What makes conservationists persevere? Resilience strategies at work

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Abstract Conservation professionals face cognitively and emotionally demanding tasks and a wide range of working conditions, including high levels of uncertainty (e.g. the socio-political contexts in which they must function, possible long hours and isolation from friends and family). Resilience (i.e. positive adaptation to professional challenges) can help individuals thrive in their roles. We interviewed 22 conservationists with professional experience working in low-income countries with high biodiversity and explored what helped and what hindered them in their work. We used thematic analysis to identify factors related to positive and negative psychological states and strategies to promote resilience at work. The results revealed factors that were associated with positive psychological states, including achievements and recognition for work. Organizational policies and administration, especially perceived unfairness regarding salaries, recruitment policies and promotion, were associated with negative psychological states, as were other factors related to the job context. Respondents shared their professional resilience strategies such as aligning work with one's values, and personal reflection and goal setting. We recommend that organizations support their employees in the process of building resilience by addressing basic needs and motivational factors.

Keywords Human dimension of conservation, interdisciplinary, job satisfaction, motivation, personal agency, professional development, self-efficacy, unfairness

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Introduction

To reach our collective goal of conserving biodiversity, we need conservation professionals to learn and adapt whilst taking effective and timely conservation action. Workplace adversity is an issue attracting attention in healthcare and social work (Jackson et al., 2007; Kašpárková et al., 2018) and beginning to gain traction in conservation (Moreto, 2016; Spira et al., 2018; Belhekar et al., 2020). Conservation professionals globally often represent the first line of defence against urgent environmental issues. Recent studies reported that law enforcement rangers experienced negative psychological states (e.g. stress, anxiety, fear and demotivation) because of the risk of dangerous encounters with wildlife, poachers and rebels (Moreto, 2016; Spira et al., 2018; Singh et al., 2020). Working in remote areas with less developed infrastructure also increases the risk of aviation and car accidents (Sasse, 2003). Conservation work often involves particular cognitive tasks (e.g. complex problem solving to address drivers of biodiversity loss across local, regional and global scales) and emotionally straining tasks (e.g. collaborating with stakeholders who hold conflicting interests). Such job demands could cause negative psychological states including burnout, which is a prolonged cognitive–emotional response to chronic stressors characterized by exhaustion, cynicism and reduced personal accomplishment (Maslach & Leiter, 2008). Negative psychological states can in turn lead to reduced work performance and other negative outcomes such as high staff turnover (de Jonge & Dormann, 2003). It is therefore desirable to optimize the ability of conservation professionals to adapt positively to changing conditions, uncertainty and adversity.

The increasing number of studies on resilience in social–ecological systems illustrates that the capacity of any individual or society to cope with and adapt to change depends on the resilience of the institutions they are part of and the natural resources they depend on (Biggs et al., 2015). Resilience in such systems is seen as an ongoing process of building the capacity to learn and adapt to change whilst retaining the function and structure of such systems (Biggs et al., 2015). In a similar vein, organizational psychology defines resilience as a process of overcoming adversity (including stress) and adjusting positively (Jackson et al., 2007), and it is considered critical to increasing one's capacity for learning and adaptation. As such, resilience is no longer perceived as a fixed personal trait but is linked to skills that
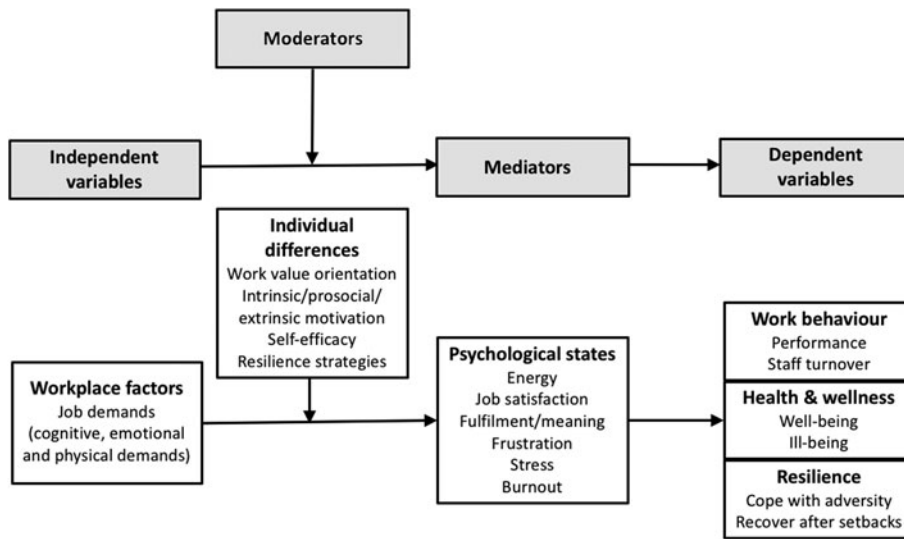
FIG. 1 Conceptual model (adapted from Deci et al., 2017) linking workplace factors with individual outcomes (i.e. work behaviour, health and wellness and resilience) through psychological states. The relationship between workplace factors and psychological states is moderated by individual differences, including resilience strategies.

