RUNNING HEAD: WORK-SELF CONFLICT/FACILITATION

How work-self conflict/facilitation influences exhaustion and task performance: A three-wave study on the role of personal resources

Evangelia Demerouti

Ana Isabel Sanz-Vergel

Paris Petrou

&

Matchteld van den Heuvel

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Abstract

Although work and family are undoubtedly important life domains, individuals are also active in other life roles which are also important to them (like pursuing personal interests). Building on identity theory and the resource perspective on work-home interface, we examined whether there is an indirect effect of work-self-conflict/facilitation on exhaustion and task performance over time through personal resources (i.e. self-efficacy and optimism). The sample was composed of 368 Dutch police officers. Results of the three-wave longitudinal study confirmed that work-self-conflict was related to lower levels of self-efficacy, whereas work-self-facilitation was related to improved optimism over time. In turn, self-efficacy was related to higher task performance, whereas optimism was related to diminished levels of exhaustion over time. Further analysis supported the negative, indirect effect of work-self-facilitation on exhaustion through optimism over time, and only a few reversed causal effects emerged. The study contributes to the literature on inter-role management by showing the role of personal resources in the process of conflict or facilitation over time.

Keywords: exhaustion, optimism, self-efficacy, work-self-conflict; work-self-facilitation.

How work-self conflict/facilitation influences exhaustion and task performance: A three-wave study on the role of personal resources

Research and practice show that individuals find it difficult to have a job that interferes with their private or, more specifically, family life and that they report various detrimental effects when they experience conflict between different roles (Amstad, Meier, Fasel, Elfering, & Semmer, 2011; Byron, 2005; Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005; Nohe, Meier, Sonntag, Michel, 2015). On the contrary, they report many advantages when work facilitates participation in other life domains (Greenhaus, & Powell, 2006; Culbertson, Mills, & Fullagar, 2012; Wayne, Grzywacz, Carlson, & Kacmar, 2007). Thus, it is important for different stakeholders to pay attention to this phenomenon and understand why it affects individuals so deeply. Although research on work-nonwork relations has evolved substantially over the years in terms of quality and quantity, it has still some weaknesses that limit our understanding of the phenomenon and the predictions that we can make. First, although work and family are undoubtedly important life domains, individuals are also active in other life roles, which are also important for themselves (like pursuing personal interests). This development is contemporary and follows the recent tendency in organizational research to pay attention to individuals' wishes and needs in designing their jobs with phenomena like job crafting, idiosyncratic deals and role adjustments gaining increasing interest (e.g., Grant & Parker, 2009). Indeed, it has been shown that perceived sufficiency of the time available for work and social life predicts the level of well-being only if the individual's needs are fulfilled within that time (Gropel & Kuhl, 2009). To date, there is a lack of studies combining work and personal interests and examining how conflict or facilitation between them may affect well-being and performance. Virtually all studies use measures of work and family or work and "life", considering life as a

mixture between family and social life. Personal interests are typically not taken into account in the work-family literature.

Secondly, whereas the quality of studies on work-nonwork relations has improved and gradually moved away from self-report, cross-sectional research designs, we still need more longitudinal research that uncovers explaining mechanisms over time. For example, in the meta-analysis conducted by Amstad et al. (2011), most of the studies were cross-sectional (355 of 427 correlations were based on cross-sectional studies). Thirdly, we start a new line of research analyzing how combining work with other personal interests has the potential to build personal resources. So far, personal resources were analyzed in the relationship between various work aspects and outcomes. However, we propose a new phenomenon that may help individuals build new resources. The current study aims to overcome these weaknesses.

More specifically, the goal of this study is to examine whether the degree to which work influences personal life in a positive or negative way may initiate a process through which it affects whether individuals feel able and optimistic regarding their ability to deal with life situations, and consequently their level of energy and optimal functioning at work. In order to examine this goal we use the data of a three-wave study conducted among employees of a police district as police employees are known for having several reasons for experiencing a challenge in combining work with private life (due to irregular working hours, having access to personal information about civilians, macho culture of the police organization etc.; Mikkelsen, & Burke, 2004). Based on identity theory (Stryker & Burke, 2000) and the resource perspective on the work-home interface (Grawitch, Barber & Justice, 2010; Hobfoll, 2001; ten Brummelhuis & Bakker, 2012), we examine whether work-nonwork conflict and facilitation influence exhaustion and job performance, due to their influence on personal resources of individuals, i.e. self-efficacy and optimism. In this way, we expand the literature by (a) zooming in a conceptualization of work-nonwork interface that is relevant to

every individual, i.e. work-self-conflict/facilitation rather than work-family-conflict/facilitation, (b) focusing on personal resources (i.e. self-efficacy and optimism) which represent aspects of the self that are linked to resiliency (Hobfoll, 1989) and therefore can be used to predict different outcomes and (c) predicting over time two outcomes that are valuable for individuals and organizations, i.e. exhaustion and self-reported task performance.

Work-Self-Conflict/Facilitation

The work-nonwork literature has been dominated by the role theory (Pleck, 1977), which suggests that individuals have limited resources, such as time and energy, which they can use to fulfill requirements in the different roles. Demands or stressors in one role make it difficult to fulfill demands in another life role and this results in the experience of inter-role conflict (Greenhaus & Beutell, 1985). In other words, the involvement in multiple roles will inevitably exhaust individual resources and lead to impaired functioning and strain (Goode, 1960). Greenhaus and Beutell (1985) have defined work-family conflict as "a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect" (p.77).

However, it is generally recognized that participating in several roles allows individuals to build in personal, energy and support resources, which can compensate for the increased demands that might arise in any life domain (Marks, 1977; Sieber, 1974). Various positive experiences can arise in the work domain that can help the individual or the system to function well in another life domain e.g. the family system (Wayne et al., 2007). We focus specifically on inter-role facilitation, which has been defined as "the extent to which an individual's engagement in one life domain (i.e. work/family) provides gains (i.e. developmental, affective, capital, or efficiency) that contribute to enhanced functioning of another life domain (i.e., family/work)" (Wayne et al., 2007, p.64).

