

Job Calling and Perceived Work Stress in Zookeepers: Problem-Focused Coping
as a Mediator

by

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ABSTRACT

There are some factors that have been used to explain why the presence of a calling (i.e., “an approach to work that reflects the belief that one's career is a central part of a broader sense of purpose and meaning in life and is used to help others or advance the greater good in some fashion” (Duffy & Dik, 2013, p. 429) reduces work stress and its potential negative outcomes, such as absenteeism, job performance and productivity, work-related accidents and overall employee health. The effect of problem-focused coping, however, remains largely untested as a potential mediator in this relation. The present study was conducted to quantitatively test whether problem-focused coping would mediate the relation between having a calling to work and perceived work stress in zookeepers. Participants were recruited through an online survey. They responded to questionnaires regarding calling, problem-focused coping, and work stress. Using hierarchical regression analyses, it was found that problem-focused coping partially mediated the relation between presence of a calling and perceived work stress. Specifically, having the presence of a calling to work predicted greater problem-focused style of coping, which, in turn, led to lower perceived work stress. Future directions for research were discussed.

Keywords: calling, problem-focused coping, work stress

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INTRODUCTION

Work is a major part of daily life for many adults as well as a major source of stress. As such, its effects on the body and mind has been a reoccurring theme not only in literature but has also gained significance in the media and healthcare fields. According to the National Institute for Occupational Health and Safety (NIOSH, 1999), job stress is defined as “the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker.”

Occupational stress has been found to negatively affect absenteeism, labor turnover, and job performance and productivity (Tangri, 2003). It has also been a major factor in work-related accidents and employee health (NIOSH, 1999). One-fourth of employees view their jobs as the number one stressor in their lives and health complaints are more strongly associated with problems at work than any other life stressor (NIOSH, 1999). Occupational stress can also cause behavioral, medical, and psychological problems such as increased smoking or alcohol abuse, fatigue, high blood pressure, sleep disturbances, burnout, and depression (Quick, Horn, and Quick, 1987, NIOSH, 1999, Dewe, O’Driscoll, & Cooper, 2012).

One work environment that has been looked at in relation to work stress is the zoo. The Association of Zoos and Aquariums (AZA) defines a zoological park or aquarium as a permanent institution which owns and maintains wildlife, is directed by a professional staff, provides its animals with appropriate care and exhibits them in an aesthetic manner to the public on a regularly scheduled, predictable basis, and has, as their primary mission, the exhibition, conservation, and preservation of the earth’s fauna in an educational and scientific manner (AZA Accreditation FAQs., 2018).

Zookeepers and aquarists care for animals in zoos or aquariums. They plan diets, feed and monitor the eating patterns and behaviors of animals, and watch for signs of illness or injury, and perform facilities operations (e.g., clean enclosures). Keepers also may train their animals to do specific behaviors, help raise young animals, and often spend time answering questions from the public (US Bureau of Labor Statistics, December 17, 2015). According to the American Zoo and Aquarium Association (AZAA), there are over 10,000 zoos worldwide which employ over 32,000 workers; however, only a fraction of them are keepers. The US Bureau of Labor Statistics (2015) classifies zookeepers and aquarists under animal care and service workers (e.g., animal trainers, groomers, pet sitters). The median annual wage is \$21,260 (US Bureau of Labor Statistics, December 17, 2015). According to payscale.com, the range for zookeeper salary is \$24,000 to \$45,000 with a median of \$33,000 (PayScale Salary Reports, 2018).

Although experience is one of the most important requirements when working with animals, most keepers and aquarists have a Bachelor's degree, usually in animal sciences, biology, zoology, or a related field. Others might have an Associates degree or have completed a certificate program, such as animal behavior management or aquarium science. Keepers who have a degree are more likely to get a job over those without one because keeper jobs are very competitive. This is particularly the case at large zoos, where over a hundred applications may be received for a single keeper position. In many cases, people volunteer for years, even move across the country, and accept major sacrifices in their personal lives for a job as a keeper (Crosby, O., (2001).

Keepers are able to work with a variety of exotic animals in an environment where they can bond with them, learn new behaviors, and help conservation efforts.

However, the job isn't without its stressors. Keepers confront the possibility of injury, constant cleaning of enclosures and animal waste, an outdoor work environment despite rain or extreme heat or cold, and unusual work hours that include weekends and holidays. Moreover, due to the unpredictable nature of animal care, unforeseen events (e.g., illness or injury) may require additional non-work time commitments, which can increase strain on personal and interpersonal relationships (Bunderson, & Thompson, 2009).

In zoos, as well as similar organizations, there are several factors that have been found to correlate with stress in the workplace. These include factors such as administration, interpersonal work relationships, work roles, and environmental conditions (Bunderson & Thompson 2009, Stellman, 1998, NIOSH, 1999). Research in these areas has led to changes in management style, policy, job training, and culture in many industries in an effort to reduce workplace stress. However, research on these factors within zoological organizations and their employees is very limited.

Individual factors also have been considered. In previous studies, researchers have assessed individuals' role in workplace stress and job satisfaction by using models such as person-environment fit and job demands-control (Dewe, O'Driscoll, & Cooper, 2012). One such factor is what researchers have identified as the presence of a "calling" to a particular field or job.

