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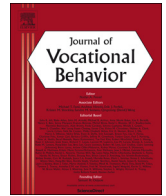
Calling as a double-edged sword for work-nonwork enrichment and conflict among older workers

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ABSTRACT

Having a calling has been linked to various positive outcomes, but the potential negative effects of having a calling have not yet received comparable attention. Moreover, research thus far has neglected to examine how callings affect the work–nonwork interface. Based on the work–home resources model, and work–family enrichment theory, we presumed that having a calling can increase as well as deplete personal resources at work, which, in turn, promote work–nonwork enrichment and conflict among older workers. We investigated these assumptions among 599 employees, aged between 50 and 60 years, by examining within-individual changes in presence of calling, positive affect at work, workaholism, work–nonwork enrichment, and work–nonwork conflict over a period of one year, with two measurement points. Results indicated that an increase in the presence of a calling was positively related to increased levels of positive affect at work, which, in turn, was positively related to increased work–nonwork enrichment. However, an increase in the presence of a calling was also positively related to increased workaholism, which was positively related to increased work–nonwork conflict. The findings suggest that having a calling is meaningfully related to the work–nonwork interface among older workers in both positive and negative ways.

Numerous studies over the past ten years have shown that people who have a calling generally benefit from increased psychological well-being at work, and in life more generally (Duffy & Dik, 2013). Having a calling refers to "an approach to work that reflects seeking a sense of overall purpose and meaning and is used to help others or contribute to the common good, motivated by an external or internal summons" (Duffy, Dik, Douglass, England, & Velez, 2018, p. 426). Although research has recently started to investigate effects of callings in a more comprehensive way, most existing studies are focused on the potential positive effects of having a calling (Duffy & Dik, 2013). However, to obtain a more comprehensive understanding of having a calling, it seems important to explore both positive and potential negative effects (Duffy et al., 2018).

Extant research on the dark side of callings primarily focused on the negative effects, when callings remained unanswered. Existing studies showed, for example, that having a calling can be negatively related to life satisfaction if it is not accompanied by a sense of meaning, and the ability to live out a calling (Duffy, Douglass, Autin, England, & Dik, 2016). In another study, Gazica and Spector (2015) found that university faculty members with unanswered callings reported lower work engagement and career commitment than those with no callings at all. Some studies have also suggested that having a calling might have detrimental outcomes due to necessitating personal sacrifices (Bunderson & Thompson, 2009) or because of excessive work investment (Keller, Spurk, Baumeler, & Hirschi, 2016). However, the ways in which callings might have positive and negative consequences remain

underexplored, which limits a more complete understanding of callings (Duffy et al., 2018).

An important shortcoming in this regard is that although there is much research on how the presence of a calling affects a person's work domain and well-being (Duffy & Dik, 2013), to the best of our knowledge, previous empirical research has not examined how having a calling impacts the work–nonwork interface, nor do theoretical models of having a calling address this issue (Duffy et al., 2018). This seems an important omission as work and nonwork roles increasingly intertwine for many people, and therefore a contemporary understanding of career development needs to account for the close relation of the work and nonwork domains (Greenhaus & Kossek, 2014). In our study, we refer to nonwork generally, which includes not only family, but also leisure and community roles (Hall, Kossek, Briscoe, Pichler, & Lee, 2013). Callings might be especially pertinent to examine from a work–nonwork perspective because a calling represents a form of strong work commitment, which research has suggested is meaningfully related to the work–nonwork interface due to increased work–family enrichment (Lapierre et al., 2017), and also work–family conflict (Byron, 2005; Michel, Kotrba, Mitchelson, Clark, & Baltes, 2011). This makes it reasonable to assume that callings might have both a positive and a potential negative effect in respect to the work–nonwork interface.

To address these issues, we conducted a study focusing on within-individual changes over one year among a sample of older workers, with the aim (a) to examine how having a calling is related to work–nonwork enrichment and conflict; and (b) to investigate by which processes these effects occur. Specifically, based on the work–home resources model (ten Brummelhuis & Bakker, 2012), and work–family enrichment theory (Greenhaus & Powell, 2006), our study investigates increased positive affect at work and increased compulsive and excessive work behavior as linking mechanisms between presence of calling and the work–nonwork interface. With these examinations, our study contributes to a better theoretical understanding of how callings are related to the work–nonwork interface; how having a calling can enhance as well as deplete personal resources at work; and provide further insights into the potential negative side-effects of callings.

1.1. Calling and the work–nonwork interface

Work and nonwork are increasingly intertwined for many people due to a growing number of women in the workforce, use of flexible work arrangements, and changes in gender role norms (Greenhaus & Kossek, 2014). A current understanding of career development thus needs to take into account how career development relates to experiences in nonwork life domains. Most existing research on nonwork issues has focused on the work–family interface because family is the most prominent nonwork role for many people (Greenhaus & Kossek, 2014). However, the nonwork domain is more than family (e.g., leisure, community, health, spirituality), and recent research on the work–nonwork interface has started to adopt a more comprehensive perspective (Fisher, Bulger, & Smith, 2009; Greenhaus & Kossek, 2014).

Work–nonwork research predominantly has focused on two pivotal experiences in the work–nonwork interface: Work–nonwork conflict and, more recently, work–nonwork enrichment. Work–nonwork enrichment occurs if experiences in one role improve performance and enhance affect in the other role (Greenhaus & Powell, 2006). Conversely, work–nonwork conflict represents a form of inter-role conflict, where work and nonwork roles are mutually incompatible in some regard (Greenhaus & Beutell, 1985). These two outcomes are not opposites on a continuum, but distinct facets in the work–nonwork interface that can simultaneously occur (Grawitch, Maloney, Barber, & Mooshegian, 2013; Wayne, Butts, Casper, & Allen, 2017). For example, being highly engaged at work might cause conflict in the family due to less time available at home, while simultaneously enriching the family role by enhancing a sense of accomplishment that leads to more energy at home.

