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**When the Job is a Calling: The Role of Applying One's Signature  
Strengths at Work**

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## **When the Job is a Calling: The Role of Applying One's Signature Strengths at Work**

The present study investigates the role of applying the individual signature strengths at work for positive experiences at work (i.e., job satisfaction, pleasure, engagement, meaning) and calling. A sample of 111 employees from various occupations completed measures on character strengths, positive experiences at work, and calling. Co-workers ( $N = 111$ ) rated the applicability of character strengths at work. Correlations between applicability of character strengths and positive experiences at work decreased with intra-individual centrality of strengths (ranked strengths from the highest to the lowest). Level of positive experiences and calling were higher when four to seven signature strengths were applied at work compared to less than four. Positive experiences partially mediated the effect of the number of applied signature strengths on calling. Implications for further research and practice will be discussed.

**Keywords:** character strengths; signature strengths; job satisfaction; calling; pleasure; engagement; meaning; VIA-IS; positive psychology

### **Introduction**

Peterson and Seligman (2004) introduced the Values in Action (VIA) classification of strengths to describe the good character as an important instance of optimal human functioning. Character strengths represent the components of the good character as measurable positive individual differences that exist as continua and not as categories (McGrath, Rashid, Park, & Peterson, 2010). The VIA classification describes 24 character strengths. Peterson and Seligman (2004, p. 18) stipulate most people have between three and seven core or "signature" strengths among the 24. Signature strengths are the ones "[...] that a person owns, celebrates, and frequently exercises". Seligman (2002, 2011) highlighted that the application of signature strengths leads to pleasure, engagement, and meaning. People most prefer a job congruent to their signature

strengths (Park & Peterson, 2007) and the deployment of character strengths is related to job satisfaction and meaning at work (Littman-Ovadia & Steger, 2010). Taken together, positive experiences at work (e.g., job satisfaction as well as pleasure, engagement, and meaning at work) are facilitated when the individual signature strengths (i.e., those strengths that are most central for an individual) are applied at work.

*Job satisfaction* is the domain specific global, cognitive assessment of the quality of life relating to work (Diener, Suh, Lucas, & Smith, 1999). Pleasure (hedonism), engagement (flow), and meaning (eudemonia) were summarized to the orientations to *happiness*, describing three separate yet related routes of life to obtain happiness (Peterson, Park, & Seligman, 2005b). Furthermore, positive experiences at work (pleasure, engagement, meaning, and job satisfaction) are inherent aspects of a *calling* (e.g., Bellah, Madsen, Sullivan, Swidler, & Tipton, 1985; Novak, 1996; Wrzesniewski, McCauley, Rozin, & Schwartz, 1997). Individuals with a calling regard their work to be their purpose in life rather than a means for financial rewards (job) or advancement (career; Elangovan, Pinder, & McLean, 2011; Wrzesniewski et al., 1997). A calling or vocation is a “function or career toward which one believes himself to be called” (Novak, 1996, p. 17; see also Dik & Duffy, 2009). Calling in this sense does not necessarily entail the religious connotation of being called by god (cf., Bunderson & Thompson, 2009; Weiss, Skelley, Haughey, & Hall, 2004), but refers to having uncovered the “personal destiny [...] something that we are good at and something we enjoyed” (Novak, 1996, p. 18; i.e., pleasure and satisfaction) entailing one’s work. The work is also perceived meaningful, due to helping other people or the broader society (directly or indirectly; Dik & Duffy, 2009). The engagement in the calling is central to

one's identity when experiencing a calling (Dobrow & Tosti-Kharas, 2011). Therefore, one might expect that higher levels of positive experiences at work are associated with a calling orientation. The present study investigated this assumption by examining the associations between the positive experiences at work and calling.

It was also highlighted that a calling orientation requires a match between a person and his/her job (Nowak, 1996; Weiss et al., 2004). In terms of Weiss et al., it is important how our personal gifts and talents fit into our vocation. According to Nowak (p. 34) "a calling [...] must fit our abilities". We studied this match with respect to character strengths. The question arises, whether the application of one's signature strengths at work facilitates a calling orientation. However, it was also hypothesized that the application of one's signature strengths at work relates to positive experiences at work, which also relate to calling. This leads to the question whether the relationship between the application of one's signature strengths at work and calling is mediated by positive experiences. The present study addressed these questions by examining a mediation model of the effect of the application of signature strengths at work on calling mediated by positive experiences at work.

### ***The application of character strengths at work***

The *application* of a character strength depends on two conditions (see Harzer, 2012; Harzer & Ruch, in press). Firstly, the individual needs *to possess the strength* to a certain degree to be able to show strength-relevant behavior (i.e., applying it; also see Fishbein & Ajzen, 2010; Saucier, Bel-Bahar, & Fernandez, 2007). The Values in Action Inventory of Strengths (VIA-IS; Peterson, Park, & Seligman, 2005a) is the standard measure for the possession of character strengths (as defined in the VIA classification)

in adults for basic research. A variety of studies show its reliability and validity (e.g., Güsewell & Ruch, 2012a; Müller & Ruch, 2011; Park, Peterson, & Seligman, 2006; Peterson, Park, & Seligman, 2006; Peterson et al., 2005a).