The conceptual meaning of a calling has been much debated. Duffy & Dik's (2013) review of the literature identified three components that were representative of a calling: an external summons, meaning or purpose in life, and prosocial orientation. An external summons describes how an individual may feel "called" to a specific line of work. They may be "called" by a higher power, the needs of society or one's country, or

any other force external to the individual. The second component implies that, for those with a calling, work aligns with their broader sense of purpose in life. Lastly, Individuals with a calling use their career to help others and advance the greater good (Duffy & Dik, 2013). Duffy & Dik (2013) define calling as “an approach to work that reflects the belief that one's career is a central part of a broader sense of purpose and meaning in life and is used to help others or advance the greater good in some fashion”(p. 429). Although a job or career may be measured by the monetary benefits or advancement within their occupation, respectfully, people with a calling further define their work as both personally fulfilling and socially valuable (Wrzesniewski et al., 1997).

In their research on people with a calling, Thompson and Bunderson (2003, 2009) focused on zookeepers because of their passion toward their work as a “cause or ideology” as opposed to economic or financial reasons. They found that 91% of the zookeepers in their study reported the belief that zoo keeping was what they were meant to do or part of who they have always been. Moreover, 70% of them expressed that their motivation came from their commitment to the animals rather than monetary gain. Thus, “The idea of a calling for the zookeepers was grounded in the belief that their basic nature predisposed them for a career working with animals (p. 36)” This sense of calling expressed by zookeepers aligns with Dik and Duffy’s (2013) conceptualization of calling. The zookeepers felt that their calling came from outside the self and gives them a meaningful purpose in life because they can advance the education and conservation of the animals.

In other research, Treadgold (1999) found that individuals who viewed their work as a calling reported greater life and work satisfaction and were less susceptible to stress,

depression, and conflict between their work and home life. Moreover, having and living a calling has been found to increase work satisfaction, productivity, and organizational commitment (Duffy, Allan, Autin, & Bott, 2013). Its benefits also expand beyond the workplace to increased self-concept and life satisfaction, as well as decreased stress and depression (Duffy, et al., 2013; Treadgold, 1999). However, because this is a relatively new area of study, there is limited research that has examined why a calling benefits individuals' work and life circumstances.

Although Treadgold (1999) found that a calling reduced individuals' susceptibility to depression, stress, and home conflict, he also found that participants with a high sense of calling indicated that "work-related situations were a prominent source of stress." Moreover, they reported their stress levels at similar intensities when compared to individuals reporting a low level of calling. What may be a key factor that distinguishes between the outcomes of individuals with a calling and those without is their coping styles. He also found that the statements of the individuals with a calling often reflected strategies for dealing with workplace stressors that were consistent with problem-focused coping strategies. Conversely, individuals reporting lower levels of a calling tended to report strategies reflecting an avoidance-focused style of coping.

Lazarus and Folkman (1984) define the problem-focused coping as a coping style by which a person analyzes and attempts to alter a situation that is causing distress by evaluating the pros and cons of a problem, generating options, and implementing the steps to resolve the problem. In the coping literature, problem-focused coping has been positively associated with positive affect, reemployment after job loss, job satisfaction, and overall health and negatively associated with anxiety, depression, and burnout

(Bartley & Roesch, 2011, Healy and McKay, 2000, Shin, Park, Ying, Kim, Noh, & Lee, 2014, Mark & Smith, 2012, Solove, Fisher, & Kraiger, 2015).

In contrast, as noted above, individuals with a low calling were more likely to report avoidance-focused styles of coping strategies (e.g., distraction, ignoring, denying the problem). Generally, avoidant coping styles are associated with more social adjustment problems (Baker, S.R., 2003). Avoidant coping styles have also been shown to relate to physical discomfort, lack of development (or feeling unchallenged), burnout at work, and poor mental health (Montero-Marin, Prado-Abril, Demarzo, Gascon, & García-Campayo, 2014, Unger, Kipke, Simon, Johnson, Montgomery, et al. 1998, Gibbons, 2010, Mark & Smith, 2012).

In his discussion, Treadgold (1999) proposed that stress is still a part of people's daily lives, but those with a higher sense of calling tend to adopt a problem-focused coping style and thus, may be better able to cope with workplace stress. However, his conclusion was based on a small number of participants' responses to interview questions. Even so, it may be that problem-focused coping could be a mechanism by which those with a high sense of calling lower their perceived stress at work. To our knowledge, no research has examined whether problem-focused coping might mediate the relation of job calling to individuals' perceived workplace stress.

Therefore, the goal of this study was to quantitatively examine the effect of a higher sense of calling with problem-focused coping on the amount of work stress that zookeepers experience. It was hypothesized that the use of problem-focused coping at work would mediate the relation between a presence of a calling and perceived work stress.

Specifically, having the presence of a calling to work leads to a more problem-focused style of coping, which in turn leads to lower perceived work stress.

Methods

Study Sample

Responses to study questionnaires were collected from 435 participants in an online study. Due to incomplete responses, a final sample of 147 participants were included in the analysis for the current study. Among the 147 participants in the final sample, 133 were female (90.5%) and 14 were male (9.5%) and there was a mean age of 31.19 (SD = 7.99, range = 19-60). The majority of participants were White (n = 134, 91.2%). The annual personal income of participants was (in thousands of \$U.S.): less than \$20,000 (n = 28, 19.1%), \$20–\$29,999 (n = 59, 40.1%), \$30–\$39,999 (n = 27, 18.4%), \$40–\$49,999 (n = 23, 15.6%), and more than \$50,000 (n = 9, 6.2%). In terms of educational attainment, three completed high school (2%), nine completed some college (9%), fifteen completed a 2-year degree (10.2%), 111 completed a 4-year degree (75.5%), eight completed a master's degree (5.4%), and one completed a doctorate degree (.7%).