In the present study, we are specifically interested in examining the extent to which the presence of a calling and related work experiences affect nonwork domains, and we therefore focus on the work-to-nonwork direction when addressing the work–nonwork interface. To explain the possible positive as well as negative effects of having a calling on the work–nonwork interface, we draw on the work–home resources model (ten Brummelhuis & Bakker, 2012) as well as work–family enrichment theory (Greenhaus & Powell, 2006). These models integrate a central assumption of conservation of resources (COR) theory (Hobfoll, Halbesleben, Neveu, & Westman, 2018), which defines resources as means to attaining centrally valued aims. COR theory also proposes that resources can positively affect the accumulation of other resources, whereas resource loss leads to the depletion of other resources. Based on these models, resources in one domain (e.g., work) can have a positive or negative effect on the ability to attain valued aims and meet demands in another life domain (e.g., family) by increasing or decreasing personal resources. On the one hand, if participating in a role promotes personal resources, these can then be utilized to improve outcomes in other domains, leading to work–nonwork enrichment. On the other hand, if engagement in one role drains personal resources, this negatively affects the extent to which role demands and aims in other domains can be met, resulting in work–nonwork conflict. We adapt this model to propose that the presence of a calling can both positively and negatively impact personal resources at work, which, in turn, leads to experienced work–nonwork enrichment, as well as conflict.

As we have explained above, existing calling research generally has not accounted for the possible effects of callings on nonwork roles. However, it is reasonable to assume that the presence of a calling is meaningfully related to the work–nonwork interface. Experiencing a calling is, by definition, a form of strong work commitment, characterized by an external summons, a sense of purpose, and prosocial motivation (Dik & Duffy, 2009), or an intense passion (Dobrow & Tosti-Kharas, 2011) toward a particular line of work. Hence, people who have a calling can be expected to invest considerable resources in terms of time, energy, or attention to the work role. Empirical evidence confirms that having a calling is positively related to different forms of affective work commitment, such as career commitment (e.g., Duffy, Bott, Allan, Torrey, & Dik, 2012; Duffy, Dik, & Steger, 2011), occupational identification (Bunderson & Thompson, 2009), or job involvement (Horvath, 2015).

From an enrichment perspective, work–family enrichment theory (Greenhaus & Powell, 2006) suggests that investment in the

work role can lead to resource gains, such as increased positive affect, or knowledge and skills, which can favorably impact affective experiences and performance in nonwork roles, leading to work–nonwork enrichment. This view is consistent with the work–home resources model (ten Brummelhuis & Bakker, 2012), and COR theory (Hobfoll et al., 2018), where engagement in one life role can increase personal resources that then positively affect performance in other life roles. This view is also supported by meta-analytic research, showing that work commitment is related to more work–family enrichment (Lapierre et al., 2017).

However, from a conflict perspective, and based on the work–home resources model (ten Brummelhuis & Bakker, 2012), a heavy investment of resources in one life role can also lead to the depletion of personal resources, which then are missing when addressing demands in other life roles, leading to work–nonwork conflict. This reasoning is supported by meta-analyses, which showed that people with stronger work commitment experience more work–family conflict (Byron, 2005; Michel et al., 2011). We thus presume that a presence of a calling as a form of heavy work investment can both increase as well as deplete resources, which should lead to a meaningful relation between presence of calling and work–nonwork enrichment and conflict.

Hypothesis 1. An increase in the presence of a calling is positively related to an increase in (a) work–nonwork enrichment and (b) work–nonwork conflict.

1.2. Linking mechanisms between calling and work–nonwork enrichment and conflict

1.2.1. The enrichment perspective

A calling might increase personal resources at work. One important personal psychological resource in the work domain is positive affect (Greenhaus & Powell, 2006; ten Brummelhuis & Bakker, 2012). Because the presence of a calling is linked with a sense of meaning and passion toward work (Dik & Duffy, 2009; Dobrow & Tosti-Kharas, 2011), there is sound reason to assume that a calling is positively related to the experience of positive affect at work. Research generally showed that people who have a calling have more positive attitudes toward their work, as expressed in increased levels of work meaningfulness (Duffy et al., 2012; Hirschi, 2012) and job satisfaction (Douglass, Duffy, & Autin, 2016; Duffy et al., 2012; Duffy, Dik, & Steger, 2011). Others found positive correlations between having a calling and work enjoyment (Steger, Pickering, Shin, & Dik, 2010), and work engagement (Hirschi, 2012; Xie, Xia, Xin, & Zhou, 2016). Moreover, employees and students who had a calling reported more psychological resources, such as higher occupational self-efficacy (Hirschi, 2012; Hirschi & Herrmann, 2013) or work hope (Duffy, Allan, & Dik, 2011). Such psychological resources derived from a role can also trigger positive emotions in this role (Greenhaus & Powell, 2006). These positive attitudes and experiences at work, combined with increased psychological resources in the work role among people with the presence of a calling, should positively relate to more experienced positive affect at work.

Hypothesis 2. An increase in the presence of a calling is positively related to an increase in positive affect at work.

We further presume that positive affect at work should positively affect performance in nonwork roles, leading to work–nonwork enrichment. As suggested by work–family enrichment theory, the experience of positive mood in one role can enhance functioning, activity, and persistence in another role, leading to increased performance in that role (Greenhaus & Powell, 2006). This can occur because a positive mood can increase the psychological availability and engagement in another role, stimulate more positive interactions, and expand one's level of energy (Rothbard, 2001). This is consistent with the work–home resources model (ten Brummelhuis & Bakker, 2012) and COR theory (Hobfoll et al., 2018) in the way in which the availability of personal resources (e.g., positive affect) can promote the accumulation of other resources (e.g., knowledge), which, in turn, support functioning and goal attainment in other life roles. In addition, Daniel and Sonnentag (2014) found that positive affect predicted work–nonwork enrichment on a daily level. Moreover, the meta-analysis by Lapierre, Li, Shao, and DiRenzo (2016) showed that positive affectivity is positively related to work–family enrichment.

Hypothesis 3. An increase in positive affect at work is positively related to an increase in work–nonwork enrichment.

Building upon our theorizing above, we can consequently propose:

Hypothesis 4. There is an indirect positive effect between an increase in the presence of a calling and an increase in work–nonwork enrichment through increases in positive affect at work.

