

Linking calling with workaholism: Examining obsessive and harmonious passion as
mediators and moderators

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Abstract

Career calling is a positive construct that describes how much individuals see their work as a meaningful and consuming passion, experienced as a transcendent summons, that defines their identity, their life's purpose, and contributes to the common good. Somewhat surprisingly, recent research suggested that calling fosters workaholism. In a cross-sectional study ($N = 235$), we investigated obsessive and harmonious passion as mediators and moderators of the relation between calling and workaholism. Results suggested that the relation between calling and workaholism is completely mediated by obsessive passion and partially mediated by harmonious passion. In addition, we observed that obsessive passion moderates the relation between calling and workaholism, such that when obsessive passion is high, calling protects individuals from workaholism. These results put into question the so-called dark side of calling.

Keywords: Career calling; Workaholism; Obsessive Passion; Harmonious Passion; Moderation; Mediation

Linking calling with workaholism: Examining obsessive passion as a mediators and moderators

Daily experience confirms that our natural tendency is to perform gratifying, personally meaningful, and absorbing activities more frequently and for longer. Yet, there is a limit to how long we can, and should, keep doing the same activity. Beyond that limit, fatigue sets in and over-saturation may occur (Karsten, 1928; Pillsbury, 1922). These factors decrease performance and the value of the activity engaged in. Unfortunately, there are conditions under which the individual feels compelled to undertake an activity because of uncontrollable internal pressures to persist in it despite the negative consequences. In the work context, this maladaptive behavior is called workaholism (Clark, Michel, Zhdanova, Pui, & Baltes, 2016; Oates, 1971) and scholars have suggested that the experience of a calling, ostensibly a positive state, may increase the chances of developing workaholism (Berkelaar & Buzzanell, 2015; Bunderson & Thompson, 2009; Clinton, Conway, & Sturges, 2017; Keller, Spurk, Baumeler, & Hirschi, 2016). In this study, we investigate the conditions that influence the sign and the intensity of the relation between calling and workaholism.

Workaholism: Predictors and Outcomes

Workaholism is “an addiction to work that leads to many negative individual, interpersonal, and organizational outcomes” (Clark et al., 2016, p. 1836). Workaholic individuals are compelled to work, feel preoccupation and loss of self-control. They work too much, beyond what is needed or expected from them, and they do so because they feel that engaging in work activities is the only way they have to relieve the emotions of anxiety and guilt that they feel when they are not working. They keep working despite negative consequences, such as health problems or a deterioration of their private life (Ng,

Sorensen, & Feldman, 2007; Sussman, 2012). A key aspect of workaholism is that individuals engage in work activities because of an internal compulsion, and not because of external pressure (such as financial problems or pressure by their supervisors), or an internal passion or love for their work (Clark et al., 2014). In the present study, workaholism is defined by two components: working excessively and working compulsively (Schaufeli, Taris, & van Rhenen, 2008), with the latter more conceptually critical than the former.

There are both dispositional and situational factors that increase the likelihood of developing workaholism. Among the former category, perfectionism, nondelegation, and Type A personality are all strongly related to workaholism (Clarke et al. 2016). Perfectionism ($\rho_{wp} = .55$) drives people to set high standards for themselves, exaggerate the discrepancy between their performance level and expectations, and avoid delegating work to others (non-delegation, $\rho_{wn-d} = .41$). The Type A cluster of personality ($\rho_{wTA} = .43$) involves hostility, competition, and impatience (Spence, Pred, & Helmreich, 1989). Among the factors that increase the chances of working excessively and compulsively, the literature showed that individuals with high levels of obsessive (but not harmonious) passion tend to work more and to experience difficulties in detaching from work. The size of this relation is probably the highest among workaholism and its predictors ($r = .67$, Birkeland & Buch, 2015, Study 2; $r = .58$, Lajom, Amarnani, Restubog, Bordia, & Tang, 2018). Work domain factors that predict the occurrence of workaholic behavior are work overload ($\rho_{wo} = .52$), work role conflict ($\rho_{wc} = .43$), and job involvement/centrality (how important work is to one's identity, $\rho_{wi} = .53$). The latter is closely related to perceiving a calling toward work, and it informs on the possible relation between the two constructs.

The definition of workaholism that we proposed at the beginning of the paragraph, on which the literature on workaholism converge (Clark et al., 2016), stresses the

importance of negative outcomes. Workaholism was indeed found to be related to job stress ($\rho_{ws} = .55$), work-life conflict ($\rho_{wc} = .47$), marital disaffection ($\rho_{wd} = .55$), and burnout ($\rho_{wb} = .40$).

Career Calling and Workaholism

Career calling is a multidimensional construct that describes affective, motivational, spiritual, and identity-related facets of the relation between individuals and their specific life or work domains (Dalla Rosa, Vianello, & Anselmi, 2019). According to Hall and Chandler (2005), perceiving one's career as a calling is the deepest form of satisfaction or psychological success. Many definitions of calling have been proposed. Thompson and Bunderson (2019) identified 14 distinct definitions that lie on a continuum between the "neoclassical" and the "modern", which respectively put greater emphasis on the outer requirements of duty and destiny or on the inner requirements of passion and enjoyment. These authors advocate for an integration of the two approaches, stating that most researchers from one end of the continuum would agree that the other end is also key in understanding the nature of calling.

In this paper, we adopt a multidimensional conceptualization of calling that integrates both ends of the spectrum and considers seven sub-components of calling. According to this approach, calling is defined as a pervasive and profound passion (*pervasiveness* and *passion*), experienced as a transcendent driving force (*transcendent summons*) to engage in a domain of activities that defines the individual's *identity* and contributes to the individual's life purpose (*purposefulness*). Individuals with a calling are willing to *sacrifice* time and energy in order to pursue it, and they believe that what they do is directly or indirectly helping others (*prosocial orientation*). These components are measured by the Unified Multidimensional Calling Scale (UMCS, Vianello, Dalla Rosa, Anselmi & Galliani, 2018), which synthesizes the many facets of calling that have been

previously proposed (Bunderson & Thompson, 2009; Dalla Rosa, Galliani, & Vianello, 2014; Dik & Duffy, 2009; Dik, Eldridge, Steger, & Duffy, 2012; Dobrow & Tosti-Kharas, 2011; Hagmaier & Abele, 2012; Hall & Chandler, 2005; Praskova, Creed, & Hood, 2015; Wrzesniewski, McCauley, Rozin, & Schwartz, 1997). The theoretical and measurement models behind the UMCS underwent extensive validation (Dalla Rosa, Vianello, Galliani, Boffo, et al., 2019; Vianello et al. 2018). Across two studies on both students (N = 5886) and employees (N = 205), Vianello et al. (2018) found evidence that the seven factors of the UMCS can be seen as facets of the same construct, and that the UMCS measurement model is invariant across time and calling domains. Furthermore, the authors showed that the seven facets have very different relations with correlates and outcomes of calling, suggesting that the use of facets instead of a single composite score of calling allows observing nuances that would otherwise go unnoticed.