Procedure

Approval from the Institutional Review Board at Arizona State University was obtained. Participants were recruited through a closed zoo keeper group via Facebook. Approval by the Facebook group's administrator was granted prior to posting the survey

link. Those indicating a willingness to participate were given an anonymous link to the questionnaire on Qualtrics along with a brief description of the study. The survey required approximately 30 minutes to complete. No compensation was offered for their participation in this study. Participants' consent to participate in this study was obtained on the first page of the online survey, following a cover letter describing the nature of and potential risks and benefits associated with research participation. Participants were notified that their participation was completely voluntary and they could withdraw from the study at any time. Participants completed the demographic information first, followed by the measures for presence of a calling, problem-focused coping, and work stress presented in random order.

Measures

Calling and Vocation Questionnaire. Dik, Eldridge, Steger, & Duffy (2012) developed the The Calling and Vocation Questionnaire (CVQ). It is a multidimensional approach to assess one's "calling" by using three four-item scales. Participants reported on a five-point Likert scale ranging from 1 to 5 (1 = "very untrue of me", 5 = "very true of me") for each of the three subscales; the presence of an external summons ("I was drawn by something beyond myself to pursue my current line of work."), a feeling of purposeful work ("My work helps me live out my life's purpose"), and prosocial orientation ("My work contributes to the common good."). Participants' scores for each subscale were then averaged to create an overall presence of calling score.

Consistent with Dik et al. (2012), internal consistency reliability coefficients in the current study for the CVQ subscales were as follows: presence of an external summons, $\alpha = .76$, a feeling of purposeful work, $\alpha = .86$, and prosocial orientation, $\alpha =$

.78. Total scores of the three subscales also revealed a high internal reliability for presence of a calling, $\alpha = .86$.

Problem-focused Coping. The hypothesized mediator in this study was problem-focused coping. It was assessed using the COPE Inventory by Carver, Scheier, & Weintraub (1989). The COPE Inventory is comprised of 15 four-item coping subscales. Participants were asked to indicate what they generally do and feel when they experience stressful events at work. Participants reported their answers on a five-point Likert scale ranging from 1 to 5 (1 = "I don't do this", 5 = "I do this a lot").

An exploratory factor analysis was then performed on the 15 subscale scores to determine a problem-focused coping factor. Factor I included three problem-focused coping subscales, with loadings >0.7 for active coping, positive reinterpretation and growth, and planning. These styles are characterized, respectively, by taking steps to eliminate or handle the problem, reframing the stressor in positive terms, and thinking about how to deal with the problem. The results of the factor analysis were consistent with Litman (2006)'s review of the dimensionality of the COPE inventory in which these three scales were categorized as problem-focused coping styles.

In the current study, the internal reliability coefficients for each of the three scales were similar to those reported by Carver et al. (1989) and were as follows: active coping, $\alpha = .69$, positive reinterpretation and growth, $\alpha = .72$, and planning, $\alpha = .78$. Total scores of the three subscales also revealed a high internal reliability, $\alpha = .85$. The participant scores for each of these three subscales were then averaged to create a score for the mediating variable, problem-focused coping.

Work Stress. The assessment of work stressors uses 68 items taken from the Job Stressors construct on the National Institute for Occupational Safety and Health (NIOSH) Generic Job Stress Questionnaire (Hurrell & McLaney, 1988). Participants were asked to report the degree to which they agreed or disagreed with each of the statements about their current job on a five-point Likert scale ranging from 1 to 5 (1 = "strongly disagree", 5 = "strongly agree").

The work stress measure in this study comprises 10 subscales (See Table 2 for examples of scale items). They were; interpersonal conflict (10 items, $\alpha = .88$), intrapersonal conflict (6 items, $\alpha = .73$), conflict with immediate supervisor (10 items, $\alpha = .89$), conflict with the organization (11 items, $\alpha = .82$), workload (7 items, $\alpha = .84$), job role ambiguity (9 items, $\alpha = .78$), skill utilization (4 items, $\alpha = .72$), training (4 items, $\alpha = .77$), pay (4 items, $\alpha = .82$), and work-life balance (3 items, $\alpha = .73$). The 68 items included in this measure revealed a high internal reliability in the current study total score, Cronbach's $\alpha = .93$.

After negatively worded items were reversed, each subscale was given a mean score, then these scores were averaged for each participant to create an overall work stress score. Job satisfaction was also measured but was not included in the overall average score because it is not a measure of stress.

Table 2

List of work stress subscales with number of items, Cronbach's alpha, and item examples.

Work stress subscale	Number of Items	Cronbach's alpha	Example
1 Interpersonal conflict	10	.88	There is harmony within my department.
2 Intrapersonal conflict	6	.73	There are disputes between my department and other departments.
3 Conflict with immediate supervisor	10	.89	I feel that my supervisor is overly critical of my work.
4 Conflict with the organization	11	.82	I feel valued and trusted by the organization.
5 Workload	7	.84	How often does your job leave you with little time to get things done?
6 Job role ambiguity	9	.78	There are clear, planned goals and objectives for my job.
7 Skill utilization	4	.72	My job is enjoyable and challenging.
8 Training	4	.77	I know what to do in an emergency situation.
9 Pay	4	.82	My pay is reflective of my education and experience.
10 Work-life balance	3	.73	I feel that my job often interferes with my family or personal life.

Results

Preliminary Analyses

Age, gender, ethnicity, and income were unrelated to the presence of a calling ($M = 3.60$, $SD = 0.77$), problem-focused coping ($M = 3.67$, $SD = 0.66$), and work stress ($M = 2.77$, $SD = 0.55$). Correlation analyses among the study variables were conducted. The results in Table 1 show that stress was significantly negatively related to problem-focused coping and presence of a calling. Problem--focused coping was significantly positively correlated with presence of a calling. All variables were normally distributed.

