

The Work–Home Interface: Linking Work-Related Wellbeing and Volunteer Work

REBECCA BRAUCHLI^{1*}, MARIA C.W. PEETERS²,
ELIANNE F. VAN STEENBERGEN², THEO WEHNER³ and OLIVER HÄMMIG¹

¹*Epidemiology, Biostatistics and Prevention Institute, University of Zurich, Switzerland*

²*Department of Social and Organizational Psychology, Utrecht University, The Netherlands*

³*Center for Organizational and Occupational Sciences, Department of Management, Technology and Economics, ETH Zurich, Switzerland*

ABSTRACT

An abundance of research shows the benefits of participation in volunteer work for individuals, employers and the society as a whole. However, relatively little is known about the precursors of volunteer work. In this study, we aim to fill this gap by investigating to what extent work-related well-being can function as a driver of volunteer work. Moreover, building on the Conservation of Resources Theory (Hobfoll, 1989, 2011), we propose that the relationship between work-related well-being (burnout and engagement) and volunteer work is mediated by the work–home interface (work–home enrichment and work–home conflict). This hypothesis was tested in a large Swiss sample ($N = 1947$). Consistent with our expectations, structural equation analyses revealed an indirect relationship between (i) work engagement and volunteer work via work–home enrichment and (ii) between burnout and volunteer work via work–home conflict. In conclusion, it seems that well-being at work indeed functions as a precursor for volunteer work because of the consequences it has for the work–family interface. Copyright © 2016 John Wiley & Sons, Ltd.

Key words: volunteer work; burnout; work engagement; work–home enrichment; work–home conflict

Volunteer work can be considered as the backbone of civil society (e.g. Haski-Leventhal & Bargal, 2008). It is a social activity that is defined as ‘any activity in which time is given freely to benefit another person, group or organization’ (Wilson, 2000, p. 215). The focus of the present study lies on *formal* volunteer work. Formal volunteer work describes volunteer work within or supported by an organization. On the other hand, informal

*Correspondence to: Rebecca Brauchli, Public and Organizational Health, Epidemiology, Biostatistics and Prevention Institute, Hirschengraben 84, CH-8001 Zurich, Switzerland.
E-mail: rebecca.brauchli@uzh.ch

volunteer work is comparable to social support and comprises helping friends or neighbours (Voydanoff, 2001). The political interest in volunteer work arises from several motivations varying from cost savings in the welfare system to enhancing democratic ways of influencing public concerns (cf. Heinze & Olk, 2001). Moreover, volunteer work improves community life by creating a healthy community and by satisfying individuals' need to 'give something back' and to help others in need (Thoits & Hewitt, 2001). Doubtlessly, volunteer work is of great importance for the society as a whole as well as for communities and individuals.

In Western countries, approximately one third of the population actively participates in volunteer work. For instance, 26.5% of the Americans (United States Department of Labour, 2012) and 36% of the German citizens (TNS Infratest, 2007) are involved in some type of volunteer activity. In Switzerland, 26% of the population volunteers on a regular basis through formal channels such as non-profit organizations, whereas up to one third volunteers informally (Stadelmann-Steffen, Traummüller, Gundelach, & Freitag, 2011).

It has been shown that volunteer work has a threefold beneficial function in terms of occupational health, and is thus relevant for employers (Mojza & Sonnentag, 2010). *First*, involvement in volunteer work is able to buffer (work) stress because it can beneficially affect the perception of stressors. Hence, those stressors are put into perspective and have a reduced impact on health and well-being (see Lazarus & Folkman, 1984). *Second*, volunteer work may build up psychosocial resources such as social support or self-esteem (Brauchli, Hämmig, Güntert, Bauer, & Wehner, 2012). These resources can not only be directly transferred to other life domains (Greenhaus & Allen, 2011) but can also help to cope with stressors. Volunteers who receive satisfaction, confidence and self-esteem through their volunteer work are better able to cope with stress and conflicts (Mojza & Sonnentag, 2010). And, *third*, volunteer work has recovery potential because volunteers are better able to detach from work and relax during leisure time (Mojza & Sonnentag, 2010). In sum, research indicates that involvement in volunteer work can benefit individual employees, their employers, as well as the society as a whole.

To date, however, relatively little is known about the factors (at work) that influence individuals' likelihood of taking on and keeping up volunteer work. Thus, this study aims to fill this gap by investigating how well-being at work relates to volunteer work. More specifically, we examine to what extent indicators of well-being at work relate to individuals' likelihood to do volunteer work, mediated by individuals' perception of their work-home interface. By doing so, we also respond to the call to examine *other* non-work consequences of the work-home interface than merely focusing on family outcomes because 'combining work and family roles can also impact on how we evaluate our social lives, leisure time, possibilities for volunteer work or the degree to which combining roles leaves time for "the self"' (Peeters, Ten Brummelhuis, & van Steenbergen, 2013, p. 103).