Secondly, the situational circumstances in a certain environment (e.g., at the workplace or in private life) need to allow for the expression of a strength, as trait-related behavior needs conducive circumstances to be displayed (Saucier et al., 2007; Ten Berge & De Raad, 1999). Therefore, the *applicability* of a given character strength was defined as the degree to which situational circumstances allow an individual to display strengths-relevant behavior (Harzer, 2012; Harzer & Ruch, in press). The situational circumstances at the workplace can be both, externally relating to aspects mostly independent from the individual and internally referring stronger to the individual's perception (cf., Saucier et al., 2007). Harzer and Ruch (in press) focused on the individuals' perception of two external and two internal influences (see Harzer, 2012). The two *external* influences were (a) the normative demands at work and (b) the appropriateness of strength-related behavior at work. The two *internal* influences were (c) the perceived presence of factors that may facilitate or impede strengths-related behavior like time pressure and (d) the intrinsic motivation to show certain behavior. The Applicability of Character Strengths Rating Scales (ACS-RS; Harzer, 2012; Harzer & Ruch, in press) reliably and validly measures those influences.

While it might be more parsimonious to ask for the use of strengths in general (Wood, Linley, Maltby, Kashdan, & Hurling, 2011), or to utilize single item measures for the frequency of strength application (Littman-Ovadia & Steger, 2010), such approaches do not allow for the discrimination of the various influences on behavior (i.e., external and internal, as well as degree of possession). The combination of the

VIA-IS and the ACS-RS allows for an operationalization of the strengths-related congruence between an individual and the situational circumstances at work. This *congruence* is proportional to the extent to which a job allows for the application of one's signature strengths (Harzer, 2012; Harzer & Ruch, in press). It increases with the individual centrality of the character strengths that are applicable at work. The higher the position of a strength in one's individual rank-order, the more central and important is its degree of applicability at work for positive experiences and calling. The correlation coefficients representing the association between applicability of strengths and positive experiences at work indeed increased with the centrality of the strengths (irrespective of their nature; Harzer & Ruch, in press).

Another way of operationalization for the congruence between an individual and the situational circumstances at work is the number of signature strengths that can be applied at work (cf., Harzer, 2012; Harzer & Ruch, in press). The signature strengths were operationalized as the seven character strengths with the highest degree of possession within each individual (i.e., rank 1 to 7 in the VIA-IS). Those strengths were only defined as being applied, if (a) the ACS-RS score was 4 or higher (i.e., this is equal to an applicability that is at least rated as "often") and if (b) the VIA-IS score was 3.5 or higher (i.e., this is equal to possessing a character strength at least slightly). It was assumed that people can apply character strengths-relevant behavior only if they possess the strength at least to a small degree. The resulting score varies from 0 to 7 applied signature strengths at work. Harzer and Ruch (in press) studied more than 1'000 adults of different occupations to examine the relationships between the application of individual signature strengths and positive experiences at work. Job satisfaction as well as pleasure, engagement, and meaning at work were combined to a composite score for

positive experiences at work via principal component analysis to examine the influence of those experiences at work in general. Data analysis showed that the higher the number of signature strengths was that could be applied at work, the higher the reported level of positive experiences at work. However, this relationship was not strictly linear, as there seemed to be a satiation point between three and five applied strengths where the increase in positive experiences flattened for further signature strengths that could be applied at work. Consequently, there might be a critical minimum number of applied signature strengths, likely around four character strengths, which fosters positive experience at work.

### ***The present study***

The present study examines the role of applying one's individual signature strengths and positive experiences at work for a calling orientation. The purpose was threefold.

*Firstly*, the relationships between the applicability of character strengths and positive experiences at work were investigated. This is replicating the findings reported by Harzer and Ruch (in press), but with an added degree of sophistication in the measurement. In contrast to Harzer and Ruch who reported self-rating data only, also peer-rating data was utilized as well, preventing the artificial inflation of relationships due to the common method variance (Doty & Glick, 1998). Co-workers experience the workplace every day (i.e., external influences) and can observe the individuals' behavior within this context (i.e., internal influences). Therefore, they can validly rate the applicability of character strengths at work. Self-ratings were used for the ratings concerning the possession of character strengths, the positive experiences at work, and calling. As positive experiences are subjective perceptions, the self-rater is the most

valid judge. Furthermore, the workplace is a formal situation that does not always encourage behavior suiting an individual's trait pattern (Ten Berge & De Raad, 1999). Consequently, strengths-relevant behavior might not always be observable and co-workers might not be able to provide a full reflection of the self-raters' possession of the character strengths.