can be learnt for two functions: preventative (i.e. to protect against adversity) and coping (i.e. handling traumatic situations effectively; Zwack & Schweitzer, 2013; Beresin et al., 2016).

For this study, we adapted a previous conceptual model (Deci et al., 2017) to match our research question (Fig. 1), which links workplace factors to individual outcomes (i.e. work behaviour, health and wellness, and resilience) through psychological states. The relationship between workplace factors and psychological states is moderated by individual differences, including resilience strategies. Moderators also include self-efficacy, which has been associated with the individual outcome resilience (Fig. 1; dependent variables) and relates to how one perceives one's abilities, including the ability to influence one's environment (Bandura, 2000). Work value orientation is another individual characteristic that could influence the association between workplace factors and psychological states. It concerns how people value work for a wide range of reasons (Berg et al., 2010), whether a calling orientation (i.e. work is one of the most important aspects of life), a job orientation (i.e. work is income-focused and is to support life outside of work) or a career orientation (i.e. work is used as a ladder for moving towards better, higher-level positions). The first category, also referred to as occupational calling, can be recognized when an individual feels drawn to pursue a specific occupation, believes it to be meaningful and/or intrinsically enjoyable and views that occupation as a central part of their identity (Berg et al., 2010). A calling orientation is associated with intrinsic motivation, whereby an individual takes up an activity because they find it interesting and enjoyable. Job orientation and career orientation are associated mostly with extrinsic motivation, referring to engaging in an activity for instrumental reasons such as monetary and non-monetary rewards, gaining respect from others and avoiding criticism (Ryan & Deci, 2000).

A third type of motivation is prosocial motivation, which refers to efforts aimed at helping others; it focuses on others, both in values and in goals, with the intent of producing beneficial outcomes (Grant, 2008), and is therefore distinguishable from intrinsic motivation. The mediators in our model (Fig. 1) include job satisfaction (i.e. an individual's evaluation of whether job conditions and characteristics facilitate one's job values) and work engagement (i.e. an individual's experiences resulting from doing the work, characterized by energy; Christian et al., 2011). Job satisfaction and work engagement are two critical dimensions of work-related well-being (Kašpárková et al., 2018). In this study, we examined well-being from the hedonic perspective, characterized by high levels of satisfaction and enjoyment, and from the eudaimonic tradition, which explores well-being from a perspective of actualizing one's potential to achieve fulfilment and meaning in one's life (Deci & Ryan, 2008).

Despite recent research on the significant professional risks of conservation work (e.g. Moreto, 2016; Spira et al., 2018), few studies have examined the importance of resilience in conservation professionals and, to the best of our knowledge, no empirical studies on this topic exist to date (Moreto, 2016). Past studies on resilience in professionals concern mainly healthcare providers (Jackson et al., 2007; Zwack & Schweitzer, 2013; Beresin et al., 2016). Our study addresses this knowledge gap in the conservation sector. We defined conservation professionals (hereafter referred to as conservationists) as individuals who are paid or receive compensation in exchange for work that is linked to nature conservation goals. In light of the workplace adversity that conservationists face (Sasse, 2003; Moreto, 2016; Spira et al., 2018; Belhekar et al., 2020; Singh et al., 2020) and the limited literature on this topic, which focuses mostly on rangers, we examined which workplace factors contributed to positive and/or negative psychological states in a broad sample of conservationists and which resilience strategies they

employed to cope with adversity and recover after setbacks at work. We were interested especially in conservationists working in low-income countries with high biodiversity, to guide both individual professionals and organizational management in those countries in their optimization of positive psychological states and resilience. Understanding the ways in which the positive psychological states and resilience of conservationists can be optimized and how this process can be supported by the wider environment (e.g. at the organization and sector levels) is key to their well-being and performance.