Well-being at work and the work-home interface

In this study, well-being at work is captured by its positive dimension—work engagement—and its negative dimension—burnout, which are both relevant for health outcomes and performance indicators both at work and at home (see Bakker, Petrou, & Tsaousis, 2011; Schaufeli & Bakker, 2004). *Work engagement* is defined as 'a positive, full-filling, work-related state of mind that is characterized by vigor, dedication, and absorption. Vigor is characterized by high levels of energy and mental resilience while working [...] Dedication is

characterized by a sense of significance, enthusiasm, [...] and challenge. [...] absorption is characterized by being fully concentrated and deeply engrossed in one's work' (Schaufeli, Salanova, González-Romá, & Bakker, 2002, pp. 74–75). *Burnout* is assumed to be the negative counterpart of work engagement and is defined as 'a prolonged response to chronic emotional and interpersonal stressors on the job' (Maslach, Schaufeli, & Leiter, 2001, p. 397). Past psychometric research has shown that burnout and engagement are related (negatively) yet distinct constructs (Schaufeli et al., 2002; Schaufeli, Taris, & Van Rhenen, 2008). Additionally, ample studies based on the Job-Demands Resources Model (Crawford, LePine, & Rich, 2010; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) show that different working conditions function as antecedents of burnout and engagement contributing to the fact that burnout and engagement are two separate states of work-related well-being.

There is a long tradition of research showing that work experiences do not remain in a vacuum, but instead can spill over to the home domain (Greenhaus & Allen, 2010). These effects can be positive or negative in nature. On the positive side, *work-home enrichment* refers to individuals' experience that their work role improves the fulfilment of their private life roles (Greenhaus & Powell, 2006; van Steenbergen, Ellemers, & Mooijaart, 2007). On the negative side, *work-home conflict* is experienced when participation in family roles is made more difficult by virtue of participation in the work role (Greenhaus & Beutell, 1985). In this study, we focus explicitly on the spillover that individuals experience from work to home because we aim to examine whether the extent to which individuals take their work 'home' in a positive or negative manner relates to volunteering. Therefore, we did not examine the extent to which individuals experience spillover from their home to their work life (i.e. home-work enrichment/conflict) (Greenhaus & Beutell, 1985).

We use the Conservation of Resources (COR) theory (Hobfoll, 1989, 2011) to examine the relationship between well-being at work and volunteer work, considering the fact that how one feels at work might have both positive (enriching) and negative (conflict) consequences for home life which in turn associate with the inclination to do volunteer work.

Work engagement, work-home enrichment and volunteer work

According to the COR theory, resources are generally valued entities that can be objects, conditions, personal characteristics and mental and physical energy. The theory posits that resources act as salient factors in protecting existing resources, gaining new resources and enhancing well-being. The COR theory assumes that those with greater resources are less vulnerable to resource losses and more capable of resource gain. This is what Hobfoll (2011) calls a *resource caravan*—the idea that major resources are typically accompanied by other resources. Thus, by investing resources even more resources are gained in the long run (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). We expect that feelings of engagement at work are accompanied with the experience of having a surplus of resources, which will not only be allocated to work but may boost positive spillover from work to home. As work engagement is in itself rewarding, it is unlikely that this feeling will vanish the moment work has ended. Instead, we assume that engaged employees will carry part of these surplus resources back home (Schaufeli et al., 2001). This implies that they will have 'room' to engage in other roles. Hence, these individuals will be more likely to take up volunteering and as such transfer their positive moods, energy and skills to that role (Greenhaus & Powell, 2006).

In two longitudinal studies Hakanen and colleagues (Hakanen, Peeters, & Perhoniemi, 2011; Hakanen & Peeters, 2015) indeed found that work engagement and work-family enrichment positively and reciprocally influenced each other, indicating that when engaged employees invest their resources to gain new resources, these resources are not restricted to the work domain but also benefit the family domain. In a similar vein, Bakker and Geurts (2004) found support for their theoretical model in which resources at work predicted individuals' work engagement, and hence their experiences of work-home enrichment. Moreover, a study by Rodell (2013) underlined the significant role of the work domain for volunteering. She found that having a meaningless or a meaningful job was linked to volunteer work, but via different underlying mechanisms. On the one hand, employees may volunteer to compensate for jobs that do not provide enough meaning. On the other hand, having a meaningful job created a form of hunger for more meaningful experiences, and this hunger can be translated into more volunteer activity. Translated to our study focusing on the work-home interface, this might imply that people who are engaged at work (which is comparable to a meaningful job) might transfer this positive state to their home life resulting in a higher probability to do volunteer work (*spillover* hypothesis; Geurts & Demerouti, 2003). Thus, building on the COR theory (Hobfoll 1989) and previous empirical findings regarding the link between work engagement and work-home enrichment, we formulate the following hypothesis:

Hypothesis 1: Work engagement is positively related to volunteer work via work-home enrichment.

Burnout, work-home conflict and volunteer work

We argue that the relationship between burnout and work-home conflict can also be understood by applying principles of the COR theory. The COR theory posits that stress occurs mainly when resources are threatened, lost or when individuals invest resources but do not receive the anticipated level of return (Hobfoll 1989). Burnout can become the result of a loss or a fear of loss of valued resources. This resource-based framework of the aetiology of burnout has been validated empirically in many studies (e.g. Gorgievski & Hobfoll, 2008). Employees suffering from burnout complaints are likely to experience a lack of resources. According to the *scarcity approach to human energy* (Marks, 1977) which assumes that resources like time and energy are limited, this might imply that a negative spillover process will take place in which stress from the work domain will be transferred into another life domain, in this case the home domain. So we expect that burnout will have negative consequences for the interaction between work and home life because feeling tired and exhausted from work will probably not remain in a vacuum. Instead, we assume that burned out employees will carry this lack of energy and resources back home. This implies that they will have 'no room' to engage in other roles.