Indeed, the relation between calling and workaholism may be specifically due to three of these seven components: identity, pervasiveness, and sacrifice. The relation between workaholism and job centrality (how important work is to one's identity) has already been observed (Clarke et al., 2016). It seems reasonable to hypothesize that these results would generalize to the identity facet of a calling. When an individual feels called to a work or a domain of activities, thoughts about the work or domain pervade all other areas of life. The continued presence of the calling in one's consciousness might serve as a fertile ground for the failure of self-control and self-regulation strategies that defines workaholic individuals. In addition, having a calling may lead the individual to sacrifice other areas of life in pursuit of that calling (Bunderson & Thompson, 2009; Duffy & Dik, 2013). Consistent with this prediction, it has been shown that individuals with a calling tend to work more (Clinton et al., 2017; Keller et al., 2016).

Yet, there is a clear discrepancy between the two constructs: Calling is ultimately positive, whereas workaholism leads to many negative outcomes, both at the personal and social levels. Workaholic individuals work to relieve the negative emotions they experience when *not* working. Instead, calling is a path that leads individuals to a deeply meaningful, gratifying, and fulfilling sense of self-actualization and self-transcendence (Dalla Rosa, Galliani, & Vianello, 2017; Thompson & Bunderson, 2019; Vianello, Galliani, Dalla Rosa, & Anselmi, 2019).

Workaholics work obsessively and excessively, but they do not love their job (Graves, Ruderman, Ohlott, & Weber, 2012). In contrast, people with a calling not only love their work and feel a meaningful passion for it, but they also derive from it a positive personal identity. It might seem unlikely that a sense of calling will develop around work that causes the individual serious suffering and unpleasant feelings rather than pleasure, meaning, and a sense of purpose.

Researchers have already investigated the relation between calling and workaholism. Although the first study on this topic found no significant relations (Duffy, Douglass, Autin, England, & Dik, 2016; $r = .09$, $N = 362$), subsequent studies have observed reliable effects on larger samples. Wilson (2018), in research that tested whether workaholism mediates the effect of calling on mental health symptoms, identified the largest effect currently presented in the literature. This author documented positive relations between three components of calling (transcendent summons, purposeful work, and prosocial orientation) and two components of workaholism (working excessively and working compulsively). The relation between calling and working compulsively was approximately the same across these three components of calling ($r = .26$, $N = 518$). Hirschi, Keller, and Spurk (2019) found small, yet significant, positive relations between calling and workaholism ($r = .11$, $N = 770$). Also, Keller et al. (2016) found a small

positive relation between calling and workaholism ($r = .10, N = 812$), which disappeared after controlling for age, gender, working hours, competitive climate, and future orientation. On the other hand, Lajom et al. (2018) found a negative non-significant relation ($r = -.09, N = 150$). We quantitatively summarized these five studies reporting correlations between calling and workaholism using a random effects meta-analytic model (inverse variance weights, DerSimonian-Laird estimator). The weighted average effect is significant and homogeneous across studies after accounting for sampling error: $rho = .11$, 95% CI [.02, .19], $tau = 0.00$, $I^2 = 28.14$, $Q_{(4)} = 5.57$, $p = .09$.

Drawing from both theoretical and empirical work investigating the positive and negative outcomes of calling, the Work as Calling Theory (WCT; Duffy, Dik, Douglass, England, & Velez, 2018) suggests that calling can be linked to greater workaholism because “some individuals may rationalize unhealthy levels of investment in their work as necessary or even praiseworthy, given the societal and/or personal value of what they are trying to accomplish” (p. 430). In addition, the WCT states that the negative outcomes of calling, including workaholism, may arise for some individuals in some conditions. In so stating, the WCT suggests the presence of moderators. Given that the relation between calling and workaholism is both theoretically and empirically unclear, in this study we explore whether this relation can be explained by work passion and specifically by obsessive passion, one of the stronger dispositional predictors of workaholism.

Passion for work

The dualistic model of work passion (DMP) was first introduced by Vallerand and colleagues (2003). These authors define passion as a “strong inclination toward a self-defining activity that people love, find important, and in which they invest time and energy” (Vallerand et al., 2003, p. 98). They found evidence that two components of passion (harmonious and obsessive) are associated with different determinants, outcomes,

and psychological processes. Harmonious passion (HP) is adaptive and leads people to freely engage in the work they love. Obsessive passion (OP) is less adaptive and involves an uncontrolled pressure that forces the individual to engage in the work they love (Vallerand, 2010).

OP is conceptually close to workaholism. Both constructs are concerned with being compelled to work, but while employees with high levels of OP are obsessed with the *content* of their job, workaholics are addicted to *working*, irrespective of the specific activities that their work entails. In addition, passion refers to the relation individuals have with their work, whereas workaholism refers to behavior. Lastly, workaholic individuals do not necessarily love their work. OP is best seen as a predictor of workaholic behavior: The rigid persistence that OP entails can lead the person to persevere in the passionate activity despite the negative consequences experienced, eventually leading to addiction. In contrast, individuals who experience a harmonious passion toward their work have the capacity to control and moderate the amount of time they spend working, they do not feel compelled to work but rather they freely choose to do so. Birkeland and Buch (2015, Study 2) observed a correlation between OP and workaholism of $r = .67$, and for the same correlation, Lajom et al. (2018) reported $r = .58$. Harmonious passion was found to be negatively related to workaholism by Birkeland and Buch (2015) $r = -.15$ and by Lajom et al. (2018) $r = -.18$.

Work passion is also related to calling (Lajom et al., 2018). Both constructs refer to activities that people love, are regularly engaged in, and that define their identity. Yet, individuals with high levels of calling feel that they are driven to the calling domain by something greater or beyond themselves (*transcendent summons*), that being engaged in the calling domain gives them a sense of purpose (*purposefulness*), and that their activities in the calling domain are useful to others or to a greater good (*prosocial orientation*).

