How working hours influence the life satisfaction of childless men and women, fathers and mothers in Germany
Wie Arbeitszeiten die Lebenszufriedenheit von kinderlosen Männern und Frauen sowie Vätern und Müttern beeinflussen

Abstract: This paper uses the German Socio-Economic Panel to show that fathers – and to a lesser degree childless men and women, are most satisfied with life when working full-time or longer. In contrast, whether mothers spend more or less hours in employment hardly affects their life satisfaction. The rational maximization of income as postulated by family economics cannot explain these results, as they are even found in households where women earn more than men. Because they are also found among those who hold secure jobs and have very little household work and childcare duties, these results contradict the predictions by expansionist role theory that men and women are better off if they hold secure jobs. For men, the results therefore fit best with the predictions of traditional role theory, which suggests that people are most satisfied when adhering to stereotypical gender roles.

Keywords: Working Hours; Life Satisfaction; Gender Roles; Traditional Role Theory; Family Economics; Expansionist Role Theory.

1 Introduction

If people are generally dissatisfied with their lives, then their social environment is “apparently not well suited for human habitation” (Veenhoven 2008: 58). Sociologists therefore increasingly measure under which social conditions people claim to be satisfied with their lives (Treas et al. 2011; Headey et al. 2013; Haller & Hadler 2006; Firebaugh & Schroeder 2009; Delhey & Dragolov 2014). Such measures of life satisfaction show high reliability across surveys, survey questions, and even languages. How people rate their own life satisfaction is correlated with how satisfied others judge them to be. It is even (inversely) correlated with cortisol levels and the likelihood of a future suicide (for a review, cf. Diener et al. 2013; Kahneman & Krueger 2006: 10; Kahneman et al. 2003). This makes life satisfaction research uniquely suited to answer an important question: How much should people work? Work may increase life satisfaction, as it may verdienen als Männer. Die Ergebnisse zeigen sich ebenfalls bei Menschen mit sehr sicheren Arbeitsplätzen und sehr wenig Haus- und Kinderbetreuungsarbeit. Damit widersprechen sie den Prognosen der expansionistischen Rollentheorie, dass Männer und Frauen zufriedener sind, wenn sie beide gleich umfangreich erwerbstätig sind. Für Männer passen die Ergebnisse am besten zu den Vorhersagen der traditionellen Rollentheorie, wonach Menschen zufriedener sind, wenn sie stereotypen Geschlechterrollen entsprechen.

Schlüsselwörter: Arbeitszeiten; Lebenszufriedenheit; Geschlechterrollen; traditionelle Rollentheorie; Familienökonomie; expansionistische Rollentheorie.
not only yield income, but also social esteem and even bring satisfying experiences of “flow” (Csikszentmihalyi 1990). Nevertheless, work ceases to be a positive stimulation and turns into an excessive burden at some point. This point may differ from person to person, but at the very least when work does not leave enough time to eat and sleep, more work is unlikely to contribute to life satisfaction (Spencer 2003; Knabe & Rätzel 2010; Rätzel 2012). But how much is enough? Up to what point do working hours increase life satisfaction? This paper aims to answer this question by using data from the German Socio-Economic Panel Study from 1984 to 2015.

This is an important question not only because all individuals and couples have to answer it, but also because feminists debate it fiercely. Actual working-time arrangements of German couples are fairly conservative, in the sense that men and especially fathers spend more time in paid employment than women and especially mothers (Drobnic 2000: 153; also cf. Blossfeld et al. 2001; Aisenbrey et al. 2009). Some feminists argue that this lowers everyone’s life satisfaction, promising that what they call a “Real Utopia” will come about when “men and women engage symmetrically in employment and caregiving” (Gornick & Meyers 2008: 314). Other feminists claim however, that many women have a stronger preference to stay at home than men have on average, so that in their view, efforts to equalize working hours between men and women is “social engineering to force everyone into the same roles” (Hakim 2008: 134) and therefore “bound to fail” (Hakim 2003: 366). So are men really more satisfied when working less than a typical full-time job requires? Do women gain satisfaction when working more than part-time hours? In the face of heated discussions, it may help to actually calculate how much work goes along with the highest life satisfaction for each of the groups. This not only has practical relevance; it also contributes to theoretical debates.

On one side of the theoretical debate, traditional role theory suggests that people should conform to clearly defined roles as homemaker or breadwinner. On the other side of the debate, expansionist role theory suggests the exact opposite, that people profit from mixing a role as a paid worker with a role as an unpaid homemaker. Family economics suggests a third possibility, that households are best off when whoever earns more gross income per hour spends more time in paid employment. The following sections present these theories and derive empirically testable hypotheses from them. A review of the literature then shows that empirical studies have so far not been able to show which theory is correct. I then go on to calculate how many working hours go along with the highest life satisfaction for mothers, fathers, childless men, and childless women.

The results suggest that traditional role theory offers the best fit with the data for fathers, as they are most satisfied with life when working full time or even more. The predictions of traditional role theory also fit well for childless men, who are also most satisfied with full-time employment. Childless women are similar to childless men and fathers, in that they are most satisfied when working long hours, even if the effect tends to be less strong. This means that for childless women, the opposite of traditional role theory is correct. The results also show that the life satisfaction of mothers simply does not depend strongly on the number of hours they spend in the labor market, as more working hours yield more income, but less free time, two effects that seem to cancel each other out. Simply put, this means that the life satisfaction of fathers especially, but also of childless men and women is higher at longer working hours, while the life satisfaction of mothers does not profit from long hours in employment. Further tests show that neither the rational maximization of income nor external constraints such as childcare, housework, or insecure jobs can explain these results.

2 Theory

Traditional role theory

Traditional role theory argues that people act out social roles. Goffman (1957: 276) argues that if these roles are unclear, people “are subjected to inconsistent pressures by those with whom they interact, i.e. others cannot appropriately ‘define’ the inconsistent individual and anticipate his responses. This may lead to stress for the individual by subjecting him to inconsistent demands. Indirectly, it may lead to the individual’s incorporating diverse and conflicting views of himself, making impossible a unified self concept.” Goffman (1956: 48) specifically applies this to married couples, suggesting that “when each member of the marriage team plays its special role, the conjugal unit, as a unit, can sustain the impression that new audiences expect of it.” Dahrendorf (2006 [1959]: 39) similarly suggests that role expectations exert a binding force on individuals, so that those who deviate from them “incur damage to themselves” (similarly, cf. Durkheim 2002 [1906]: 18). Such reasoning even prompted Parsons & Bales (1955: 14f) to make a rather daring prediction. They suggested that the traditional gender relations, which they observed in the United States of the 1950s, would not change; women
would remain “anchored primarily in the internal affairs of the family, as wife, mother and manager of the household, while the role of the adult male is primarily anchored in the occupational world.”