Table 1

Means, Standard Deviations, and Pearson Correlations Among Presence of a calling, Problem-focused coping, and Perceived work stress (N = 147)

Measure	<i>M</i>	<i>SD</i>	1	2	3
1. Presence of calling	3.6	0.77	--		
2. Problem-focused coping	3.67	0.66	.305**	--	
3. Percieved work stress	2.77	0.55	-.282**	-.245**	--

Note. ** indicates correlation is significant at the .01 level (2-tailed).

Tests of Hypotheses

To test the hypothesis that problem-focused coping mediates the relation between presence of a calling and perceived work stress, certain criteria must be met (Kenny, 2018). First, the causal variable must be correlated with the outcome. Presence of a calling was significantly negatively related to perceived work stress which establishes that there was an effect that may be mediated. The second criterion is that the causal variable must be significantly correlated with the mediator. Presence of a calling was significantly positively related to problem-focused coping. Lastly, the mediator must affect the outcome variable when controlling for the effect of the casual variable on the outcome. When controlling for presence of a calling, problem-focused coping was significantly negatively related to perceived work stress.

Due to these significant relations, a regression analysis using the PROCESS Macro by Andrew Hayes (2018) with SPSS (23) was conducted to assess problem-focused coping's potential role as a mediator of the relation between the predictor, presence of a calling, and the outcome variable, perceived work stress (Figure 1). The results indicated that presence of a calling was a significant predictor of problem-focused coping, ($b = 0.26, SE = 0.07, p < .001$), and that problem-focused coping was a significant predictor of work stress, ($b = -0.19, SE = 0.07, p < .01$). The presence of a calling was a significant predictor of work stress, ($b = -0.27, SE = 0.07, p < .001$) The relation between presence of a calling and work stress remained partially significant after controlling for the proposed mediator, problem-focused coping, but the relation was weaker in this analysis, ($b = -0.19, SE = 0.06, p < .01$), suggesting partial mediation. The

results of the Sobel test of mediation showed a significance difference between paths c and c' ($z = -2.18, p = .02$). These results support the mediational hypothesis.

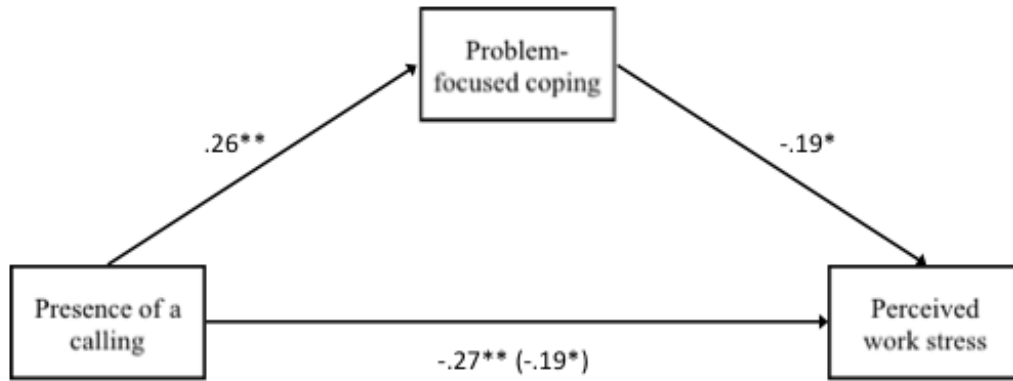


Figure 1. Unstandardized regression coefficients for the relationship between presence of a calling and perceived work stress as mediated by problem-focused coping. The unstandardized regression coefficient between presence of a calling and perceived work stress, controlling for problem-focused coping, is in parentheses.

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

Discussion

The purpose of the present study was to examine whether problem-focused coping mediated the relation between individuals' perception of their work as a "calling" and work stress. Despite being a relatively new area of study, the presence of a calling has been found to be related to multiple domains within the concepts of both work and life satisfaction. Specifically, it has been found to increase job satisfaction and self-concept and decrease stress and depression (Duffy et al., 2013; Treadgold, 1999). Consistent with this literature, the present study found a significant negative relation between the presence of a calling and work stress.

In past research, the presence of a calling also has been found to be related to individuals' use of problem-focused coping styles (Treadgold, 1999). In this study, there was a significant positive relation between the presence of a calling and problem-focused

coping. This is consistent with Treadgold's (1999) research in which the qualitative study of statements of participants with a high presence of calling were consistent with problem-focused coping strategies. He suggests that those with a higher presence of calling may use problem-focused coping techniques to effectively reduce their stress at work. The results of the current study help to confirm and support his proposed theory from a quantitative perspective.

The current study also found a significant negative relation between problem-focused coping and work stress. This result is consistent with previous findings in which problem-focused coping has been negatively associated with anxiety, depression, and burnout at work (Treadgold, 1999, Shin, Park, Ying, Kim, Noh, & Lee, 2014).

Additionally, Mark & Smith's (2012) study of occupational stress and mental health in nurses also highlight the importance of individual differences in coping styles in work stress research. In their research, they emphasize the complexity of both workplace environments and individuals' response to workplace stressors. Understanding how workplace stressors and individuals' coping styles compare and influence one another would give better insight to workplace stress and its effects on physical and mental health.