Individuals not only see themselves as part of a group (Ellemers, Spears, & Doosje, 2002), as partners in a close relationship (relational or role identities; e.g. a wife or mum), but also in terms of personal characteristics (i.e., personal or individual identities; Brewer & Gardner, 1996; e.g., sporty). These personal characteristics are what differentiates one individual from another. Humans are characterized by the tendency to be concerned with their self-interests, and one of the primary motives underlying their behavior is to safeguard and improve their self-interests (De Dreu & Nauta, 2009). Moreover, humans are characterized by their attempts to be true to themselves within a role (Sheldon, Ryan, Rawsthorne & Ilardi, 1997), which means to be able to behave in ways that feel personally expressive (Waterman, 1990), authentic (Ryan, 1993) or self-determined (Deci & Ryan, 1991). Based on identity theory (Kreiner, Hollensbe, & Sheep, 2006), it can be suggested that focusing solely on work and family represents a rather limited view of inter-role management. Identity theory explains social behavior in terms of the relationships between the self and the society. The self is considered a multifaceted construct (Burke 1980). A more comprehensive view to human functioning would be to integrate personal identity or individuals' sense of self, operationalized as personal desires, activities and interests in the work-nonwork interface, or simply me-time (Demerouti, 2009; Demerouti, Corts & Boz, 2013a). The self involves individuals' personal desires, activities, and interests that are unrelated to one's family or work (Demerouti, 2012; Demerouti, Shimazu, Bakker, Shimada & Kawakami 2013b), and consists of "aspects of the self that arise from personal characteristics, as well as social categories in which the individual claims membership" (Kreiner et al., 2006, p. 1318). In fact, the self is an important part of how individuals define themselves (Brewer & Gardner, 1996).

Kreiner et al. (2006) introduced the term work-self balance, which is conceptualized as an optimal overlap between aspects of individual and organizational identities. Recently,

Demerouti (2012) and Demerouti et al. (2013a) introduced the concept of work-self-conflict and work-self-facilitation. Work-self-conflict represents the degree to which work characteristics are incompatible with personal interests, whereas work-self-facilitation represents the degree to which individual's engagement in the work domain contributes to enhanced functioning during time spent on personal interests. Using a sample of Japanese employees, Demerouti et al. (2013b) showed that work-self-conflict/facilitation were different from work-family conflict/facilitation and that particularly work-self-conflict was related to diminished well-being (i.e. distress and happiness) over time.

Work-self Conflict/Facilitation and Outcomes

We already know that it is important to focus also on work-self rather than solely on work-family-conflict and facilitation; we will now set out to explain why work-self-conflict/facilitation influence valuable outcomes over time. The work-life interface has been conceived as a resource allocation issue that relates to personal pursuits and the management of personal resources (Grawitch et al., 2010). Based on Hobfoll (2001), the work-home resources model (Ten Brummelhuis & Bakker, 2012) emphasizes the importance of personal resources (e.g. time, energy, and mood) as linking mechanisms of demanding and resourceful aspects of one domain to the outcomes of the other domain. Accordingly, work-home conflict represents a process through which demanding aspects in one domain deplete personal resources and consequently influence unfavorably outcomes and accomplishments. More specifically, a depletion process starts that eventually consumes personal resources and deteriorates long-term outcomes (Ten Brummelhuis & Bakker, 2012). On the contrary, enrichment or facilitation is a process of resource accumulation whereby resourceful aspects of the one domain increase personal resources, which in turn improve outcomes. This happens because resources in work domains facilitate employees to accomplish long-term goals in other domains via building more stable personal resources. Thus, according to the

work-home resources model, personal resources represent the way through which inter-role conflict or facilitation may influence outcomes and behaviors in a given role. Personal resources refer to the person-environment interplay: Self-efficacy represents judgments about the ability to deal effectively with the environment, including the ability to mobilize resources and thereby meet situational demands, while optimism represents a tendency to expect positive outcomes (Van den Heuvel, Demerouti, Schaufeli & Bakker, 2010).

In line with the work-home resources model, we expect that the experience of work-self-conflict is energy consuming and inhibits the ability to effectively deal with the environment. Therefore, it undermines employees' perceived ability to execute appropriate courses of actions (i.e. self-efficacy), the expectation that positive outcomes will arise (i.e. optimism) and it may enhance feelings of exhaustion. Because the individual is preoccupied resolving the conflict, there are no resources available to devote to task performance, which should also deteriorate due the experience of work conflicting with personal life. Earlier research has shown that work-family conflict is positively related to exhaustion (Demerouti, Bakker & Bulters, 2004) and negatively to job performance (Demerouti, Bakker, & Voydanoff, 2010), well-being (Greenhaus, Collins, & Shaw, 2003) and personal resources (Allen, Johnson, Saboe, Cho, Dumani, & Evans, 2012). However, except for the studies on the effect of work-family conflict on exhaustion, all previous studies are cross-sectional.

Moreover, conforming to the work-home resources model, we expect that the experience of work-self-facilitation will stimulate goal accomplishment, experience of mastery and being in control to deal with external demands. Facilitation releases energy and helps individuals to perceive themselves as able to effectively respond to their environment (i.e. self-efficacy), to expect positive outcomes in their lives (i.e. optimism) and perform well at their work. As individuals experience synergy between the two life domains rather than being chronically exhausted, they should experience higher levels of energy. Earlier research

has shown that work-self-facilitation is positively related to one's own levels of vigor (i.e. the opposite experience from exhaustion; Demerouti, 2012), whereas work-family facilitation is found to be positively related to job performance (Demerouti et al., 2010). Moreover, only one study examined the relationship between work-family-facilitation and personal resources, i.e. optimism but found no support for a positive relationship (Aryee, Srinivas, & Tan, 2005). However, all these studies are cross-sectional. Taken together, we suggest:

Hypothesis 1: Work-self-conflict has a negative effect on self-efficacy (1a), optimism (1b), and task performance (1c) and a positive effect on exhaustion (1d).