1.2.2. The conflict perspective

Having a calling might also deplete personal resources at work (Duffy et al., 2018). Based on the work–home resources model, important personal resources that may be drained when used are energy, attention, and time (ten Brummelhuis & Bakker, 2012). One construct that captures such a heavy cognitive and behavioral investment in the work role is workaholism. Workaholism can be defined as a tendency to work compulsively and excessively (Clark, Michel, Zhdanova, Pui, & Baltes, 2014; Schaufeli, Taris, & Bakker, 2008). As such, the concept of workaholism not only refers to long work hours, but also involves "feeling compelled or driven to work because of internal pressures, having persistent and frequent thoughts about work when not working, and working beyond what is reasonably expected […] despite potential negative consequences" (Clark et al., 2014, p. 5). Because callings are often experienced as a deep-seated passion toward work, with considerable sacrifices in time and energy to pursue one's calling, workaholism is a theoretically meaningful potential negative outcome of a calling (Duffy et al., 2018).

Empirical evidence of initial research on the topic has suggested that callings might indeed be positively related to maladaptive types of work involvement, such as workaholism. Although a study by Duffy et al. (2016) found no significant correlation between living a calling and workaholism among a sample of employed U.S. adults, Horvath (2015) reported significant positive correlations between having a calling and hours worked in a sample from the same population. Keller et al. (2016) examined German workers and found a significant positive correlation between having a calling and workaholism, possibly in an attempt to realize and implement their calling in the work role. Furthermore, Spurk, Hirschi, and Kauffeld (2016) showed that the closely related construct of career commitment predicted workaholism beyond other factors (e.g., personality traits). In sum, based on theoretical and empirical research, we can presume that the presence of a calling is related to higher cognitive and behavioral work investment, and should be accompanied with high levels of energy, attention, and time devoted to the work role. As such, we can also expect that people with a calling show a stronger tendency for working compulsively and excessively, as expressed in increased workaholism.

Hypothesis 5. An increase in the presence of a calling is positively related to an increase in workaholism.

Elaborating on the conflict perspective, the work–home resources model (ten Brummelhuis & Bakker, 2012) suggests that a drain in personal resources at work, in terms of energy, attention, and time, leads to more work–nonwork conflict because demands in nonwork roles cannot be met due to a lack of these resources. This reasoning is consistent with COR theory (Hobfoll et al., 2018), where a loss of resources can lead to the depletion of other resources, which leads to a reduced ability to attain centrally valued states or objects. Hence, we can assume that high workaholism depletes resources in the work role, which leads to a reduced capacity to meet demands and attain valued states or objects (e.g., satisfaction, fulfilling expectations of role senders) in nonwork roles. Meta-analytic research confirmed that a heavy investment in a work role, both in terms of psychological involvement and hours spent at work, is related to an increased experience of work–nonwork conflict (e.g., Byron, 2005; Michel et al., 2011; Shockley, Shen, DeNunzio, Arvan, & Knudsen, 2017) and, more specifically, that workaholism is positively related to work–nonwork conflict (Clark et al., 2014).

Hypothesis 6. An increase in workaholism is positively related to an increase in work–nonwork conflict.

Building upon our theorizing above, we can consequently propose:

Hypothesis 7. There is an indirect positive effect between an increase in the presence of a calling and an increase in work–nonwork conflict through an increase in workaholism.

1.3. Present study: a focus on within-individual change among older workers

In addition to contributing to a better theoretical understanding of the positive and negative effects of callings on the work–nonwork interface, our study addresses an important methodological limitation in existing calling research. Most existing research on callings is cross-sectional (Duffy & Dik, 2013), which precludes examining how a change in calling is related to changes in other constructs. Moreover, the relatively small number of existing longitudinal studies have focused on between-person effects (e.g., Bott & Duffy, 2014; Hirschi & Herrmann, 2013). Between-person studies examine how the level of one variable (e.g., presence of a calling) is related to a change in other variables (e.g., career planning) relative to other study participants. By contrast, a within-person analysis examines to what extent an increase or decrease in one variable for *a given person* is related to a change in other variables for this person. As such, within-person analysis accounts for the fact that psychological constructs are not entirely stable over time, and might show meaningful fluctuations over time, not only regarding the relative position of a person compared to others (i.e., between-person change) but also within a person (Liu, Mo, Song, & Wang, 2016).

A current understanding of callings is that they are not *found* by means of a rather passive revelation, but that callings are developed and discerned based on self-reflection and active engagement with the (work) environment (Dik et al., 2015). It is thus reasonable to assume that a person's calling can show meaningful variation over time, which could be related to changes in personal resources at work. Moreover, the work–nonwork interface and the degree of experienced work–nonwork conflict and enrichment is also not static, but may vary over time, in accordance with different conflict and enrichment episodes (Maertz & Boyar, 2011). Examining how such fluctuations within persons who have a calling are related to fluctuations in other constructs (e.g., positive affect at work, experienced work–nonwork conflict) may thus shed additional light on the underlying mechanism of how and why callings yield positive, but potentially also negative, effects.

An additional contribution of this study is our focus on older workers. A shortcoming of past calling research is that studies were predominately conducted with students or younger to middle-aged employees, whereas older workers have largely been neglected (Duffy, Torrey, England, & Tebbe, 2017). However, due to increased longevity and the perspective of longer careers, knowing which factors promote successful aging at work has become an important issue for individuals as well as organizations (Zacher, 2015b). Indeed, older workers are an increasing segment of the labor force in many countries, which makes it important to understand career development from a lifespan perspective which includes work experiences of older workers (Nagy, Froidevaux, & Hirschi, 2018). Going beyond extant research that predominantly has focused on samples in early- to mid-career, our focus on older workers will provide new insights for this field, especially if callings are found to be a driver of work outcomes throughout one's entire career.

Moreover, intrinsic aspects of work (e.g., interesting work, contributing to society; Kooij, De Lange, Jansen, Kanfer, & Dikkers, 2011), job involvement, and intrinsic work motivation (Ng & Feldman, 2010) generally increase with age, which may also apply to the perception of callings, making the concept highly relevant for older workers. Finally, there is increasing recognition that the work–nonwork interface is specifically relevant for older workers because they might only not have family obligations—such as

caring for or supporting one's own children, elderly parents, or grandchildren—but they are also invested in diverse leisure and community roles and activities (Allen & Shockley, 2012). However, not much research has focused on the work–nonwork experiences of older workers, and a better understanding of the predictors of work–nonwork conflict and enrichment among this population is important.