Methods

Participants and interview guide

Because of the limited empirical evidence associated with this field of enquiry, qualitative data collection and analysis were best suited to enabling the identification and development of propositions to guide future research (Newing, 2011). We undertook convenience sampling (Newing, 2011) and recruited participants from three sources: (1) the University of Kent, UK, (2) attendees at an international conference of conservationists hosted by the University of Pune, India, on 18–21 March 2017, and (3) the professional networks of the authors, with all three sources drawing on people from a range of ages, job positions and settings. This study was part of the PhD research study of TACL focusing on capacity development in countries that have limited informational, human and financial resources. For this reason, we selected only respondents who had professional experience working in low-income countries with high biodiversity (i.e. countries that are in Africa, Latin America and the developing parts of Asia). We deemed the sample size adequate to identify meta-themes across different sites and to have reached theoretical saturation (i.e. when new data from more interviews result in little to no change to the codebook; Hagaman & Wutich, 2017). Before the interview, respondents were informed by e-mail of the research aims and assured of anonymity, confidentiality and the option to withdraw from the study at any time. Interviews were conducted in English by TACL during March–June 2017 at a location convenient for the interviewee (i.e. place of work or work activity), with no non-participants present except for one interview during which a colleague of the interviewee was present. The semi-structured interviews lasted a mean of 74 minutes (range = 30–130 minutes). We designed the interview guide in English based on the available literature and the research question of this study (Supplementary Material 1). We piloted the interview guide with 10 people, of which four were non-native English speakers and six native English speakers, and we made minor wording adjustments based on their feedback. We used the consolidated criteria for reporting qualitative research (COREQ)

checklist (Tong et al., 2007) to promote explicit and comprehensive reporting in this qualitative study (Supplementary Table 1).

Analysis

TACL audio-recorded, transcribed verbatim and coded the interviews in *NVivo 12* (QSR International, 2018), using keywords to categorize positive and negative perceptions and the conceptual links between them, so that we could identify patterns and themes. We followed a thematic analysis process described previously (Braun & Clarke, 2006), using the inductive development of codes to identify workplace factors that were said to influence positive and negative psychological states (Bradley et al., 2007). We then followed a deductive approach in which we used a start list (Miles et al., 2014) based on previous research insights regarding psychological states and resilience in other sectors (Zwack & Schweitzer, 2013). We identified, refined and/or expanded on themes through a comparison of data to identify theoretical saturation (Hagaman & Wutich, 2017). Firstly, we categorized workplace factors associated with positive psychological states (e.g. energy, job satisfaction, fulfilment, motivation) and workplace factors linked to negative psychological states (e.g. stress, frustration, burnout). Secondly, we explored which strategies professionals employed to overcome workplace adversity, which we considered indicators of resilience. Finally, we generated recommendations following our analysis to help conservationists and organizations understand how to build and maintain a healthy, motivated and productive workforce.

Results

Characteristics of the participants

All interviewees had recent (< 6 months before the interview) experience of employed professional work in conservation and had worked in low-income countries with high biodiversity (i.e. countries in Africa, Latin America and the developing parts of Asia). Eleven of the 22 participants were professionals in conservation roles at the time of the interview. University-based participants included two senior lecturers, two lecturers, one postdoctoral researcher, one doctoral student and five MSc students (Table 1). The nationalities of the respondents comprised nine low-income countries with high biodiversity (Bangladesh, Brazil, India, Indonesia, Mozambique, Seychelles, South Africa, Uganda and Yemen), in addition to Singapore, the UK and the USA. Respondents from the latter three countries drew on work experiences when they were based in low-income countries with high biodiversity, including but not limited to Costa Rica, Guyana, Liberia, Madagascar, Malaysia, Mexico, Micronesia, Peru, Polynesia and Tanzania, and

TABLE 1 Demographic characteristics of the 22 conservationists, across 12 different nationalities, participating in semi-structured interviews in 2017.

Characteristics	All respondents (n = 22)	Women (n = 12)	Men (n = 10)
Demographics			
Mean ± SD professional experience (years)	17.5 ± 9.8	16.1 ± 10.1	19.1 ± 9.8
Mean ± SD age (years)[1]	41.3 ± 9.9	38.9 ± 10.5	43.3 ± 9.5
Country nationals[2]	12	7	5
Non-nationals	10	5	5
Employer			
University	5	1	4
Students	6	4	2
NGO	4	3	1
Government	1	0	1
Charitable organization or trust	2	2	0
Non-profit corporation	2	2	0
Not-for-profit company	2	0	2

[1]Mean age based on data from 8 female and 10 male professionals (n = 18).
[2]Country nationals refers to those interviewees who were nationals of low-income countries with high biodiversity.

are therefore referred to as non-nationals. Twelve participants self-identified as women and 10 as men. There were no notable differences in themes across demographic variables (e.g. country nationals vs non-nationals, career stage, gender).