Hypothesis 2: Work-self-facilitation has a positive effect on self-efficacy (2a), optimism (2b), and task performance (2c) and a negative effect on exhaustion (2d).

Personal Resources and Outcomes

Self-efficacy is one of the most studied personal resources (Bandura, 1997), and has been shown to be related to positive outcomes including well-being and job performance. Self-efficacy refers to an individual's internal judgments about his/her abilities to mobilize cognitive resources and engagement needed to successfully accomplish specific goals within a given context (Bandura, 1997; Stajkovic & Luthans, 1998), or beliefs about one's ability to mobilize the relevant resources to meet situational demands (Gist & Mitchell, 1992). The meta-analysis by Stajkovic and Luthans (1998) shows that self-efficacy is strongly and positively related to job performance. This is because individuals with greater self-efficacy are able to find and implement effective strategies to deal with demands. Moreover, individuals who doubt their abilities in a particular domain are likely to consider such activities as threats and stressors, which decreases their motivation to engage in constructive ways of coping (Bandura, 1997). Successful adaptation to stressful demands, in turn, would prevent the emergence of exhaustion (Schwarzer & Hallum, 2008). Longitudinal studies have

shown that self-efficacy is negatively related to exhaustion over time (Brouwers & Tomic, 2000).

Optimism represents the tendency to believe that one will generally experience good outcomes in life and is related to higher well-being levels (Scheier, Carver & Bridges, 2001). Individuals high on optimism are found to be better able to confront threatening situations because they seem to adopt more active coping strategies (Iwanaga, Yokoyama & Seiwa, 2004), and as a result they adapt well at work (Luthans & Youssef, 2007). Similarly, optimists are more likely to appraise their resources as sufficient to deal with their demands (Grawitch et al., 2010). Not surprisingly, optimism has been shown to predict effective coping with life stressors (Nolen-Hoeksema, 2000), successful management of stressors (Aspinwall & Taylor, 1997), physical health (Peterson, 2000), and work productivity (Seligman & Schulman, 1986).

Hypothesis 3: Self-efficacy (3a) and optimism (3b) have a positive effect on task performance and a negative effect on exhaustion.

Taken together and in line with the work-home resources model (Ten Brummelhuis & Bakker, 2012), we suggest that over time, conflict will influence exhaustion and task performance unfavorably and facilitation will influence those outcomes favorably. This is because conflict and facilitation will influence the resources that individuals possess to conduct problem-solving and to cope with stress.

Hypothesis 4: Over time there is an indirect effect of work-self-conflict/facilitation on exhaustion (4a) and task performance (4b) through self-efficacy and optimism.

Reversed Effects

We further expect reversed causal relationships between the proposed outcomes and work-self-conflict/facilitation. The reverse causation approach has received very little attention until now (Peeters, de Jonge, Janssen, & Van der Linden, 2004), as inter-role interaction is

generally considered as an outcome variable rather than predictor (Innstrand, Langballe, Espnes, Falkum, & Aasland, 2008). A recent meta-analysis showed that work-family conflict predicted work-related strain and that strain predicted work-family conflict over time, although both types of lagged effects were rather small (Nohe, Meier, Sonntag, & Michel, 2015). Even though reverse causation effects of psychological and physical strain on chronic stressors are relatively weak, their relationship seems to increase over time in longitudinal studies (Ford et al., 2014).

In order to explain this reversed causation hypothesis, we can consider the basic idea of the true strain-stressor hypothesis (Zapf, Dormann, & Frese, 1996), which suggests stress (e.g., work-home conflict) may also be affected by strain (e.g., exhaustion or reduced performance) (Innstrand et al., 2008). Support for a reversed relationship was found in a study among 766 police officers in Norway, where job demands and burnout components (exhaustion and cynicism) emerged as strong predictors of work-family conflict (Mikkelsen & Burke, 2004). More generally, and according to Hobfoll (2001), those who lack resources are not only more vulnerable to resource loss, but that initial loss of resources causes future loss. Moreover, Hobfoll states that those who possess resources are more capable of gain, and that initial resource gain causes further gain. However, there are some inconsistent findings in the literature. For instance, a recent longitudinal study by Van Hooff et al. (2005) found support for a temporal relationship between strain-based work-home interaction and increased levels of fatigue and depressive complaints, but no support for a reversed causal relationship. In line with the reverse causation approach, Demerouti et al. (2004) found both normal and reversed causal relationships between work-home conflict and exhaustion. Similarly, a study by Westman, Etzion, and Gortler (2004) also showed that burnout was a predictor of work-family conflict, and Innstrand et al. (2008) found a reciprocal relationship between work-family conflict and burnout. Recently, Richter, Schraml and Leineweber

(2015) have found reciprocal relationships between work-family conflict and performance-based self-esteem.

Therefore, we also hypothesized reversed causal relationships between the hypothetical outcomes and work-self-conflict/facilitation.

Hypothesis 5: Self-efficacy (5a), optimism (5b) and task performance (5c) have a negative effect, whereas exhaustion (5d) has a positive effect on work-self- conflict.

Hypothesis 6: Self-efficacy (6a), optimism (6b) and task performance (6c) have a positive effect on work-self-facilitation.

Method

Procedure and Participants

This study was conducted within a Dutch police district undergoing reorganization. All these changes were aimed at creating a more adaptive organization whereas no employee was made redundant. After initial information regarding the purpose of the research via intranet/newsletters, all employees (N=1780) received e-mail invitations to participate in the study of which 950 employees completed the online survey (response: 53%). At T2, 1854 invitations were sent, and a total of 810 employees completed the survey (response: 44%). Of the 1736 invitations sent at T3, a total of 741 employees completed the survey (response 43%). For the analysis we used 368 employees who completed all three surveys. Of the participants nearly two-thirds were male (63.3%; female: 36.7%), had an average age of 43.4 years (SD=9.84), and a mean tenure of 17.85 years (SD=11.25). The majority of the sample worked in a non-managerial position (90.8%). More than half of the participants (56.2%) held a predominantly operational position, whereas 43.8% held a predominantly support position (administrative, IT, HR or finance tasks supporting the operational processes). We conducted dropout analysis to examine the differences between the group who completed the T1 survey only and the panel group, as well as the group who completed T1 and T2 versus the panel

group. For both comparisons we found no significant differences between the dropout group and the panel group in terms of their demographic profile (age, gender and tenure). There was, however, a significant difference between the respondents who dropped out after T2 and the panel group on reported T2 work-self-facilitation only. Namely, the drop-out group scored higher on work-self-facilitation ($t=-2.11$, $p < .05$). Besides this difference, no other differences were found on our study variables.