Economists argue that people occupy social categories, which shape their identities, which then shape their preferences. Akerlof & Kranton (2000: 717) specifically propose that adhering to traditional gender norms increases well-being, because “[f]ollowing the behavioral prescriptions for one’s gender affirms one’s self image, or identity, as a ‘man’ or as a ‘woman.’ Violating the prescriptions evokes anxiety and discomfort.” Akerlof & Kranton (2010: 83ff) follow this line of argument when they claim that “women may have ‘a lower attachment to the labor market’ because of wider gender norms. Women are supposed to stay at home and raise children […] whereas men are not.” Others even suggest that couples may “feel more affection and satisfaction within their relationships under traditional gender divisions of labor” (Kornrich et al. 2013: 31f). Catherine Hakim’s preference theory argues that women in different countries more often want to act as a caretaker than men do (Hakim 2002: 431; 2000; Álvarez & Miles-Touya 2015: 4). This applies to Germany in particular, as its institutions and normative attitudes “support the domestic role of women during child-rearing, whereas men are allotted the role of breadwinner” (Drobnič 2000: 153; also cf. Blossfeld et al. 2001; Aisenbrey et al. 2009).

If traditional role theory is correct, then women should suffer some loss of life satisfaction when violating the prescriptions society traditionally holds for them. They should therefore experience lower life satisfaction when spending long hours in paid employment. Men, conversely, should gain life satisfaction when they spend long hours in employment, as they then behave according to a stereotypical male breadwinner role. In comparison to childless men and women, these effects should be even more visible for fathers and mothers, for whom role expectations are clearer. This leads to the following four hypotheses:

**Traditional role theory hypothesis 1**: The life satisfaction of childless men increases with increasing working hours and peaks around full-time working hours.

**Traditional role theory hypothesis 2**: Compared to childless men, the life satisfaction of fathers increases even more steeply with increasing working hours and peaks at a higher level of working hours.

**Traditional role theory hypothesis 3**: The life satisfaction of childless women decreases with increasing working hours and peaks at a low level of working hours.

**Traditional role theory hypothesis 4**: Compared to childless women, the life satisfaction of mothers decreases even more steeply with increasing working hours and peaks at an even lower level of working hours.

While these hypotheses can be clearly derived from traditional role theory, it is unclear whether they can be confirmed by using German data from the years 1984 to 2015. The same is true for the other two theories, which make very different predictions about how working hours influence life satisfaction.

**Family economics**

Family economics sees the household as a production unit that strives for efficiency through functional differentiation. It suggests that a “couple could gain much from a sharp division of labor because the husband would specialize in some types of human capital and the wife in others” (Becker 1993: 397). Concretely, this means that when men earn more gross income per hour, the entire household is better off if men specialize in the labor market while eschewing housework, whereas women should concentrate on housework and avoid the labor market. This prediction is the same as that of traditional role theory. However, family economics explains predominant roles by relying on the economically rational maximization of income. Therefore, it suggests the exact opposite for households where women earn more gross income per hour than men do. In these households, all members of the household should be better off if the woman specializes in labor market participation, while the man specializes in housework (Becker 1991 [1981]: 38). Compared to childless men and childless women, this should be even more visible for mothers and fathers, who have more household work and need more income, and thus should gain even more from an efficient specialization. For households where women earn more than men, the prediction of family economics is thus the exact opposite of traditional role theory. This leads to four hypotheses.

**Family economics hypothesis 1**: In households where women have a higher gross hourly income than their partner, the life satisfaction of childless men decreases with increasing working hours and peaks at a low level of working hours.

**Family economics hypothesis 2**: In households where women have a higher gross hourly income than their partner, the life satisfaction of fathers decreases even more with increasing working hours and peaks at an even lower level of working hours than that of childless men.

**Family economics hypothesis 3**: In households where women have a higher gross hourly income than their partner, the life satisfaction of childless women in-
creases with increasing working hours and peaks around full-time working hours.

**Family economics hypothesis 4:** In households where mothers have a higher gross hourly income than their partner, their life satisfaction increases even more steeply with increasing working hours and peaks at a higher level of working hours than that of childless women.

Thus, compared to traditional role theory, family economics exactly reverses the predictions for men and women in those households where women have higher gross earnings per hour, viz. where full-time labor market activity for women and household activity for men is the most economically rational option.

### Expansionist role theory

Expansionist role theory started with Marks (1977), who argued that “we have ample energy for all of our role partners regardless of the other energy ‘expenditures’ made earlier in the day. Abundant energy is ‘found’ for anything to which we are highly committed, and we often feel more energetic after having done it.” Expansionist role theory therefore suggests that traditional role theory and family economics are wrong. It argues that multiple roles are welfare enhancing, in that they allow one to draw esteem from more than one source, e.g. not only as a homemaker, but also as someone who is economically successful, or not only as a breadwinner, but also as a parent. This goes directly against the predictions of traditional role theory. Specifically, expansionist role theory contradicts traditional role theory by arguing that “little support has been found for the prediction that women and men who engage in ‘unnatural’ roles – for example, the employee role for women and the parental role for men – will experience distress. Indeed, [...] women and men who engage in multiple roles report lower levels of stress related mental and physical health problems and higher levels of subjective well-being than do their counterparts who engage in fewer roles” (Barnett & Hyde 2001: 784; also cf. Gerson 2009: 383).

As opposed to family economics, expansionist role theory argues “that work commitment and family commitment are uncorrelated or perhaps even positively correlated. This prediction is in strong contrast to functionalist theories that posit a gender-based presumptive priority in work and family role investments” (Barnett & Hyde 2001: 786). As expansionist role theory rejects traditional role theory and family economics, it makes the opposite prediction about how working hours contribute to life satisfaction: “Adding the worker role is beneficial to women, and adding or participating in family roles is beneficial for men [...]”. Beyond certain upper limits, overload and distress may occur² (Barnett & Hyde 2001: 784).

