Book Section:

EXPLORING THE EMOTIONAL EXPERIENCES AND COPING STRATEGIES OF SUSTAINABILITY CHANGE AGENTS

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ABSTRACT

Purpose: In this chapter we examine the emotional experience and identity of sustainability change agents and advance understanding of their emotion management strategies. We explore how sustainability change agents experience, manage and respond to the negative emotions that arise in the course of their jobs.

Study design: We took a mixed method and multimodal approach to answer our research questions. Using a narrative approach, we collected data using in-depth narrative interviews and supplemented this with quantitative measurement of participants' heart rate and sweat response during the interviews.

Findings: Our results confirm that sustainability change agency is an emotionally laden profession. Furthermore, we found that sustainability change agents use three different coping mechanisms including emotion-focused coping ('Rational Avoiders'), problem-focused coping ('Committed Go-getters') and meaning-focused coping ('Green Philosophers').

Originality: Our research shows that sustainability change agents experience strong negative emotions in relation to their jobs and they employed one of three coping styles: emotion-focused, problem-focused or meaning-focused coping. We found that meaning-focused coping was an isolated cognitive appraisal style, rather than a form of emotion-

focused coping. These findings provide a starting point for further work to help sustainability change agents avoid potential burnout and continue to contribute to the future health of the planet while at the same time maintain their personal wellbeing.

Keywords: Sustainability change agents, emotions, stress management, coping, burnout, heart rate, sweat response

EXPLORING THE EMOTIONAL EXPERIENCES AND COPING STRATEGIES OF SUSTAINABILITY CHANGE AGENTS

In the last several decades, researchers have taken note of the harmful impacts of our high-stakes work culture (Hobfoll & Shirom, 2000; Lazarus, 1995). As a result, stress management research aims to develop practical methods for individuals to recognise and prevent symptoms of burnout. An emergence in topics like mindfulness, meditation, and reduced work hours seek to provide individuals with solutions to manage productivity and help organisations increase retention rates and foster positive office cultures (Goyal et al., 2014). Special interest has arisen particularly in those working in 'emotional' professions, such as nursing (McVicar, 2003), teaching (Kyriacou, 2001), policing (Patterson, 2003), and social work (Lloyd et al., 2002). We argue that this research should be extended to those working in sustainability-related professions or sustainability change agents.

In this chapter we define change sustainability change agents as professionals that take on responsibility to deliver systems change in an economically, socially and environmentally sustainable way (Heiskanen et al., 2016). Research on these change agents, while in its infancy, tends to focus on roles within corporations that are specifically appointed to facilitate organisational change within business activities (Cherrier et al., 2012; Wright & Nyberg, 2012). In reality, change agents exist in all sectors, and can act independently with no specific mandate (Hesselbarth & Schaltegger, 2014). Change agents can contribute on different levels through education, policymaking, activism, consulting, research, community engagement, and in administrative capacities (Peer & Stoeglehner, 2013).

As part of their jobs, sustainability change agents face a unique set of pressures in that not only does change agency require immense emotional energy, commitment, and high-level systems thinking, but sustainability change agents must often argue their case to reluctant oppositional senior managers, stakeholders, and the general public (Walker, 2012). There is

growing evidence that wicked problems such as climate change evoke strong negative emotional reactions and induce stress, anxiety, and in some cases, depression about the future (Ojala, 2012; Reser & Swim, 2011; Wang et al., 2018). Sustainability change agents are often individuals who are particularly impassioned about resolving these issues, and to an extent they fuse these issues within their personal identity, values, and life goals (Wright et al., 2012). What we don't know is how these sustainability professionals manage their personal lives and remain motivated, courageous, and hopeful in the face of catastrophic environmental and social issues and the dominance of negative emotions associated with these issues. This is particularly important given that we are relying on these individuals to create, maintain, and accelerate positive change in our organisations and societies. By answering these questions, we extend previous research by Wright et al. (2012) focusing in more depth on the emotional experience and identity of sustainability change agents, and attempting to further understand the emotion management strategies that these workers engage in. This is particularly important given the evidence that for those involved in emotion work, there is a higher risk of burn out and withdrawal (Skovholt & Trotter-Mathison, 2014; Tracy, 2015).

In this chapter we investigate how sustainability change agents respond to climate change, both in terms of their emotions as well as their actions. We argue that a focus on emotion is necessary because emotions are crucial in understanding decision-making and behaviour (Damasio, 1999), both outside and within organisations (Ashkanasy, 2003; Ashkanasy & Ashton-James, 2005). Emotions can be described as feelings that arise in response to a stimulus (Elfenbein, 2007), an event (Weiss & Cropanzano, 1996), or encounter (Lazarus, 1991a). In this way, emotions are different from other affective states like moods because they are aroused in response to a specific stimulus (Clore et al., 2018). Emotions can also be said to serve as an information processing mechanism that helps individuals to

distinguish the relevance and importance of events or information (Scherer, 1999), otherwise known as emotional appraisals (Lazarus, 1991a).