In line with Harzer and Ruch (in press), it was expected that (a) the correlations between applicability of strengths and positive experiences at work (i.e., a composite score of job satisfaction, pleasure, engagement, and meaning) would increase with the centrality of the strengths. It should be highest for the signature strengths and lower for the lower ranked strengths within an individual. (b) Positive experiences at work are expected to increase with the number of signature strengths that can be applied at work. It was hypothesized that there might be a critical minimum number of applied signature strengths, which may be expected to be located around four character strengths.

The second and the third aim add something new to the research on character strengths. The *second* aim refers to the examination of the relationships between calling and the positive experiences at work as well as the number of applied signature strengths at work. Based on the theoretical assumptions concerning calling described above, positive associations between calling and the positive experiences at work were expected. Furthermore, we hypothesized that the minimum number of applied signature strengths for positive experiences at work would also differentiate between the people seeing their work as a calling and those who do not see their work as a calling.

*Thirdly*, we wanted to find out whether the number of signature strengths that can be applied at work directly facilitated a calling or whether this relationship was mediated by the enhancement of positive experiences. A path model was utilized to test

this with the number of applied signature strengths as independent variable, positive experiences as mediator, and calling as dependent variable. It was examined how the direct relationship between the number of applied signature strengths and calling changed when positive experiences at work entered the analysis as mediator.

## **Method**

### ***Participants***

*Self-raters.* The sample consisted of 111 German-speaking adult volunteers (60 men, 51 women). Their mean age was 47.21 years ( $SD = 8.70$ ; range 25-64 years). Self-raters were highly educated as  $n = 70$  indicated having a Master's degree and  $n = 20$  a PhD;  $n = 14$  had finished an apprenticeship, and  $n = 7$  the A-levels. Participants represented a wide array of occupations (e.g., like medical doctors, lawyers, mechanists, and office workers). The most prevalent occupational fields ( $n \geq 5$ ) were  $n = 10$  teachers,  $n = 6$  professional advisers, and  $n = 5$  consultants.

*Peer-raters.* The sample consisted of 111 co-workers (51 men, 60 women) of the self-raters. Their mean age was 42.82 years ( $SD = 10.64$ ; range 19-71 years). Peer-raters were highly educated as  $n = 68$  indicated having a Master's degree and  $n = 11$  a PhD;  $n = 24$  had finished an apprenticeship, and  $n = 8$  the A-level. Mean rating of how well they know the self-raters was 6.88 ( $SD = 1.23$ ; range 5-9; rating from 1 = *not at all* to 5 = *to some extent* to 9 = *very well*). That indicated that the peers knew the self-raters well and were therefore able to judge their behavior at the workplace.

### ***Instruments***

#### ***Self-rating measures***

The *Values in Action Inventory of Strengths (VIA-IS)* (Peterson et al., 2005a) is a questionnaire consisting of 240 items in a 5-point Likert-scale format (from 1 = *very much unlike me* to 5 = *very much like me*) measuring the 24 character strengths of the VIA classification (10 items for each strengths). A sample items is “I am always coming up with new ways to do things” (creativity). The 24 scales of the German version of the VIA-IS (Ruch, Proyer, Harzer, Park, Peterson, & Seligman, 2010) showed high reliability (median  $\alpha = .77$ ) and high stability over 9 months (median test-retest correlation = .73). Self- and peer-rating forms correlated in the expected range (median correlation = .40). In the present study, internal consistencies ranged from .61 (prudence) to .91 (religiousness) with a median of .76.

The *Job Satisfaction Questionnaire (JSQ)* (Andrews & Withey, 1976) consists of five items in a 7-point Likert-scale (from 1 = *terrible* through 7 = *delighted*) measuring job satisfaction. Sample items are “How do you feel about your job?” or “How do you feel about the people you work with- your co-workers?” The responses are averaged to provide a total job satisfaction score. The JSQ showed high reliability ( $\alpha = .81$ ) and convergent validity ( $r = .70$ ) to other measures of job satisfaction (Rentsch & Steel, 1992). The German version of JSQ used here showed high reliability ( $\alpha = .80$ ) as well (Harzer & Ruch, in press). Internal consistency was .74 in the present study.

The *Work Context Questionnaire (WCQ)* (Ruch, Furrer, & Huwyler, 2004) is a three-item questionnaire measuring the extent to which one’s job allows for pleasure, to which it fosters one’s potentials (engagement) and to which it allows for meaning. Answers are given on a 5-point Likert-scale (1 = *totally disagree* through 5 = *totally agree*). Validity of the ratings was shown, as they were meaningfully associated with other variables (Ruch et al., 2004). For example, engagement was positively related to

the promotion level of employees. Pleasure and meaning were positively related to satisfaction with the job.