These findings support the current hypothesis that the relation between calling and work stress would be mediated by problem-focused coping. In the mediational analysis, problem-focused coping did, in fact, partially mediate the relation between the presence of a calling and overall work stress. Specifically, having the presence of a calling to work predicted greater problem-focused style of coping, which, in turn, leads to lower perceived work stress. The results of this study suggest that problem-focused

coping could be one of the mechanisms that may explain why those with a higher presence of a calling to their work have lower work stress than those with a lower presence of calling.

Dik & Duffy (2007) hypothesized that “callings can be pursued within all occupations, including those that may not appear to enhance the well-being of society in any obvious way” due to the ability of an individual to approach work as a calling. For example, in a review of a subset of their respondents, Wrzesniewski et al. (1997) found that 8 of the 24 administrative assistants saw themselves as having callings. They suggest that an employee’s view and attitude towards their work may contribute to their overall job satisfaction. As noted earlier, the problem-focused coping style allows a person to analyze and alter a situation that is causing distress and is significantly positively related to presence of a calling. This use of problem-focused coping is consistent with Ashforth and Kreiner (1999)’s hypothesis that individuals with undesirable jobs can transform their work into a calling by “reframing, recalibrating, and refocusing” the social meaning of their work. It is possible that those who can transform their work into a calling are able to do so because of their higher ability to affectively use problem-focused coping styles to alter their view of work and perceived work stress.

Limitations

There are several limitations in the study that are worth noting. First, the sample consisted of predominantly Caucasian women, which limits the generalizability of the results. Previous research has indicated that, although there are gender differences in perceiving a calling, more research is needed to investigate possible effects of gender on calling and work experiences (Dik, & Duffy, 2007). Second, the measure of work stress

was tested using retrospective self-reports, which may be prone to social desirability and recall biases.

Third, the participant sample in this study was limited to those working in a specific industry, zoo keeping, so the results cannot be generalized to other professions. Furthermore, the majority of the sample worked in a keeper or aquarist role. They work directly with animals on a daily basis. Consequently, they might experience or perceive different intensities and forms of work stress than those in an education, medical, or administrative role (e.g. veterinarian, education curator, etc...) within zoo organizations.

Lastly, another potential limitation is the difference in workload and specific job duties among keepers. The size of the zoo and accreditation standards set by federal and zoological organizations (e.g. USDA, AZA, AMMPA, etc...) could potentially affect the number of animals a single keeper will care for in a day as well as the workload required for specific species. For example, a primate or elephant keeper may not have as many animals to care for in a day than a bird keeper, however, they must constantly maintain the high environment and enrichment standards set by these governing organizations.

Future research

It is important not only to understand how the presence of a calling to a person's work can be beneficial, but also why. For example, Dik and Duffy (2013) discuss the need for theoretical models that will help to explain how the presence of a calling links work stress, work satisfaction, and overall life satisfaction. Other than problem-focused coping, the results from this study would suggest that researchers include other coping styles in their models of the relation of calling to work stress and outcome variables, such as life satisfaction and life stress. For example, through avoidant coping, a person may

not look to find a solution to their work stress or won't be open to new experiences for them to pursue a calling at, or outside, of work. Conversely, instrumental and emotional social support coping styles may be utilized, alone or possibly interact with problem-focused coping, to allow an individual to transform their work into a calling. As such, future research should include of all coping styles in the construction of potential theoretical models of calling. This could help to further understand the effect that different styles of coping and a person's calling to their work may have on their perceived work stress.

Additionally, the partial mediation result in this study suggests that there are other factors other than problem-focused coping that might explain the relation between calling and work stress. Along with coping style, religiousness, self-efficacy, and personality traits should be included when assessing the three components representative of a calling – an external summons, meaning or purpose in life, and prosocial orientation.

For example, the concept of a calling is deeply rooted in religious traditions and a number of those with a calling feel that the external summons originates from a higher power. This makes religiousness and cultural differences very relevant influences in future calling research. Calling has also been strongly linked to occupational self-efficacy, or increased feelings of confidence in one's career decision making. This elevated level of planning and decisiveness in career decisions may be an important factor in future research of calling and career success and satisfaction.

Furthermore, there is minimal intervention research conducted to help increase a person's ability to recognize a calling either at work or outside of work. Evidence shows that some individuals are able to find a calling within an occupation whereas others do

not (Wrzesniewski et al., 1997, Ashforth and Kreiner, 1999) There are also those, such as Bunderson & Thompson (2009)'s zookeepers, who find their calling very early in their career and even in childhood while others find theirs later in their careers. Personality traits, such as openness to experience, conscientiousness, and empathy, may contribute largely to future theoretical models of calling and help researchers understand how people are able to find a calling. This research may provide a more well-rounded insight to how individuals within and across various organizational roles and cultures define their calling to a work role, vocation, or life purpose.

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APPENDIX A
STUDY QUESTIONNAIRE

1. Are you over the age of 18?

Yes (1)

No (2)

2. What is your age?

3. What is your gender?

Male (1)

Female (2)

4. What is your race?

Hispanic (1)

White (2)

Black or African American (3)

American Indian or Alaska Native (4)

Asian (5)

Native Hawaiian or Pacific Islander (6)

Other (7) _____

5. What is the highest degree or level of school you have completed?

Less than high school (1)

High school graduate (2)

Some college (3)

2 year degree (4)

4 year degree (5)

Master's degree (9)

Professional degree (6)

Doctorate (7)

6. Are you currently enrolled in college level classes or pursuing a degree?

Yes (1)

No (2)

7. What is your marital status?

- Married (1)
- Widowed (2)
- Divorced (3)
- Separated (4)
- Never married (5)

8. Are there children under the age of 18 that live in your household?

- Yes (1)
- No (2)