Workplace factors associated with positive psychological states

In this section, comments focus on the references of respondents to positive psychological states (e.g. energy, job satisfaction, fulfilment, meaning, motivation) in the workplace. All interviewees shared experiences linked to at least one identified theme; 59% (n = 13/22) of respondents reported experiences in two or more of these themes. In total, we identified five factors linked to positive psychological states experienced by more than one participant, which we divided into minor (≤ 25% of respondents) and major (> 25% of respondents) themes. The three major themes are discussed below and supportive quotes can be found in Supplementary Table 2. An overview of these major and minor themes is presented in Fig. 2.

Recognition, rewards and appreciation   Most respondents referred to recognition and appreciation as sources of energy and job satisfaction (Supplementary Table 2). The source of appreciation or recognition was important and included beneficiaries, superiors and self-appreciation. Respondent 12 provided a management perspective:
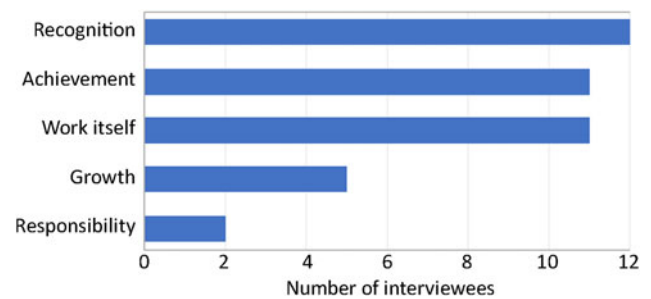

FIG. 2 Main factors associated with positive psychological states identified from interviews with 22 conservationists conducted for this study.

'I think my own experience in running an environmental NGO was that people came and wanted to contribute, but everyone had different levels of commitment, different abilities and different amounts of time they had available. Everyone had a different contribution to make and the important thing was to make them feel needed and a part of the group.'

Achievement   Work success or achievement was a source of motivation and/or energy according to half of the respondents (Supplementary Table 2). Respondent 22 explained one example: 'In the community, we are trying to change behaviours and as communities get more motivated, [...] they talk about how they want to protect the wildlife and all of that and they show it and you see it [...] and they are very appreciative of how you are helping them; you move together. [...] So maybe what inspires us is when we see some improvements, some positive changes, which are long-term behaviour change.'

Work itself   All 22 interviewees reported interest in and/or enjoyment of the work itself, indicating intrinsic motivation. Eighteen interviewees (82%) described conservation work as an occupational calling. These respondents felt drawn to conservation work and used words such as 'passion' and 'love'; they felt intrinsic joy and meaning when performing such work and they saw it as central to their identity. For example, Respondent 11 mentioned: 'I knew when I was 6 years old what I was going to do. It's not even conceivable for me to be doing something that's not conservation.' Of these 18 respondents, 11 also referred to pursuing their occupational calling as a source of energy and gratification in their work (Supplementary Table 2). Some indicated that activities that aligned with their work value orientation increased the meaningfulness of their work and their job satisfaction. The majority (n = 12) of the interviewees indicated prosocial motivation as an additional drive in their work, illustrating their desire to help others.

Workplace factors associated with negative psychological states

This section includes comments in which respondents referred to sources that resulted in them experiencing negative psychological states such as disappointment, frustration and dissatisfaction at work. Except for one interviewee (because of the interview being cut short before exploring negative states), all interviewees shared experiences linked to at least one identified theme; 68% (15/22) of respondents reported experiences in two or more of these themes. In total, we identified seven factors linked to negative psychological states experienced by more than one participant, which we divided into minor ($\leq 25\%$ of respondents) and major ($> 25\%$ of respondents) themes. The four major themes are discussed below and supportive quotes can be found in Supplementary Table 3. An overview of these major and minor themes is presented in Fig. 3.