The *Work-Life Questionnaire (WLQ)* (Wrzesniewski et al., 1997) is a three-item questionnaire measuring the stance towards work as a job, career, and calling. Three brief scenarios, which describe individuals who approached work as a job, a profession, or a calling, are rated on a 4-point Likert-scale (1 = *not at all like me* through 4 = *very much like me*). The WLQ scenarios scores were meaningfully related to items asking about specific aspects of relations to work that are relevant to the distinction of job, career, and calling (Wrzesniewski et al., 1997). A German version of WLQ was utilized. Three psychologists translated the WLQ, and the initial version of the German WLQ was created by committee approach (Butcher & Pancheri, 1976). A bilingual retranslated this version, a few modifications were made and items were checked for understandability. In the present study, only the calling scenario was examined.

#### *Peer-rating measure*

The *Applicability of Character Strengths Rating Scales (ACS-RS)* (Harzer & Ruch, in press) measures the extent to which each of the 24 character strengths of the VIA classification is applicable at work<sup>1</sup>. For each of the character strengths, short paragraphs are provided describing character strengths-relevant behavior based on the definitions by Peterson and Seligman (2004; e.g., kindness: Being nice, helpful, kind, and caring without expecting any reward). These behaviors are rated on a 5-point Likert-scale (1 = *never* though 5 = *[almost] always*) for (a) normative demands of a situation (actual wording: “it is demanded”), (b) appropriateness of the behavior (“it is

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<sup>1</sup> Another environment or situation (e.g., leisure time, project a vs. project b) can be studied by emphasizing it in the instruction of the ACS-RS.

helpful”), (c) perceived presence of factors that may facilitate or impede the behavior (“I do it”), and (d) intrinsic motivation to show it (“it is important for me”). As these ratings are very abstract and the actual wording in everyday language is very superficial, their meaning is described in the instruction with an example highlighting the differences between those ratings and that the answers might differ across those ratings<sup>2</sup>. A total of 96 items measures the applicability of the 24 character strengths with the 4 ratings for each of the strengths. The ARC-RS showed satisfactory internal consistency and inter-rater agreement judging the same workplaces (Harzer & Ruch, in press). Internal consistencies ranged from .77 (zest) to .93 (religiousness) with a median of .83 in the present study.

### ***Procedure***

#### *Data collection*

Participants completed the questionnaires and provided information on demographics via the Internet. Testing via the Internet has been criticized in different occasions (e.g., for sample biases), but standards for the implementation of Internet-delivered-testing (Coyne & Bartram, 2006) facilitate this way of data collection. Furthermore, there is empirical evidence that data collected via the Internet leads to similar findings as more traditional paper-pencil methods (Gosling, Vazire, Srivastava, & John, 2004).

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<sup>2</sup> Example given in the instruction is about kindness rated by a nurse: A nurse’s job description entails many comments about hygiene but less about kindness and they do not talk much about it in the team. That is why she would rate “it is demanded” as seldom (rating = 2). As she realized that caring for patients is easier when being kind to them she rates that “it is helpful” often (rating = 4). Furthermore, it is usually important for her to interact with patients in a kind way and she therefore would rate “it is important for me” as 4 = often. However, the workload is very high and therefore impedes kind interactions some of the time (“I do it” = 3). In total kindness would have an applicability score of 3.25, which means that kindness is sometimes applicable at work.

Self-raters were acquired through press coverage (e.g., newspaper and several magazines) highlighting the requirement for participation of having a job with a percentage of employment of at least 50%. After filling in the questionnaires, the self-raters asked a co-worker to fill in the peer-ratings. Matching of ratings was done by means of a code that the self-raters created themselves and told the peer-raters. Peer-ratings were given anonymous and both, peer- and self-raters were informed about this beforehand. Hence, self- and peer-rates filled in the questionnaires independent from each other. Neither self-raters nor the peer-raters were paid for participating, but self-raters were given a feedback of individual results when expressing interest. Peer-ratings were not part of the feedback and both self- and peer-raters were informed about this beforehand.

*Composite score for positive experiences at work*

A composite score for the positive experiences at work was computed by conducting a principal component analysis using the JSQ and the three WCQ scales as variables to compute factor scores (cf., Harzer & Ruch, in press). One Eigenvalue exceeded unity, and the Scree-plot (Eigenvalues were 2.49, .71, .52, and .28) and a parallel analysis (Horn, 1965; Eigenvalues were 1.21, 1.06, 0.94, and 0.74) suggested unidimensionality. This single factor explained 62.31% of the variance and the loadings of the variables ranged from .67 (pleasure at work) to .82 (engagement at work). The factor was labeled “positive experiences at work”.