Thus, while suggesting that mixing a role in the family and the labor market can be beneficial, expansionist role theory does consider that women may suffer from labor market engagement if they are already overburdened with childcare and household work. It also acknowledges that working hours may not lead to higher life satisfaction for men in insecure jobs (Marks 1977: 933f; Gerson 2016: 112ff; 2009: 386ff). Conversely, the theory predicts that for those privileged men and women who not only have highly secure jobs, but also little household and childcare work, the relationship between working hours and life satisfaction should be similarly curvilinear: Men and women should be similarly unhappy when working very few hours, as this does not allow them to integrate a labor market role into their lives, from which all are said to profit equally. In turn, men and women with secure jobs and good childcare should be most content with a similarly moderate number of labor market hours, which allow them to combine a role in the labor market with a role in the family, from which men and women are said to profit equally. High working hours should be correlated with similarly low life satisfaction for men and women, as they make it impossible to integrate a family role into one’s life, from which men and women are again said to profit equally. Expansionist role theory is not specific about the inflection point, when more working hours cease to increase life satisfaction (Barnett & Hyde 2001: 789ff). This point therefore has to be estimated endogenously from the data. However, it is clear from expansionist role theory that this point should be similar for men and women. This suggests the following hypothesis:

**Expansionist role theory hypothesis:** For men and women with secure jobs, little household work, little childcare work and good childcare arrangements, life satisfaction follows a similar curvilinear path: First increasing and then eventually decreasing with increasing working hours.

Thus, three different theories posit contradicting hypotheses on how working hours influence life satisfaction. Traditional role theory argues that life satisfaction should be highest for men working full time and for women with few hours in employment. This should be even more visible for fathers and mothers than for childless men and women. Family economics has the same hypothesis for households where men have higher gross hourly earnings. However, it makes the exact opposite prediction for households where women earn more per hour. In such households, women should be most satisfied when working full
time, while men should be most satisfied with very few working hours. Again, this should be even more visible for mothers and fathers compared to childless women and men. Expansionist role theory contradicts the two theories, arguing that both men and women are most satisfied with similar moderate working hours, as long as they are free of excessive housework and childcare duties and have secure jobs.

3 Empirical literature

So far, empirical research shows that German men work longer hours than women, and that fathers tend to even increase their working time after the birth of a child, while mothers reduce theirs. This is compatible with the predictions from traditional role theory (Cooke & Gash 2010: 1097; Kelle 2011: 51; Boeckmann et al. 2015: 1317). Empirical research also shows that German women have a higher likelihood to leave the labor market when their male partner is more economically successful, which confirms the predictions of family economics (Blossfeld et al. 2001: 64f; Drobnic 2000: 154; Pollmann-Schult 2009: 175). This means that the actual labor market behavior of German women and men largely follows what traditional role theory and family economics predict. However, the fact that traditional role theory and family economics correctly predict actual labor market behavior gives no information about whether people are satisfied when behaving according to traditional roles and the prescriptions of family economics.

Empirical research shows conflicting results on how working hours contribute to the life satisfaction of women. Some studies show that women are most satisfied when they work part-time, which would confirm expansionist role theory (Holst & Trzcinski 2003: 328; Gash et al. 2012: 68f; Rätzel 2012: 1179). However, this leaves the possibility that women would be satisfied to work longer if they were not overburdened by housework and childcare (Holst & Trzcinski 2003: 331; Trzcinski & Holst 2012: 461). For mothers, the findings are even less clear. Some suggest part-time hours (Holst & Trzcinski 2003, 328; Booth & Van Ours 2008), others suggest full-time hours (Berger 2013, 38f) and yet other results suggest not working at all contributes most to the life satisfaction of mothers (Pollmann-Schult 2014, 332; Treas et al. 2011, 116f; Trzcinski & Holst 2012, 461).

Research on men also leaves many questions open. German men claim that they reject traditional gender roles and would like to work less after having children. However, few actually cut back their working hours after becoming fathers and on average, men even increase their working hours when they have children. This seems to confirm traditional role theory and to reject expansionist role theory, as it is even found among men in secure jobs (Pollmann-Schult 2008: 512f; 2009: 175f; also cf. Booth & Van Ours 2012: 279). However, while these studies show that men usually work full time no matter what, they leave unclear whether this leads to a satisfying life for them. It also remains unclear whether men would be satisfied with long working hours even when this is economically irrational because their female partner has higher gross earnings per hour; and it leaves unclear whether men work full time because they are constrained to do so due to insecure jobs or lack of income.

Another open question in the literature is at which exact point more working hours decrease life satisfaction. While it is clear that working hours first increase and – with ever more working hours – eventually decrease life satisfaction (Knabe & Rätzel 2010, 78; Rätzel 2012, 1172; Boye 2009, 510f; Pereira & Coelho 2012, 237), no one has empirically measured this inflection point for different groups. We therefore do not know how many hours of work make men and women, with and without children most satisfied. Instead, existing research has put people into exogenously imposed, predefined boxes, usually checking how satisfied people are when they do not work at all, when they work part-time and when they work full hours (Cooke & Gash 2010: 1102; Gash et al. 2012: 59). However, this is bound to deliver unclear results when people are most satisfied between full- and part-time hours.

Reviews of the field therefore complain that “[p]ast research provides contradictory evidence concerning the relationship between work hours and SWB [subjective well-being]” (Pereira & Coelho 2012: 248; similarly, cf. Álvarez & Miles-Touya 2015: 4; Greenhaus & Powell 2006: 87). This is not only theoretically problematic, as it leaves the hypotheses from traditional role theory, family economics and expansionist role theory untested. It also leaves a hotly debated and practically relevant question unanswered: Are men and women most satisfied when they work similar hours? Or are men – and especially fathers – most satisfied at higher working hours, compared to women and especially to mothers?

4 Data and Methods

The German Socio-Economic Panel (SOEP) asks people how satisfied they are with their lives. Answers range from
0 to 10 with higher numbers indicating greater life satisfaction. From 1984 to 2015, the responses have accumulated to the longest continual measure of life satisfaction. My main independent variable, with which I try to explain life satisfaction, is actual average working time per week in self-employment or dependent employment, including overtime hours. Reported working time is closely related to contractually agreed working time \((r=0.84)\). Only individuals who have a meaningful choice about their working hours have been sampled. This excludes minors below age 18 and everyone above the retirement age of 65, as well as everyone who retired early, cannot work due to disability, is in the education system or in the military/social service, which was obligatory until 2011. Given these constraints, I can use 400,136 observations from 57,627 individuals.