Evidence from environmental psychology literature suggests that climate change is a particularly emotional topic and emotions are relevant to communication (Stern, 2012), perception (Clayton, 2000), and motivation to act (Bissing-Olson et al., 2013; van der Linden, 2015). Emotions can also be seen in climate change communications, with the use of negative emotions like guilt, shame, and anxiety featuring prominently (Markowitz & Shariff, 2012), alongside fear (O'Neill & Nicholson-Cole, 2009; Stern, 2012). The mixed emotion of hope is also sometimes also used in these communications (Hornsey & Fielding, 2016; Stern, 2012). Work in this area is dominated by an examination of how emotions can be used to positively influence behaviour; however, there are also negative impacts. Norgaard (2006), for example, showed that the desire to avoid negative emotions and the need to manage painful emotions evoked by climate change can lead to denial, distancing, and can prevent participation in social movements.

Research conducted to date has been important in progressing understanding of how emotions can influence communication strategies and behaviour change initiatives in the general population (Clayton et al., 2015). More recent work is emerging to suggest that emotions are particularly salient for those working in climate change related roles. Wang et al. (2018), for instance, showed that climate change evokes stronger and more frequent emotional reactions for climate scientists than those in the general population. Wright and Nyberg (2012) and Lefsrud and Meyer (2012) have also shown the importance of emotions for those working in climate change and sustainability roles. Lefsrud and Meyer (2012), for example, describe how engineers and geoscientists use emotions to frame climate change in a professional setting, both in support of, and opposition to, climate change regulation and action. Wright and Nyberg (2012) also found that emotions were important for climate

change and sustainability change agents in organisations and showed how change agents negotiated the tensions between their personal passions, their role requirements, and the societal discourse of climate change.

Thus, it is clear that sustainability change agency work has an emotional component, but it can't be as easily described as involving emotional labour in the same way that emotions are required in caring professions like medicine, teaching, or policing. We therefore follow Wright and Nyberg (2012) and frame our focus on the 'emotionology' of climate change work, where emotionologies involve "the attitudes or standards that a society, or a definable group within a society, maintains towards basic emotions and their appropriate expression" (Stearns & Stearns, 1985, p. 813). In this way emotionologies differ from emotional labour (Ashforth & Humphrey, 1993; Hochschild, 1983; Tracy, 2000) in that emotional labour is "the display of expected emotions by service agents during service encounters" (Ashforth & Humphrey, 1993, pp. 88-89). Thus, we argue that our research (and indeed that of Lefsrud & Meyer, 2012; Wang et al., 2018; Wright & Nyberg, 2012) is better described as focusing on the emotionology of sustainability change agency work rather than emotional labour or emotion work, because the emotions we investigate, while role related, are not prescribed by an employer or by implicit or explicit social rules.

Our aim in the current study is to explore the experience of sustainability change agency and to identify how (and if) sustainability professionals remain motivated, courageous and hopeful against the tide of negative information about the state of the planet. We also ask what resources they need in order to practice both personal and professional sustainability. Thus, we aim to contribute to the literature by examining how sustainability change agents find and implement effective solutions to cope with their roles and identities as sustainability professionals.

In the following section we introduce our theoretical framework and show why our perspective most closely aligns with attribution theory. We also introduce literature on emotion management and coping as a framework for understanding the lived experience of our participants. We then outline our mixed-method approach and present our results. In the final sections of our chapter, we outline the coping mechanisms employed by our participants and identify how these could usefully be developed in future to ensure the longevity and wellbeing of workers in sustainability-related fields.

BACKGROUND AND THEORETICAL FRAMEWORK

There have been many attempts to classify and describe the different research perspectives on emotions, yet to date there appears to be little agreement as to how or whether these different perspectives can be reconciled. Rather than categorising emotions, Barrett (2016) suggests that it is more useful to describe the different perspectives along a continuum. At one end of the continuum lies the classical view of emotions (Damasio, 1994; Ekman, 1992), where emotions are categorically different phenomena from perceptions and cognitions. Each discrete emotion (e.g., happiness, sadness, fear, and anger etc.) is considered to be categorically different from every other emotion, and each is caused by a different mechanism. Within this school of thought emotions are biologically primitive and can be described and measured according to very specific physical patterns that distinguish the emotion from all other emotions.

At the other end of the continuum are those who ascribe to the social or psychological construction perspective (Barrett & Russell, 1999; Russell, 2003). Proponents of this view challenge classical theorists and argue that emotions are not distinct entities but are dependent on the context or situation. From this perspective emotion words, such as happiness or sadness, refer to a population or group of highly variable instances, each of which is specific to the context or situation. In this way, proponents of this view see emotion

not as an entity with firm boundaries, but rather a category of instances (Barrett, 2016).