Measures

Work-self-conflict/facilitation. The Work-Family-Self Interaction Questionnaire by Demerouti (2009; 2012; Demerouti et al., 2013b) was used to measure work-self-conflict/facilitation. The scales represent an adaptation of the SWING (Geurts et al. 2005), where the items have been modified such that they capture the impact of the work domain on the self. Four items were used for each dimension. In the instructions of these items, we explained that personal interests concern the interests and activities the person does for him-/herself and not to satisfy the work- or the family-role. All items started with: "How often does it happen that…" and example items are: " … you do not fully enjoy your personal interests because you worry about your work (work-self-conflict)" and "…after work you really feel like pursuing your personal interests (work-self-facilitation)". Items were scored on a 5-point scale (1= never to 5 = always).

Optimism was measured with three items from the Life Orientation Test – Revised (LOT-R; Scheier, Carver, & Bridges, 1994). An example item is: "I am always optimistic about my future"). Answer options ranged from 1 = strongly disagree to 5 = strongly agree.

Self-efficacy was measured with four items adapted from the generalized self-efficacy scale (Schwarzer & Jerusalem, 1995). Items were adapted to a work setting (e.g., "I can always manage to solve difficult problems *at work* if I try hard enough") and were scored on a five-point scale ranging from 1 = strongly disagree to 5 = strongly agree.

Exhaustion was measured with the 6-item exhaustion subscale from the Oldenburg Burnout Inventory (Demerouti, Bakker, Vardakou, & Kantas, 2003). A sample items is "During my work, I often feel emotionally drained". Respondents rated the items using a scale ranging from 1 = totally disagree to 4 = totally agree.

Task performance was measured with the 3-item individual task proficiency scale validated by Griffin, Neal, and Parker 2007). A sample item is "I carry out the core parts of my job well". Respondents rated each statement using a scale ranging from 1 = totally disagree to 6 = totally agree.

Strategy of Analysis

We used structural equation modeling and the maximum-likelihood method implemented in the AMOS program (Arbuckle, 2007) to analyze the data. All constructs were measured at all three occasions. All study variables were included as latent factors operationalized with one indicator (cf. manifest variable), which represents the mean scores of the respective items for each construct. According to Hayduk and Littvay (2012) multiple indicators are not necessary to test a mechanism carrying a postulated effect. In order to be able to test the rather complex model (including full cross-lagged panel data, Hayduk and Littvay advise to use a single indicator approach controlling for theory-relevant features 'rather than multiply entrenching a particular latent' (p. 16). All latent factors were corrected for random measurement error by setting the random error variance of each construct equal to the product of its variance and one minus its internal consistency (Jöreskog & Sörbom, 1993). To account for across-time stability in the scores, we included stability paths from T1 to T2 to T3 and from T1 to T3 for all latent factors measured over time, as well as synchronous correlations between the factors on each measurement occasion. The respective paths and correlations were constrained to be equal per measurement wave. We controlled for supervisory position (1= yes, 2= no) by including it as manifest exogenous variables with

paths to all endogenous latent factors and correlations with all exogenous latent factors. Prior to the analyses, we conducted confirmatory factor analyses (CFA) at the item-level to test the measurement model that includes all observed and unobserved study variables and their relationships. Also, we conducted measurement invariance analyses.

A number of models were fit to the data in order to test the hypotheses. First, we tested the stability model (M1), which included stability paths from each of the constructs measured at T1/T2 to their corresponding construct measured at T2/T3, as well as synchronous correlations between the constructs within each measurement wave. Our proposed research model constitutes the causality model (M2), which included paths between T1/T2 work-self-conflict and facilitation to T2/T3 self-efficacy, optimism, task performance and exhaustion in addition to the paths of M1. The paths from T1/T2 self-efficacy and optimism to T2/T3 task performance and exhaustion were also included. M2 was compared to an alternative, reciprocal model (M3), which consisted of a model with reversed paths together with the paths of M2. Specifically, M3 included the paths from T1/T2 self-efficacy, optimism, task performance and exhaustion to T2/T3 work-self-conflict and facilitation. Although the paths from T1/T2 exhaustion to T2/T3 work-self-facilitation were not hypothesized, we included them for the sake of completeness.

Model fit was assessed using the standard χ^2 test. We also assessed Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA) and AIC. As suggested by Marsh, Hau, and Wen (2004), we used the conventional cut-off values to assess model fit i.e., CFI, TLI>.90, and RMSEA<.08 instead of the criteria that have been recommended by Hu and Bentler (1999) (i.e., CFI, TLI>.95, and RMSEA<.06). This was done because the cut-offs suggested by Hu and Bentler tend to be too stringent, in that otherwise acceptable models are too often rejected (Marsh et al., 2004). To test the indirect effect of Hypothesis 4, we applied the bootstrap method recommended by

Preacher, Zyphur, and Zhang (2010) to create confidence intervals. We used the online interactive tool developed by Selig and Preacher (2008), which generates an R code to obtain confidence intervals for the indirect effect.