I separate mothers and fathers from childless men and women through the presence of children aged 0–14 in their household. Above age 14, it seems reasonable to assume that children lose their influence on their parents’ labor market participation. I have also operationalized children as household members aged 0–4, 0–7 and 0–10 however. This yields clearer results than those presented below. I therefore defined children as household members aged 0–14, as it yields the most conservative results.

In my sample, 76 percent of childless men and 66 percent of childless women work. However, 90 percent of all fathers work, while only 56 percent of all mothers work. When fathers work, they spend an average of 44.5 hours per week in the labor market (SD 10.1). They are closely followed by childless men (43.4 hours, SD 11.3). Working childless women spend 35 hours (SD 12.7) per week in the labor market and mothers who work only do so for 28.2 hours (SD 13.4) per week. Figure 1 (“Distribution of the Dependent Variable”) in the Online Annex contains a histogram of working hours for each of the four groups.

The long working hours of childless men and fathers may be surprising. Indeed, 7 percent of all observations document even more than 50 working hours per week and 82.3 percent of these observations pertain to men. One might suppose that those who work very long hours are rather dissatisfied with life. But this is not the case. Fathers who work very long hours have the highest life satisfaction of 71 (out of ten points), followed by childless men, whose life satisfaction when working more than 50 hours is 7 points. The life satisfaction of childless women and mothers who work more than 50 hours per week is discernibly lower (6.87 and 6.85 respectively). However, descriptive data can only take us so far. To better understand how working hours influence life satisfaction, we have to account for control variables.

## Control variables

Age, net individual monthly income, health, and relationship status are known to vary with life satisfaction and are likely to co-vary with working hours (Frijters et al. 2004, 731; Ferrer-I-Carbonell & Frijters 2004, 642). I therefore control for age and age squared, as it is known that people are least satisfied in the middle of their lives. I control for logged gross income to measure success in labor markets, such as when comparing men’s and women’s earnings per hour. I use logged net income to measure living standards. Controlling for subjectively perceived health accounts for whether someone works fewer hours and is less satisfied because of sickness. I control for relationship status with a categorical variable: 1) married living together, 2) married, living separately, 3) single, 4) divorced, 5) widowed. I also control for residency in East/West Germany, since West Germans tend to have more traditional household arrangements and to be more satisfied.

Zero working hours means not working at all. The difference between 0 and 1 working hour is therefore qualitatively different than the difference between, say, 20 and 21 working hours. To control for this, I control for parental leave and unemployment. Second, the separation of unpaid work in the household can mediate the link between life satisfaction and working hours, so I control for hours of and satisfaction with household work. Also, working more can go along with qualitatively better jobs, so I control for work satisfaction, job security, and job prestige based on the Treiman (1977) scale. Any relationship may also be particular to certain groups, so I calculate separate regressions based on education, citizenship, time period, cohort, and East German residency. Last, I control for desired working hours, as some people may work more because they want to, while others are constrained to work more without wanting to. Descriptive data and an extended discussion of relevant control variables are available in Table 1 in the Online Annex (see heading “Descriptives for Relevant Variables”).

## Method of estimation

Empirical studies have shown that under most conditions, it makes little difference whether life satisfaction is estimated by means of an ordered categorical or a linear estimator (Ferrer-I-Carbonell & Frijters 2004; Ferrer-I-Carbonell & Ramos 2014, 1018; Bartolini et al. 2013, 173; Schröder 2016, 2017; but also cf. Schröder & Yitzhaki 2017). I have calculated the results below both with ordered categorical and linear models, which hardly chang-
es the results, either in terms of significance or in terms of effect size. I therefore use linear random and fixed effects models that calculate standard errors on the level of individuals. I include working hours as a linear term in the regression, which I also interact with itself. This is mathematically equivalent to using working hours and working hours squared as explanatory variables, which shows a non-linear effect of working hours on life satisfaction. Measuring non-linearity is important, as few working hours may increase life satisfaction, while ever more working hours may eventually decrease it. The point where the negative influence of the squared term overpowers the positive influence of the linear term is therefore estimated endogenously from the data, rather than being imposed by the researcher, which is an important advantage over existing studies. I then use margins plots to visualize the non-linear relationship between life satisfaction and working hours.

Purely cross-sectional techniques are of limited use in showing how working hours influence life satisfaction, because they cannot show whether people who work longer hours are “drawn disproportionately from the ranks of the happy” in the first place (Treas et al. 2011, 114; also cf. Benz & Frey 2008, 370; Pereira & Coelho 2012, 250). Therefore, one must also look at within-person effects, which show whether a person experiences more life satisfaction when he or she works more than during an average year (Ferrer-I-Carbonell & Frijters 2004; Booth & Van Ours 2008, F78; 2009, 179; Frijters et al. 2004, 731f). As fixed effects regressions only rely on change within a person over time, rather than on differences between people, they automatically control for time-invariant personality traits that may both influence life satisfaction and the propensity to work long hours. This advantage of fixed effects regressions is also a disadvantage however. As they only analyze changes within a person, fixed effects cannot show how stable (time-invariant) differences between people affect life satisfaction. I therefore also use random effects models, which draw their effect size not only from the above-mentioned differences within individuals (over time), but also from differences between individuals (irrespective of time). Alone, such effects could be spurious, as indicated above. It is therefore important whether fixed and random effect models point in the same direction, which is why I always compare equivalent random and fixed effects models.

5 Results

Testing traditional role theory

The upper left-hand graph of Figure 1, with the heading “Random effects”, shows how working hours are related to life satisfaction when no controls are accounted for (Model 1 of Table 2 in the Online Annex; see also the detailed discussion of all variables in the Online Annex). The effects indicate that the life satisfaction of childless women (blue line with triangle symbols) increases with working hours up to about 40 hours per week. In contrast to this, the life satisfaction of mothers is very unresponsive to working hours; their life satisfaction is always around 7.2 to 7.3, regardless of how much they work. The life satisfaction of fathers is the exact opposite, in that their life satisfaction reacts very strongly to working hours. The life satisfaction of fathers who do not work is almost 0.8 points below that of mothers who do not work. Non-working childless men have a life satisfaction that is 0.6 points below the life satisfaction of non-working mothers and the life-satisfaction of non-working childless men is almost 0.3 points below that of non-working childless women. Compared to mothers, fathers especially, but also childless men, and to a lesser degree childless women are thus very dissatisfied when they work very little or not at all.