Empirical support for a relationship between burnout and work-home conflict was found, for example, in a study among 766 police officers in Norway where job demands and burnout emerged as strong predictors of work-family conflict (Mikkelsen & Burke, 2004). Also a study by Westman, Etzion, and Gortler (2004) showed that burnout was a significant predictor of work-family conflict. In addition, Demerouti, Bakker, and Bulters (2004) found that work-home conflict had lagged, short- and

long-term effects on exhaustion, and also that exhaustion had short- and long-term effects on work-home conflict.

As already shown for engagement (see above), the literature suggests that there exists a reciprocal relationship between burnout and the work-home conflict. However, because it is the central aim of this study to investigate the spillover processes from well-being at *paid* work to *volunteer* work we propose that these processes can be explained by the extent to which individuals perceive their work-home interface as enriching or conflicting and as such their feeling of having 'room' for volunteer work. This is not to say that we ignore the possibility of reverse causality between work-related well-being and the work-home interface, but considering the cross-sectional nature of the present study, we follow the perspective of well-being at work relating to volunteer work via a positive (enriching) or negative (conflict) spillover process.

Thus, we formulated the second hypothesis on the relationship between burnout, work-home conflict and volunteer work correspondent to the first hypothesis:

Hypothesis 2: Burnout is negatively related to volunteer work via work-home conflict.

METHOD

Participants and procedure

This study employed cross-sectional survey data from a sample of employees of four medium-sized industrial organizations with a total of 1947 employees across all hierarchical positions (15.8% had a managerial position, 84.2% did not) and different occupational fields (construction industry (4.4%), machine industry (8.6%), knife manufactory (19.3%) and chemicals/biotechnology (67.6%)). The overall response rate was 49%.

The average age was 41.8 years ($SD = 12.00$), 73.1% of the sample was living with their partner and 51.6% had at least one child living in the same household. Women represented 13.7% of the sample, which reflects the low percentage of women in the business sectors investigated in this study. Seventy-two per cent had completed basic education, whereas 21% had received higher education studies. Thirty-one per cent was regularly (at least once a week) engaged in volunteering, 24.2% volunteered several times a year and 44.8% (almost) never volunteered. The anonymity and confidentiality of participation in the study were ensured. Furthermore, participants voluntarily agreed to take part in the study and gave their consent prior to completing the questionnaire. All participants were allowed to complete the questionnaire during working time.

Measures

As Table 1 shows, the internal consistency of all scales was acceptable, with nearly all alphas exceeding the threshold value of .70.

The nine-item version of the Utrecht Work Engagement Scale (Schaufeli, Bakker, & Salanova, 2006) was used to assess *work engagement* with its three dimensions *vigour* (e.g. 'At my work, I feel bursting with energy'), *dedication* (e.g. 'My job inspires me') and *absorption* (e.g. 'Time flies when I'm working'). Participants responded on a seven-point scale (0 = *never*, 6 = *always*).

Table 1. Means, standard deviations, bivariate correlations and internal consistencies (Cronbach's α on the diagonal) of the study variables ($N = 1842$)

	<i>M</i>	<i>SD</i>	Range	1.	2.	3	4	5
1. Work-home conflict	2.45	0.87	1-5	.88				
2. Work-home enrichment	2.78	0.78	1-5	-.11**	.70			
3. Work engagement	3.87	1.15	0-6	-.31**	.31**	.95		
4. Work burnout	1.46	0.73	0-4	.61**	-.09**	-.43**	.69	
5. Volunteer work	2.20	1.88	0-6	-.10**	.17**	.07**	-.08**	—

* $p < .05$.** $p < .01$.*** $p < .001$.

Burnout was measured using three items of the exhaustion subscale of the Copenhagen Burnout Inventory (Kristensen, Borritz, Villadsen, & Christensen, 2005). A sample item is 'Are you exhausted in the morning at the thought of another day at work?'. Respondents were asked to indicate how frequently they experienced these burnout symptoms with response categories ranging from 0 = *never* to 4 = *always*.

Work-home enrichment was assessed using the four-item scale developed by Wayne and colleagues (2004). A sample item is 'The things you do at work help you deal with personal and practical issues in your home life'. Participants indicated how they had experienced the descriptions during the last year on a five-point scale ranging from 1 = *completely disagree* to 5 = *completely agree*.

Work-home conflict was assessed by an adapted version of the validated scale of Carlson, Kacmar, and Williams (2000) measuring work-family conflict. We slightly reformulated six items by replacing the term 'family' with 'home life', consistent with the work-home enrichment items described above. A sample item is 'My work keeps me from home life activities more than I would like'. Participants could respond using a five-point scale (1 = *completely disagree*, 5 = *completely agree*).

To assess the frequency of *volunteer work* participants were asked to indicate how often they volunteered formally (within an organization or a charity association) on a seven-point scale with 0 = *never*, 1 = *almost never*, 2 = *several times per year*, 3 = *1 to 3 times per month*, 4 = *weekly*, 5 = *several times per week*, 6 = *daily*. Volunteer work was operationalized as *formal* volunteer (charity) work, for example in non-profit or non-governmental organizations. By asking respondents themselves to indicate the frequency of volunteer work, we assessed the subjective and not the objective frequency of volunteer work. Even though these frequencies might differ, this is a common way to assess the frequency of volunteer work (see Stadelmann-Steffen et al., 2011).

Data analyses

Our hypotheses were tested using structural equation modelling techniques as implemented in the AMOS 22 software package. The fit of the model was assessed with the χ^2 statistics, the goodness of fit index (GFI), the comparative fit index (CFI), the normed fit index (NFI), the Tucker Lewis Index (TLI) and the root mean square error of approximation (RMSEA). Values of .90 and higher are acceptable for the GFI, CFI, NFI and TLI, whereas values of .95 or higher are indicators of an excellent fit (Hu & Bentler, 1999).