Results

Preliminary Analysis

Descriptive statistics, correlations, and Cronbach's alpha's are displayed in Table 1. All scales had sufficient reliability at all measurement occasions. For each measurement occasion, we conducted confirmatory factor analyses (CFA) in order to test the measurement model. Models with different factor solutions were compared, namely, a 6-factor solution, comprising one factor per construct (i.e., work-self-facilitation, work-self-conflict, optimism, self-efficacy, task performance and exhaustion), a 3-factor solution (i.e., collapsing work-self-facilitation with task performance in one factor, work-self-conflict with exhaustion in another factor and optimism with self-efficacy in a third factor) and a one-factor solution (i.e., comprising all items of all constructs). The 6-factor model showed an acceptable model fit at T1 (χ^2=407.42, df=237, CFI=.95, TLI=.95, RMSEA=.04). This fit was superior to the 3-factor model ($\Delta\chi^2(12)$=1188.50, p <.001) and the 1-factor model ($\Delta\chi^2(15)$=1668.67, p <.001). Similarly, at T2, the 6-factor model showed an acceptable model fit (χ^2=420.42, df=237, CFI=.96, TLI=.95, RMSEA=.05) which was superior to the 3-factor model ($\Delta\chi^2(12)$=1053.43, p <.001) and the 1-factor model ($\Delta\chi^2(15)$=1752.16, p <.001). Finally, at T3, the 6-factor model showed an acceptable model fit (χ^2=494.03, df=237, CFI=.93, TLI=.94, RMSEA=.05), which was superior to the 3-factor model ($\Delta\chi^2(12)$=1165.65, p <.001) and the 1-factor model ($\Delta\chi^2(15)$=1749.28, p <.001).

Then, we created one model for each construct that we tested for measurement invariance across the three measurement occasions. Factor loadings of each item at the three different waves were constrained to be equal. The model with constraints was compared to the free model, in which factor loadings were allowed to be different across the measurement

waves. On one item of each scale, factor loadings had to be constrained to 1 (Arbuckle, 2007). The model fit of this 6-factor model (χ^2=4590.68, df=2428, CFI=.85, TLI=.84, RMSEA=.05) did not differ significantly from a 6-factor model constraining all factor loadings to be equal over time ($\Delta\chi^2(32) = 30.11$, $p = .56$). These findings suggest that all the instruments that we used to measure our constructs were interpreted in a similar way by respondents across the three time measurements.

Hypothesis Testing

Table 2 shows the goodness of fit indices and chi-square difference tests of the models and model comparisons. The stability model (M1) showed an acceptable fit to the data. The causality model (M2), showed a satisfactory model fit with all indices satisfying the cut-off criteria. As shown by χ^2 difference tests, M2 had a significantly better fit than M1 ($\Delta\chi^2$ (24)= 73.02, $p < .001$). However, the reciprocal model (M3) was not significantly better than M2 ($\Delta\chi^2$ (16)= 27.15, n.s.).

Figure 1 shows significant structural paths in M2 whereas Table 3 displays all lagged paths in M2. Hypothesis 1 stated that work-self-conflict is positively related to (a) self-efficacy, (b) optimism, and (c) task performance and negatively to (d) exhaustion over time. Partially supporting H1a, we found one significant negative effect of T1 work-self-conflict on T2 self-efficacy. Hypothesis 1b was rejected, as work-self-conflict was unrelated to optimism. In addition, we found partial support for H1c since work-self-conflict had a significant negative effect on T2 task performance. Partially supporting H1c, T1 work-self-conflict was positively related to T2 exhaustion.

Hypothesis 2 suggested that work-self-facilitation has a positive effect on self-efficacy (2a), optimism (2b), and task performance (2c) and a negative effect on exhaustion (2d). Hypothesis 2a was partially supported, since T1 work-self-facilitation had a significant

positive effect on T2 optimism. However, H2a, H2c and H2d were rejected as work-self-facilitation was unrelated to self-efficacy, exhaustion and task performance.

Hypothesis 3 suggested that self-efficacy (3a) and optimism (3b) have a positive effect on task performance and a negative effect on exhaustion. Partly supporting H3a, we found that self-efficacy had a significant and positive effect on task performance, both between T1–T2 as well as T2–T3. Also partly supporting H3a, we found that T2 optimism had a significant and negative effect on T3 exhaustion. Moreover, we found that the effect of T1 optimism on T2 exhaustion was significant at p = 07. However, self-efficacy was unrelated to task performance and optimism was unrelated to exhaustion.

To test Hypothesis 4 (suggesting an indirect effect of work-self-conflict/facilitation on exhaustion (4a) and task performance (4b) through self-efficacy and optimism) we conducted bootstrap analysis. Support was found for the negative, indirect, effect of T1 work-self-facilitation on T3 exhaustion via T2 optimism, as the confidence interval does not contain zero (95% CI [-0.037, -0.000]). Moreover, T1 work-self-conflict was indirectly related to T3 task performance through T2 self-efficacy (95% CI [-0.049, -0.000]). This model explains 30-58% of the variance in work-self-conflict, 22-54% of the variance in work-self-facilitation, 28-45% of the variance in optimism, 32-54% of the variance in self-efficacy, 30-43% of the variance in exhaustion and 15-27% of the variance in job performance.

Hypotheses 5 and 6 suggested that over time self-efficacy, optimism, task performance and exhaustion will be related to work-self-conflict and work-self-facilitation, respectively. These hypotheses were examined with M3. Partly supporting H5c there was a significant positive effect of T2 job performance on T3 work-self-conflict. Moreover, partly supporting H5d we found that T1 exhaustion had a positive effect on T2 work-self-conflict. All other reverse causal effects were non-significant. Thus, H5a, H5b, and H6 had to be rejected.

As the panel group is substantially smaller than the initial sample per wave due to person-level missing data, we followed the advice of Newman (2014) who suggests to report all relevant information that can help 'readers in understanding the degree of nonresponse biases likely present in a particular set of results' (p. 394). Next to the drop out analysis, we tested (parts of) our hypothesized model for the T1 and T2 panel group (N = 580) as well as for T2 and T3 panel group (N=474). In this way, we could inspect whether the results of the final panel group are similar to the results of the two-wave panel groups that include more cases. Results were highly similar and only two out of seven cross-lagged paths were not significant (though very close to significance level, i.e. p = .07) in the two-wave panel samples. This makes us conclude that our final three-wave panel group largely provides unbiased estimations.