2. Method

2.1. Sample and Procedure

The sample was gathered in Germany through a survey company (www.respondi.com) that was selected due to its excellent reputation for scientific studies and because it has extensive experience in scientific data sampling. Respondi has a standing panel of over 300,000 people who are invited to participate in surveys based on pre-determined criteria by the researchers (e.g., aged between 50 and 60 years). In contrast to some other online samples (e.g., Amazon Mechanical Turk; Cheung, Burns, Sinclair, & Sliter, 2017), the identities of the registered participants are constantly verified to ensure the validity of their survey responses. Participants received a monetary incentive of EUR 2.00 by the panel provider at each wave. A similar procedure has been successfully applied by other researchers in vocational and organizational research (Masuda, McNall, Allen, & Nicklin, 2012; Vogt, Hakanen, Brauchli, Jenny, & Bauer, 2016; Zacher, 2015a).

The online panel service invited people according to the following criteria set by the research team: working in private industry (not self-employed or working students), aged between 50 and 60 years, and holding work contracts between 50% and 100% of full-time employment (i.e., a minimum of 20 work hours per week). We focused on employees above 50 years of age because this is a criterion commonly used to define older workers (Kooij, de Lange, Jansen, & Dikkers, 2008). To avoid sampling workers whose retirement might be imminent, we restricted the age range to 10 years and excluded workers above 60 years of age. Individuals were invited to fill in an initial online questionnaire (T1), and 12 months later, to fill in a follow-up questionnaire (T2). All constructs were assessed at both measurement points.

Overall, 770 individuals responded to the first survey within 14 days (T1). Out of these, 599 participants (77.8%) also answered the survey questions at T2. Only participants who participated at both measurement points were retained for the analyses. From these participants, 44.4% were female, the mean age was 53.9 years (SD = 2.7), and 70.4% reported having children at home. As is typical for German employees, the majority (73.0%) of participants had a vocational degree, 23.4% a university degree, and 3.6% reported having no degree. On average, participants had an organizational tenure of 13.4 years (SD = 10.9), and worked 36.5 h (SD = 13.3) per week. Participants worked in various occupations and industries. The most common industries were service (18.3%), commerce (11.7%), production (11.3%), and the health sector (10.3%). Dropout analyses revealed no significant differences between participants who only responded at T1 and participants who responded at both T1 and T2 with regard to the study variables.

2.2. Measures

Means, standard deviations, and bivariate correlations among the measures are reported in Table 1.

2.2.1. Presence of calling

A German translation (Hirschi, 2011) of the presence subscale of the Brief Calling Scale (BCS; Dik, Eldridge, Steger, & Duffy, 2012) was applied. It consisted of two statements ("I have a calling to a particular kind of work" and "I have a good understanding of my calling as it applies to my career"). The scale is a five-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). A validation study (Dik et al., 2012) found that the BCS scores were positively correlated with scores of other measures of calling, and with informants' reports of participants' perceptions of their calling. The original and German language scale showed strong test-retest

Table 1
Means, standard deviations, and intercorrelations between study variables.

	M	SD	1	2	3	4	5	6	7	8	9
1 T1 Presence of calling	3.45	0.92									
2 T1 Positive affect at work	3.42	1.47	0.43***								
3 T1 Workaholism	2.92	0.99	0.15**	0.14**							
4 T1 Work–nonwork enrichment	2.54	0.91	0.38***	0.60***	0.11**						
5 T1 Work–nonwork conflict	2.41	0.99	−0.10*	−0.11**	0.53***	−0.15***					
6 T2 Presence of calling	3.31	0.92	0.55***	0.39***	0.17***	0.32***	−0.05				
7 T2 Positive affect at work	3.45	1.46	0.29***	0.61***	0.08	0.44***	−0.12***	0.39***			
8 T2 Workaholism	2.83	0.98	0.11*	0.09*	0.64***	0.04	0.40***	0.18***	0.09*		
9 T2 Work–nonwork enrichment	2.51	0.90	0.32***	0.45***	0.08	0.55***	−0.12**	0.36***	0.57***	0.17***	
10 T2 Work–nonwork conflict	2.42	0.94	−0.09*	−0.17***	0.44***	−0.22***	0.66***	−0.07	−0.21***	0.49***	−0.12**

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

reliability, and significant correlations with constructs, such as work engagement, work meaning, career commitment, or job satisfaction (Duffy, Autin, Allan, & Douglass, 2015; Hirschi, 2012; Hirschi & Herrmann, 2013). In a comparison to other calling measures, the BCS is especially suitable for assessing whether the study participants experienced having a calling (Duffy et al., 2015). Pearson correlations for the two items were 0.69 and 0.84, at T1 and T2, respectively.

2.2.2. Positive affect at work

Positive affect at work was measured with the activated pleasant affect dimension of the Multi-Affect Indicator by Warr, Bindl, Parker, and Inceoglu (2014). Participants were asked to indicate how often they felt a particular feeling at work with four items (e.g., "joyful") on a seven-point response scale ranging from 1 (*never*) to 7 (*always*). Cronbach's alpha was 0.93 and 0.95 at T1 and T2, respectively.

2.2.3. Workaholism

Workaholism was measured using a German version of the Dutch Work Addiction Scale (DUWAS; cf. Schaufeli et al., 2008), rating ten items (e.g., "I feel guilty when I take time off work" or "I find myself continuing work after my co-workers have called it quits") on a six-point Likert-type scale. This scale measures the aspects of working compulsively and working excessively. The scale shows high construct validity, also within German-speaking samples (Keller et al., 2016; Spurk et al., 2016). Cronbach's alpha was 0.88 and 0.89 at T1 and T2, respectively.

2.2.4. Work–nonwork enrichment and conflict

We measured both concepts with subscales of the Work/Nonwork Scale from Fisher et al. (2009). The subscale *work–enhancement of personal life* included three items (e.g., "Because of my job, I was in a better mood at home") with a five-point Likert-type response scale ranging from 1 (*not at all*) to 5 (*almost all of the time*), and was applied to measure work–nonwork enrichment. Cronbach's alpha was 0.82 and 0.84 at T1 and T2, respectively. We applied the *work–interference with personal life* subscale (Fisher et al., 2009) to measure work–nonwork conflict. The scale consists of five items (e.g., "My personal life suffers because of my work") and a five-point Likert-type response format (same as for work–enhancement of personal life). Cronbach's alpha was 0.93 and 0.94 at T1 and T2, respectively.