Organizational policy and administration This major theme includes the views of interviewees on the distribution of resources, recruitment policies, promotion and professional development opportunities associated with job dissatisfaction and negative psychological states. We identified resource inadequacies as a first subtheme, which included issues concerning financial, human or informational resources. An example was provided by Respondent 1: 'How many times I take money from my pocket! [...] Sometimes we can give money for conservation from our pockets, but how many times?' This subtheme also included living situations that, because of insufficient salaries or resources, led to energy and/or health impairment (Supplementary Table 3). Secondly, interviewees highlighted that poorly defined work responsibilities and work scopes can result in low-quality performance appraisals and perceived unfairness on the side of the employee. The credibility and trustworthiness of the person running such performance appraisals also led to perceived unfairness and dissatisfaction in participants (Supplementary Table 3). Dissatisfaction also occurred in situations where interviewees felt excluded from job opportunities, professional development opportunities and/or decision-making opportunities. This exclusion could be formal or informal (a third subtheme). Some interviewees reported the formal exclusion of groups perceived as socially subordinate (including women) in the provision of job opportunities (Supplementary Table 3). Across these three subthemes, perceived unfairness emerged as a prominent theme.

Working conditions We divided experiences regarding working conditions into three subthemes (Supplementary Table 3): (1) cognitive demands, including workload and time pressure, (2) emotional demands such as high levels of complexity (e.g. stakeholders with conflicting interests,
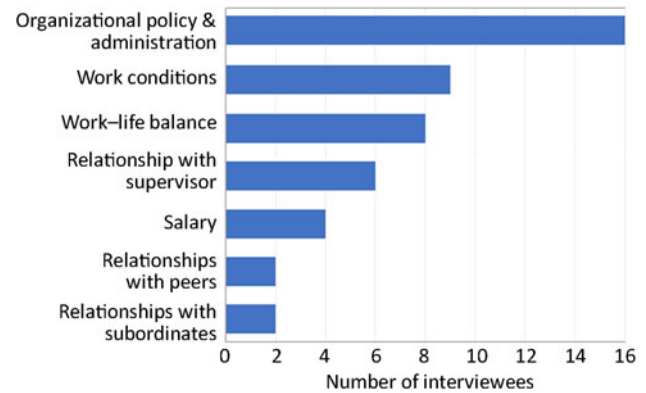

FIG. 3 Main factors associated with negative psychological states identified from interviews with 22 conservationists conducted for this study.

power dynamics), and (3) physical demands related to unsafe working conditions (although none of the interviewees had worked as a law enforcement ranger as far as we are aware). For example, Respondent 9 shared: 'The area where I work [...] [there are] many tropical diseases and every time armed force militants create disturbance to you, you cannot work.' Another example was provided by Respondent 16, who shared an account of emotional demands and an experienced loss of self-efficacy: 'I have noticed that people leave the field of conservation because they are disaffected and may get tired, they feel like they are constantly trying to push against this behemoth. The people in the conservation arena [...] lack agency and power to make the difference that needs to be made to change [...] the threats. [...] Some of it is disappointment with how things are going and how slow things are moving. Going to a place and trying to conserve and going back in a couple of years and finding it completely gone, it's hard on the heart, it's hard on the soul.'

Work–life balance The work–life balance theme includes experiences leading to negative psychological states such as emotional exhaustion (Supplementary Table 3). Some respondents illustrated how experiencing an occupational calling could intensify work stress: 'Your passion for what you do [...] drives you to perform better. You are willing to work harder and longer hours but you can also then get to a point where you start burning out and then it kind of just reverses and you don't perform as well [...]. The harder you work, the more people expect of you [...]. I got to a point [...] thinking I need to find another job' (Respondent 4).

Relationships with supervisors The last main theme comprises the experiences of interviewees with feelings of dissatisfaction at work regarding their supervisors, line managers or organizational leaders. Respondent 15 reported that over-controlling leaders left her feeling dissatisfied at work, after which she resigned from her job (Supplementary Table 3).

Particularly for people with an occupational calling it seems important that the work is meaningful and aligns with their personal beliefs and values. In cases where the meaningfulness of their work was impeded by factors related to organizational culture, such as leadership, respondents described being dissatisfied with their job.

Resilience strategies to thrive at work

This section examines how conservationists keep themselves motivated when facing workplace adversity and includes strategies that helped them cope with or prevent work-related stress whilst remaining engaged and productive. Except for one interviewee, everyone shared experiences covering at least one identified theme; 68% (15/22) of respondents reported experiences in two or more of these themes. We identified six resilience strategies for maintaining motivation at work that more than one participant experienced in this study. All six strategies are considered major themes (> 25% respondents) as discussed below and with quotes in Table 2. An overview of major themes is presented in Fig. 4.

Appreciate the positives and maintain optimism   The first strategy includes comments on appreciating the positives and is linked to freeing up energy and maintaining motivation (Table 2). Accepting personal boundaries was associated with maintaining optimism: 'I think that the biggest issue for me is to think about what is feasible and manageable for yourself. The more important thing is to do well at the scale that works for you. And then connect that to other people who are working on that scale and collectively you can have a bigger impact' (Respondent 16).

