progress in theoretical as well as in future empirical scholarly work on the issue.

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Figures and Tables

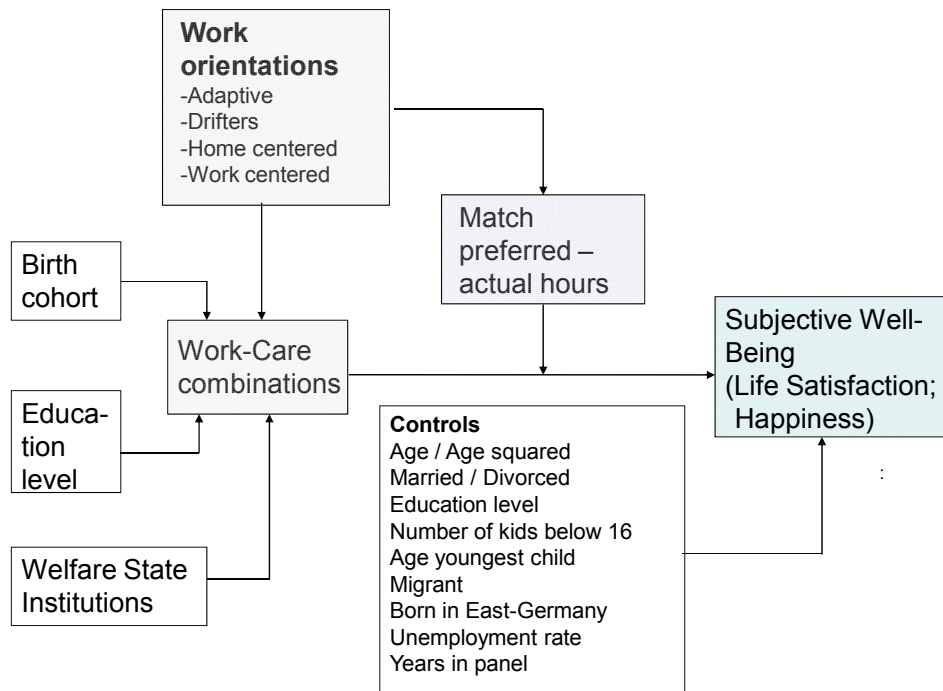


Figure 1: Conceptual Model of Relationship between Work Orientations, Work-Care Combinations, Job Match and Subjective Well-Being (SWB)

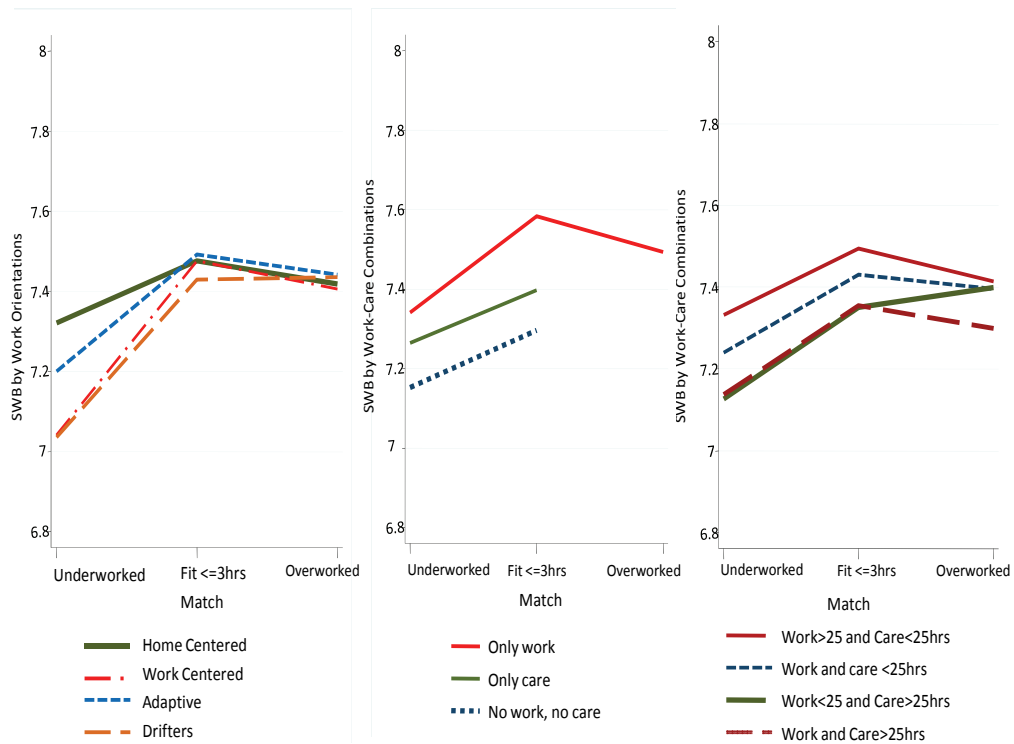


Figure 2: Two-Way Interaction Effects of Job Match with Work Orientations and Work-Care Combinations respectively, on SWB, West-German Women (Native, Married, 37 years, Intermediate education, One Child of 8, Average Unemployment Rate 7.8%)