These components of calling are not present in the definition of work passion. Specifically, HP is different from calling because individuals can enjoy their work, find it important and invest time and energy in it without perceiving to be meant or called to do that work, or without deriving meaningfulness and other-oriented values or goals from their work. Most importantly, OP is different from calling because it is an uncontrolled compulsion that leads people to engage in the passionate activity even when they should not: OP takes up disproportionate space in the person's identity and causes conflicts with other areas of life. In line with these assumptions, Lajom et al. (2018) found calling to be positively related with harmonious passion ($r = .19$) and not related with obsessive passion ($r = -.06$).

The Present Study

The type of passion individuals develop for their work can be used to explain how and under which conditions perceiving a calling influences workaholism. In this study, we investigated two competing hypotheses regarding whether harmonious and obsessive passion act as mediators or moderators of the relation between calling and workaholism. This study provides insight on the potentially negative effects of calling (the so-called dark side) and offers an in-depth analysis of the somewhat counterintuitive psychological mechanism underlying the link between having a calling and being addicted to work.

The DMP suggests that passion develops when individuals identify a preferred activity, between alternatives, which is in line with their preferences and interests and is highly valued. The type of passion is determined by the internalization of the activity representation in individuals' identity: Autonomous internalization leads to the development of harmonious passion, whereas a controlled internalization leads to obsessive passion. Individuals who experience a calling have already identified a preferred activity that is relevant for the purpose of their life. Therefore, they are likely to develop a specific type of passion for their work, which, in turn, affects the likelihood of developing

workaholism. Individuals who perceive their work as a calling may experience workaholism because they are consumed by their work and are unable to disconnect from it when needed (obsessive passion). Hence, the relation between calling and workaholism may be mediated by obsessive passion.

Conversely, individuals may be less inclined to develop workaholism because they are able to detach themselves from their work and enjoy other aspects of their lives (harmonious passion). Harmonious passion may be related with lower levels of workaholism, such that individuals who perceive their work as a calling may develop a harmonious passion for their work that can reduce the likelihood of developing workaholism. The relation between calling and workaholism may be mediated by harmonious passion. In line with this reasoning, we propose the following hypothesis:

H1: The relation between calling and workaholism is mediated by obsessive (H1a) and harmonious (H1b) passion.

The MacArthur approach (Kraemer, Kiernan, Essex, & Kupfer, 2008) imposes the eligibility criterion of temporal precedence to establish whether a variable is a potential moderator or mediator: A mediator must follow which it mediates, a moderator must precede that which it moderates. To our knowledge, no studies have analyzed the temporal precedence between calling and passion. Therefore, there is no empirical support for work passion to follow calling (which is one criteria to establish mediation), and we cannot exclude the possibility that passion works as a moderator that precedes (or simultaneously develops with) calling, modulating its effects on other variables.

Indeed, the WCT suggests that the relation between a calling and its negative outcomes may be moderated by individual and environmental factors. For instance, Duffy et al. (2018) suggested that neuroticism, perfectionism, and need for achievement may enhance the possibility of developing workaholism in individuals who experience a calling

for their work. People with an obsessive passion for their work tend to over-value, rigidly persist in, and over-identify with their work, hence they may be more likely to develop workaholism. Following this reasoning, obsessive passion may enhance the possibility of developing workaholism in individuals who are strongly attached to their work and are vulnerable to the risks associated with overinvesting in their work because of their calling. Hence, we propose the following hypothesis:

H2: Obsessive passion moderates the relation between calling and workaholism, such that the effect of calling on workaholism is positive and stronger when obsessive passion is high.

Contrary to obsessive passion, harmonious passion is expected to weakly protect from workaholism. People with a harmonious passion for their work are able to focus on the task at hand, are in control of their work, and tend to experience positive outcomes both during and after work. Therefore, we do not expect harmonious passion to affect the magnitude or the direction of the relation between calling and workaholism. These observations lead us to propose the following hypothesis:

H3: Harmonious passion does not moderate the relation between calling and workaholism.

Method

Participants

The sample comprised 235 Italian workers (81.8% females). Their mean age was 36.61 ($SD = 10.80$) and ranged between 21 and 63 years. Participants' education levels varied between high school (14%), bachelor's degree (9%), master's degree (13%), postgraduate degree (6%), vocational education or training (57%), and others (1%).

With regard to professional roles, 37% of the participants were social workers, 20.9% were nursing assistants, 8.5% were administrative assistants and staff. Other

occupations involved in the sample were blue collar employees (2.6%), managers (2.6%), waiters (2.6%), researchers (2.6%), product and graphic designers (2.1%), accountants (1.7%), sales assistants (2.1%), and other (17.4%; e.g. human resource specialist, copywriter, business consultant, social media strategist). Participants' level of seniority in their organization ranged from 0 to 37 years ($M = 8.62$; $SD = 8.28$). On average, participants had worked in their professions for 11.06 years prior to the data collection ($SD = 9.92$, $Min = 1$, $Max = 37$).

Procedure

Private and public organizations were asked to collaborate in this research project by providing access to their employees. Two specifically trained master students directly contacted the employees from all the collaborating organizations asking them to fill out a survey about attitudes toward work. Participation was completely voluntary; no incentives were provided to respondents or organizations. Data were collected by means of a paper-and-pencil survey. The first page of the survey informed participants regarding the goals of the study, their rights, and that the data would be anonymized and used exclusively in aggregated form for scientific purposes according to the EU regulation (GDPR n. 2016/679) and the Italian law (Legislative Decree n. 196/2003). Anonymized data, analysis codes, and outputs of this study are publicly available on the Open Science Framework: <https://osf.io/bawfk/>.

Measures

Calling. We assessed the presence of a calling with the Unified Multidimensional Calling Scale (UMCS; Vianello et al., 2018). The UMCS consists of 22 items divided into seven subscales that measure passion, purposefulness, sacrifice, pervasiveness, prosocial orientation, transcendent summons, and identity. Examples of items include: "I am passionate about my work" (passion), "My work helps me live out my life's purpose"

(purposefulness), “I can deal with many sacrifices to keep doing my work” (sacrifice), “Even when I am not working, I often think about my work” (pervasiveness), “I am always trying to evaluate how beneficial my work is to others” (prosocial orientation), “I believe that I have been called to pursue my current line of work” (transcendent summons), and “My work will always be part of my life” (identity). The scale was validated in a sample of Italian college students and adult workers. Scores to the calling scales showed good internal consistency ($\alpha = 0.93$ on both samples) and measurement invariance across time and study domains. In past research (Vianello et al., 2018), the UMCS demonstrated good internal and external validity, evidenced by relations in the expected directions with concurrent measures of perceiving a calling, and with outcomes of perceiving a calling such as living a calling, intention to continue studying and academic satisfaction. Items were answered on a 7-point Likert rating scale, with 1 being *strongly disagree* and 7 being *strongly agree*. In the current study, internal consistency of scale scores was excellent for both the calling composite score ($\alpha = 0.95$) and for all subscales scores (α ranged between 0.93 and 0.84).