9. What is your income as a zookeeper?

- Less than \$10,000 (1)
- \$10,000 - \$19,999 (2)
- \$20,000 - \$29,999 (3)
- \$30,000 - \$39,999 (4)
- \$40,000 - \$49,999 (5)
- \$50,000 - \$59,999 (6)
- \$60,000 - \$69,999 (7)
- \$70,000 - \$79,999 (8)
- \$80,000 - \$89,999 (9)
- \$90,000 - \$99,999 (10)
- More than \$100,000 (11)

10. What is your total household income?

- Less than \$10,000 (1)
- \$10,000 - \$19,999 (2)
- \$20,000 - \$29,999 (3)
- \$30,000 - \$39,999 (4)
- \$40,000 - \$49,999 (5)
- \$50,000 - \$59,999 (6)
- \$60,000 - \$69,999 (7)
- \$70,000 - \$79,999 (8)
- \$80,000 - \$89,999 (9)
- \$90,000 - \$99,999 (10)
- \$100,000 - \$149,999 (11)
- More than \$150,000 (12)

11. Which best describes the organization you work for?

- Zoo (1)
- Aquarium (2)
- Aviary (3)
- Wildlife Park (4)
- Animal Sanctuary (5)
- Rescue or Rehabilitation Center (6)
- Other, please specify (7) _____

12. Is your workplace accredited by any of these organizations? Select all that apply

- Association of Zoos and Aquariums (AZA) (1)
- Zoological Association of America (ZAA) (2)
- Alliance of Marine Mammal Parks and Aquariums (AMMPA) (3)
- World Association of Zoos and Aquariums (WAZA) (4)
- Global Federation of Animal Sanctuaries (GFAS) (5)
- Not sure (6)
- Other, please specify (7) _____

13. Which best describes your current position?

- Director/Assistant Director (1)
- Curator (2)
- Veterinarian/Veterinary Technician (3)
- Head Keeper/Aquarist (4)
- Senior Keeper/Aquarist (5)
- Keeper/Aquarist (6)
- Other, please specify (7) _____

14. What is your employment status?

- Full-time (1)
- Part-time (2)
- Temporary or Seasonal (3)
- Intern (4)

15. How many hours do you typically work in a week?

16. How long have you been working as a zookeeper/aquarist?

- less than 6 months (1)
- 6 months - 1 year (2)
- 1 - 3 years (3)
- 3 - 5 years (4)
- 5 - 7 years (5)
- 7 - 10 years (6)
- More than 10 years (7)

17. Did you work in an animal related field before working as a zookeeper/aquarist?

- Yes (1)
- No (2)

18. Did you volunteer at a zoo before attaining a paid position?

- Yes (1)
- No (2)

19. Approximately how long did you volunteer before attaining a paid position?

- less than 6 months (1)
- 6 months - 1 year (2)
- 1 - 2 years (3)
- 3 - 5 years (4)
- more than 5 years (5)

20. What animals do you work with the most?

21. Approximately, how many people (including yourself) are currently in your department?

22. Please indicate the degree to which you find the following statements about your job to be unlikely or likely by entering your answer in the space provided at the end of each statement.

- 1 Extremely unlikely
- 2 Somewhat unlikely
- 3 Neither likely nor unlikely
- 4 Somewhat likely
- 5 Extremely likely

- 1) Knowing what you know now, how likely would you be to take the job you currently have at the same organization?
- 2) Knowing what you know now, how likely would you be to take the type of job you currently have but at a different organization?
- 3) If you were free right now to go into any type of job you wanted, how likely would you be to choose to be a zookeeper/aquarist?
- 4) If you were free right now to go into any type of job you wanted, how likely would you be to choose to be in an animal related field?
- 5) If a friend of yours told you he/she was interested in working as a zookeeper, how likely would you be to recommend zoo keeping to him/her?

23. All in all, how satisfied would you say you are with your current job?

- Extremely dissatisfied (1)
- Somewhat dissatisfied (2)
- Neither satisfied nor dissatisfied (3)
- Somewhat satisfied (4)
- Extremely satisfied (5)

24. Please indicate the degree to which you agree with the following statements by entering your answer in the space provided at the end of each statement.

- 1 Strongly disagree
- 2 Somewhat disagree
- 3 Neither agree nor disagree
- 4 Somewhat agree
- 5 Strongly agree

Then, based on your answer, please indicate the degree to which you find the situation to be stressful.

- 1 Not at all
- 2 A little
- 3 A moderate amount
- 4 A lot
- 5 A great deal

- 1) There is harmony within my department.
- 2) In our department, we have disagreement over who should do what job.
- 3) There is difference of opinion among the members of my department.
- 4) The members of my department are supportive of each other's ideas.
- 5) There is friendliness among the members of my department.
- 6) There is a "we" feeling among members of my department.
- 7) My Department is effective in adjusting to changes.
- 8) My Department is open to doing things a new way.
- 9) I am comfortable giving feedback to others in my department.
- 10) I feel that I can rely on the people in my department when things get tough at work

25. Please indicate the degree to which you agree with the following statements by entering your answer in the space provided at the end of each statement.

- 1 Strongly disagree
- 2 Somewhat disagree
- 3 Neither agree nor disagree
- 4 Somewhat agree
- 5 Strongly agree

Then, based on your answer, please indicate the degree to which you find the situation to be stressful.

- 1 Not at all
- 2 A little
- 3 A moderate amount
- 4 A lot
- 5 A great deal

- 1) There are disputes between my department and other departments.
- 2) The relationship between my department and other departments is harmonious in attaining the overall organizational goals.
- 3) My department works alongside two or more departments who operate quite differently.
- 4) There is cooperation between my department and other departments.
- 5) There are personality clashes between my department and other departments.
- 6) I feel that other departments create problems for my department.