Values of up to .08 for the RMSEA represent reasonable errors of approximation (Browne & Cudeck, 1993).

To test mediation, the bootstrap approach as recommended by Preacher and Hayes (2004) was used. The mediator and dependent variables were included in the structural equation models as manifest variables whereas we built latent variables indicating work engagement and burnout. Our measurement model showed an acceptable to good model fit ($\chi^2(35)=214.18$, $p < .001$, GFI=.96, CFI=.98, NFI=.98, TLI=.96 and RMSEA=.08)

Errors were allowed to correlate *within* the constructs (namely work engagement, burnout, work-home enrichment and conflict) and *between* engagement and burnout and between enrichment and conflict based on theoretical assumptions (Cole, Ciesla, & Steiger, 2007). To compare nested models (full mediation versus partial mediation model; see results section), χ^2 difference tests were used to assess whether there was a significant difference between the models (Chen, 2007).

Moreover, to investigate the robustness of our results, we randomly split half our sample into two subsamples (sample A: $n=921$ /sample B: $n=921$). First, we ran our analyses with sample A to get the final model. Second, we compared the final model across the two subsamples. To test the invariance across these two subsamples, we used multiple group analysis (see Byrne, 2004). In this procedure, two constrained models (one model with equality constraints on the regression paths and on the covariances between the latent variables and one model with constraints on the factor loadings) were compared to a default model without cross-group constraints. In addition to the traditional χ^2 difference tests to assess whether there is a significant difference between the models, invariance decisions were based on the differences in CFI and RMSEA, with a $\Delta\text{CFI} \leq .01$ and a $\Delta\text{RMSEA} \leq .015$ indicating invariance (Chen, 2007; Cheung & Rensvold, 2002).

RESULTS

Descriptive statistics

Table 1 provides means and standard deviations, Cronbach's alphas and correlation coefficients. As expected, work-home conflict and burnout related negatively to volunteer work, and work-home enrichment and work engagement related positively to volunteer work.

Model testing

To test the hypotheses, we first calculated a full mediation model with work engagement and burnout as predictors, work-home conflict and enrichment as mediators and volunteer work as outcome variable (*Model 1=hypothetical model*). Second, we compared this model with a partial mediation model with two extra paths from engagement and burnout to volunteer work (*Model 2*). Furthermore, to examine the possibility of reverse causation as described in the introduction, we also tested a model where we included feedback loops, two extra paths—one from volunteer work back to engagement and one to burnout (*Model 3*). In all three models, work engagement and burnout as well as enrichment and conflict

covaried because the modification indices calculated by AMOS indicated significant model improvement by including these covariances.

Our analyses showed that the fit of Model 2 (partial mediation) was slightly worse than the fit of Model 1 (full mediation), even though the difference between these models was marginal and non-significant ($\Delta\chi^2(1)=0.438, p=.508$). However, because the full mediation model is more parsimonious, we conclude that Model 1 is superior to Model 2. In terms of fit indices, the fit between the data and the full mediation model was excellent ($\chi^2(110)=417.339, p<.001, GFI=.952, CFI=.966; NFI=.955, TLI=.953; RMSEA=.055$). The same applies to the partial mediation model ($\chi^2(109)=417.477, p<.001, GFI=.952, CFI=.966; NFI=.955, TLI=.953; RMSEA=.055$). The reason for these nearly identical fit indices lies in the fact that the standardized regression weights from engagement to volunteer work ($\beta=-.042$) and from burnout to volunteer work ($\beta=-.032$) were very small. Additionally, the result of the bootstrap procedures (with 2000 resamples) indicated that work engagement was associated with volunteer work via work-home enrichment (indirect effect: $\beta=.109, SE=.030$) and that burnout was associated with volunteer work via work-home conflict (indirect effect: $\beta=-.114, SE=.069$). The indirect effect from work engagement via work-home enrichment on volunteer work is estimated to lie between 0.065 and 0.167 with 99% confidence. The indirect effect from burnout via work-home conflict on volunteer work is estimated to lie between -0.230 and -0.005 with 99% confidence. Because none of these confidence intervals include 0, it can be concluded that the relation between work-related well-being and volunteer work was mediated by work-home interface (Preacher & Hayes, 2004).

Next, we tested the feedback loop model (Model 3). The fit of this model was satisfactory as well ($\chi^2(108)=415.97, p<.001, GFI=.952, CFI=.966; NFI=.955, TLI=.952; RMSEA=.056$). However, the newly added standardized regression weights, namely, the regression weights from volunteer work back to engagement and burnout, respectively, were very small and non-significant (volunteer work > engagement: $\beta=.00$; volunteer work > burnout: $\beta=.01$). χ^2 difference tests to compare the models showed that there were no significant differences (Model 1 – Model 3: $\Delta\chi^2(2)=1.369, p=.242$ and Model 2 – Model 3: $\Delta\chi^2(1)=1.507, p=.186$).

This leads to the conclusion that our hypothesized model (Model 1) shows the best solution because we did not find a statistical difference between the models and Model 1 was most parsimonious (see Figure 1).

Invariance testing

To test the robustness of our findings, we conducted a multiple group analysis with the final model. In order to test invariance across the two subsamples, we randomly draw 50% of the participants from our dataset. The regression paths and covariances between the latent variables in our model were constrained to be equal across groups. This constrained model (B) was compared with the free model (default), in which parameter estimates were allowed to vary freely across both groups. Next, in addition to constraining the regression paths between the latent variables, the factor loadings were constrained to be equal across groups (C), and this model was also compared with the free model.