Workaholism. We assessed two dimensions of workaholism: working excessively (WE) and working compulsively (WC). The Italian version of the DUWAS scale was adopted (Dutch Work Addiction Scale; Balducci, Avanzi, Consiglio, Fraccaroli, & Schaufeli, 2015; Schaufeli, Shimazu, & Taris, 2009). The scale comprises 10 items such as: “I seem to be in a hurry and racing against the clock” (working excessively) and “It is important to me to work hard even when I do not enjoy what I am doing” (working compulsively). The scale was rated on a 7-point Likert-type response format ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The scale was found to be invariant across the Italian and Dutch samples (Balducci et al., 2015). The Italian version of the DUWAS shows good internal consistency for the total scale score ($\alpha = 0.82$), and an adequate

internal consistency within the two subscale scores ($\alpha = 0.74$ in both). The test-retest correlation shows moderate stability over one year (WE: $r = .62$; WC: $r = .54$). The subscales show a pattern of correlations in the expected direction with job demands, number of hours worked, psychological and physical strain reactions. In the current study, internal consistency was very good for both the total score ($\alpha = 0.87$) and for the two subscale scores (working excessively: $\alpha = 0.86$; working compulsively: $\alpha = 0.80$).

Passion at work. We measured passion at work with the Italian version (Dalla Rosa & Vianello, 2019) of the 12-item scale developed by Marsh et al. (2013). The scale was translated into Italian using the back-translation method (Brislin, 1970). This scale, based on the dualistic model of passion (Vallerand, 2010; Vallerand et al., 2003), measures harmonious passion and obsessive passion by means of six items for each component. Responses were collected on a 7-point scale: from 1 (*strongly disagree*) to 7 (*strongly agree*). Examples of items are: “My work is in harmony with the other activities in my life” (HP) and “I have difficulties controlling my urge to do my work” (OP). The Italian version of the scale shows evidence of reliability, convergent and discriminant validity. The subscales showed a pattern of correlations in the expected direction with attitudinal and behavioral outcomes such as positive and negative affect, meaningful work, occupational commitment, work-life conflict, workaholism, work satisfaction and turnover intentions (Dalla Rosa & Vianello, 2019). Cronbach’s α of 0.90 and 0.93 were found in the present study for participants’ scores at the harmonious and obsessive passion scales, respectively.

Results

Preliminary analyses

Table 1 shows the means, standard deviations, internal consistencies and correlations for all variables included in the study. Skewness and kurtosis levels did not

exceed 2, hence scores on all variables did not deviate significantly from normality on these two indicators. Calling was positively related to both harmonious and obsessive passion, but the correlation between obsessive passion and calling was stronger. Both calling and OP were positively related to workaholism, whereas HP was negatively related to workaholism. The highest correlations were observed between calling and obsessive passion ($r = .57$) and between obsessive passion and workaholism ($r = .52$). These correlations were far from perfect, suggesting that the three measures were tapping distinct constructs.

Table 1

Descriptive statistics, correlations, and internal consistencies for all variables

	1	2	3	4	5	6	7	8	9	10	11
1. Passion	.90										
2. Sacrifice	.75**	.93									
3. Pervasiveness	.69**	.68**	.81								
4. Prosocial Orientation	.47**	.45**	.41**	.88							
5. Transcendent Summons	.44**	.38**	.32**	.37**	.93						
6. Purposeful work	.72**	.68**	.59**	.53**	.60**	.87					
7. Identity	.68**	.75**	.68**	.45**	.49**	.76**	.84				
8. Calling	.87**	.85**	.79**	.65**	.65**	.88**	.86**	.95			
9. HP	.40**	.24**	.18**	.15*	.28**	.47**	.36**	.38**	.90		
10. OP	.46**	.50**	.56**	.26**	.42**	.42**	.52**	.57**	.01	.93	
11. Workaholism	.20**	.31**	.43**	.11	.13*	.17**	.35**	.31**	-.14*	.52**	.87
<i>Min</i>	1.75	1.00	1.00	1.00	1.00	1.00	1.00	1.41	1.83	1.00	1.00
<i>Max</i>	6.75	7.00	7.00	7.00	7.00	7.00	7.00	6.50	7.00	6.67	6.70

<i>M</i>	5.19	4.69	5.07	5.03	3.80	4.94	5.01	4.84	4.59	3.44	4.64
<i>SD</i>	1.21	1.34	1.28	1.24	1.34	1.21	1.24	1.00	1.06	1.43	1.04
Skewness	-.85	-.70	-.77	-.67	-.41	-.97	-1	-.85	-.05	.02	-.54
Kurtosis	.13	.19	.26	.22	.00	1.23	1.30	.79	-.43	-.88	.42

Note. N = 235. Cronbach's alphas are presented on the main diagonal. HP = Harmonious

Passion. OP = Obsessive Passion.

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

The correlation between calling and workaholism, $r = .31$, 95% CI [.19, .42], was higher than the meta-analytic average effect observed in previous studies, $\rho = .11$, 95% CI [.02, .19]. Adding the present study to the meta-analysis (random effects model) conducted on all previous studies, the meta-analytic average effect increases to $\rho = .14$, 95% CI [.05, .22], but heterogeneity is still very low and non-significantly different from zero, $\tau = 0.00$, $I^2 = 32.16$, $Q_{(5)} = 7.37$, $p = .09$.

According to theory and empirical evidence, the link between calling and workaholism is due to the pervasiveness, sacrifice and identity dimensions of calling. The stronger correlations were found between workaholism and pervasiveness (.43), workaholism and sacrifice (.31), and between workaholism and identity (.35). Pervasiveness, sacrifice and identity were also found to be the stronger correlates of OP (.56, .50 and .52, respectively).

Before testing the hypotheses, we analyzed whether calling and passion could be considered distinct constructs. We compared the fit of a model in which nine first order factors (specifically, the seven facets of calling, OP, and HP) loaded onto one second order latent factor, $\chi^2 = 1251.87$, $df = 510$, CFI = .87, RMSEA = .08, SRMR = .09, AIC = 22190.85, with an alternative model in which the nine first order factors loaded onto two different second order factors, namely Calling (saturated by seven first order factors) and

Passion (saturated by two first order factors), $\chi^2 = 1234.52$, $df = 509$, CFI = .88, RMSEA = .08, SRMR = .08, AIC = 22172.66. The latter model presented a better fit to the data ($\Delta\chi^2 = 17.35$, $\Delta df = 1$; $p < .001$), confirming that the constructs are distinct and can be analyzed separately. A small misspecification is present in both models and evidenced by the CFI. This situation does not weaken the validity of the comparison and may be due to the low correlation (-.01) between HP and OP and to the complexity of both models (34 items, 9 first order latent variables and 1 or 2 second order factors; Kenny & McCoach, 2003).