Connect to your work value orientation   Respondents who described (re)connecting with their work value orientation linked this to feelings of energy, motivation and job satisfaction (Table 2). Respondent 5 shared being affected by barriers to reconnecting to their work value orientation: 'I think that for a long time [...] I was able to keep myself well motivated because I was able to go to the field fairly regularly, and since I haven't been as mobile over the past 5 years I think that is another thing that has become a handicap in terms of keeping up my motivation.'

Reflect and set goals   Interviewees mentioned taking time to reflect on personal situations and evaluate (life) goals, which were said to help restore health, regain motivation and provide a sense of direction for their careers. Respondent 18 provided an example: 'When I do appraisals with my senior managers [...] we realized that we worked

TABLE 2 Quotes from conservationists (n = 22) interviewed for this study during March–June 2017 indicating resilience strategies related to maintaining motivation at work (Fig. 4).

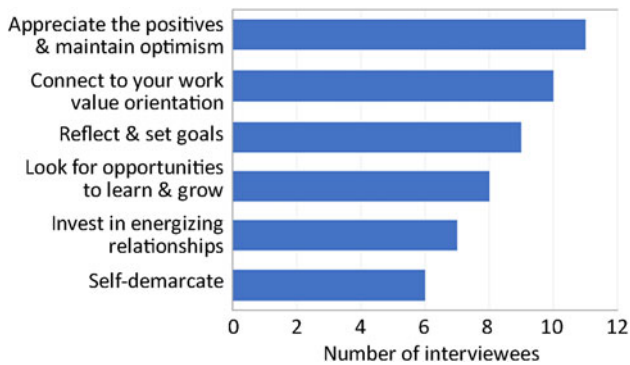| Major theme & example activities	Illustrative quotes from interviews
Appreciate the positives & maintain optimism	
Look actively for positive stories; learn from work challenges	'You need to be optimistic, you need to make sure that you expose yourself to success stories, as well as lessons learnt. [...] It might be difficult to maintain motivation knowing that you're only going to be a tiny cog in that huge engine of conservation but that's an important cog.' (Respondent 2)
Connect to your work value orientation	
Visit field sites/nature	'[I] have a passion for conservation, & I have a passion for being in the field. [...] When I track gorillas I get highly motivated, just being there with them, that's what it is all about.' (Respondent 22)
Reflect & set goals	
Create time to evaluate & reflect on (life) goals	'It's good practice to reflect [...]. You should have a goal in your life [...], it could change but it's good practice to keep you motivated on one side but also [to] keep focused.' (Respondent 8)
Look for opportunities to learn & grow	
Research; formal education; study trips; networking	'I get myself motivated by reading a lot. [...] To get ideas. When I took on my new job I realized there was so much I was lacking [...] & then gradually I got sucked into this kind of learning mode.' (Respondent 20)
Invest in relationships that energize you	
Participate in professional communities	'I was working in a silo. [...] But for me to be able to fit what I do into this network & to share that knowledge [...] allows me to feel more motivated in my work.' (Respondent 17)
Self-demarcate (set professional boundaries)	
Prioritize tasks; select which projects to engage in; limit working hours	'We wanted to support some litigation & it started getting so [...] negative. So we said we will provide you with all the inputs [...] but we are not going to be closely associated because all the lies [...] it drains me.' (Respondent 10)

FIG. 4 Resilience strategies identified from interviews with 22 conservationists conducted for this study (Table 2).

a lot but we haven't got that sense of satisfaction and achievements. So we make that the practice, we say every year, there should be one thing that each of us does, which makes us feel proud when we look back [. . .] and that is also what motivates you.'

Look for opportunities to learn and grow   Work motivation was said to be enhanced through professional growth. Respondents described different types of professional development such as pursuing formal degrees, individual enquiry research (e.g. reading), study trips to other conservation sites and becoming involved in professional networks or learning communities (Table 2). Professional growth could be pursued independently (e.g. self-study) although the majority of respondents referred to activities that involved connecting with other professionals.

Invest in relationships that energize you   This strategy addresses the importance of contact with colleagues in the profession to enhance professional knowledge and to become inspired and re-energized (Table 2). A feeling of relatedness was prominent in this strategy and overcoming feelings of isolation was regarded as an essential goal: 'Sending your staff away to a conference is about empowering your staff. Certainly, if you're in small-portfolio offices in a big country, you often feel that it is sort of isolated doing this thing called conservation. But it's about [. . .] communities of practices, realizing [and] witnessing how many people come together for a common theme' (Respondent 21).