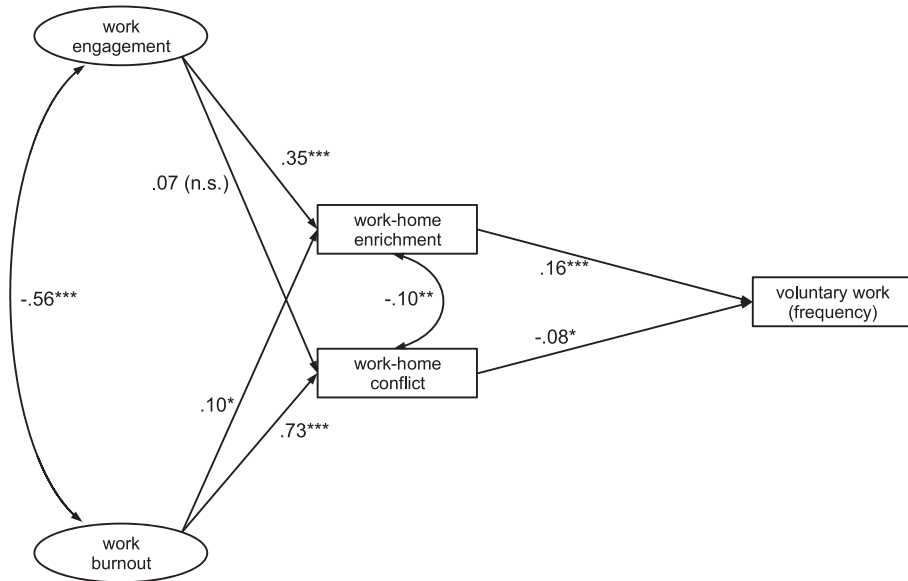


Figure 1. Standardized path coefficients in the full mediation model ($n = 921$). $*p < .05$, $**p < .01$, $***p < .001$.

Results of invariance testing showed that Model C shows the best fit. The χ^2 difference tests as well as the CFI and RMSEA difference tests showed that the regression paths between the latent variables as well as the factor loadings were invariant across both groups as (see Table 2). This indicates that the model structure of our final model was invariant across our randomly drawn subsamples.

Common method variance

Because our study variables were measured via single-source self-report measures, we examined the degree to which common-method variance could have biased our results. Two tests were conducted to determine the extent of method variance in the current data. First, a Harman's single factor test including all study variables was performed (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The examination of the unrotated factor solution yielded the presence of at least three factors, that is, no single factor emerged whereby the first factor explained 35.54% of the variance, indicating that common method effects were not a likely contaminant of the results observed in our study. The first factor includes the burnout (exhaustion) as well as the engagement items—with the exception of the item 'My work is emotionally exhausting' which loads higher on the second factor. Besides this item, the second factor includes all work-home conflict items and explains 15.43% of the total variance. The third factor includes the work-home enrichment items plus the single item assessing volunteer work and explains 8.39% of the variance. Hence, this exploratory analysis of the factor structure seems plausible with one factor including well-being at work, a second factor including work-home conflict and a third factor with work-home enrichment and volunteer work which might figure also as an enriching component at the work-home interface

Table 2. Fit statistics for multigroup analyses and invariance tests across subsamples ($N_A=921$, $N_B=921$)

Model	df	χ^2	χ^2/df	GFI	CFI	RMSEA	$\Delta\chi^2$	Δdf	ΔCFI	$\Delta RMSEA$
Model A (default model)	220	847.42	3.85	.95	.97	.04	—	—	—	—
Model B (regression paths and covariances between latent variables constrained to be equal across groups)	228	853.23	3.74	.95	.97	.04	5.81 ($p=.668$)	8	.000	.001
Model C (Model 2 and factor loadings constrained to be equal across groups)	237	864.42	3.65	.95	.97	.04	16.99 ($p=.455$)	17	.000	.000

* $p < .05$.
 ** $p < .01$.
 *** $p < .001$.

To confirm this result, an additional test was performed following the procedure used by Williams, Cote, and Buckley (1989). We compared our final model with a model which additionally included a single method factor. Results indicated that while the method factor did not improve model fit, it accounted for a small portion (13.8%) of the total variance. Thus, the percentage variance explained by the method factor was less than the critical method factor effect value of 25% as recommended by Williams et al. (1989). These tests suggest that common method variance was not a pervasive problem in this study.

DISCUSSION

The central aim of this study was to examine to what extent indicators of well-being at work were related to individuals' likelihood to do volunteer work, and if these relationships were mediated by individuals' perceptions of their work-home interface.

Based on the COR theory (Hobfoll, 1989, 2011) and earlier studies in this line of research we tested a dual process model. Our first hypothesis proposed that the more workers are engaged in work, the more work-home enrichment they will experience, and the more they are inclined to do volunteer work. The second hypothesis, in contrast, proposed that the more employees feel burned out by their work, the more likely they will experience work-home conflict and the less they are inclined to do volunteer work.

The findings of structural equation modelling indeed revealed evidence for this dual-process model in which work engagement and burnout were indirectly related to volunteer

work via perceptions of the work–home interface. Thus, our hypotheses were supported as work engagement was related to volunteer work—fully mediated by work–home enrichment and burnout was related to volunteer work—fully mediated by work–home conflict. This indicates that employees who are happily engaged at work are more likely to experience work–home enrichment, which in turn inspires them to become engaged in volunteer work (spillover hypothesis). In a similar vein, results suggest that, if employees suffer from burnout this will decrease the probability that they will take on volunteer work because they experience work–home conflict and their resources are limited (scarcity approach to human energy).