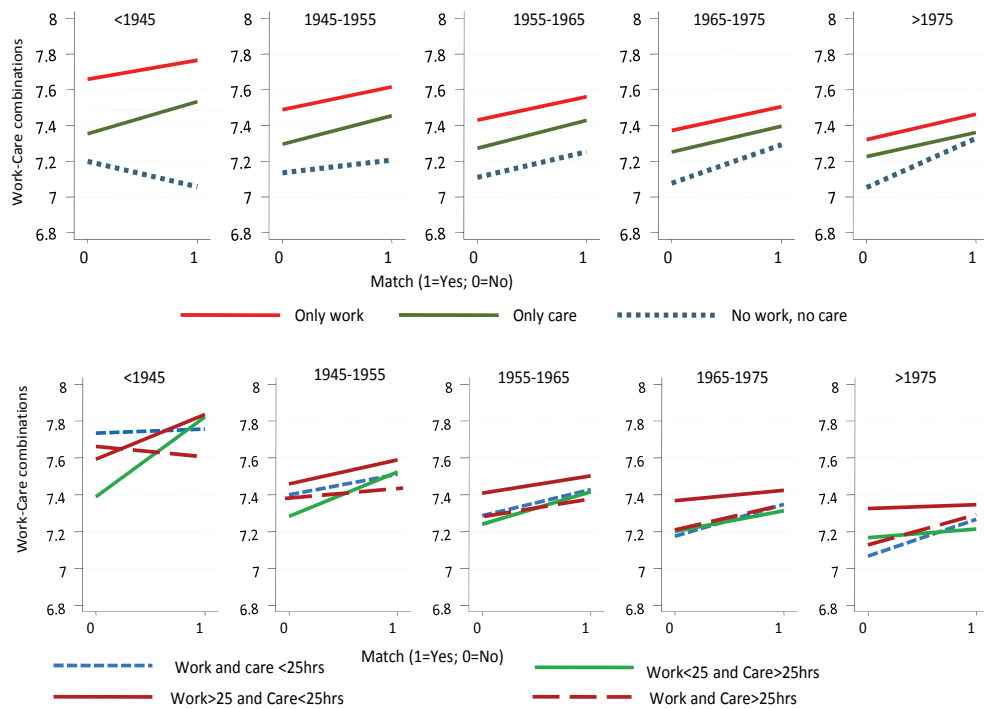


Figure 3: Three-Way Interaction Effects of Job Match, Birth Cohort and Work-Care Combinations on SWB, West-German Women (Native, Married, 37 years, Intermediate education, One Child of 8, Average Unemployment Rate 7.8%)