Self-demarcate (set professional boundaries)   Defining and maintaining boundaries at work helped safeguard energy sources (Table 2) and aided in off-work recovery: 'I was starting to burn out and I had to make some decisions. [. . .] I need to try and be efficient but then leave between 5.00 and 6.00 [pm] [. . .]. Then that started changing things again slowly where I started to look forward to getting to

work again. [. . .] It helped that my boss [. . .] understood [. . .]. He was very supportive of that' (Respondent 4).

Discussion

Our study contributes to the scarce literature on the resilience, well-being and performance of conservationists. Our findings indicate that undertaking work in line with one's work value orientation, and especially the calling orientation, could free up energy and motivation, which can lead to job satisfaction, work engagement and well-being. This is in line with previous research demonstrating that people who see their work as a calling reported higher job satisfaction than those with a job or career orientation and reported missing fewer days of work, which could indicate better health and/or motivation (Wrzesniewski et al., 1997). Additionally, $> 50\%$ of our respondents experienced positive psychological states associated with work success and being recognized for this success, which corroborates previous studies across various sectors, including agriculture, manufacturing and healthcare (Herzberg, 1968), and a study amongst law enforcement rangers in Uganda (Moreto et al., 2016).

Workplace factors associated with negative psychological states in our study resemble the research findings amongst African law enforcement rangers where human resource inadequacies, a lack of informational resources (i.e. communication) and tools/equipment, a lack of provisions to meet basic needs (e.g. sanitary facilities, food, water) and unsafe working conditions resulted in physical injuries and sickness (Moreto, 2016; Spira et al., 2018). We found additional sources of stress including high workloads, pressure for results, poor supervisory and peer relationships and perceived unfairness, which corroborate the findings from research amongst Ugandan law enforcement rangers (Moreto, 2016). Our study highlights that it is not only law enforcement rangers who are at risk; building upon previous work (Maslach & Leiter, 2008), the risk of burnout extends to all conservationists facing a high workload, limited control at work, work in isolation, little recognition and reward, unfairness and work value conflicts in the workplace. Fairness (or lack thereof) has been reported to be a tipping point in this process (e.g. when staff feel angry about job inequities and lack faith in organizational policies to bring justice; Maslach & Leiter, 2008). We therefore advise organizations to consider the perceived fairness of rewards (e.g. promotion opportunities and salaries) to prevent negative psychological states amongst employees. Furthermore, exposure to unsafe working conditions (e.g. threats from wildlife, human adversaries and diseases) is not restricted to conservation rangers; none of the interviewees worked as a ranger yet a few stated explicitly experiencing psychological distress and physical pain because of unsafe working

conditions. Our results highlight working conditions that impede social relationships (e.g. with families), an issue that has also been reported in previous research on rangers and forest guards (Spira et al., 2018; Belhekar et al., 2020). We recommend that conservation organizations evaluate and mitigate working conditions that impede the safety and personal relationships of employees. Promoting an organizational culture of care in this way will positively influence work engagement, well-being, resilience and productivity (Hobfoll, 2002; Kašpárková et al., 2018).

Similar to previous findings (Herzberg, 1968; Moreto, 2016), factors identified in our study that related to positive psychological states were different from those that contributed to negative psychological states, although these were not mutually exclusive. Negative factors, also referred to as dissatisfiers, relate to the context of the job and include basic human needs (e.g. safety, salary and benefits, personal life) and, if not addressed, could cause negative psychological states (Herzberg, 1968). Positive psychological states are associated with a group of factors called motivators that relate to the work itself and to actualizing one's potential (e.g. recognition, achievement and growth). Motivators and dissatisfiers are linked to eudaimonic and hedonic perspectives of well-being, respectively (Deci & Ryan, 2008). Based on our findings, we recommend considering both motivators and dissatisfiers when organizations aim to support employees in optimizing their experiences of well-being, resilience and performance in the workplace.

Resilience strategies amongst the conservationists we interviewed matched those of physicians (Zwack & Schweitzer, 2013) in terms of useful attitudes (e.g. appreciate the positives and maintain optimism) practices and routines (e.g. self-demarcate). Two resilience strategies identified in our study (and supported by Zwack & Schweitzer, 2013) are linked directly to professional learning and growth: personal reflection and goal setting, and looking for opportunities to learn and grow. Sufficient and fairly distributed opportunities to learn and grow, and supportive leaders who foster a learning culture, were identified as two key components of effective professional development amongst conservationists (Loffeld et al., 2022). For future research we recommend testing the relationship between learning opportunities (including time for regular reflection) and a learning climate supported by organizational leaders on the one hand, and outcomes including work performance and resilience on the other.