The finding that well-being at work seems to be related to volunteer work via work–home interface experiences is in line with the COR theory which assumes that people collect and allocate resources (Hobfoll, 2011) and, additionally, that these resources can be transferred to another life domain (Greenhaus & Powell, 2006). This study suggests that work engagement as a resource boosts a positive spillover process from the work domain to the home domain. It seems likely that individuals who feel enriched take up volunteer work and transfer their positive moods, energy and skills to this extra role. On the other hand, also consistent with the principles of the COR theory, individuals who are feeling burned out from work experience a depletion of resources and conflicts between work and home, as a result of which they possibly evaluate having too little ‘room’ (time or energy) to engage in volunteer work.

Even though positive psychologists (cf. Ryff, 1989) might argue that being pro-socially engaged is a part of well-being, in this study, we treated well-being and volunteer work as separate constructs because they occur in different life domains. Our results justify this procedure because work engagement and burnout are associated with volunteer work only very weakly (see Table 1).

Although this study was based on cross-sectional data, we investigated the logic of work-related well-being relating to work–home enrichment and work–home conflict, and subsequently, to volunteer work. In contrast, other studies that investigated the link between paid and volunteer work (Brauchli et al., 2012; Mojza & Sonnentag, 2010) investigated volunteer work as independent and paid work as dependent variable but not vice versa. These previous studies expected that volunteer work has a beneficial impact on paid work because volunteer work can have recovery potential (Mojza & Sonnentag, 2010) or can be seen as a psychosocial resource (Brauchli et al., 2012). We also acknowledged the possibility of volunteer work as predictor of work-related wellbeing by comparing our hypothetical model with an alternative model in which we included relationships between volunteer work and work engagement and burnout. However, we found no empirical support for this feedback loop model. Nonetheless, because both causal directions are plausible and have generated empirical support in previous studies it seems warranted to conclude that there might exist a positive cycle between well-being at work and volunteer work: People who are feeling well at work and are able to transfer their positive moods, affects, behaviours from their paid work to their home life are more likely to do volunteer work because they have more resources such as energy resources. In addition, because volunteer work has a great potential to function as a source of self-esteem, optimism, self-mastery, sense of control or social support (Jusot, Grignon, & Dourgnon, 2007), it is possible that it beneficially affects someone’s well-being at work wherewith the gain circle is closed. A similar line of reasoning might hold for the relationship between burnout and volunteer work. We found that burnout was related to work–home conflict which was related to volunteer work. Also,

in this situation, it seems warranted to conclude that here might exist a negative cycle between burnout and volunteer work: People who suffer from burnout complaints have no energy left to take up volunteer work after work so they lack all the potential resources that are accompanied with volunteer work which in the end negatively affects someone's well-being at work wherewith the loss circle is set in motion. In terms of the COR theory: those with fewer resources are less capable of gaining new resources and thus more susceptible for future loss.

Limitations and future research

Despite decisive contributions of this study such as the fact that it focuses on volunteer work which is understudied in the context of the interplay of different life domains, the large sample size and the cross-validation in two subsamples, the study is not without limitations.

A first caveat lies in the cross-sectional nature of the data. As indicated earlier, we imply a chronological, at least slightly lagged order from work-related well-being to the work-home interface and, finally, to volunteer work. However, because it is not possible to infer chronology from cross-sectional data (see Hayes, 2013) such mediational paths would be best studied in a longitudinal study design either with rather short time intervals, such as experience sampling methods (as introduced by Larson & Csikszentmihalyi, 1983). Therefore, we acknowledge that reciprocal effects between paid work and volunteer work are to be expected in longitudinal studies.

Second, the sample included mostly male and lower educated employees. This restricts the generalizability of our findings. Future studies should test our hypotheses with more heterogeneous samples.

Third, volunteer work was measured using a self-developed single item measure assessing the frequency. In future studies, it would be interesting to use a more elaborate measure to assess volunteer work, for example, a measure that captures not only the frequency but also the intensity of volunteer work. Moreover, because of pragmatic restrictions we were not able to measure the objective frequency of volunteering. Instead, we examined on participants' own ratings of volunteer frequency which is of course a subjective measure. Because these measures might differ from each other, it would be interesting to compare the results of the present study with a study where volunteer frequency is assessed objectively.

Finally, future research could include experienced meaningfulness in work (see Rodell, 2013). Experienced meaningfulness can directly impact the likelihood of volunteering, but possibly additionally acts as a precursor of work engagement and burnout, which in turn could impact the likelihood of volunteering via the work-home interface as we discussed.

Practical relevance and conclusion

This study shows the significance of the circumstances of paid work for volunteer work. First, it implies that, when volunteer recruiters aim to recruit individuals who are involved in paid work, it is important to focus on how the work is experienced. Our findings indicate that people are more likely to volunteer when they are highly engaged in their work and not too exhausted. It may seem counterintuitive to try to recruit highly engaged (and likely very busy) workers (Schaufeli et al., 2008), but our findings indicate that especially these employees are willing to contribute in the form of volunteering.

Second, employees might become aware of the reasons that prevent them from doing volunteer work, even though they would like to pursue such activities. Some of these reasons might be low engagement and exhaustion at work.