## Results

### *Preliminary analyses*

The means ranged from 2.83 (religiousness) to 4.13 (curiosity) in the VIA-IS, and from 1.93 (religiousness) to 4.09 (honesty) in the ACS-RS. Means in the measures for the positive experiences were 3.98, 4.08, and 3.80 for WCQ pleasure, engagement, and meaning, respectively, as well as 5.66 in the JSQ. WLQ calling had a mean of 2.57. Thus, the means were slightly above the scale midpoint of 3 in the VIA-IS and the ACS-RS (except for the religiousness scales) as well as in the WCQ. In line with frequent observations on satisfaction scales, the mean in the JSQ was considerably higher than the scale midpoint of 4. However, the analysis of skewness and kurtosis still indicated normal distribution for all the scales.

Correlations of all the scales with age, gender, and educational level were modest in size; shared variance between scales and demographics rarely exceeded 5% (maximum was 10%). However, some correlation patterns were noteworthy: For example, females had systematically higher scores in the scales appreciation of beauty and excellence in the VIA-IS, and love in the ACS-RS. Age was positively related to forgiveness in the VIA-IS as well as to engagement, and meaning at work. Finally, higher levels of education went along with love of learning in the VIA-IS and in the ACS-RS as well as with meaning at work. Hence, it was decided to control for demographics in the subsequently conducted analyses.

### *Applicability of character strengths and positive experiences at work*

It was expected that the correlations between applicability of strengths and positive experiences at work would increase with the centrality of the strengths (irrespective of

their nature). It should be highest for the signature strengths and lower for the lower – ranked strengths. This was tested by means of partial correlations (controlled for age, gender, and education) between the applicability of the strengths (ACS-RS scores) sorted by rank<sup>3</sup> and the factor "positive experiences at work". This yielded 24 correlation coefficients between the applicability of the individuals' highest (rank 1), second highest (rank 2), and so forth up to the 24<sup>th</sup> character strength (rank 24) and positive experiences at work. A first inspection of the correlation coefficients indicated that correlation coefficients decreased numerically as the rank of character strengths increased. To test the statistical significance of the decrease, Spearman rank correlation was computed between the 24 ranks and the corresponding correlation coefficients that verified the impression of the first inspection ( $R[24] = -.46, p < .05$ ).

#### ***Number of applied signature strengths and positive experiences at work***

It was expected that positive experiences at work would increase with the number of signature strengths applied at work and that there might be a crucial number of applied signature strengths. To examine these assumptions, groups were computed defining participants that can apply none to seven of their seven highest character strengths. A character strength among the seven highest within an individual was only defined as being applicable, if (a) the ACS-RS score (peer-rating) was 4 or higher (i.e., this is equal to an applicability that is at least rated as "often") and if (b) the VIA-IS score (self-rating) was 3.5 or higher (i.e., this is equal to possessing a character strength at least slightly).

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<sup>3</sup> Ratings of the applicability of the character strengths were restructured from a content wise order (i.e., for creativity, curiosity, etc.) to a rank wise order (i.e., applicability of character on rank 1, rank 2, etc.). The character strengths at rank 1, rank 2, etc. up to rank 24 differs individually. Ranks were derived from the VIA-IS scores that were rank ordered within each individual.

A univariate ANCOVA was performed with the number of character strengths that are applicable at work as independent variable (8 groups: 0 to 7 strengths applicable) and the factor scores of positive experiences at work as dependent variable. Age, gender, and education were used as covariates. Repeated contrasts were utilized testing whether neighbored groups differed.

The ANCOVA indicated a large effect (Cohen, 1988) of the number of strengths applied at work on positive experiences at work,  $F(7, 110) = 2.36, p = .029$ , partial  $\eta^2 = .142$ . Figure 1 shows how the degree of positive experiences varied as a function of number of the applied character strengths among the seven highest.

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Insert Figure 1 about here

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Figure 1 shows that the group means in the factor scores in positive experiences at work ranged from  $-.41$  to  $.54$  when applying none to seven of the highest strengths, which was a range equivalent to nearly one standard deviation. Moreover, there was a strong increase of positive experiences in the amount of more than  $2/3$  of a standard deviation when applying four instead of three of the highest strengths. Repeated contrasts revealed that using four instead of three strengths significantly increased positive experiences at work ( $p = .045$ ). The repeated comparisons between all other neighbored groups failed to be significant. Group sizes dropped for the groups applying five to seven strengths, indicating that the application of five, six or seven signature strength was relatively rare.