26. Please indicate the degree to which you agree with the following statements by entering your answer in the space provided at the end of each statement.

- 1 Strongly disagree
- 2 Somewhat disagree
- 3 Neither agree nor disagree
- 4 Somewhat agree
- 5 Strongly agree

Then, based on your answer, please indicate the degree to which you find the situation to be stressful.

- 1 Not at all
- 2 A little
- 3 A moderate amount
- 4 A lot
- 5 A great deal

- 1) My ideas often differ from those of my supervisor
- 2) I feel that I am unable to predict my supervisor's reactions
- 3) I feel that my supervisor is overly critical of my work
- 4) My supervisor assists me to identify my training and development needs
- 5) I can honestly say what I really think or get things off my chest at work
- 6) I am treated fairly by my supervisor.
- 7) I receive appropriate recognition or rewards for good performance.
- 8) I feel that I can rely on my supervisor when things get tough at work
- 9) My supervisor would not ask me to perform an unsafe procedure or task
- 10) My supervisor is considerate when asking me to perform an emotionally difficult task

27. Please indicate the degree to which you agree with the following statements by entering your answer in the space provided at the end of each statement.

- 1 Strongly disagree
- 2 Somewhat disagree
- 3 Neither agree nor disagree
- 4 Somewhat agree
- 5 Strongly agree

Then, based on your answer, please indicate the degree to which you find the situation to be stressful.

- 1 Not at all
- 2 A little
- 3 A moderate amount
- 4 A lot
- 5 A great deal

- 1) I feel valued and trusted by the organization
- 2) If necessary I am prepared to work long and/or unsociable hours for this organization
- 3) If asked, I am prepared to take on more responsibility or tasks not in my job description

- 4) I enjoy working for this organization to the extent that I am not actively seeking a job elsewhere
- 5) I am proud of this organization
- 6) Overall I am happy with my organization
- 7) I feel that it is worthwhile to work hard for this organization
- 8) I am committed to this organization
- 9) Senior management of the facility discusses issues and ideas with employees before making major changes
- 10) I believe that this facility is morally obligated to give its animals the best possible care.
- 11) I feel that this organization does the best it can for the animals.

28. Please indicate the degree to which you agree with the following statements by entering your answer in the space provided at the end of each statement.

- 1 Strongly disagree
- 2 Somewhat disagree
- 3 Neither agree nor disagree
- 4 Somewhat agree
- 5 Strongly agree

Then, based on your answer, please indicate the degree to which you find the situation to be stressful.

- 1 Not at all
- 2 A little
- 3 A moderate amount
- 4 A lot
- 5 A great deal

- 1) I am able to utilize my skills and talents to the fullest extent at work.
- 2) I have enough time to do my work
- 3) My job requires a great deal of concentration
- 4) My job allows me to be creative and come up with new ideas.
- 5) My job is enjoyable and challenging
- 6) My job requires me to remember many different things.
- 7) I am involved in important decisions that affect me

29. Please indicate the degree to which you agree with the following statements by entering your answer in the space provided at the end of each statement.

- 1 Strongly disagree
- 2 Somewhat disagree
- 3 Neither agree nor disagree
- 4 Somewhat agree
- 5 Strongly agree

Then, based on your answer, please indicate the degree to which you find the situation to be stressful.

- 1 Not at all
- 2 A little
- 3 A moderate amount
- 4 A lot
- 5 A great deal

- 1) My job has a lot of responsibility, but I don't have very much authority
- 2) I have to do things that I feel should be done differently.
- 3) I know what my responsibilities are.
- 4) I know exactly what is expected of me.
- 5) I receive an assignment without the help I need to complete it.
- 6) Explanation about what has to be done in my job is clear.
- 7) I feel certain about how much authority I have.
- 8) I could usually do a much better job if I were given more time
- 9) There are clear, planned goals and objectives for my job

30. Please indicate the degree to which you agree with the following statements by entering your answer in the space provided at the end of each statement.

- 1 Strongly disagree
- 2 Somewhat disagree
- 3 Neither agree nor disagree
- 4 Somewhat agree
- 5 Strongly agree

Then, based on your answer, please indicate the degree to which you find the situation to be stressful.

- 1 Not at all
- 2 A little
- 3 A moderate amount
- 4 A lot
- 5 A great deal

- 1) I feel safe in my work area
- 2) I feel that the safety measures put in place by the organization are adequate
- 3) I know what to do in an emergency situation
- 4) I have received adequate training to do my job
- 5) I tend to worry about my animals during the days that I am not working
- 6) I often research enrichment ideas for my animals while I am not at work.
- 7) I would be willing to give up my free non-work time to care for a sick animal

31. Please indicate the degree to which you agree with the following statements by entering your answer in the space provided at the end of each statement.

- 1 Strongly disagree
- 2 Somewhat disagree
- 3 Neither agree nor disagree
- 4 Somewhat agree
- 5 Strongly agree

Then, based on your answer, please indicate the degree to which you find the situation to be stressful.

- 1 Not at all
- 2 A little
- 3 A moderate amount
- 4 A lot
- 5 A great deal

- 1) I can adjust my work schedule if needed
- 2) I often go into work when I am sick
- 3) I often go into work on my days' off
- 4) I think the benefits package offered by the organization meet my needs
- 5) My pay is reflective of my education and experience.
- 6) My pay matches my job performance
- 7) I feel I am adequately paid compared to my colleagues at other companies
- 8) I feel that I am able to balance work and my personal life.
- 9) I feel that my job often interferes with my family or personal life

32. Now we would like you to indicate how often certain things happen at your job. Please enter your answer on the space provided at the end of each statement.