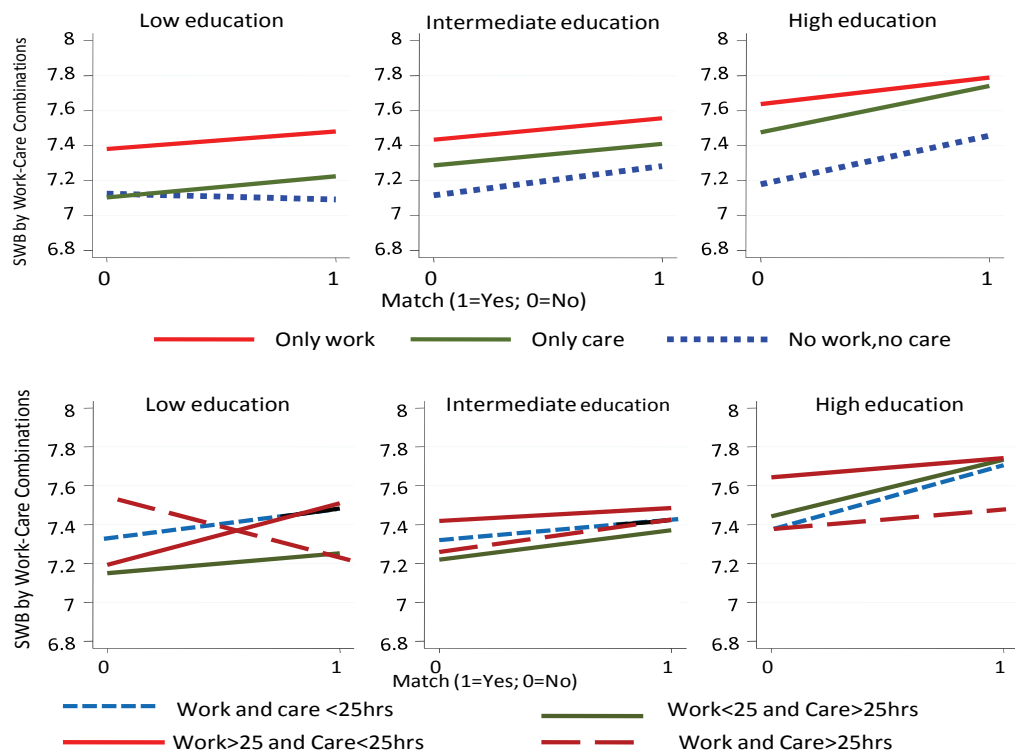


Figure 4: Three-Way Interaction Effects of Job Match, Education Level and Work-Care Combinations on SWB, West-German Women (Native, Married, 37 years, One Child of 8, Average Unemployment Rate 7.8%)

TABLE 1
WORK-CARE COMBINATIONS
Weekly hours spent on caring and working time during weekdays,
German women 20-55 years, 2007 (weighted data)

<i>Combinations</i>	Freq.	Percent
No work no care	800	14.0
Only working	2,598	45.3
Only caring	860	15.2
Combine Caring and working time <25 hours a week	257	4.5
Combine Caring time>24 and Working time <25 hours	422	7.4
Combine Caring time <25 and Working time >24 hours	564	9.8
Combine Caring and Working time >24 hours	222	3.9
Total	5,732	100

Source: SOEP, 1984-2007

TABLE 2
CHARACTERISTICS OF THE FOUR LIFE STYLE PREFERENCES GROUPS
German Women 20-55 years in 1999 and 2007 (weighted data; in
percent)

	Adaptive		Drifters		Home		Work		Total	
	1999	2007	1999	2007	1999	2007	1999	2007	1999	2007
Employed	71	73	76	62	54	59	81	78	72	71
Full-time	43	38	63	38	23	15	68	59	43	38
Part-time	28	35	13	24	31	44	13	19	29	33
Not employed	29	27	24	38	46	41	19	22	28	29
Married/Cohabited	74	69	49	61	87	80	50	42	73	65
N of children 0-16	1.5	1.5	1.6	1.4	1.7	1.7	1.2	1.1	1.6	1.5
High Education	17	20	13	20	13	10	18	27	16	19
Low Education	11	9	18	13	16	19	9	4	12	10
Age	37	39	41	41	40	42	35	35	38	39
Total	58	61	4	3	26	16	16	19	100	100

Source: SOEP, 1984-2007

TABLE 3
CORRELATIONS AND DESCRIPTIVE STATISTICS ON MODEL VARIABLES
German women 20-55 years, average 1984-2007 (unweighted data)

	Correlations with LIFESAT	N	MEAN	SD	MIN	MAX
LIFESAT	1	127,104	7.00	1.82	0	10
Birth Cohort	0.0412	129,144	4.7	1.65	1	7
WORKORIENT	-0.0305	102,233	2.44	0.88	1	4
WC-COMBI	0.0146	120,722	3.00	1.68	1	7
MATCH(<=3HRS)	-0.0463	122,828	1.91	0.75	1	3
MARRIED	0.0687	129,123	0.66	0.47	0	1
DIVORCED	-0.1048	129,123	0.09	0.29	0	1
AGE	-0.0781	129,144	37	9.99	20	55
AGESQ/100	-0.0774	129,144	15	7.53	4	30
N OF CHILD	0.0219	129,108	0.77	0.99	0	9
UNE RATE	-0.0377	129,144	7.81	1.58	4.5	10.6
BORN IN EAST	-0.1675	129,144	0.18	0.38	0	1
FOREIGNER	-0.0001	128,236	0.18	0.39	0	1
LOWEDUC	-0.0371	126,517	0.18	0.39	0	1
HIGHEDUC	0.0187	126,517	0.15	0.36	0	1
AGEYCHILD	-0.0112	129,144	4.41	5.69	0	17
BADHEALTH	-0.1453	125,865	0.21	0.51	0	3

Source: SOEP, 1984-2007

TABLE 4
STATES AND STATES-TRAITS MODEL
Estimation results of random and fixed effects panel regression model on SWB,
German women 20-55 years