2.3. Analytical strategy

To test our hypotheses, we estimated latent change models (e.g., Li, Fay, Frese, Harms, & Gao, 2014; Liu et al., 2016; Wille & De Fruyt, 2014) in Mplus version 7 using full information (to account for missing data on single measurement scales) maximum likelihood with robust standard errors (Muthén & Muthén, 1998-2012). Second-order latent level and change were estimated based on T1 and T2 item-level data. Latent change models are able to estimate a latent intercept (mean level) and a slope (latent change factor, e.g., Δ in the presence of a calling) of a variable over time. Thus, these models estimate a latent change variable that represents gains or losses in the true score for each of the variables included in this study. The latent correlation between levels and the latent change of study variables are estimated simultaneously and account for measurement error (McArdle, 2009). Latent change models are suitable for testing our hypotheses because we are particularly interested in how change in one variable correlates with change in another variable. In our study, the latent change factor, which represents the increase or decrease in a variable between two measurement points within a given person, is used to investigate the relation between within-individual change in one variable (e.g., Δ in the presence of a calling) with within-individual change in another variable (e.g., Δ of positive affect at work). We used the Monte Carlo method (Preacher & Selig, 2012; Selig & Preacher, 2008) to test the indirect effect from change in the presence of a calling to change in work–family enrichment via the change in positive affect at work (Hypothesis 4) and the effect from change in the presence of a calling to change in work–family conflict via change in workaholism (Hypothesis 7).

Model fit was assessed with the root mean squared error of approximation (RMSEA), comparative fit index (CFI), and the standardized root mean squared residual (SRMR). Values below 0.08 for RMSEA, above 0.90 for CFI, and below 0.08 for SRMR indicate good model fit (Hu & Bentler, 1999). We assessed whether changes in model fit were meaningful using Satorra and Bentler corrected Chi-square (Satorra & Bentler, 2010) and changes in CFI, RMSEA, and SRMR. Suggested cut-off values are ΔCFI < 0.01, ΔRMSEA < 0.015, and ΔSRMR < 0.03 (Chen, 2007; Cheung & Rensvold, 2002).

We also considered work hours as a control variable in our model because research showed that work hours are linked to workaholism (Clark et al., 2014) and the work-nonwork interface (Michel et al., 2011). The inclusion of work hours as a control variable did not change the pattern of results and we thus report all results without this control variable to increase the interpretability of the findings.

3. Results

3.1. Preliminary analyses: measurement models, measurement invariance, and bivariate correlations

To evaluate if the measured constructs were empirically distinct, we conducted confirmatory factor analyses for both measurement occasions. We compared a one-factor solution (all items load on one factor) to a three-factor solution (one factor for the presence of a calling, one factor for positive affect at work and workaholism, one factor for work–nonwork enrichment and work–nonwork conflict), and the theoretically presumed five-factor solution. Results revealed that across both measurement points,

Table 2

Estimated means, variances, and covariations between latent levels.

	M	Variance	1	2	3	4
1 Level presence of a calling	3.57	0.43***				
2 Level positive affect at work	3.29	1.96***	0.58***			
3 Level workaholism	2.65	0.94***	0.13**	0.21**		
4 Level work–nonwork enrichment	1.74	0.41***	0.33***	0.92***	0.10*	
5 Level work–nonwork conflict	2.51	0.67***	−0.06*	−0.16**	0.40***	−0.13***

Note. **p < .01; ***p < .001.

the five-factor solution (in which the presence of a calling, positive affect at work, workaholism, work–nonwork enrichment, and work–nonwork conflict, each represented by a distinct factor) was clearly superior to the alternative factor solutions, confirming the construct distinctness of our measures (one factor: SB-scaledχ^2 = 10,276.8, *df* = 1055, CFI = 0.45, RMSEA = 0.12, SRMR = 0.23; three factors: SB-scaled χ^2 = 7069.9, *df* = 1041, CFI = 0.64, RMSEA = 0.10, SRMR = 0.22; five factors: SB-scaled χ^2 = 2319.9, *df* = 1011, CFI = 0.92, RMSEA = 0.05, SRMR = 0.07).

Next, we compared the freely estimated measurement model to a model in which factor loadings and item intercepts were held constant over time (i.e., scalar invariance). Model fit of the constrained model did not significantly change from the unconstrained model (SB-scaled χ^2 = 2356.0, *df* = 1044, CFI = 0.92, RMSEA = 0.05, SRMR = 0.07; ΔSB-scaled χ^2 = 40.9, Δ*df* = 33, *p* = .16; ΔCFI = 0.001, ΔRMSEA = 0, ΔSRMR = 0.001). This confirms measurement equivalence of the assessed constructs over time, which is an important precondition for conducting further change analyses.

Table 1 shows the bivariate correlations among the measures at each time point. Correlations reveal that the presence of a calling was significantly related to all other study variables (between *r* = −0.10, *p* < .05 and *r* = 0.55, *p* < .001).

3.2. Hypotheses testing: relations between change scores

To test the hypotheses, we examined how within-individual change in the presence of a calling was related to within-individual changes in positive affect at work, workaholism, and work–nonwork enrichment and conflict. We estimated intercepts, latent change scores, and the correlations between them for all five study variables (model fit: SB-scaled χ^2 = 2370.6, *df* = 1059, CFI = 0.92, RMSEA = 0.05, SRMR = 0.07). Tables 2 and 3 show estimated means, variances, and covariations among intercepts and change scores. Importantly, all five latent change scores revealed significant variance around the latent change mean score (all *p* < .05, Table 3), which implies that further examination of individual differences in change is valid.

Table 3 shows that change in the presence of a calling was positively related to change in work–nonwork enrichment, but not work–nonwork conflict, which supports H1a, but refutes H1b. Change in the presence of a calling was positively related to change in positive affect at work (supporting H2) and change in workaholism (supporting H5). Moreover, change in positive affect was positively related to change in work–nonwork enrichment (supporting H3), whereas change in workaholism was positively related to change in work–nonwork conflict (supporting H6). An overview of these findings is shown in Fig. 1.