Finally, our results indicate that there is another reason for organizations to offer employees more job resources, such as autonomy or supervisor support. This will not only stimulate work engagement with subsequent beneficial organizational outcomes such as higher performance (Salanova et al., 2005; Rodell, 2013), it may also be a way for organizations to ‘give something back’ to society, as their employees are probably more likely to volunteer. As such organizations can even strengthen their investment in corporate social responsibility.

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REFERENCES

- Bakker, A. B., & Geurts, S. A. E. (2004). Toward a dual-process model of work–home interference. *Work and Occupations, 31*, 345–366. doi:10.1177/0730888404266349.
- Bakker, A. B., Petrou, P., & Tsaousis, I. (2011). Inequity in work and intimate relationships: A Spillover-Crossover model. *Anxiety, Stress & Coping, 1*–16. doi:10.1080/10615806.2011.619259.
- Brauchli, R., Hämmig, O., Güntert, S., Bauer, G. F., & Wehner, T. (2012). Vereinbarkeit von Erwerbsarbeit und Privatleben: Freiwilligentätigkeit als psychosoziale Ressource [Combining paid work and personal life: Volunteering as psychosocial resource]. *Zeitschrift Für Arbeits- Und Organisationspsychologie, 1*, 24–36.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen, & J. S. Long (Eds.), *Testing Structural Equation Models* (pp. 136–162.). Beverly Hills, CA: Sage.
- Byrne, B. M. (2004). Testing for multigroup invariance using AMOS graphics: A road less traveled. *Structural Equation Modeling: A Multidisciplinary Journal, 11*, 272–300. doi:10.1207/s15328007sem1102_8.
- Carlson, D. S., Kacmar, K. M., & Williams, L. J. (2000). Construction and initial validation of a multidimensional measure of work–family conflict. *Journal of Vocational Behavior, 56*, 249–276.
- Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal, 14*, 464–504.
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling, 9*, 233–255. doi:10.1207/S15328007sem0902_5.
- Cole, D. A., Ciesla, J. A., & Steiger, J. H. (2007). The insidious effects of failing to include design-driven correlated residuals in latent-variable covariance structure analysis. *Psychological Methods, 12*, 381–398. doi:10.1037/1082-989X.12.4.381.
- Crawford, E. R., LePine, J. A., & Rich, B. L. (2010). Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. *Journal of Applied Psychology, 95*, 834–848. doi:10.1037/a0019364.
- Demerouti, E., Bakker, A. B., & Bulters, A. J. (2004). The loss spiral of work pressure, work–home interference and exhaustion: Reciprocal relations in a three-wave study. *Journal of Vocational Behavior, 64*, 131–149.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands–resources model of burnout. *Journal of Applied Psychology, 86*, 499–512.

- Geurts, S., & Demerouti, E. (2003). Work/non work interface: A review of theories and findings. In M. J. Schabraq, J. A. M. Winnbust, & C. L. Cooper (Eds.), *The handbook of work and health psychology* (pp. 279–312.). Chichester: John Wiley & Sons.
- Gorgievski, M. J., & Hobfoll, S. E. (2008). Work can burn us out and fire us up. In J. R. B. Halbesleben (Ed.), *Handbook of Stress and Burnout in Health Care* (pp. 7–22). New York: Nova Science Publishers.
- Greenhaus, J., & Allen, T. (2010). Work–family balance: A review and extension of the literature. In J. Campbell Quick, & L. E. Tetrick (Eds.), *Handbook of occupational health psychology* (2nd edn.) (pp. 156–183.). Washington, DC, USA: American Psychological Association.
- Greenhaus, J. H., & Allen, T. D. (2011). Work–family balance: A review and extension of the literature. In J. C. Quick, & L. E. Tetrick (Eds.), *Handbook of occupational health psychology* (2nd edn.) (pp. 165–183.). Washington: American Psychological Association.
- Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *The Academy of Management Review*, *10*, 76–88 Retrieved from [http://links.jstor.org/sici?sici=0363-7425\(198501\)10:1<76:SOCBWA>2.0.CO;2-K](http://links.jstor.org/sici?sici=0363-7425(198501)10:1<76:SOCBWA>2.0.CO;2-K).
- Greenhaus, J. H., & Powell, G. N. (2006). When work and family are allies: A theory of work–family enrichment. *Academy of Management Review*, *31*, 72–92.
- Hakanen, J. J., Peeters, M. C. W., & Perhoniemi, R. (2011). Enrichment processes and gain spirals at work and at home: A 3-year cross-lagged panel study. *Journal of Occupational and Organizational Psychology*, *84*, 8–30.
- Hakanen, J., & Peeters, M. (2015). How do work engagement, workaholism, and the work-to-family interface affect each other? A 7-year follow-up study. *Journal of Occupational and Environmental Medicine*, *57*, 601–609. doi:10.1097/JOM.0000000000000457.
- Haski-Leventhal, D., & Bargal, D. (2008). The volunteer stages and transitions model: Organizational socialization of volunteers. *Human Relations*, *61*, 67–102, doi:10.1177/0018726707085946.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
- Heinze, R. G., & Olk, T. (2001). Bürgerengagement in Deutschland – Zum Stand der wissenschaftlichen und politischen Diskussion [Citizen's involvement in Germany—State of the scientific and political discussion]. In R. G. Heinze, & T. Olk (Eds.), *Bürgerengagement in Deutschland [Citizen's involvement in Germany]* (pp. 11–26.). Opladen: Leske + Budrich.
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt of conceptualizing stress. *American Psychologist*, *44*, 513–524.
- Hobfoll, S. E. (2011). Conservation of resource caravans and engaged settings. *Journal of Occupational and Organizational Psychology*, *84*, 116–122. doi:10.1111/j.2044-8325.2010.02016.x.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *1*–55.
- Jones, F., Burke, R. J., & Westman, M. (2006). Work–life balance: Key issues. In F. Jones, R. J. Burke, & M. Westman (Eds.), *Work–life balance: A psychological perspective* (pp. 1–9.). Hove and New York: Psychology Press.
- Jusot, F., Grignon, M., & Dourgnon, P. (2007). *Psychosocial resources and social health inequalities in France: Exploratory findings from a general population survey*. Paris: IRDES—Institut de recherche et documentation en économie de la santé.
- Kristensen, T. S., Borritz, M., Villadsen, E., & Christensen, K. B. (2005). The Copenhagen burnout inventory: A new tool for the assessment of burnout. *Work & Stress*, *19*, 192–207.
- Larson, R., & Csikszentmihalyi, M. (1983). The Experience Sampling Method. *New Directions for Methodology of Social & Behavioral Science*, *15*, 41–56.
- Lazarus, R. L., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Marks, S. R. (1977). Multiple roles and role strain: Some notes on human energy, time and commitment. *American Sociological Review*, *42*, 921–936.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, *52*, 397–422.
- Mikkelsen, A., & Burke, R. J. (2004). Work–family concerns of Norwegian police officers: Antecedents and consequences. *International Journal of Stress Management*, *4*, 429–444.