	Random effects		Fixed effects
	States	States-Traits	States
<i>Hours match (ref.: Match <=3 hours)</i>			
Underworked	-0.203***	-0.198***	-0.177***
Overworked	-0.064***	-0.072***	-0.047***
<i>Work orientations (ref.: Home Centered)</i>			
Work Centered	-0.127***	-0.147***	-0.053
Adaptive	-0.063***	-0.089***	-0.041
Drifters-Unplanned careers	-0.153***	-0.146***	-0.047
<i>Work-care combinations (ref. No Work-No Care)</i>			
Only working	0.262***	0.254***	0.263***
Only caring	0.159***	0.167***	0.169***
Combine Caring and Working <25 h	0.145***	0.117***	0.133***
Combine Caring >24h, Working <25h	0.093***	0.099***	0.102**
Combine With Caring <25h, Working >24h	0.211***	0.189***	0.224***
Combine Caring and Working >24 h	0.093**	0.076*	0.118**
<i>Traits</i>			
Neuroticism		-0.238***	
Agreeableness		0.052***	
Conscientiousness		0.032*	
Extraversion		0.061***	
Openness to experience		0.061***	
<i>Controls</i>			
Married (1=married)	0.287***	0.286***	0.243***
Divorced (1=divorced)	-0.081**	-0.061	0.021
Age	-0.032***	-0.033***	-0.010
Age squared / 100	0.013	0.015*	-0.026**
Number of children 0-15 years	0.009	0.001	-0.002
Unemployment rate	-0.040***	-0.051***	-0.030***
East-Germans	-0.934***	-0.817***	
Foreigner	-0.154***	-0.123***	
Lower educated (CASMIN)	-0.131***	-0.091***	-0.011
Higher educated (CASMIN)	0.199***	0.160***	0.065
Age youngest child	-0.005***	-0.004**	-0.005***
Bad objective health (1-3)	-0.234***	-0.228***	-0.164***
Constant	8.411***	8.458***	7.831***
R squared	0.086	0.119	0.035
N	90297	70859	90297
Sigma μ	1.108	1.038	1.360
Sigma ε	1.299	1.274	1.299
Rho	0.421	0.399	0.523

Note: * p<0.10, ** p<0.05, p<0.01**.

Source: SOEP, 1984-2007

TABLE 5
Estimation Results of Random and Fixed Effects Panel Regression Model on SWB¹⁾
Baseline and Two-Way Interaction Models, German Women, 20-55 years

	<i>Random effects</i>		<i>Fixed effects</i>	
	<i>Baseline</i>	<i>Rational Choice</i>	<i>Multiple Roles</i>	<i>Multiple roles</i>
	Beta	Beta	Beta	Beta
<i>Work-care combinations (ref. No work, no care)</i>				
Only working	0.267***	0.259***	0.294***	0.310***
Only caring	0.161***	0.148***	0.130**	0.180**
Combine Caring and Working <25 h	0.151***	0.150***	0.156**	0.150**
Combine Caring >24h, Working <25h	0.099***	0.098***	0.109*	0.129***
Combine With Caring <25h, Working >24h	0.217***	0.214***	0.231***	0.260***
Combine Caring and Working >24 h	0.099**	0.097***	0.114	0.155*
<i>Hours Match (ref.=match<=3 hrs)</i>				
Underworked	-0.205***	-0.098***	-0.187***	-0.139***
Overworked	-0.064***	-0.081**	0.048	0.069
<i>Work Orientations(ref.: home centered)</i>				
Work Centered	-0.130***	-0.034	-0.131***	-0.054
Adaptive	-0.066***	-0.002	-0.065***	-0.041
Drifters	-0.157***	-0.089	-0.158***	-0.049
<i>Birth cohort (ref. born before 1945)</i>				
1945-1955	-0.091**	-0.089*	-0.090**	
1955-1965	-0.292***	-0.291***	-0.291***	
1965-1975	-0.244***	-0.243***	-0.244***	
>1975	-0.129***	-0.127*	-0.128**	
<i>Match*Work Orient (ref.: match/ home centered)</i>				
Underworked*Work Centered		-0.230***		
Underworked*Adaptive		-0.124***		
Underworked*Drifters-Unplanned careers		-0.177***		
Overworked*Work Centered		-0.005		
Overworked*Adaptive		0.015		
Overworked*Drifters-Unplanned Career		0.068		
<i>Fit*Work-Care Combi (ref. match, home centered)</i>				
Underworked*Only Work			-0.056	-0.079
Underworked*Only Care			0.035	-0.010
Underworked*WC<25h			-0.078	-0.009
Underworked*C>24h W<25h			-0.031	-0.044
Underworked*C<25h W>24h			0.034	0.010
Underworked*C+W>24h			-0.028	-0.115
Overworked*Only Work			-0.124**	-0.124*
Overworked*WC<25h			-0.082	-0.089
Overworked*C>24h W<25h				0.000
Overworked*C<25h W>24h			-0.121*	-0.131*
Overworked*C+W>24h			-0.102	-0.115
Constant	8.450***	8.412***	8.433***	7.795***
R-squared	0.088	0.089	0.088	0.035
N	90297	90297	90297	90297
Sigma μ	1.107	1.104	1.106	1.360
Sigma ϵ	1.299	1.298	1.299	1.299
Rho	0.421	0.420	0.420	0.523