But at what level of work do people reach the highest life satisfaction? Fathers and childless men reach their highest life satisfaction values at around 50 hours of work per week. Beyond this, yet more working hours go along with lower life satisfaction. Substantively, fathers who work 50 instead of 0 hours have almost one more life satisfaction point. Fathers who work 50 instead of 20 hours are more than 0.3 points higher on the life satisfaction scale. This means that for fathers, part-time hours seem to lower life satisfaction by about a third as much as unemployment (Gielen & Van Ours 2014, 549). However, keep in mind that this is only a cross-sectional result.

The lower left-hand graph with the heading “Fixed Effects” (also see the estimates of Model 1 of Table 3 in the Online Annex, as well as the extended discussion about the influence of each variable) confirms the random effects results by using fixed effects models. It shows that a typical father loses more than 0.3 life satisfaction points in years when he works 20 hours less than he usually does and gains close to 0.2 life satisfaction points when working 20 hours more. Contrary to this, a typical mother is as satisfied with life during those years when she works more, as she is during years when she works less than she usually does. Men and women without children have simi-
lar curves. Both have higher life satisfaction when increasing their working hours and lower life satisfaction when lowering them, but in neither case are the effects as strong as for fathers.

However, it is important to keep in mind that this does not take control variables into account. The results can therefore come about because lower working hours (and dissatisfaction) result from sickness and unemployment for fathers, while for mothers, lower working hours means parental leave, which is unlikely to lead to the same dissatisfaction as sickness or unemployment. The middle graphs in Figure 1 control for the different reasons behind lower working hours (also see the estimates of Model 2 in Table 2 of the Online Annex). They use different y-scales, as it is less important how much life satisfaction the different models estimate overall, rather than how this changes according to working hours for each of the four groups. The upper middle graph shows that the life satisfaction of fathers is more than 0.6 points higher when they work 50 instead of 0 hours, even after taking into account the different reasons that may explain these working hours. The life satisfaction of fathers is also more than 0.2 points higher when they work 50 instead of 20 hours. Childless women seem to gain about 0.2 life satisfaction points from full-time work and childless men about 0.3 points. In contrast to all of these groups, the life satisfaction of mothers is again almost entirely unaffected by working hours. At its utmost, the life satisfaction of mothers that work 30 hours instead of 0 or 60 hours is 0.1 points higher. Since these graphs control for the different reasons behind low working hours, they imply that fathers especially, but also childless men and women do not gain life satisfaction from long working hours because they are sick or unemployed. Instead, irrespective of how healthy they are or why they change their working hours, fathers especially, but also childless men and women (in descending order) profit from long working hours more than mothers. Keep in mind however, that these results are not within-person effects.

The corresponding lower (middle) graph “Fixed effects with controls” shows these within-person effects. It indicates that a typical father gains about 0.5 life sat-

Figure 1: Life satisfaction relative to working hours
satisfaction points when working 20 hours more rather than less than what he works during a typical year. Childless men and women gain about 0.4 life satisfaction points through such a change. These effects do not result from unemployment or changing health, which are controlled for (see estimates in Model 2 in Table 3 in the Online Annex). Regardless of whether she increases or reduces her working hours, the life satisfaction of a typical mother is always around 7.3 points. This means that regardless of whether a typical mother works more or less, this does not increase or decrease her life satisfaction substantively or significantly, which is contrary to the effects found in all other groups.

The right-hand graphs, finally, also control for the effect of income (see Models 3 in Table 2 and Table 3 in the Online Annex). This is a tough and even purposefully unrealistic test, as hardly anyone may be expected to be more satisfied with life when working more without a commensurate increase in earnings. As should be expected, the upper right-hand graph, with the heading “Random effects, controls plus income”, indeed shows that childless men and mothers who work longer hours without earning more become less satisfied with life. However, the life satisfaction of fathers and childless women does not simply decrease when they work longer hours without earning more. This means that even if more working hours do not lead to higher income, fathers are still most satisfied to work around 40 hours and childless women are still most satisfied to work around 25 hours. The corresponding fixed effects results corroborate this, showing that when a typical mother or childless man increases her/his working hours, their life satisfaction decreases. Fathers and childless women, in contrast, seem most satisfied with the hours that they typically work, even if income considerations play no role. Keep in mind, however, that these results are not always statistically significant, because income co-varies very strongly with working hours, which inflates the standard errors for the effect of working hours on life satisfaction.

Overall, these results confirm hypothesis 1 of role theory. The life satisfaction of childless men increases with working hours and peaks as late as between 40 to 50 hours of weekly working time. Controlling for income shows that this is mainly because by working more, childless men earn more, which contributes to their life satisfaction. The results also confirm traditional role theory hypothesis 2. Compared to childless men, the life satisfaction of fathers increases even more steeply with increasing working hours and peaks higher at about 50 weekly working hours. This is hardly due to income. Instead, controlling for income shows that fathers are still mostly satisfied when working around 40 hours per week, even if more work does not yield more income. The results contradict traditional role theory hypothesis 3: The life satisfaction of childless women does not decrease with decreasing working hours and does not peak at low working hours. Instead, while childless women do not gain as much life satisfaction from long working hours as fathers do, their life satisfaction is higher when they work more and plateaus at about 40 working hours per week. Fourth and last, the results confirm traditional role theory hypothesis 4: Compared to childless women, childless men, and fathers, mothers are more satisfied when they work less. As every other group gains life satisfaction from long working hours, the most striking finding for mothers is that their life satisfaction is almost entirely unresponsive to working hours. Mothers, no matter whether they work long or short hours, appear satisfied with life. Other groups only attain a similar level of life satisfaction when they work long hours.

This suggests that traditional role theory is correct about fathers and childless men, but not about childless women, whose life satisfaction also profits from long working hours. From the point of view of traditional role theory, it is surprising that mothers seem equally satisfied with long and short working hours. This suggests that mothers have multiple roles available to them, which they can assume without a loss of life satisfaction, while fathers are only satisfied if they work long hours. Family economics argues that this can be explained by means of the rational maximization of income: Men are more satisfied to work longer because they earn more per hour, so that each hour of their work contributes more to the household. The next section tests whether this rationale can explain the results.