Discussion

The goal of this study was to examine whether the degree to which work influences personal life in a positive or negative way may initiate a process, which affects personal resources and consequently the levels of exhaustion and performance at work. Building on identity theory (Kreiner et al., 2006; Stryker & Burke, 2000) and the resource perspective on work-home interface (Grawitch et al., 2010; Hobfoll, 2001; ten Brummelhuis & Bakker, 2012), we suggested that work-nonwork conflict and facilitation influence exhaustion and job performance over time because they influence personal resources of individuals, i.e. self-efficacy and optimism. Results of the three-wave longitudinal study among employees in a police district, confirmed that work-self-conflict was related to deteriorated levels of self-efficacy, whereas work-self-facilitation was related to improved optimism over time. In turn, self-efficacy was related to higher task performance, whereas optimism was related to diminished levels of exhaustion over time. Further analysis supported the negative, indirect effect of work-self-facilitation on exhaustion through optimism over time. Moreover, a few

reversed causal effects emerged, as work-self-facilitation was not only related to improved optimism, but also optimism was related to higher work-self-facilitation over time. Finally, work-self-conflict was not only related to higher exhaustion, but exhaustion was also related to increased work-self-conflict over time. With these findings we make at least three contributions to the literature.

First, based on identity theory (Kreiner et al., 2006; Stryker & Burke, 2000), we focused on whether work may influence not only family life as most of the earlier research suggests, but also aspects of the self, operationalized as time devoted to personal interests independent from work-related or family-related activities. Work-self-conflict and facilitation are important because they are relevant to every individual, as everybody has personal interests irrespective of family status. Not surprisingly, both were found to initiate a negative and a positive process, respectively. Moreover, we found that the police employees reported experiencing work-self-facilitation more often than work-self-conflict, which has also been found in studies on work-family conflict/facilitation (Geurts & Demerouti, 2003). This indicates that positive processes are prominent and that individuals allow positive aspects of work to spillover in their private life more so than negative ones. After controlling for stability effects we found that work-self-conflict and facilitation were both related to personal resources. An explanation for these effects is that measurement of work-self-conflict and facilitation quantify important drivers of motivation (Demerouti, 2012). Namely, humans are driven by personal outcomes they (anticipate to) receive (*cf*. Erez & Isen, 2002) or by choosing alternatives that satisfy their self-interests (De Dreu & Nauta, 2009; Salancik & Pfeffer, 1977). This reference to the self and the self-interests is inherent in both scales. Demerouti et al. (2013b) found that only work-self-conflict was related to diminished well-being over time. Similar to this finding, in this study we found that whereas work-self-facilitation was unrelated, only work-self-conflict was related to exhaustion and job

performance over time. Earlier research on work-family-conflict and facilitation (e.g., Demerouti et al., 2004) has also found that work-family-conflict was a better predictor of well-being than facilitation, which indicates that negative experiences are more influential than positive experiences (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001) or that loss cycles are more impactful and accelerated than gain cycles (Hobfoll, 2001).

Second, the study contributes to the literature on inter-role management by showing the role of personal resources in the process of conflict or facilitation over time. Results showed that the experience of conflict is related to diminished self-efficacy, whereas the experience of facilitation is related to enhanced optimism. This result is important as it shows that degree to which work influences personal life has an impact on how resilient and able individuals are to deal with work and nonwork related situations and threats. This is essential as personal resources create the foundation for sustainable work ability, continuous adaptation and goal accomplishment that can be generalized within and outside work (Kira, van Eijnatten, & Balken, 2010). It is interesting to note that conflict was found to reduce self-efficacy, which is instrumental for performance and as such we found that it predicted task performance over time. Expecting to do well motivates greater effort and culminates in improved performance, which is highly relevant for the so-called Pygmalion effect (increase in performance due to high managers' expectations about subordinate performance) and Galatea effects (performance gain due to raising subordinates' expectations about their own performance; Eden & Kinnar, 1991). On the contrary, work-self-facilitation was positively related to optimism, which in turn resulted in reduced levels of exhaustion. This is in line with the idea that positive effects from one role to another are associated with positive states and the build-up of personal resources such as optimism. Optimism has been found to be health-protective (Rasmussen, Wrosch, Scheier, & Carver, 2006) and indeed, the indirect effect we found showed that the optimism triggered by work-self-facilitation helped

employees to stay energized as opposed to experiencing exhaustion. Optimism affects a person's readiness to be engaged in problem solving (Seligman, 1991) and predisposes individuals to experience a more positive mix of feelings because they expect good outcomes. Taken together, whereas conflict triggered an instrumental path (through self-efficacy), facilitation seemed to trigger a more 'emotional path' (through optimism).

Third, although the reciprocal model did not have a superior fit to the data, the inspection of its structural paths did reveal some evidence for meaningful reciprocal effects. Next to confirming the longitudinal reciprocal relationships between work-family-conflict and exhaustion (e.g. Demerouti et al., 2004; Nohe et al., 2015) and expanding these also to work-self-conflict, the study uncovered another reverse relationship. Namely, we found that work-self-conflict seems to be linked reciprocally with task performance over time. Work-self-conflict inhibits task performance whereas task performance is related to more work-self-conflict over time. Our findings indicate that both exhaustion and task performance are involved in a negative, loss spiral. Specifically, we showed that work-self-conflict creates exhaustion and diminishes performance, which limits individuals' opportunities to invest resources in order to build new resources in another domain (Hobfoll, 2001). These effects may have been worsened due to the organizational change that was taking place in the context that we conducted the study. Organizational change represents a stressor that requires effort by the employees to deal with it and may exhaust the resources that they can invest in their work and nonwork activities (Vakola & Nikolaou, 2005).

Limitations

A first limitation of our study is that we used solely self-report measures. Employees are best suited to provide information about their own personal resources, their feeling of exhaustion and their experienced work-self interface (cf. Conway & Lance, 2010). Task performance could have been measured through other-ratings to minimize biased answered

through e.g. social desirability. In this sense we did not measure how individuals really performed but how they perceived that they did. To minimize the inflation of correlations due to common method variance (Spector, 2006), we based our conclusions on longitudinal associations where it seems unlikely that participants can recall their answers during the previous measurement wave, provided evidence on the construct validity of the measures (e.g. the factor structure invariance over time, moderately high correlations between the constructs) and used constructs with low overlap in their items (cf. Conway & Lance, 2010).