Note: * p<0.10, ** p<0.05, p<0.01***. ¹⁾ Controlled for all variables of baseline model (cf. Table 3).

Source: SOEP, 1984-2007

ENDNOTES

ⁱ In the German SOEP life satisfaction was measured on a scale ranging from zero (completely dissatisfied) to 10 (completely satisfied). The wording of the life satisfaction question is as follows: "Now we would like to know, all things considered, how satisfied are you with your life?".

ⁱⁱ Data are derived from EUROSTAT Database, ultimo 2009. We also calculated the participation and part-time rates using the SOEP data which turn out to be virtually the same.

ⁱⁱⁱ Treating the life satisfaction scale as an ordinal scale by applying ordered probit regression yields virtually identical results compared to OLS and GLS estimation (see also Frijters et al., 2004).

^{iv} A brief description of the short list (30 items) of the five traits is given by Costa and McCrae (1990): "Neuroticism is the tendency to experience psychological distress in the form of anxiety, anger, depression, embarrassment, disgust and a variety of other negative emotions. This dimension also includes the susceptibility to having unrealistic ideas, poor control of one's urges, and ineffective strategies to cope with stress. Extraversion includes sociability, but also traits such as liveliness, cheerfulness, assertiveness, and the need for activity, for excitement and for stimulation. Openness encompasses traits related to aesthetic sensitivity, intellectual curiosity, need for variety, non dogmatic attitudes, and broad interests. Agreeableness involves trust, altruism and sympathy, and it is contrasted with cynical and self-centered antagonism. Finally, conscientiousness encompasses both a disciplined striving after goals and strict adherence to principles".

^v The coefficient of variation is a measure of dispersion (standard deviation divided by the mean) and used here to analyze the variance over time. It is a standardized measure while defined relative to the mean each year.

^{vi} We also calculated annual individual change scores for women in these four years showing very little change (0.68% annual change on average for women between 20-55 years and 2% of these women only changing 1 point or more annually on the scale ranging from 1 to 4).

^{vii} We used mean substitution for the missing years. The imputation procedure implied some smoothing of the average change being reduced to 0.01%

^{viii} Because of the strong negative correlation with life satisfaction of this group (-0.054) in contrast to the positive correlation for the adaptive women (+0.05) we kept this group separate in the analyses.

^{ix} The exact wording of the questions with respect to work were: "How many hours do you spent per day during weekdays on your job, apprenticeship, second job (including travelling time to and from work)?" and for childcare "How many hours do you spent per day during weekdays on childcare?".

^x The survey contains various measures of health: self-rated health, the frequency of visits to practitioners and specialists (asked each year), whether people suffer from occupational disability, the degree of disability (both asked in 21 out of 24 years) and scales for mental and physical health status (asked for three years only). We preferred 'objective' measures asked for most of the years.

^{xi} We created three dummy variables for handicapped, disabled (more than 50%), and being a frequent visitor to doctors (18 times a year or more). The sum score measuring bad health ranges hence from zero to 3.

^{xii} We tested the assumption that other household income is endogenous while affecting the work orientations, the job match and the work-care choices by including the partner's last year's wage income and last year's other non-wage income (deflated with the consumer price index set at 100 for the year 2001). The results not shown here (available at request from the authors) indeed show that it reduces the main effects of work orientations and the fit variable on SWB though it does not change the effects of work-care choices on SWB.

^{xiii} The CASMIN education variable is considered a better measure for education level for Germany than the internationally used ISCED scale that is also available in the SOEP data.

^{xiv} In addition we estimated several models with each of the three basic variables only and in various combinations. There appears to be a small direct negative effect of being work oriented compared to being home centered on SWB but a large indirect positive effect on SWB mediated by a positive effect on work-care combinations.

^{xv} We tested the assumption of an inverted U-shaped (curvilinear) relationship with time spent to either care or work by adding the number of hours spent to care and work as well as the quadratic terms of these. We found significant positive and negative effects respectively, which confirm the contended shape.