- Mojza, E. J., & Sonnentag, S. (2010). Does volunteer work during leisure time buffer negative effects of job stressors? A diary study. *European Journal of Work and Organizational Psychology, 19*, 231–252.
- Peeters, M. C. W., Ten Brummelhuis, L. L., & van Steenbergen, E. F. (2013). Consequences of combining work and family roles: A closer look at cross-domain versus within-domain relations. In J. G. Grzywacz, & E. Demerouti (Eds.), *New frontiers in work and family research* (pp. 93–109). London & New York: Routledge.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879–903.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers, 36*, 717–731.
- Rodell, J. B. (2013). Finding meaning through volunteering: Why do employees volunteer and what does that mean for their jobs? *Academy of Management Journal, 56*, 1274–1294.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality & Social Psychology, 57*, 1069–1081. doi:10.1037//0022-3514.57.6.1069.
- Salanova, M., Agut, S., & Peiró, J. M. (2005). Linking organizational resources and work engagement to employee performance and customer loyalty: the mediation of service climate. *The Journal of Applied Psychology, 90*, 1217–1227. <http://doi.org/10.1037/0021-9010.90.6.1217>
- Schaufeli, W. B., Taris, T., Le Blanc, P., Peeters, M., Bakker, A. B., & de Jonge, J. (2001). Maakt arbeid gezond? Op zoek naar de bevlogen werknemer. *De Psycholoog*(september), 422–428.
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior, 25*, 293–315, doi:10.1002/job.248.
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire. *Educational and Psychological Measurement, 66*, 701–716. doi:10.1177/0013164405282471.
- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies, 3*, 71–92, doi:10.1023/A:1015630930326.
- Schaufeli, W. B., Taris, T. W., & Van Rhenen, W. (2008). Workaholism, burnout, and work engagement: Three of a kind or three different kinds of employee well-being? *Applied Psychology, 57*, 173–203, doi:10.1111/j.1464-0597.2007.00285.x.
- Stadelmann-Steffen, I., Traunmüller, R., Gundelach, B., & Freitag, M. (2011). *Freiwilligen-Monitor Schweiz 2010 [Volunteer monitor Switzerland 2010]*. Zürich: Seismo-Verlag.
- Thoits, P. A., & Hewitt, L. N. (2001). Volunteer work and well-being. *Journal of Health and Social Behavior, 42*, 115–131, doi:10.2307/3090173.
- TNS Infratest. (2007). Drei von zehn Europäern leisten ehrenamtliche Arbeit [Three out of ten Europeans engage in volunteer work]. Retrieved from http://www.tns-infratest.com/Presse/pdf/Presse/20070404_TNS_Infratest_EurobarometerVolunteer.pdf (Accessed on March 25, 2015).
- United States Department of Labour. (2012). Volunteering in the United States—2012. Retrieved from <http://www.bls.gov/news.release/volun.nr0.htm> (Accessed on April 20, 2014).
- van Steenbergen, E. F., Ellemers, N., & Mooijaart, A. (2007). How work and family can facilitate each other: Distinct types of work–family facilitation and outcomes for women and men. *Journal of Occupational Health Psychology, 12*, 279–300. doi:10.1037/1076-8998.12.3.279.
- Voydanoff, P. (2001). Incorporating community into work and family research: A review of basic relationships. *Human Relations, 54*, 1609–1637.
- Westman, M., Etzion, D., & Gortler, E. (2004). The work–family interface and burnout. *International Journal of Stress Management, 11*, 413–428.
- Williams, L. J., Cote, J. A., & Buckley, M. R. (1989). Lack of method variance in self-reported affect and perceptions at work: Reality or artifact? *Journal of Applied Psychology, 74*, 462–468.
- Wilson, J. (2000). Volunteering. *Annual Review of Sociology, 26*, 215–240.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009). Reciprocal relationships between job resources, personal resources, and work engagement. *Journal of Vocational Behavior, 74*, 235–244. doi:10.1016/j.jvb.2008.11.003.