Mediation analysis

To test the first hypotheses according to which HP and OP mediate the relation between calling and workaholism, the four steps suggested by Baron and Kenny (1986) were applied with OLS regression analysis. Specifically, we tested the presence of the following criteria: a significant correlation between the independent and dependent variables (step 1, path c), and between the independent variable and the mediator (step 2, path a), a statistically significant relation between the mediator and the dependent variable controlling for the independent variable (step 3, path b), and a reduction of the correlation between the independent and dependent variables (path c') when the mediator is controlled for (step 4).

Recent approaches to mediation analysis suggest basing the inference about the indirect effect not on the statistical significance of the paths that define it (step 2 and 3) but on an explicit quantification of the indirect effect itself. Hence, for testing the significance of the indirect effect we used bias-corrected confidence intervals estimated using the PROCESS 2.13 macro for SPSS (Preacher & Hayes, 2004).

In the first step, we found that the effect of calling on workaholism, ignoring OP (*total effect*, path c), was statistically significant, $B = .32$, $SE = .07$, $\beta = 0.30$, $p = < .001$, 95% CI [.18; .43]. In the second step, we analyzed the association between OP and calling.

The regression coefficient of the relation between calling and OP (path a) was statistically significant, $B = .81$, $SE = .08$, $\beta = .57$, $p = <.001$, 95% CI [.46; .67]. In the third step, to test whether OP was related to workaholism controlling for calling, workaholism was regressed simultaneously on both calling and OP. The effect of OP on workaholism, controlling for calling (path b), was statistically significant, $B = .37$, $SE = .05$, $\beta = 0.51$, $p < .001$, 95% CI [.37; .64]. This third regression equation provided an estimate of the relation between calling and workaholism, controlling for OP.

To establish whether OP completely mediates the relation between calling and workaholism, the correlation between calling and workaholism should turn to zero when controlling for OP. Step 4 of the analyses revealed that, controlling for OP (*direct effect*, path c'), calling was not a significant predictor of workaholism, $B = .02$, $SE = .07$, $\beta = .02$, $p = .78$, 95% CI [-.12; .15]. The indirect effect (path ab) was positive, $\beta = .29$, $SE = .05$, and statistically different from zero, as evidenced by a 95% bias-corrected confidence interval (5,000 bootstrap samples) that was entirely above zero (.20 to .38). These results supported our first prediction (H1a). In addition, since calling no longer affects workaholism after controlling for OP, we observed that the mediation of obsessive passion is complete.

The same procedure described above was adopted to test harmonious passion as a mediator of the relation between calling and workaholism (H1b). Calling had a positive effect on HP (path a), $B = .40$, $SE = .06$, $\beta = .38$, $p < .001$, 95% CI [.26; .50]. The effect of HP on workaholism, controlling for calling (path b), was negative and statistically significant, $B = -.29$, $SE = .06$, $\beta = -.30$, $p < .001$, 95% CI [-.42; -.17]. The relation of calling with workaholism controlling for HP (*direct effect*, path c') was positive and statistically significant, $B = .43$, $SE = .07$, $\beta = .42$, $p < .001$, 95% CI [.29; .54]. The indirect effect (path ab) of calling on workaholism was negative ($\beta = -.11$, $SE = .03$) and

statistically different from zero, as evidenced by a 95% bias-corrected confidence interval that was entirely below zero [-.18; -.06]. The indirect effect (-.11) and the direct effect (.42) are both statistically significant but opposite in direction, which suggest the presence of a competitive mediation (Zhao, Lynch, & Chen, 2010) of HP. A competitive mediation indicates that a portion of the positive effect of calling on workaholism is suppressed by HP because career calling leads to greater HP, which in turn has a negative effect on workaholism. Standardized estimates are reported in Figure 1.

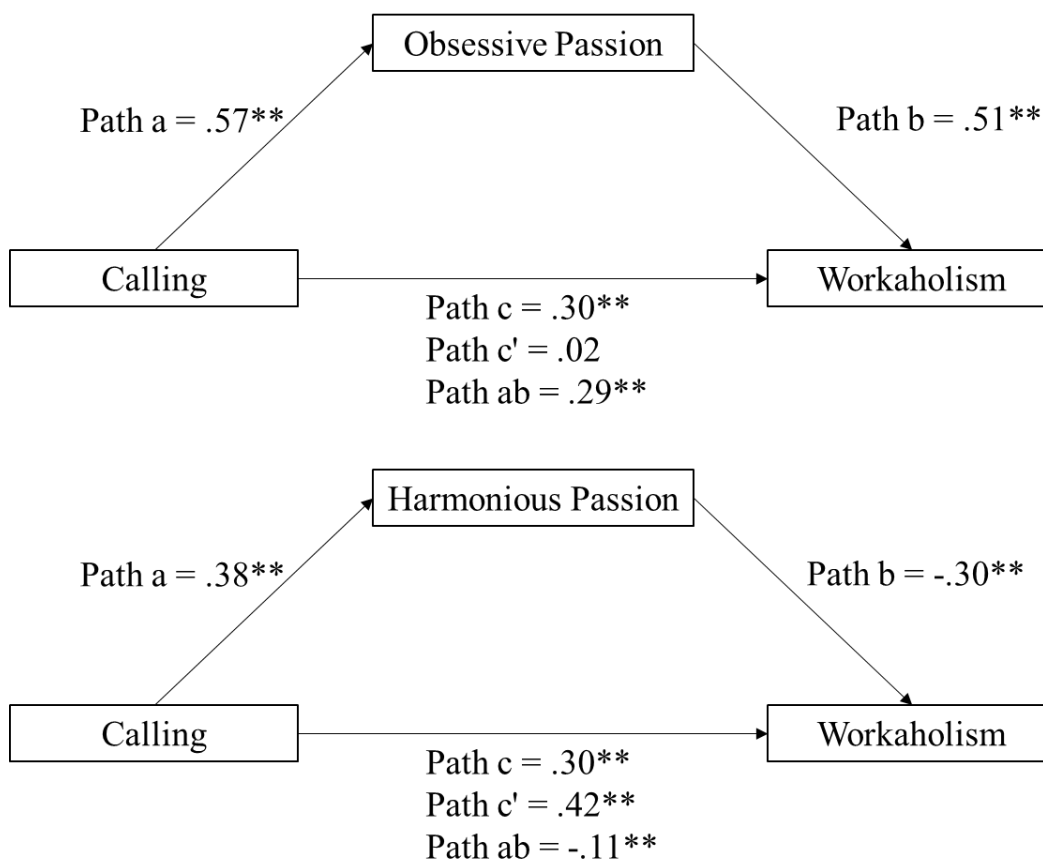


Figure 1. Standardized regression coefficients for the total (c), direct (c') and indirect (ab) effects of calling on workaholism as mediated by obsessive passion (first panel) and harmonious passion (second panel).