### ***Number of applied signature strengths and calling***

The application of at least four signature strengths defined a good strengths-related congruence between an individual and the workplace, as this went along with higher

degrees of positive experiences at work. To find out whether this number of applied strengths at work was crucial for callings as well, a univariate ANCOVA with the same specifications as the one computed before was performed but with the WLQ calling score as dependent variable. The number of applied signature strengths was the independent variable (8 groups: 0 to 7 strengths applicable); age, gender, and education entered the analysis as covariates. Again, the ANCOVA indicated a large effect (Cohen, 1988) of the group membership on the calling ratings,  $F(7, 110) = 3.28, p < .01$ , partial  $\eta^2 = .187$ . A planned comparison contrasting the groups of “poor congruence” (0 to 3 strengths applied) vs. “good congruence” (4 to 7 strengths applied) yielded a significant difference between those applying 0-3 and those applying 4-7 signature strengths,  $F(1, 110) = 11.11, p < .01$ . The group that applied up to three strengths did not perceive their jobs as a calling ( $M = 2.27$ ; 95% confidence interval ranging from 2.03 to 2.50; below the scale midpoint of 2.5). The group that applied four to seven strengths clearly indicated seeing their job as a calling ( $M = 3.05$ ; 95% confidence interval ranging from 2.76 to 3.34; above the scale midpoint of 2.5).<sup>4</sup>

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<sup>4</sup> Peterson, Park, Hall, and Seligman (2009) showed that zest is the character strength of the VIA classification that plays the most important role for calling. The question arises how the relationship between the number of applied signature strengths and calling changes when zest is controlled for. We highlighted that the application of signature strengths is important for calling irrespective of the strengths' content. Therefore, if the results remained the same when controlling for zest, it would be a support for this statement. Analyses of the data were conducted with two different changes in data analyses to check for the influence of zest on the results. These were that (a) zest was not included when computing the number of applied strengths at work and (b) zest entered the analysis as covariate in an ANCOVA (UV = number of applied signature strengths; AV = calling rating). The results remained the same (version a:  $F[7, 110] = 2.13, p = .048$ , partial  $\eta^2 = .130$ ; version b:  $F[7, 110] = 2.60, p = .017$ , partial  $\eta^2 = .155$ ). Again, planned comparisons (all  $p < .001$ ) showed that especially those employees applying four to seven of their signature strengths see their work as a calling compared to those applying none to three strengths at work irrespective of the influence of zest (0-3 strengths vs. 4-7 strengths: [version a]  $M = 2.31$  vs. 3.05; [version b]  $M = 2.32$  vs.  $M = 2.95$ ).

***Number of applied signature strengths, positive experiences, and calling***

Two steps of analysis were conducted to explore whether positive experiences at work mediate the association between the number of applied signature strengths at work and calling. *Firstly*, the zero-order correlations between the number of applied strengths among the seven highest, the factor positive experiences at work, and calling were computed. Correlation coefficients were .32 between the number of applied strengths and positive experiences, .36 between the number of applied strengths and calling, and .43 between the positive experiences and calling (all  $p < .001$ )<sup>5</sup>. *Secondly*, a path analysis was conducted (using AMOS 17; Arbuckle, 2008) to investigate whether the direct relationship between the number of applied strengths and calling decreased when the factor positive experiences at work was considered as a mediator. The independent variable was the number of strengths among the seven highest applied at work (range: 0 to 7), mediator was the factor of positive experiences at work, and the outcome variable was calling (see Figure 2).

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Insert Figure 2 about here

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Figure 2 shows that the direct relationship between the number of applied signature strengths and calling dropped from .36 to .25 when considering positive experiences at work as mediator. This indicated, that this relationship was partially mediated by the amount of positive experiences at work. Therefore, the number of applied signature strengths at work seemed to influence a calling orientation in two ways: directly, but also indirectly by fostering positive experiences. The indirect effect

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<sup>5</sup> The calling orientation was very similarly related to each of the positive experiences at work with correlation coefficients of .31, .34, .34, and .35 with meaning at work, engagement at work, job satisfaction, and pleasure at work, respectively (all  $p < .001$ ).

was .11 ( $p < .001$ ; with a bias corrected 95% confidence interval ranging from .05 to .20 using 5000 bootstrap samples).

## **Discussion**

The present study indicates that calling is a function of the congruence between an individual's character strengths and those demanded at the workplace, as well as of the degree of positive experiences at work. These results are even more meaningful as they were corrected for common method bias due to additional involvement of peer-ratings (cf., Doty & Glick, 1998).

Associations between applicability of strengths and positive experiences at work increased with the centrality of the strengths for the individual (irrespective of the nature of the strengths), which is in line with previous research (Harzer & Ruch, in press). Moreover, it seems to be critical to apply at least four signature strengths for positive experiences at work and calling. Whereas those participants applying none to three strengths among the seven highest had a relatively low amount of positive experiences at work (i.e., below average), the ones applying four and more strengths described higher degrees of positive experiences at work (i.e., above average). This is in line with the results found by Harzer and Ruch (in press). Moreover, only those applying four and more signature strengths indicated seeing their jobs as a calling. Even when controlling for zest as the most important predictor for calling among the 24 character strengths of the VIA classification, the number of applied signature strengths at work was related to calling. Hence, character strengths matter within the work context irrespective of the content but respective to their centrality for the individual.