Although we found no notable differences in themes across demographic variables (e.g. country nationals vs non-nationals, career stage, gender), the fact that interviews were conducted in English and the sample size was modest limits the broader applicability of our findings. The results of this study are thus not representative of the overall population of conservationists globally and the influence of certain demographics cannot be excluded. Nevertheless, the results can give a useful indication of the current situation amongst conservationists as they include the views of 22 professionals across 12 different nationalities and are supported by previous research across sectors. In addition, theoretical saturation was reached (Hagaman & Wutich, 2017). Furthermore, we have included practical recommendations below that could be of value across different contexts.

Implications for conservationists and organizations

Conservationists face multiple challenges that are complex, relentless and often outside their control (Bruyere, 2015). We recommend that the conservation sector acts at multiple levels in response to these findings to foster strong personal resilience in conservation work. Firstly, individual conservationists should be empowered to assess their situation. We can encourage resilience building amongst conservationists by supporting individuals in this process of gathering sufficient means to safeguard their energy, adapt positively to adversity and focus on growth and development (Hobfoll, 2002). Some conservation organizations including The Nature Conservancy and Fauna & Flora International are investing in such staff support, including mindfulness tools, guidance and mentoring. To further support this process we recommend supervisors adopt a coaching approach (e.g. asking reflective questions) vs a mentoring approach (e.g. sharing what worked in the past as the correct approach) to empower staff in identifying motivators and dissatisfiers.

At an institutional level, organizations can aid positive outcomes in the workplace by: (1) reducing stressors that influence the psychological states of employees negatively (e.g. unfairness in the workplace), (2) ensuring that unavoidable job demands (e.g. pressing funding deadlines, demanding stakeholders) are met with factors associated with positive psychological states (e.g. recognition and appreciation, coaching), and (3) ensuring that the basic needs of staff are met (e.g. sufficient salaries, work–life balance, physical safety in the workplace). Care should be taken that these three approaches are implemented to complement each other. Organizations should also look to their cultures, norms and values to help facilitate the supportive environment required to foster and embrace personal resilience. One promising approach that organizations could use to promote employee health and well-being is to actively support employees in identifying, using and developing their unique strengths at work (Meyers et al., 2018). The perceived organizational support for strengths use approach has been demonstrated to increase work engagement and satisfaction and decrease burnout across various contexts (Meyers et al., 2018). In this approach, it is key to provide employees with sufficient job autonomy and to foster a strong and trusting feedback culture that

values employee strengths and voices, which encourages the growth of individuals, teams and the organization (Meyers et al., 2018; Belhekar et al., 2020). Brief strengths interventions can help employees apply their strengths at work and have been found to be effective especially for those employees with lower levels of self-efficacy (van Woerkom & Meyers, 2018). Other initiatives to reduce negative psychological states could focus on equality, diversity and inclusion, and workplace safety (e.g. first aid training, counselling; Belhekar et al., 2020), more flexible working practices, sufficient off-work recovery and streamlined institutional systems.

At a sectoral level, we recommend wider dialogue and the sharing of learning on this topic, including from other sectors. We should equip current and emerging leaders with the knowledge and tools to value and help support personal resilience. In light of our findings and other related research (Moreto, 2016; Spira et al., 2018; Belhekar et al., 2020), we recommend that greater attention is given to the importance of self-care in conservation graduate programmes and the career development of conservationists. We hope our study will encourage dialogue on the importance of developing resilience strategies early on in one's career, preferably during one's education, and on pragmatic approaches to preventing and alleviating workplace adversity.

If enabling strategies are supported and personal resilience levels for conservationists are better nurtured, then the resulting motivation, energy and optimism in individuals should translate to more effective and timely conservation action.

Conflicts of interest ES was one of the respondents in the current study in 2017. In 2019 TACL, ES and MC were part of the organizing committee of the Global Conference on Capacity Building for Conservation during which the topics of well-being and resilience were identified as priority areas to include in the special section in *Oryx*, resulting in ES and MC becoming co-authors. No other conflicts of interest exist.

Ethical standards This research was supported by a Vice Chancellor's Research Scholarship of the University of Kent, Canterbury, UK, and has been approved by the Research Ethics Advisory Group of the School of Anthropology and Conservation, University of Kent (Ref. no. 0401617). All authors have abided by the *Oryx* guidelines on ethical standards by following the British Sociological Association Statement of Ethical Practice 2017.

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