** $p < .001$.

Moderation analysis

To test H2, according to which OP moderates the effect of calling on workaholism, we estimated a model in which workaholism was regressed on calling, obsessive passion, and an interaction term representing the product of obsessive passion and calling. To test H3 we ran a second model using HP as a moderator. The PROCESS 2.13 macro for SPSS was used to estimate bias-corrected and accelerated 95% confidence intervals around regression parameters and to conduct simple slope analysis (Hayes, 2012). We standardized scores of variables before computing the interaction term and testing our hypothesis to favor interpretability and to reduce multicollinearity between the independent variables and their product term (Finney, Mitchell, Cronkite, & Moos, 1984; Tabachnick & Fidell, 2013). Significant two-way interaction effects were graphically represented by means of the interactive utility developed by McCabe, Kim, and King (2018).

As shown in Table 2, calling was significantly related to workaholism, and OP moderated this relation, $\beta = -.21$, $SE = .06$, 95% CI [-0.32; -0.09]. Figure 2 presents the relation between calling and workaholism at different levels of OP (1 *SD* and 0.5 *SD* below the mean, at the mean, and 0.5 *SD* and 1 *SD* above the mean). Contrary to H2, we observed that the slope representing the linear relation between calling and workaholism was steeper and negative (vs positive) when obsessive passion is moderate to high (> 0.5 *SD*). The effect of calling on workaholism was null or non-significant when OP was 0.5 and 1 standard deviations below the mean, $\beta = 0.03$, 95% CI [-0.1; 0.16] and $\beta = 0.13$, 95% CI [-0.01; 0.28], respectively.

In sum, calling has either a null or a negative effect on workaholism when the effect of obsessive passion is accounted for. We hypothesized that, at high levels of OP, the relation between calling and workaholism would be positive and stronger (H2).

Contrary to our expectation, we observed that when obsessive passion is high, having a calling reduces workaholism. Adding HP as a predictor of workaholism ($\beta = -0.17, p = .005$) did not change the effect of OP ($\beta = 0.47, p < .001$), calling ($\beta = 0.03, p = .70$), and their interaction ($\beta = -0.19, p < .001$) on workaholism.

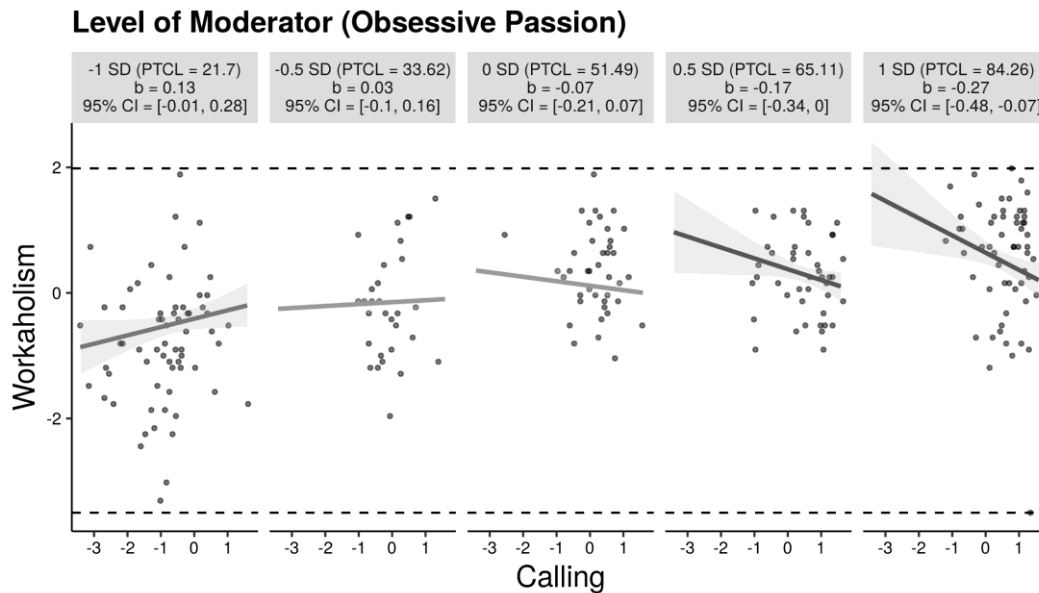


Figure 2. Two-way interaction of obsessive passion and calling in the prediction of workaholism. Simple slopes are provided for levels of the moderator 1 *SD* and 0.5 *SD* below the mean, at the mean, and 0.5 *SD* and 1 *SD* above the mean. Each graphic shows the computed 95% confidence region (shaded area), the observed data (gray circles), and the maximum and minimum values of the outcome (dashed horizontal lines). The *x*-axes represent the full range of calling. CI = confidence interval; PTCL = percentile.

When different facets of calling were included in the regression model instead of the overall calling score, differences between the interaction effects were trivial. Specifically, OP moderated the relation between all dimensions of calling except for the effect of prosocial orientation on workaholism, $\beta = -0.09, 95\% \text{ CI } [-0.19, 0.02], SE = .06$,

$\Delta R^2 = .01$, $F(1, 231) = 2.31$, $p = .13$. When controlling for all other direct and moderated effects in the model, transcendent summons ($\beta = -0.21$, $p = .003$) and purposeful work ($\beta = -0.14$, $p = .04$) had significant negative effects on workaholism. Pervasiveness ($\beta = 0.14$, $p = .04$) had, instead, a significant positive effect on workaholism.

To test H3, we analyzed the moderation effect of HP on the relation between calling and workaholism. Our hypothesis was that HP does not affect the magnitude and direction of the relation between calling and workaholism. The main effect of HP on workaholism was negative and statistically significant, $\beta = -.30$, $p < .001$, the main effect of calling was positive and statistically significant, $\beta = .42$, $p < .001$. The interaction effect was not statistically significant ($\beta = .01$; $SE = .05$; $t = .17$; $p = .87$). According to H3, harmonious passion does not moderate the relation between calling and workaholism which is always positive across all levels of HP.