Testing family economics

Family economics suggests that those households where women have a higher gross hourly income than their partners are better off when women work longer and men shorter hours, as it is more rational for well-earning women to specialize on employment than for men who earn less. Family economics also argues that this should be more apparent for households with children. To test whether this is the case, Figure 2 shows effect sizes for those 17 percent of household observations where women earn more gross income per hour than their male partner, with whom they live in the same household. Because the results come from a smaller sample, they naturally have larger confidence intervals. If family economics is correct, however, then the substantive result should now be that
in households where women earn more than men, the life satisfaction of childless men declines with higher working hours and peaks at low working hours. This effect should be even more pronounced for fathers. Conversely, the life satisfaction of childless women should increase with increasing working hours and peak at high working hours. Again, this should be even more the case for mothers. Figure 2 shows whether this is the case, as it graphs effects for households where women earn more per hour than men do.

Figure 2 shows that even in households where women earn more than men, the life satisfaction of childless men declines with working hours and peaks around full-time work. But we do not need family economics to explain this result, as childless women also experience a peak in life satisfaction when they work full time in households where they are not the main income earner (see preceding section).

What is thus most interesting is that even in households where women earn more than men, the life satisfaction of mothers declines with working hours, while the life satisfaction of fathers is higher when they work longer hours. The large confidence intervals indicate that most of these effects are insignificant. Therefore, while the direction of the effects is clear, one can only say with certainty that in spite of an enormous sample size, there is no statistically significant effect as predicted by family economics, while the substantive effect even goes in the opposite direction of what family economics predicts.

Rational income maximization as posited by family economics can therefore not explain the main result from the preceding section, that fathers have the highest life satisfaction when they work very long hours, while the life satisfaction of mothers is fairly unresponsive to working hours. Instead, the substantive effects suggest that long hours in the labor market contribute to the life satisfaction
of fathers, even when family economics suggests that their behavior is economically irrational. Conversely, spending long hours in the labor market does not lead to higher life satisfaction for mothers, even if it is economically rational to work long hours. In this sense, at least for mothers and fathers, behaving in accordance with traditional gender roles seems to contribute more to life satisfaction than doing what is economically rational.

Testing expansionist role theory

Expansionist role theory suggests that men and women both have a better life when they mix a role in the labor market with a role as a homemaker. As detailed in the introduction, the theory supposes that when women are not satisfied with longer hours in employment, this is because they are overburdened by childcare and household duties. Men in turn should be satisfied to work shorter hours when they are not trapped in insecure jobs, according to expansionist role theory.

To test this, I recalculate the main results from Figure 1 for those who – according to expansionist role theory – are in the perfect position to profit from identical moderate working hours. Concretely, I calculate the effect of working hours on life satisfaction for those who say that they are “not concerned at all” about their job security, who are very satisfied with their childcare arrangements (at least a satisfaction of 7 on a scale from 1 to 10), and who spend no more than an hour per day on childcare and household work. If the hypothesis of expansionist role theory is correct, then the life satisfaction of mothers and fathers in such a privileged position should follow a similar curvilinear path, peaking at moderate working hours for both men and women. In other words, if men and women are most satisfied with different working hours due to constraints, then their life satisfaction should peak at similarly moderate working hours if these constraints are removed. Figure 3 cannot show the life satisfaction of childless men and women, as it is impossible to select cases of childless men and women based on how satisfied they are with child-
care arrangements and with how much time they spend on childcare.

The graphs of Figure 3 clearly reject the hypothesis from expansionist role theory, as they show that life satisfaction does not even remotely follow a similar curvilinear path for those mothers and fathers who are in a perfect situation to combine work and family as they like. Even mothers who are unconcerned about losing their job, have very good childcare arrangements, and are almost completely unburdened by childcare and household work, are not significantly more satisfied when working part-time rather than not working at all. Their life satisfaction is even about 0.2 to 0.4 points lower (depending on the model) when they work longer than part-time (upper graphs). This is striking, because compared to the findings of the first section (where the curve for mothers was horizontal), it becomes apparent that especially those mothers who are in a perfect position to choose their working hours freely are most satisfied when they work part-time or less. The fixed effects models corroborate this by showing that an average mother who is in a perfect situation to choose her working hours openly gains about 0.2 to 0.3 life satisfaction points when decreasing rather than increasing her working time by 20 hours per week, relative to what she typically works.

Expansionist role theory is also completely wrong for fathers. Fathers who are in a perfect position to choose their working hours freely are most satisfied with life when they choose to work between 40 to 50 hours per week. As the upper right graph shows, this is mainly due to the income that work hours yield, because when income is controlled for, fathers are neither significantly more nor less satisfied at higher or lower working hours. This means that even fathers who are in very secure jobs do not lose life satisfaction when their working hours are very high, even if more working hours do not yield more income (see upper right-hand graph). The fixed effects regressions (below) confirm this result. They show that a typical father is most satisfied with life when he works the – on average – full time hours that he typically engages in. I also calculated these results for parents who only spend 15 minutes daily on household work and childcare. Even in this (unrealistically) perfect scenario, where almost no burden of childcare and household work exists, results are virtually the same: mothers are most satisfied when working less than full time; fathers are most satisfied with life when working full time or even longer. This means that fathers are not satisfied when they reduce their working time, even when everything is perfectly in place to support such a reduction in working time. Even with a job that is perfectly safe, with perfect childcare, virtually no housework and no loss of income due to reduced working hours, fathers still do not gain life satisfaction when they work less.

The results therefore suggest that living in accordance with traditional role models makes mothers and fathers most satisfied with life, even when this leads to economically irrational behavior. When mothers earn more than fathers do, it makes no economic sense for fathers to work long and for mothers to work short hours. Yet this is still what yields the highest life satisfaction. In this sense, the satisfaction that people derive from following traditional role models seems to trump whatever benefit an expansion of traditional roles can bring. This is especially true for those who are in a perfect position to choose their working hours as they please. Strikingly, mothers with secure jobs and low childcare and household duties are especially satisfied when they work short hours, while fathers who are under the least external constraints to work long hours are nonetheless most satisfied when they work very long hours. This suggests that expansionist role theory is wrong to argue that fathers would be content to work shorter hours if only they had more secure jobs or a higher income replacement, while mothers would be content to work long hours if they were not overburdened by childcare and household duties.