3.3. Hypotheses testing: indirect effects from the presence of a calling to the work–nonwork interface

To test the proposed indirect effects, we proceeded with the estimation of a model to test the pathways from presence of a calling on work–nonwork enrichment and conflict via positive affect and workaholism. We report one-tailed *p*-values to test our theory-driven and directed hypotheses (Cho & Abe, 2013). Intercepts and slopes of the presence of a calling predicted intercepts and slopes of positive affect and workaholism, as well as work–nonwork enrichment and conflict, and intercepts and slopes of positive affect and workaholism predicted work–nonwork enrichment and conflict. Inspection of the results revealed nonsignificant direct effects from the change in the presence of a calling on work–nonwork enrichment (*b* = −0.09, *p* = .37) and conflict (*b* = −0.01, *p* = .49). We excluded these nonsignificant direct effects for reasons of parsimony. However, because the results of the bivariate correlations

Table 3

Estimated means, variances, and covariations between latent change scores.

	M	Variance	1	2	3	4
1 Δ Presence of a calling	0.67	0.16*				
2 Δ Positive affect at work	1.10	0.98**	0.16***			
3 Δ Workaholism	0.68	0.45***	0.06*	0.07		
4 Δ Work–nonwork enrichment	0.01	0.13**	0.08**	0.39***	0.12***	
5 Δ Work–nonwork conflict	0.65	0.33***	0.01	−0.09**	0.12***	0.01

Note.

* *p* < .05.
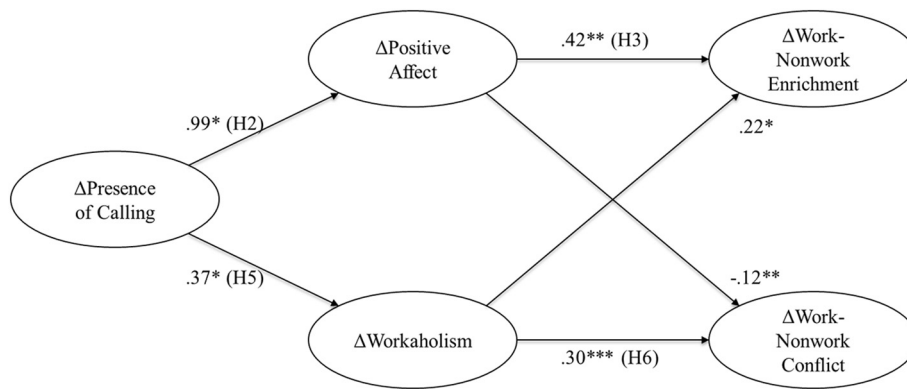
** *p* < .01.

*** *p* < .001.

Fig. 1. Overview of relations between within-person changes in presence of calling, positive affect at work, workaholism, work–nonwork enrichment, and work–nonwork conflict. Figure shows unstandardized coefficients. *$p < .05$; **$p < .01$; ***$p < .001$.

between change scores (Table 3) revealed that a change in positive affect at work was negatively related to a change in work–nonwork conflict, and change in workaholism was negatively related to change in work–nonwork enrichment, we included these two paths in the model. This latent change model fit the data well, SB-scaled $\chi^2 = 2359.5$, $df = 1053$, CFI = 0.92, RMSEA = 0.05, SRMR = 0.07. Model results further revealed that none of the eight level-to-change effects (e.g., level presence of a calling to slope positive affect at work) were significant. This means that none of the initial levels of a variable at T1 was related to change in the same variable from T1 to T2.

Regarding the indirect effects, change-to-change effects revealed a pattern in support of our assumptions. Changes in the presence of a calling significantly predicted changes in positive affect at work ($b = 0.99$, $p < .01$), and changes in the positive affect at work predicted changes in work–nonwork enrichment ($b = 0.42$, $p < .001$) and conflict ($b = -0.12$, $p < .01$). In accordance with H4, we found a significant positive indirect effect between changes in the presence of a calling and work–nonwork enrichment via positive affect at work, unstandardized indirect effect = 0.42, $p < .01$; Monte Carlo 95% confidence interval [0.148; 0.707].

Similarly, changes in the presence of a calling predicted changes in workaholism ($b = 0.37$, $p < .05$), and changes in workaholism predicted changes in both outcome variables (for work–nonwork enrichment $b = 0.22$, $p < .01$; for work–nonwork conflict $b = 0.30$, $p < .001$). In support of H7, we found a positive indirect effect from changes in the presence of a calling to changes in work–nonwork conflict via changes in workaholism, unstandardized indirect effect = 0.11, $p < .05$; Monte Carlo 95% confidence interval [0.008; 0.252].

3.4. Post-hoc analyses: theoretically plausible alternative SEM models

To provide more clarity about within- and between-person effects, and to explore the structural ordering of the identified effects, we conducted alternative model tests. First, we tested the same model as above, where the effects of presence of calling at T1 on work–nonwork enrichment and conflict at T2 are mediated by positive affect at work and workaholism at T2, while also allowing direct effects of presence of calling on the work–nonwork outcome variables. However, in contrast to the model tested above, we focused on between-person effects over time instead of within-person changes. This model showed a good fit to the data (SB-scaled $\chi^2 = 872.6$, $df = 242$, CFI = 0.92, RMSEA = 0.07, SRMR = 0.07). Presence of a calling at T1 was positively related to positive affect at work at T2 ($b = 0.72$, $p < .001$), workaholism at T2 ($b = 0.15$, $p = .05$), and work–nonwork enrichment at T2 ($b = 0.20$, $p < .01$), and negatively related to work–nonwork conflict at T2 ($b = -0.12$, $p < .05$). Furthermore, positive affect at work at T2 was positively related to work–nonwork enhancement at T2 ($b = 0.36$, $p < .001$), and negatively related to work–nonwork conflict at T2 ($b = -0.13$, $p < .001$); and workaholism was positively related to both work–nonwork enrichment ($b = 0.10$, $p < .05$) and conflict ($b = 0.39$, $p < .001$) at T2. The indirect effect on work–nonwork enrichment via positive affect at work was significant (unstandardized indirect effect for work–nonwork enhancement = 0.26, $p < .001$). Similarly, the indirect effect of presence of a calling on work–nonwork conflict via workaholism was significant (unstandardized indirect effect for work–nonwork enhancement = 0.06, $p < .05$). Hence, the results of this alternative model test closely mirror the results of the change analyses, and suggest that similar effects occur at the within- and the between-person level.