Table 2

Moderation effects of obsessive passion (OP) and harmonious passion (HP) on the relation between calling and workaholism

	β	<i>SE</i>	<i>t</i>	95% CI	R^2	<i>F</i>	ΔR^2	ΔF
Intercept	0.11	.06	1.81	[-0.01; 0.24]				
Calling	-0.07	.07	-1.00	[-0.21; 0.07]				
OP	0.53*	.07	7.86	[0.39; 0.66]				
Calling \times OP	-0.21*	.06	-3.55	[-0.32; -0.09]	.30	33.67*	.04	12.61*
Intercept	-.003	.06	-.05	[-0.13; 0.12]				
Calling	.42*	.07	6.15	[0.29; 0.55]				
HP	-.30*	.06	-4.56	[-0.42; -0.17]				

Calling × HP	.008	.05	.17	[-0.09; 0.11]	.17	15.57*	.0001	.03
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Note. CI = confidence interval. ΔR^2 = R-square increase due to interaction.

* $p < .001$

Discussion

Given the increasing theoretical and practical interest in the role played by calling in the quality of working life, it becomes important to explain when and how a calling is related to negative consequences. In the present study, we tested the competitive hypotheses of obsessive and harmonious passion for work as mediators or moderators of the relation between calling and workaholism. The results of the mediation analysis suggest that the positive and individually detrimental relation between calling and workaholism is fully mediated by obsessive passion and partially mediated by harmonious passion. When controlling for obsessive passion, the relation between calling and workaholism completely disappeared, suggesting that the relation between calling and workaholism may be spurious. If it is true that workers perceiving a calling are more likely to develop an addiction to work, it is also true that this relation is actually due to the variance that both calling and workaholism share with obsessive passion, which may then be regarded as the actual predictor of workaholism. Calling fosters workaholism if, and only if, it increases obsessive passion. We also found that harmonious passion acts as a suppressor variable in the relation between calling and workaholism: An increase in calling determines an increase in harmonious passion, which in turn leads workaholism to decrease. The higher both calling and harmonious passion are, the lower workaholism is experienced by the individual. Taken together, the results of our mediation analyses highlight the importance of experiencing high harmonious passion and low obsessive passion in order for working adults who perceive a calling to be less vulnerable to workaholism.

The moderation analyses showed that calling operates differently in some individuals than in others based on their level of obsessive passion for work. Specifically, the relation between calling and workaholism was stronger and *negative* for higher levels of obsessive passion and small or close to zero for lower levels of obsessive passion. For those individuals who perceive an uncontrollable desire to engage in the work they love, higher levels of calling are related with *lower* levels of workaholism. Hence, our results suggest that calling serves as a protective factor that reduces the risk of developing an addiction to work. Working individuals are more likely to develop workaholism when the obsessive passion for their work is not integrated by the sense of purpose, enjoyment, prosocial orientation, and transcendent meaning that constitute a calling. For individuals with a low level of obsessive passion, calling has no relation with workaholism. Although this result disconfirms our second hypothesis, it is consistent with the notion that calling is an important personal resource that can support individuals, especially when they have reduced personal resources or are going through hard times. Indeed, the relation between calling and job and life satisfaction was found to be greater for individuals working in difficult conditions (Duffy, Douglass, Autin, England, & Dik, 2016) and individuals with lower levels of core self-evaluations (Duffy, Allan, & Bott, 2012). Calling was also found to be more strongly related with effective job search behaviors for job seekers with low or average levels of optimism, self-esteem and perseverance (Dalla Rosa, Vianello, Galliani, & Duffy, 2019).

To summarize, harmonious passion was found to be a mediator, but not a moderator, of the relation between calling and workaholism. This result is in line with our first and third hypotheses and supports the notion that harmonious passion decreases the chances of developing workaholism among individuals with a calling. Regarding obsessive passion, our results support both competing accounts of mediation and moderation. The

absence of empirical evidence regarding the temporal precedence between calling and obsessive passion limits the ability to draw conclusions about which hypotheses is more reasonable. The link between calling and workaholism was found to be completely explained by obsessive passion, such that calling has no direct effect on workaholism. On the other hand, the effect of calling on workaholism was found to be different across levels of obsessive passion, such that it is negative and significant at high levels of obsessive passion. We think that these two different accounts of the relation between calling and workaholism are both reasonable and somehow point to a similar interpretation. The experience of having a calling is not directly related with workaholism, at least when obsessive passion is low, and protects individuals from workaholism when obsessive passion is high. Indeed, the trivial size of the direct effect of calling on workaholism when controlling for obsessive passion is consistent with the null effect of calling at low levels of obsessive passion.

It has been argued that, for some individuals and under certain conditions, calling may foster an unhealthy attachment and involvement at work (Duffy et al., 2018) due to the societal and personal values linked to the professional role and the strong ties between having a calling and the individual's willingness to make sacrifices. In line with this argument, previous research found empirical evidence of a small but significant positive association between calling and workaholism. Contrary to these expectations, we observed that the relation between calling and workaholism is zero when obsessive passion is controlled for and that calling has beneficial rather than detrimental effects in individuals who are at risk of developing workaholism due to their levels of obsessive passion.

A similar buffering effect of calling was identified by Duffy et al. (2016) in the relation between burnout (a possible negative outcome of calling according to the WCT) and job satisfaction, and by Creed, Rogers, Praskova, and Searle (2014) in the association

between academic stress and burnout. Additionally, there is extensive evidence that the direct relation between calling and burnout is negative (Creed et al., 2014; Gong, Zimmerli & Hoffer, 2013; Hagmaier & Abele, 2012; Hagmaier, Volmer, & Spurk, 2013; Jo et al., 2018; Vercambre, Brosselin, Gilbert, Nerrière & Kovess-Masféty, 2009; Yoon, Daley, & Curlin, 2017). To the best of our knowledge, there is no empirical evidence of a positive association between calling and burnout.