Calling is very desirable due to its positive outcomes (for both, employers and employees) such as less frequent turnover (i.e., more years in current position), less frequent absence days, and higher income (Wrzesniewski et al., 1997). Hence, it is of great interest to foster calling in employees. It therefore needs to be considered how this can be done. The present study indicated that the congruence between an individual's character strengths and the ones demanded at the workplace plays an important role. The mediation analysis indicated that this congruence even has two modes of action on calling – direct and indirect through the enhancement of positive experiences. Such a direct link has already been noted previously (e.g., Dobrow, 2004; Novak, 1996; Weiss et al., 2004). However, the present study is the first one showing the role of strengths-related congruence between a person and a job for a calling orientation. Additionally, a good congruence (i.e., at least four applied signature strengths at work) is indirectly related to calling as it relates to positive experiences at work, which in turn relate to calling. Consequently, employers or human resource managers would need to enhance the application of individual signature strengths between the employees and their workplaces to increase positive experiences and calling.

Furthermore, the present study can be seen as additional validation of the concept of signature strengths (cf., Peterson & Seligman, 2004). Character strengths do differ in their importance depending on their centrality for an individual (and not only with respect to their content-related nature). Hence, it is not only important to foster the character strengths known to be generally strongly related to life satisfaction and positive emotions in order to obtain a fulfilling life (e.g., Güsewell & Ruch, 2012b; Peterson, Ruch, Beermann, Park, & Seligman, 2007; Ruch et al., 2010). It is also relevant to cultivate and exercise the signature strengths (also see Seligman, Steen,

Park, & Peterson, 2005); with respect to the results of the present study at least four of them. However, that does not mean each person owns four signature strengths. This number results from analyzing data across but not within participants. There will be individual differences in the number of signature strengths. It might be of interest to further study these differences and their role for positive experiences. Is it the same to apply four out of four or seven out of seven or four out of seven signature strengths? Do have the individuals with more signature strengths advantages in obtaining a fulfilling life? How do the individual differences in the number of signature strengths develop? Due to the fact that character strengths are defined as malleable and dependent on life experiences (cf., Peterson & Seligman, 2004) this might be a function of the frequency of opportunities to show strengths-related behavior. This may be further studied.

Limitations of the present study give directions for future research. The findings need further validation through intervention studies as cross-sectional data was reported in the present study and consequently, causality could not be inferred. This paper examined, whether the application of individual signature strengths, positive experiences at work, and calling are robustly associated. Further research utilizing longitudinal design or intervention studies would be needed to prove the assumed causality. Additionally, intervention studies might contrast the effects of increasing the application of one vs. two vs. three vs. four vs. five vs. six vs. seven strengths. Within this context, it would also be interesting to see whether there is a “too little” or “too much” of exercised signature strengths resulting in strain or boredom, as found for other positive interventions (Lyubomirsky, Sheldon, & Schkade, 2005).

Furthermore, the sample of the study was very highly educated and therefore, not representative for the employee population. It will be necessary to study a more

representative sample or even employees in non-professional work to further examine replicability and generalizability of results. However, education is only slightly related to the character strengths of wisdom and knowledge as measured with the VIA-IS (cf., Ruch et al., 2010) and their applicability as measured with the ACS-RS (Harzer & Ruch, in press). Therefore, the results presented here might not be affected by a different sampling. Nevertheless, non-professional work compared to professional work is characterized by higher degrees of formalization and less variety in the tasks (Mathieu & Hamel, 1989; Morgenson & Humphrey, 2006). Professional work in turn is more complex with higher psychological demands and decision latitude (Karasek, Brisson, Kawakami, Houtman, Bongers, & Amick, 1998). A perception of “good congruency” followed by positive experiences and a sense of calling might be facilitated in a non-professional work more easily – with less than four applied signature strengths.

Furthermore, the notion that at least four applied signature strengths at work relates to the character strengths defined within the VIA classification. Utilizing other conceptualization of human strengths or themes of talent like the ones defined in the StrengthsFinder (Rath, 2007) may lead to another conclusion. These themes are defined as being especially relevant to excellence in the workplace and are more specific than the character strengths defined within the VIA classification. For example, themes like empathy and positivity may reflect the broader character strengths kindness; command and developer may reflect leadership. There are studies showing that the application of strengths as measured by the StrengthsFinder results in more productive work, less employee turnover, and higher work engagement (for an overview see for example Hodges & Asplund, 2010). It might be interesting to do a similar study to the one presented here with the strengths (i.e., themes of talent) measured by the

StrengthsFinder. Will there be a different number of applied strengths that is crucial for a high level of positive experiences and a calling orientation? Due to the more specific conceptual level of the themes defined in the StrengthsFinder one might expect, for example, that more applied strengths are needed to cover the broad range of tasks and experiences at work for a perception of “good congruency”.