A second issue that needs to be discussed is the fact that the study was restricted to the context of police. Thus, we cannot be sure whether our results can be generalized to other working populations. Working in the police force (i.e. law enforcement) is considered to be among the most stressful professions with employees suffering from higher rates of illness, burnout, absenteeism, and premature retirement when compared to the general population (Hart, Wearing, & Headley, 1995). In addition, the organization where we conducted the study was undergoing various changes. Organizational change is considered to be a factor causing high stress to individuals (Oreg, Vakola & Armenakis, 2011). Therefore, future research is required to uncover the generalizability of our findings. On a positive note, the study of Demerouti et al. (2013b) was conducted among a heterogeneous sample of employees (with young children) and showed the relevance of work-self-conflict/facilitation to different populations.

Conclusion

Our three-wave longitudinal study uncovered the effects of work-self-conflict and facilitation on two outcomes that are valuable for individuals and organizations, i.e. exhaustion and self-reported task performance. Our study showed that inter-role management influences personal resources over time, which represent aspects the self that are linked to resilience and therefore are important for the functioning of individuals in different domains.

Organizations should therefore aim at creating jobs that reduce risk to enhance conflict with personal interests but, on the contrary, increase the functioning during pursuit of personal interests. To achieve this, affordable job demands and sufficient job resources should be provided to employees next to family-friendly policies (Demerouti, van der Heijden & Peeters, 2012). Work-family friendly policies will allow individuals to balance their work and private lives. Flextime or telecommuting will help employees to better manage their schedule and will be able to devote time to their personal interests. Other benefits such as gym or leisure spaces at work will provide them with opportunities to pursue personal interests also during work breaks (i.e. work-site recreation activities). Further, based on the effects of optimism and self-efficacy found in this study, organizations may strive to develop a coaching style of leadership in their managers, in order to build self-efficacy and optimistic explanatory styles in their followers. This may result in more work-self-facilitation, task performance and less exhaustion amongst employees. It seems therefore promising for future research to focus on such expanded conceptualizations of inter-role management and to examine possible predictors and outcomes in order to uncover not only family-friendly but also individual-friendly interventions (Demerouti et al., 2013a).

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Table 1: Means, Standard Deviations (SD), Cronbach's Alpha (on the Diagonal) and Pearson Correlations among the Study Variables (N = 368).

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Time 1																				
1. Work-self-conflict	1.95	.64	(.77)																	
2. Work-self-facilitation	2.69	.72	-.254	(.80)																
3. Self-efficacy	3.46	.44	-.182	.238	(.81)															
4. Optimism	3.67	.68	-.309	.418	.303	(.83)														
5. Exhaustion	2.10	.45	.516	-.441	-.258	-.391	(.79)													
6. Performance	5.04	.53	-.277	.210	.380	.319	-.267	(.85)												
Time 2																				
7. Work-self-conflict	1.92	.61	.635	-.175	-.133	-.274	.421	-.225	(.76)											
8. Work-self-facilitation	2.71	.72	-.215	.487	.143	.319	-.281	.147	-.289	(.80)										
9. Self-efficacy	3.46	.48	-.234	.214	.579	.297	-.300	.342	-.304	.299	(.82)									
10. Optimism	3.69	.69	-.246	.381	.243	.589	-.357	.276	-.245	.414	.384	(.86)								
11. Exhaustion	2.10	.43	.427	-.312	-.199	-.372	.624	-.293	.562	-.461	-.371	-.430	(.78)							
12. Performance	4.24	.62	-.291	.202	.287	.249	-.262	.339	-.270	.300	.435	.309	-.390	(.86)						
Time 3																				
13. Work-self-conflict	1.84	.56	.579	-.183	-.159	-.191	.388	-.150	.627	-.244	-.174	-.178	.422	-.167	(.72)					
14. Work-self-facilitation	2.73	.72	-.202	.515	.219	.310	-.335	.212	-.175	.570	.222	.327	-.357	.190	-.273	(.78)				
15. Self-efficacy	3.48	.45	-.143	.192	.572	.280	-.205	.421	-.184	.175	.621	.338	-.277	.343	-.168	.262	(.86)			
16. Optimism	3.69	.73	-.162	.351	.279	.496	-.279	.267	-.132*	.334	.273	.577	-.346	.196	-.204	.454	.414	(.85)		
17. Exhaustion	2.09	.41	.351	-.300	-.271	-.346	.502	-.323	.394	-.315	-.280	-.388	.602	-.284	.450	-.480	-.301	-.410	(.78)	
18. Performance	4.27	.58	-.204	.189	.376	.247	-.173	.407	-.190	.250	.358	.294	-.272	.422	-.165	.286	.483	.350	-.292	(.87)

Note. All correlations are significant at $p < .01$ except for the correlation of $r = -.133$, which is significant at $p < .05$ level.

Table 2

Goodness of fit indices and chi-square difference tests of nested structural equation models, N = 368.

Model	χ^2	df	Comparison	$\Delta\chi^2$	Δdf	CFI	TLI	RMSEA
M1: Stability	388.58	132				.91	.88	.073
M2: Causality	315.56	108	M1 – M2	73.02***	24	.93	.90	.070
M3: Reciprocal	288.41	92	M2 – M3	27.15 *ns*	16	.93	.88	.076

Note. ***$p < .001$.

Table 3

Unstandardized path coefficients for the hypothesized model, N = 368.