Robustness tests

To ensure that the above results are not spurious, I used the following robustness tests, whose detailed results I show and discuss in the Online Annex. First, I made sure that no one freerides on the working hours of their partner. Men may gain life satisfaction by working more. But these long hours in employment might be parasitic to the life satisfaction of their female partners, for example when women do all the household work (Deding & Lausten 2010, 252). In turn, mothers who spend more hours in employment may decrease their male partner’s life satisfaction, as they shake his self-image as male breadwinner. The robustness tests show that this is not the case: Not only men themselves, but also their female partners are most satisfied when men spend about 50 hours in the labor market. The life satisfaction of men is unresponsive to the working hours of their female partners (for the exact results and a discussion, see heading “Working hours of partner” in the Online Annex). In other words, the life satisfaction of men stays the same, regardless of how much their female partners work. Men are no more or less satisfied when the woman with which they live works more or less, while women are most satisfied with life when their male partner works full time or longer.
If men are indeed more satisfied when they work long hours, while women are indeed satisfied to work substantially shorter hours, then men should be most satisfied when they contribute more than 50 percent of the couple’s total working hours, while women should be most satisfied when contributing less than 50 percent. This is indeed the case (see heading “Share of working hours” in the Online Annex). Fathers are most satisfied when they contribute about 80 percent of the couple’s total working hours to the market, while mothers are most satisfied when they contribute about 20 percent of the couple’s total working hours. For childless men and women, both indicators are closer to 50 percent, but even childless couples are most satisfied when men contribute a larger share of the couple’s working hours than women. This means that couples with children are most satisfied with a traditional arrangement, in which working hours are split 80–20. What is also interesting is that the life satisfaction of fathers and childless men declines rapidly as soon as they work less than their female partners, while the life satisfaction of mothers declines rapidly as soon as they work more than their male partner. Childless women in turn have the highest life satisfaction when they work slightly less than their male partner does.

Researchers suggest that women suffer from a “dual-burden phenomenon: Even full-time employed women still bear a disproportionate responsibility for housework and child” (Gershuny et al. 2005, 656; also cf. Craig & Mul lan 2010; Deding & Lausten 2010, 253). Apart from the tests of expansion theory, where I simultaneously control for hours of childcare and household work, I have also run robustness tests in which I separately control for hours of household work, satisfaction with household work, hours spent on childcare and satisfaction with childcare (see all graphs and their discussion under the heading “Household work” in the Online Annex). This might explain away the main results, because if long hours in the labor market mean a double shift at home for many women, then it is no wonder that long hours in employment make them dissatisfied (Álvarez & Miles-Touya 2015, 2f). However, the results remain virtually the same after controlling for hours spent on and satisfaction with childcare or household work. This indicates that women are not more dissatisfied at longer working hours than men due to a dual burden of childcare or household work.

It is possible that fathers as well as childless men and women enjoy longer working hours because they have better jobs. To test this, I have controlled for occupational prestige and job satisfaction. However, this again does not affect the main results, suggesting that men and childless women are not more satisfied to work longer hours because they have better jobs than mothers. The results are somewhat attenuated when job satisfaction is controlled, which suggests that as mothers work more, they become more satisfied with their job, while becoming less satisfied with other aspects of their lives, which partly explains why working more does not decrease their life satisfaction in the main results.

Higher working hours of fathers, childless men and women may lead to a higher life satisfaction because more often than mothers, these groups increase their working hours by changing into a new and better job. To test if this effect explains the results, I have run separate regressions, in which every change in work hours takes place within the same job. I have also tested whether the results apply to those who are employed or self-employed by calculating regressions for the latter only. The main results may also come about within a group of highly educated or uneducated couples only, so I have run separate regressions for university graduates and all others. The results might also only apply to earlier periods, so I have run separate regressions for observations after the year 2005. To further check whether the results become weaker over time, I have calculated separate regressions for cohorts born before the 1960s, within the 1960s and after the 1960s, in each case splitting the sample in roughly equal parts. None of these additional tests explains away the results. If anything, that mothers are satisfied with lower working hours, while childless men, women and fathers are satisfied with higher working hours, arguably even emerges more strongly over time and with successive birth cohorts (before controlling for income). This suggests that the main effects are neither likely to disappear with older birth cohorts, nor can they be explained with job characteristics, education or self-employment.

That childless men, childless women, and especially fathers are most satisfied with life when they work significantly more than mothers may also be a distinct heritage of a West German culture that encourages women to stay at home and men to be satisfied with long working hours. I therefore reran the regressions for East Germans only, thereby limiting the sample to data points after 1990. But the characteristic pattern that childless men, childless women, and fathers are more satisfied with life when working longer hours than mothers nonetheless shows up.

Last, I have also controlled for desired working hours, which brings the results for the different groups somewhat closer together. This suggests a simple explanation behind the results: Fathers may be most satisfied with very long working hours, simply because they want to work longer hours than mothers do, and so every group is most sat-
satisfied when they can live as they please. Indeed, childless men in the dataset claim that they want to work 38.4 hours; fathers mention 39.6 hours as their ideal; childless women 31.5 hours; and mothers 26.7 hours. These desired working hours are fairly close to the hours that each group actually works. That fathers want to work most, followed by childless men, childless women and mothers (in that order) indicates that, in a nut shell, people are more satisfied to work more, simply because they want to work more. For all results, see Figures 2 to 18 in the Online Annex.

Across a number of robustness tests, the main result holds that it is especially fathers who gain from longer working hours, while the life satisfaction of mothers is indifferent to working hours or – depending on the model – even declines with longer working hours, while for childless women and men the result lies in between. The following section discusses what this finding contributes to the literature and to our understanding of gender relations.

### 6 Discussion

The results above indicate that the life satisfaction of childless men increases with increasing working hours and peaks around full-time working hours, while the life satisfaction of fathers increases even more with increasing working hours and peaks higher at more working hours. Fathers are even satisfied with long working hours if longer work does not yield them more income. For childless men and especially fathers, acting according to a traditional breadwinner role promotes life satisfaction the most, and in this sense, traditional role theory explains best how working hours contribute to life satisfaction.

Traditional role theory is incorrect for childless women however. Their life satisfaction increases with working hours and peaks at full-time working hours. Childless women gain almost as much life satisfaction from full-time employment as childless men, but far less than fathers. For mothers, the most striking finding is that – contrary to all other groups – they do not gain life satisfaction from longer working hours. Indeed, it is remarkable how unresponsive their life satisfaction is to working hours. Regardless of whether mothers work long or short hours, their life satisfaction is only attained by other groups when they work full time. Controlling for income, household, and job characteristics showed that for mothers, the positive and negative aspects of labor market participation seem to balance each other out.