However, there might not only be differences in the critical number of applied signature strengths for positive experiences and calling between professions or strengths conceptualizations but also with respect to specific situations. It might be of interest to collect longitudinal data to evaluate cross-situational consistency of strengths.

Depending on factors such as work stress, complexity of the current work tasks, and whether other people are involved, at one moment two strengths are optimal and at another five strengths are optimal.<sup>6</sup>

Additionally, future studies might assess positive experiences at work with scales comprised of several items. Consequently, it will also be possible to investigate them individually now that we know they matter with respect to a calling orientation. It may be examined whether the positive experiences at work studied here are equally important for the development of a calling or whether some are more important than others.

Overall, the present study provides information on how to “organize” a workplace in order to set up a positive institution. Positive institutions are those, which enable the development of positive traits like the character strengths which in turn foster positive experiences (Peterson, 2006). In the light of the present paper, a positive

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<sup>6</sup> The authors would like to thank one of the anonymous reviewers for this comment.

workplace is one that fosters the individuals' signature strengths (i.e., allows for their application) and consequently facilitates positive experiences and calling.

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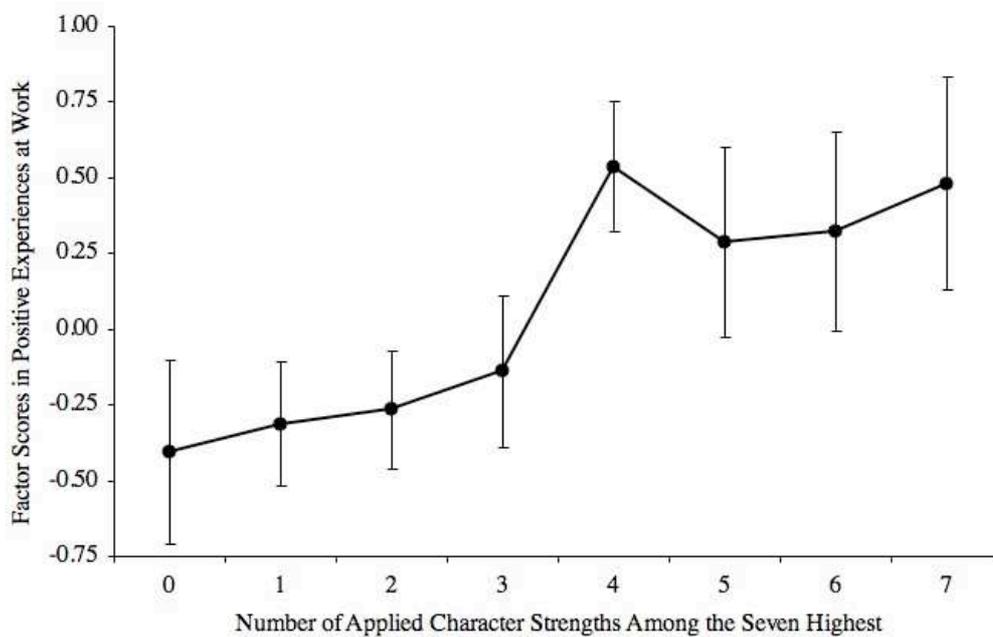
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*Figure 1.* Average factor scores in positive experiences at work ( $\pm SE$ ) as a function of number of the seven highest character strengths applied at work. Group sample sizes were  $n_0 = 10$ ,  $n_1 = 21$ ,  $n_2 = 23$ ,  $n_3 = 14$ ,  $n_4 = 19$ ,  $n_5 = 9$ ,  $n_6 = 8$ , and  $n_7 = 7$ .

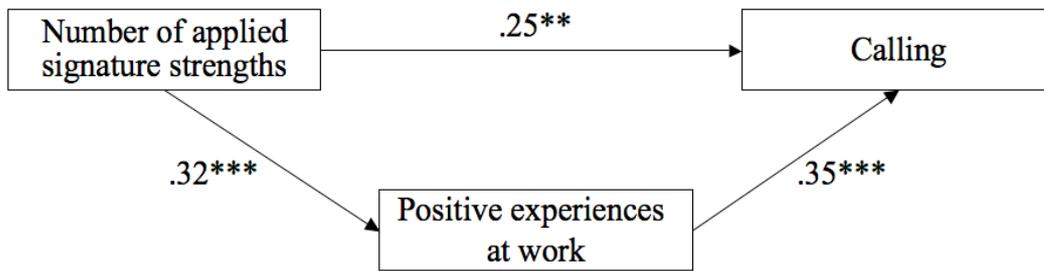


Figure 2. Path model of the effect of the number of signature strengths applied at work on calling, which is partially mediated by positive experiences at work. \*\* $p < .01$ . \*\*\* $p < .001$ .