In a second alternative model, we aimed to shed light on the structural ordering of relations among the assessed variables. Therefore, we changed the ordering of variables compared to the previously tested models, and used positive affect at work and workaholism at T1 as predictors, presence of a calling at T2 modeled as the mediator, and work–nonwork enrichment and conflict (assessed at T2) as the outcomes (SB-scaled $\chi^2 = 806.58$, $df = 242$, CFI = 0.92, RMSEA = 0.06, SRMR = 0.07). Within this model, positive affect at work ($b = 0.24$, $p < .001$) and workaholism ($b = 0.09$, $p < .05$) at T1 were positively related to presence of calling at T2. Furthermore, positive affect at work at T1 was positively related to work–nonwork enrichment ($b = 0.23$, $p < .001$), and negatively related to work–nonwork conflict at T2 ($b = -0.11$, $p < .001$). Workaholism at T1 was positively related to work–nonwork conflict at T2 ($b = 0.37$, $p < .001$). Finally, presence of calling at T2 was positively related to work–nonwork enrichment at T2 ($b = 0.28$, $p < .001$). In this model, only the indirect effect from positive affect at work to work–nonwork enrichment via the

presence of a calling was significant (unstandardized indirect effect = 0.07, $p < .001$), whereas the indirect effect on work–nonwork conflict via workaholism was not (unstandardized indirect effect = -0.01, $p = .31$).

Overall, the alternative models showed similar model fit indices and the same degrees of freedom, making it difficult to compare both models on the basis of differences in fit values. However, there are some results that favor the originally proposed theoretical model, with positive affect and workaholism as mediators rather than the alternative model. First, the effects from positive affect at work and workaholism on the outcomes were larger compared to the effects of the presence of a calling, irrespective of the applied time lag, suggesting that both positive affect at work and workaholism represent more proximal behavioral and emotional variables with respect to the outcomes analyzed here. Second, the explained variance in the outcome variables was meaningfully larger within the originally proposed model that treated the presence of a calling as a predictor (R^2 work–nonwork enhancement = 0.45, R^2 work–nonwork conflict = 0.32), compared to the alternative model, where the presence of a calling was a mediator (R^2 work–nonwork enhancement = 0.30, R^2 work–nonwork conflict = 0.27), suggesting that the model with the presence of a calling as a predictor at T1 has more explanatory power than the model that treats the presence of a calling as a mediator.

4. Discussion

Drawing on the work–home resources model (ten Brummelhuis & Bakker, 2012) and work–family enrichment theory (Greenhaus & Powell, 2006), the aims of this study were to provide a better understanding of how having a calling is related to the work–nonwork interface, and to what extent a calling can enhance, as well as deplete, personal resources at work among older workers. We investigated these questions by examining within-individual changes in the presence of a calling, positive affect at work, workaholism, and work–nonwork enrichment and conflict over a period of one year. Our results contribute to a better theoretical understanding of the functioning of callings in several ways.

First, we expand the theoretical understanding of work as a calling (Duffy et al., 2018) by providing new theorizing and empirical knowledge about how the presence of a calling is related to the work–nonwork interface as a relevant aspect of contemporary careers (Greenhaus & Kossek, 2014). This is important because existing calling research almost exclusively has focused on the effects of callings on work and general well-being outcomes (Duffy & Dik, 2013). As our study shows, if a person experiences an increased presence of a calling, this is positively related to more experienced work–nonwork enrichment. However, contrary to our expectation, we found no direct relation with an increased work–nonwork conflict. As our results suggest, this might be because the increases in positive affect at work were negatively related to experienced work–nonwork conflict in our study. This is in line with meta-analytic research based on between-person differences, which showed that positive affect is negatively related to work–family conflict (Allen et al., 2012). It thus seems possible that the increased positive affect at work that accompanies an increased presence of a calling can not only promote more work–nonwork enrichment, but also reduce work–nonwork conflict, possibly by allowing people to better cope with nonwork demands (Allen et al., 2012). This reasoning is line with COR theory (Hobfoll et al., 2018) and the work–home resources model (ten Brummelhuis & Bakker, 2012) in the sense that resources in one life domain (i.e., positive affect at work) can support coping with resource threats in other life domains (i.e., demands at home). These findings suggest that future theorizing and empirical research on callings should pay more attention to how callings not only affect work and well-being, but also how callings effect the ability of people to balance work and nonwork roles.

Second, our study provides new insight into the mechanism of how callings lead to various outcomes. Most existing research has focused on direct effects of the presence of a calling while neglecting to examine underlying mechanisms that could explain such effects (Duffy & Dik, 2013). We expand this literature by providing empirical support for the notion that callings can have both positive and negative effects because they are associated with both an increase and a depletion of personal resources at work (Duffy et al., 2018). As our results show, when older workers experience an increased presence of a calling, this is positively related to an increased experience of positive affect at work, but also increased tendencies for workaholism.

Third, by investigating both the positive and negative effects of having a calling, our research contributes to the emerging research stream on the potential dark sides of callings. Although many studies have shown that callings can have a series of positive individual and organizational consequences (Duffy & Dik, 2013), the notion of callings also having negative effects still remains relatively unexamined (Duffy et al., 2018). Moreover, existing studies mostly focused on the negative effects that occur when callings cannot be realized (e.g., Berg, Grant, & Johnson, 2010; Duffy et al., 2016; Gazica & Spector, 2015), but did not explore the other ways in which having a calling could have detrimental consequences (see Bunderson & Thompson, 2009, for an exception). Our study enhances the understanding of the dark side of callings by showing that when people experience an increased sense of calling, this is positively related to increased levels of workaholism. Increased workaholism was positively associated with increased levels of work–nonwork conflict in our study, and was linked to various other negative consequences in other studies (e.g., reduced life satisfaction, worse physical health; Clark et al., 2014). Hence, our study suggests that while callings might not necessarily have strong direct effects on negative outcomes, having a calling could nonetheless lead to negative outcomes (e.g., work–nonwork conflict) due to its effect on intermitting variables (e.g., working compulsively and excessively). Future research should address such possibilities and further investigate the processes through which having a calling might negatively affect individuals and organizations.