Taken together, these results offer an interesting perspective on the two sides of the relation between calling and workaholism, and provide useful insights for the study of the hypothesized dark side of calling (e.g., Bunderson & Thompson, 2009; Cardador & Caza, 2012; Vinje & Mittelmark, 2007). It is possible that previous research showing positive associations between calling and workaholism would have shown a different picture if obsessive passion was controlled for. Given the empirical evidence currently available, we think it would be reasonable to infer that the dark side of calling is related to the experience of searching for a calling (Dik et al., 2012; Praskova et al., 2015), or to the experience of unfruitfully pursuing a calling (Gazica & Spector, 2015; Duffy et al., 2016), rather than to the presence of a calling itself. Individuals who are searching for a calling are less decided and comfortable in making career choices and less clear about their interests and abilities (Duffy & Sedlacek, 2007). Individuals who are unable to live their calling may feel stressed and dissatisfied (Berg, Grant, & Johnson, 2010; Gazica & Spector, 2015). Our speculation is that search for a calling may be positively related with obsessive passion and more strongly related with workaholism than the presence of a calling. The experience of unfulfilled psychological needs (i.e. need for autonomy, competence, and relatedness) is one of the mechanisms that intensifies the suboptimal and controlled internalization processes that leads to obsessive passion. When psychological needs are frustrated in one life domain, people are more likely to engage in compensatory

behavior, such as rigidly engaging in activities that may provide a sense of structure and security (Lalande et al., 2017; Tóth-Király, Bóthe, Jánvári, Rigó, & Orosz, 2018). In line with this reasoning, individuals might invest an excessive amount of time and energy in working activities to compensate for the absence of a calling and to find meaning in their work.

Implications for Research and Practice

This study provides useful suggestions for the development of theories on calling and future research directions. Our results, together with the bulk of prior research that has been accumulating over the years, suggest that the so-called “dark side” of calling may have been overstated. Further evidence is needed on the dynamics between calling and negative outcomes. We suggest researchers to investigate mediators and moderators of the relation between calling and its supposedly negative consequences, such as workaholism, burnout and organizational exploitation. At the same time, we urge future research to routinely control for the effect of confounding variables such as obsessive and harmonious passion. Failure to do so may result in misleading interpretations and ineffective or counterproductive suggestions to practitioners.

Understanding the implications of perceiving a calling leads to important insights for employees and for employers who care about well-being at work. The results of this study suggest that the concepts of calling and harmonious passion could be included in the positive psychology approach to the treatment of workaholism (Andreassen et al., 2014). Since workaholics seek and experience little pleasure in life (Killinger, 1992; Porter, 2004), interventions may focus on emphasizing positive emotions, engagement, and meaning in the individual’s life (Burnwell & Chen, 2008). Perceiving a calling and harmonious passion are related to psychological well-being, vitality, pleasure and satisfaction in life and at work. An intervention aimed at clarifying the value, the purpose

and the meaning that individuals attribute to their work and at helping them to cultivate both their calling and a harmonious integration of their work into their identity will be likely useful in the treatment and prevention of workaholism. In addition, according to the positive psychology approach to the treatment of workaholism, applying one's central character strengths (signature strengths) at work represents a way of increasing pleasure (Burnwell & Chen, 2008) and is found to be related to the experience of having a calling (Harzer & Ruch, 2012).

At the organizational level, it may be useful to work on the distinction between workaholism and work engagement, which is strongly and positively related with calling. Employers may foster the development of a calling by offering opportunities to clarify their vocational identity, by favoring experiences in different work contexts through job rotation, and by establishing rules and procedures that reward work engagement and enjoyment (Dalla Rosa, Vianello, & Anselmi, 2019). The results of this study highlight that higher levels of calling are important because they prevent workaholism when obsessive passion is high. Hence, one more strategy that employers may want to pursue is favoring the development of a healthy attachment to work. Obsessive (vs. harmonious) passion is developed when the individual experience lower levels of acceptance and self-worth (Vallerand, 2010). As a consequence, a healthy, flexible, and secure working environment in which the work and opinions of employees are valued could be effective in raising harmonious passion and prevent compulsions (Vallerand, 2010).

Limitations and Future Directions

The main limitation of this study is its cross-sectional nature, which prevents any causal inferences regarding the direction of the relations between passion, calling, and workaholism. In this study, we investigated whether passion mediates **or** moderates the relation between calling and workaholism. However, a cross-lagged test between calling

and obsessive passion over time would provide stronger evidence of whether obsessive passion is better conceptualized as an outcome of calling or as a factor that influences its level and its relation with other variables. It is possible that our results will not be replicated if time is added to the study design. Among many scenarios, it might be that obsessive passion and workaholism temporally precede the development of a calling. Such a situation would change the interpretation of our results, suggesting, for instance and purely speculatively, that the lack of workaholism is a necessary condition for a calling to be developed. We hope future research will investigate the reciprocal longitudinal effects between passion, calling, and workaholism.

In this study, we observed a stronger relation between calling and workaholism compared to the meta-analytic average effect observed in previous studies. This difference may be due to the measure of calling we employed, which is more reliable than measures used in previous studies (Hirschi et al., 2019; Lajom et al., 2018; Wilson, 2018), and covers a wider range of facets than other measures. Both the variance of a distribution of scores and their reliability increase the correlations than can be observed between two sets of scores. Yet, higher effect sizes can also be due to differences between samples. If this is true, the generalizability of our results may be limited.

Although neither in this study nor in the literature a significant relation between gender, calling (Creed et al. 2014; Dobrow & Tosti-Kharas, 2011; Keller et al. 2016), work passion (Vallerand, 2010), and workaholism (Clark et al., 2016) has been observed, it must be noted that participants in the present research were mostly women, whereas previous studies were more gender-balanced. In addition, workers in the social welfare system were over-represented in our sample compared to previous studies. Finally, it is possible that cross-cultural differences exist between the countries in which the relation between calling and workaholism has been investigated, namely Italy, Germany, and the US. Hence, future

studies are expected to confirm or disconfirm these results with a larger and gender-balanced sample.

Finally, we did not investigate the social and environmental predictors of workaholism. Peer competition, work overload, work role conflict, and higher job demands could all support the development of workaholism (e.g., Clark et al., 2014; Ng et al., 2007; Schaufeli, 2016; Schaufeli et al., 2008) and interfere with the beneficial effects of calling and harmonious passion. For instance, Keller et al. (2016) observed higher workaholism among employees who worked in a competitive climate and perceived a high level of calling. Keller et al. (2016) suggested that working conditions that threaten the fulfillment of one's calling may foster unhealthy behaviors, such as workaholism, among employees with a calling. To provide a more nuanced perspective on the relation between calling, passion, and workaholism, future studies are encouraged to consider both personal and situational antecedents of workaholism.

Conclusions

Obsessive and harmonious passion were investigated as mediators and moderators of the relation between calling and workaholism. We observed that the relation between calling and workaholism completely disappears when obsessive passion is controlled for. Harmonious passion partially mediates the relation between calling and workaholism. Finally, we showed that calling serves as a protective factor in individuals who experience a stronger obsessive passion for work. These results call for more research on the supposed dark side of calling and offer a useful point of view to employers who want to build a healthy work environment.

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