Family economics cannot explain this. Because even in households where women earn more gross income per hour than men, fathers are more satisfied to work longer hours, while mothers are more satisfied to work shorter hours – even though this behavior is irrational from an economic perspective. Rational income maximization can therefore not explain the fact that fathers gain life satisfaction from working longer hours, while mothers do not.

Expansionist role theory, finally, is wrong in assuming that life satisfaction follows a similar curvilinear path for mothers and fathers who do not suffer from a double burden and enjoy good childcare and secure jobs. Instead, flatly contradicting the predictions of expansionist role theory, mothers who are in a perfect situation to choose their working hours freely still have the highest life satisfaction with long working hours. Men who have very secure jobs and are thus under little constraint to work long hours are still most satisfied when working very long hours. These results not only contribute to theoretical debates. They also explain empirical findings that have so far been unclear.

Existing studies have mainly tried to show how many working hours are optimal for the life satisfaction of mothers. However, this focus is bound to show little, as the life satisfaction of mothers is largely unresponsive to working hours. One of the central substantive findings in this study is that the life satisfaction of mothers is high relative to all other groups, regardless of how much they work. This explains why existing studies showed conflicting or weak results about whether full-time or part-time work contributes most to the life satisfaction of mothers (Booth & Van Ours 2008,2009,2012; Treas et al. 2011; Berger 2013: 38f).

Existing studies have not only overlooked the fact that the life satisfaction of mothers is generally unresponsive to working hours. The literature has also overlooked the fact that a slight peak in the life satisfaction of mothers appears at or around 30 working hours and thus in between full- and typical part-time employment. Researchers were so far unable to see this, because they have arranged people into predefined boxes of part- or full-time hours, while mothers have the highest life satisfaction in between (Cooke & Gash 2010: 1102; Gash et al. 2012: 59).

While many studies have looked at how many hours of work are optimal for mothers, few have looked at how many working hours are optimal for the life satisfaction of fathers. However, it is their life satisfaction that depends strongly on working hours. The results above suggest that working part- instead of full-time hours lowers the life satisfaction of a typical father by about a third as much as unemployment does. That fathers are most satisfied with very high working hours suggests not only that they profit...
less from immersion into the family role than expansionist role theory suggests. It also contradicts empirical studies, which argue that everyone is better-off when fathers and mothers contribute an equal number of hours to the labor market (Gerson 2009, 385; Boye 2009, 524). The data in this study shows that this is especially true for men and women who are unburdened by household work and have secure jobs and good childcare. This flatly refutes studies which argue that couples are forced into traditional roles because of the “double burden” of household and labor market work, lack of suitable childcare, and insecure jobs (Holst & Trzcinski 2003, 330ff; Pedulla & Thébaud 2015; Gerson 2009).

Rather than family economics or expansionist role theory, traditional role theory thus fits the data best. This suggests that fathers feel best when they adhere to a traditional male breadwinner role, while mothers can be fine with both, either working or not working, as the negative and positive aspects of both seem to cancel each other out. Importantly, the robustness tests showed that mothers are also most satisfied when their male partners spend more than full-time hours in the labor market, while the life satisfaction of men is unresponsive to how many hours their female partners spend in the labor market. The results show that both fathers and mothers reach their highest life satisfaction when fathers supply about 80 percent of the couple’s hours in the labor market, while mothers supply about 20 percent. For childless men and women, these results are closer to 50–50, without reaching absolute parity.

One interesting explanation of these findings is that fathers are most satisfied with life when they work long hours because they have a “false consciousness.” To illustrate this possibility, consider the following thought experiment: Imagine someone would have asked women in 1870 if they were politically interested. One might have found that indeed, in this specific context, women proved to be less politically interested than men. However, this should of course not lead one to conclude that women are inherently less politically interested. In the same vein, arguing with the status quo cannot invalidate that the “Real Utopia”, which some feminists promise, will indeed come about if “men and women engage symmetrically in employment and caregiving” (Gornick & Meyers 2008: 314).

This is because while the results appear irrespective of time period, birth cohort, housework, childcare, job prestige, job satisfaction, education, income, and East-West German heritage, empirical research can never say with certainty how many working hours people would be satisfied with in a radically different society, in which gender norms have changed more profoundly than any control variable can account for.

What one can say conclusively however, is that under the present conditions, the life satisfaction of fathers and mothers is highest when fathers engage in full-time work and their life satisfaction is likely to decline when they work less. One can therefore cautiously conclude that policies that incentivize fathers to stay at home may actually have a negative effect on their life satisfaction, and even on the life satisfaction of their female partners, who also proved to be most satisfied when their partners spend long hours in employment. In any case, the results pose a challenge to those who suggest that men and women should be incentivized to work similar hours, as they showed that fathers and mothers are most satisfied with an 80–20 split of working hours. Since the effect of working hours on the life satisfaction of mothers is negligible, a policy that helps women to work more seems neither better nor worse in promoting life satisfaction, compared to a policy that incentivizes women to stay at home. Thus, while feminists have a valid argument when they suggest that men and women in traditional household arrangements may have a false consciousness, they have to contend with the fact that – on average – people are most satisfied in these traditional arrangements, false consciousness or not. Consequently, it seems likely that their life satisfaction would decline if they were forced to live and act differently.

One must again bear in mind, however, that these results are based on data from one country only. Germany is a peculiar context, as it is known to have a traditional view on who is responsible for care work and who should spend long hours in employment. East Germany is said to have a less traditional culture, and indeed the results are less strong there, even if they can still be found. If empirical research can show that the results above show up in other countries as well, then they are unlikely to result from any particular national gender culture. If the results above cannot be found in other countries, however, then one can conclude that they are a distinct heritage of Germany that cannot be generalized.

In any case, the fact that German mothers and fathers are actually most satisfied with the non-egalitarian separation of working hours that many feminists criticize, should lead to further discussion, careful examination, and empirical research on what life and work arrangements are most conducive to male and female life satisfaction. While there is no shortage of experts who give couples conflicting advice on how to live their lives, such empirical research could show which arrangements actually help men and women to live lives that they are satisfied with.
Literature


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Supplemental Material: The online version of this article offers supplementary material (https://doi.org/10.1515/zfsoz-2018-1004).