Paths	T1→T2 Estimate (SE)	T2→T3 Estimate (SE)	T1→T3 Estimate (SE)
WSC→WSC	.445 (.023) **	.445 (.023) **	.445 (.023) **
WSC→Self-efficacy	-.080 (.040) *	.024 (.050)	
WSC→Optimism	-.005 (.059)	.114 (.080)	
WSC→Exhaustion	.071 (.034) *	-.001 (.052)	
WSC→Performance	-.167 (.060) **	.039 (.074)	
WSF→WSF	.455 (.026) **	.455 (.026) **	.455 (.026) **
WSF→Self-efficacy	.052 (.038)	-.010 (.036)	
WSF→Optimism	.208 (.057) **	.106 (.062)	
WSF→Exhaustion	-.017 (.033)	.041 (.039)	
WSF→Performance	.067 (.059)	.086 (.059)	
Self-efficacy → Self-efficacy	.480 (.026) **	. 480 (.026) **	. 480 (.026) **
Self-efficacy → Exhaustion	-.010 (.049)	-.016 (.057)	
Self-efficacy → Performance	.190 (.091) *	.254 (.094) **	
Optimism → Optimism	.429 (.029) **	.429 (.029) **	.429 (.029) **
Optimism → Exhaustion	-.065 (.034)	-.077 (.038) *	
Optimism → Performance	-.014 (.062)	.036 (.058)	
Exhaustion → Exhaustion	.403 (.033) **	.403 (.033) **	.403 (.033) **
Performance → Performance	.247 (.033) **	.247 (.033) **	.247 (.033) **
Supervisory position→WSC	-.123 (.090)		.100 (.086)
Supervisory position→WSF	-.244 (.117)*		-.089 (.108)
Supervisory position→Self-efficacy	-.163 (.071)*		.124 (.068)
Supervisory position→Optimism	-.143 (.108)		.031 (.113)
Supervisory position→Exhaustion	.022 (.065)		.037 (.071)
Supervisory position→Performance	-.117 (104)		.156 (.099)

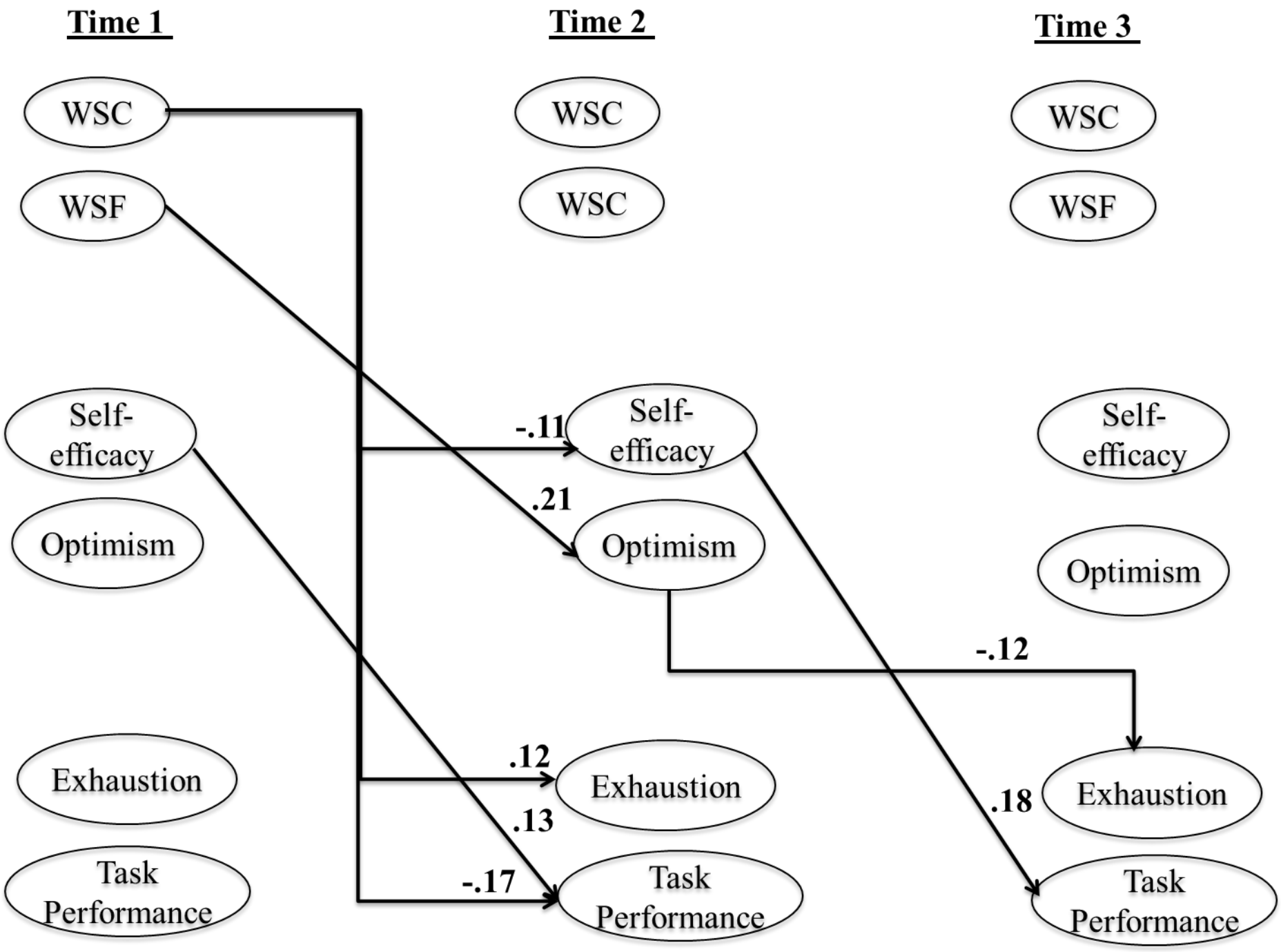
Note. WSC = Work-self-conflict, WSF = Work-self-facilitation; ** $p < .01$, * $p < .05$.

Figure Caption

Figure 1

Standardized significant paths of the structural part of Model 2.

Note. For simplicity the stability effects and synchronous correlations as well as the effects of the control variable are omitted.


Time 1
Time 2
Time 3
WSC
WSF
WSC
WSC
WSC
WSF
Self-efficacy
Optimism
-.11
.21
Self-efficacy
Optimism
Self-efficacy
Optimism
-.12
Exhaustion
Task Performance
.12
.13
-.17
Exhaustion
Task Performance
.18
Exhaustion
Task Performance