Finally, we examined the effects of callings among older workers. Extant calling research has mostly focused on students and younger employees, and only sparsely addressed how callings exert effects among older workers (Duffy, Torrey, et al., 2017). By examining a sample of older workers, our study suggests that the perception of having a calling is an important issue that might contribute to a better understanding of successful aging at work (Zacher, 2015b). Specifically, our study suggests that callings can increase, as well as deplete, personal resources of older workers. Through this mechanism, callings are meaningfully linked to the work–nonwork interface that is of growing interest in this population (Allen & Shockley, 2012). We hope that our results inspire

future research on how callings are perceived by older workers, asking what effects callings have in this population and how callings can contribute to a better understanding of successful aging at work.

Apart from these theoretical contributions, our study also makes a methodological contribution to the calling literature by examining within-individual change. This is an important extension of the dominant cross-sectional studies that link callings with various outcomes (Duffy & Dik, 2013). Moreover, our study also expands the smaller number of existing time-lagged investigations of callings that focused on between-person effects (e.g., Bott & Duffy, 2014; Hirschi & Herrmann, 2013). Although these studies generally find that between-individual differences in perceptions of callings are relatively stable across time, our study showed that this perception can show meaningful fluctuations within a person over time. This corresponds to a modern notion of callings, were they are conceptualized as emerging from an active meaning-making process, rather than from a more passive revelation (Dik et al., 2015). As our study shows, the change in the extent to which people report having a calling is meaningfully related to changes in potential outcomes of callings. Our study, especially compared to most existing studies, allows for a closer examination of the underlying processes that link callings with outcomes. We encourage future research to continue this more dynamic investigation of callings by examining which factors (e.g., job tasks) shape the perception of callings over time within individuals, and by exploring changes in additional outcomes (e.g., job performance) that are related to such changed calling perceptions.

4.1. Study limitations

A first limitation of our study is that despite the fact that we examined change over time, we cannot draw causal conclusions regarding the presumed effects. Our study shows that a change in the presence of a calling is related to a change in other constructs, but the causal direction of these relations is not possible to ascertain. It might, for example, be the case that an increased experience of positive affect at work induces an increased presence of a calling, or that the experience of more work–nonwork enrichment promotes more positive affect at work. Although our alternative model tests support the direction proposed here, to identify such potential reverse and more dynamic effects, future field research would need to collect data over multiple points in time. Examining more waves of data would also be important for better testing the presumed indirect effects in this study. Our study featured a relatively large sample and reliable measures, which are important for testing indirect effects in latent change models with sufficient power. However, multiple measurement points would further strengthen the power of such analyses (Cheong, 2011).

A second limitation is that we relied on self-report data. This means that we cannot know the extent to which the reported work–nonwork enrichment and conflict are related to more objective outcomes in the nonwork domain, or how important others (e.g., the spouse) rate the effects of having a calling on the work–nonwork interface. We think that these are important avenues for future research, to better understand how callings affect nonwork life domains. Related to this, we gathered the data via an online panel provider, a procedure which has become more common in the past few years, but should be discussed and interpreted with its strengths and potential weaknesses. Goal-directed sampling via online panels can provide samples with characteristics highly relevant for the investigated research question, and are not necessarily less representative of the population compared to other convenience samples (Landers & Behrend, 2015). Nonetheless, recent research has also mentioned potential lack in validity of some online samples (Harms & DeSimone, 2015), especially if the data is not screened and cleaned for faulty and implausible values (DeSimone, Harms, & DeSimone, 2015). However, because we used an established online panel provider, and also applied best practice recommendations for data screening, we are confident that the results are based on valid data.

Third, our study examined older workers, but we did not contrast these effects with the effects among younger workers. Hence, to what extent the herein reported results generalize across all age groups, or whether they are more specific for older employees, remains unclear. In addition, by focusing on older workers, our sample might have been restricted in terms of experienced family demands, which could have a special weight in the work–nonwork interface for many people. We thus suggest that future research should also investigate how callings relate to the work–nonwork interface among people with considerable family demands (e.g. having young children at home). Future research could also use a multi-group design to test which effects of callings are more generalizable and which are more idiosyncratic for older workers.

Finally, our study focused on the presence of a calling and presumed that this is meaningfully linked to both positive and negative work and nonwork experiences. However, we did not consider the extent to which study participants were actually able to live their callings. Research has suggested that presence of and living a calling are highly correlated among employees (Douglass et al., 2016; Duffy, England, Douglass, Autin, & Allan, 2017), which implies that most employees with a calling also feel that they are living it in their current work. Our findings are in line with this assumption because we found significant relations among changes in the presence of a calling and changes in personal resources at work. However, future research might more closely examine the extent to which the effects of having a calling on the work–nonwork interface depend on the extent to which somebody is able to live her or his calling in their current job.

4.2. Practical implications and conclusion

For practice, our results suggest that having a calling is something that should be considered when working with older adults in career counseling and human resources development. As our study shows, having a calling can be a resource as well as a hindrance for positive work and nonwork experiences among older workers. We suggest that practitioners pay attention to the extent to which older workers perceive a calling, and help them to capitalize on potentially positive consequences, as well as deal with negative results. Specifically, practitioners could help older workers with a calling to reflect on the positive work experiences that their calling provides, and how they can use the resulting energy and positive mood to enrich their nonwork experiences and fulfill nonwork role

demands. Simultaneously, practitioners could help workers with a calling in dealing with the increased sense of feeling compelled to work, and an overinvestment in the work role that might come at the cost of meeting demands in nonwork roles. Employees might be helped in developing strategies to limit their heavy work investment, for example, by more effectively detaching from work when at home, or limiting their work hours by better prioritizing tasks and projects at work.

In conclusion, by investigating how having a calling is related to the work–nonwork interface among older workers, our study contributes to a broader understanding of both the positive and (potentially) negative effects of callings. We hope that this investigation acts as a useful reference for future research that aims to better understand how the dynamics of having a calling can have effects in both the work and nonwork domain for employees across different ages.

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