- 1 Never
- 2 Sometimes
- 3 About half the time
- 4 Most of the time
- 5 Always

Then, based on your answer, please indicate the degree to which you find the situation to be stressful.

- 1 Not at all
- 2 A little
- 3 A moderate amount
- 4 A lot
- 5 A great deal

- 1) How often does your job require you to work very fast?
- 2) How often does your job require you to work very hard?
- 3) How often does your job leave you with little time to get things done?
- 4) How often is there a great deal to be done?
- 5) How often is there a marked increase in the work load?
- 6) How often is there a marked increase in the amount of concentration required on your job?
- 7) How often is there a marked increase in how fast you have to think?

33. Please indicate what you generally do and feel when **you experience stressful events at your job**. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress. Please try to respond to each item separately in your mind from each other item, and choose the most accurate answer for what YOU usually do when YOU experience a stressful event **at work**.

- 1 I usually don't do this
- 2 I usually do this a little bit
- 3 I usually do this about half the time
- 4 I usually do this a medium amount
- 5 I usually do this a lot

- | | |
|--|---|
| 1) I try to grow as a person as a result of the experience. | 25) I try to come up with a strategy about what to do. |
| 2) I turn to work or other substitute activities to take my mind off things. | 26) I focus on dealing with this problem, and if necessary let other things slide a little. |
| 3) I get upset and let my emotions out. | 27) I get sympathy and understanding from someone. |
| 4) I try to get advice from someone about what to do. | 28) I give up the attempt to get what I want. |
| 5) I concentrate my efforts on doing something about it. | 29) I look for something good in what is happening. |
| 6) I say to myself "this isn't real." | 30) I think about how I might best handle the problem. |
| 7) I laugh about the situation. | 31) I pretend that it hasn't really happened. |
| 8) I admit to myself that I can't deal with it, and quit trying. | 32) I make sure not to make matters worse by acting too soon. |
| 9) I restrain myself from doing anything too quickly. | 33) I go to movies or watch TV, to think about it less. |
| 10) I discuss my feelings with someone. | 34) I ask people who have had similar experiences what they did. |
| 11) I use alcohol or drugs to make myself feel better. | 35) I feel a lot of emotional distress and I find myself expressing those feelings a lot. |
| 12) I talk to someone to find out more about the situation. | 36) I take direct action to get around the problem. |
| 13) I keep myself from getting distracted by other thoughts or activities. | 37) I try to find comfort in my religion. |
| 14) I daydream about things other than this. | 38) I force myself to wait for the right time to do something. |
| 15) I get upset, and am really aware of it. | 39) I reduce the amount of effort I'm putting into -focused the problem. |
| 16) I make jokes about it. | 40) I talk to someone about how I feel. |
| 17) I accept that this has happened and that it can't be changed. | 41) I use alcohol or drugs to help me get through it. |
| 18) I try to get emotional support from friends or relatives. | 42) I learn to live with it. |
| 19) I just give up trying to reach my goal. | 43) I put aside other activities in order to concentrate on this. |
| 20) I take additional action to try to get rid of the problem. | 44) I think hard about what steps to take. |
| 21) I let my feelings out. | 45) I do what has to be done, one step at a time. |
| 22) I try to see it in a different light, to make it seem more positive. | 46) I learn something from the experience. |
| 23) I talk to someone who could do something concrete about the problem. | 47) I pray more than usual. |
| 24) I sleep more than usual. | |

34. Please indicate the degree to which you believe the following statements describe you, using the following scale. Please respond with your career as a zookeeper or aquarist in mind. Try to be as accurate and as objective as possible in evaluating yourself. If any of the questions simply do not seem relevant to you, “1” may be the most appropriate answer.

- 1 Not at all true of me
- 2 A little true of me
- 3 Somewhat true of me
- 4 Mostly true of me
- 5 Absolutely true of me

- 1) I believe that I have been called to my current line of work.
- 2) I’m searching for my calling in my career.
- 3) My work helps me live out my life’s purpose.
- 4) I am looking for work that will help me live out my life’s purpose.
- 5) I am trying to find a career that ultimately makes the world a better place.
- 6) I intend to construct a career that will give my life meaning.
- 7) I want to find a job that meets some of society’s needs.
- 8) I do not believe that a force beyond myself has helped guide me to my career.
- 9) The most important aspect of my career is its role in helping to meet the needs of others.
- 10) I am trying to build a career that benefits society.
- 11) I was drawn by something beyond myself to pursue my current line of work.
- 12) Making a difference for others is the primary motivation in my career.
- 13) I yearn for a sense of calling in my career.
- 14) Eventually, I hope my career will align with my purpose in life.
- 15) I see my career as a path to purpose in life.
- 16) I am looking to find a job where my career clearly benefits others.
- 17) My work contributes to the common good.
- 18) I am trying to figure out what my calling is in the context of my career.
- 19) I’m trying to identify the area of work I was meant to pursue.
- 20) My career is an important part of my life’s meaning.
- 21) I want to pursue a career that is a good fit with the reason for my existence.
- 22) I am always trying to evaluate how beneficial my work is to others.
- 23) I am pursuing my current line of work because I believe I have been called to do so.
- 24) I try to live out my life purpose when I am at work.

35. Please describe why or what led you to choose to pursue a career in the zoological field?

36. If you have any questions, comments, or any additional information that you feel could be beneficial to this study, please feel free to write them here.