Somewhere within the middle of this continuum lie attribution theorists who generally consider emotion and cognition to be both intertwined and inseparable (Lazarus, 1991a; Ortony et al., 1988; Scherer, 1999); it is this perspective to which our research most closely aligns. Our aim here is not to delve into the history and nature of debate within the emotion literature, but rather to place our own research within these differing perspectives. We align ourselves with attribution theorists with the goal of furthering understanding of the emotional experiences and narrative archetypes of sustainability change agents.

The attribution perspective suggests that the impact of emotion on thought and action depends on attributions about what the emotion concerns. This can occur both consciously and unconsciously, but the underlying assumption is that emotion requires both physiology and cognition (Siemer et al., 2007). Thus, the attribution perspective differs from the classical view in suggesting that people respond with different emotions to the same situation depending on how they interpret, or appraise, the emotion eliciting event or situation. Common to most appraisal theories (e.g.,, Lazarus, 1991b; Ortony et al., 1988; Scherer, 1999) are the appraisal dimensions of: the importance of the situation or event; the expected outcome; the responsible agent; and the degree to which it is possible to control the event (Siemer et al., 2007).

The importance of the situation or event identifies the stakes involved and the intensity of an emotional experience will be tied, at least in part, to the importance or relevance ascribed to the emotion evoking situation or event (Lazarus, 1991a). The expected outcome identifies whether an event or situation is likely to result in a positive or negative outcome, leading to positive and negative emotions respectively (Lazarus, 1991a). The responsible agent is an attribution of who or what is the cause of the situation or event, which can be directed internally, to oneself, or externally, to an individual, group, or object. Finally,

the degree to which it is possible to control the event or situation refers to whether or not an individual can influence the emotion-inducing situation or event, and what their future expectation is. That is, whether the issue will get better or worse for any reason, including effective or ineffective coping (Lazarus, 1991a).

Although coping can be considered to be a response to an emotion (Folkman & Lazarus, 1988), coping is also a key variable in attribution. For example, if the initial emotion that is experienced is anger, but there is also a fear of retaliation if that anger is expressed, the emotion may soften, become moot, or change to a different emotion like guilt or anxiety. It may also be experienced but not externally expressed. In this way, coping can be said to mediate the emotional reaction to an event and therefore coping forms an important component of the attribution process (Folkman & Lazarus, 1988; Lazarus & Cohen-Charash, 2003).

Recent work by Ojala and Bengtsson (2018) investigated how adolescents were coping with climate change. They found that different types of coping mechanisms were related to the extent to which young adults engaged in pro-environmental behaviour. What they found was that those who deemphasised climate change as a problem were less likely to engage in pro-environmental behaviour, and those who engaged in problem-focused and meaning-focused coping were more likely to engage in pro-environmental behaviour.

Thus, it is clear that the emotions that arise in relation to climate change, and how individuals cope is important in determining behaviour. To date, however, very few studies have examined the relationship between climate change emotions and coping directly, and even fewer in the context of sustainability work. Indeed, Wright et al. (2012) and Wang et al., (2018) are notable exceptions in that both studies highlight the emotivity of sustainability work, yet even these studies do not examine how sustainability workers cope with this unique emotional context. Thus, our research extends the work of Wright et al. (2012) and Wang et

al. (2018) by identifying the emotional attributions of sustainability change agents and by examining in depth the strategies used to cope with these emotions in the context of their work.

Stress among sustainability change agents

While stress is a common experience shared in all occupations, sustainability change agents may feel unique pressures. Researchers have only recently begun to pay attention to the emotionality surrounding climate change, with common themes such as worry, guilt, sadness, anger, and fear (Taylor et al., 2014). Studies show that, in general, many cope with climate change through emotional avoidance in order to alleviate the pressure and negativity around future impacts (Ojala, 2012). However, little is known about how sustainability change agents cope with the ambivalence required to be engaged and successful in their job roles, as empirical research on activist burnout mainly looks at job-related factors rather than other influences (Schaufeli et al., 2017; Sohr, 2001).

Because change agents tend to strongly identify with their cause, they can experience feelings of individual dissatisfaction, detachment, and general distress about the level of impact they are having in their job roles. Working with passion may result in emotional turmoil through having to 'filter' one's genuine identity as a way of appealing to organisational and cultural norms (Walker, 2012; Wright & Nyberg, 2012). This is known as tempered radicalism, wherein individuals are personally committed to a certain cause or ideology (e.g. feminism, race issues, environmentalism, altruism) that ultimately opposes the dominant organisational or group paradigm, and must therefore assume a dualistic temperament to achieve social acceptance (Meyerson & Scully, 1995). For sustainability change agents, this tension may or may not be exacerbated depending on current organisational norms; and more specifically whether the group culture reflects similar values, and to what degree they support the change agent in their pursuits.

Another stressor may simply be their personal workload and job demands, as sustainability change agents are generally expected to 'do more with less' (Young & Tilley, 2006). This means that they not only need to create value, reduce costs, and manage ecological and social impacts, but they are prompted to accomplish this without adequate funding or staff support. This added layer of pressure might require the change agent to compromise on quality and effectiveness for the sake of maintaining their composure and meeting project expectations (Walker, 2012). These conditions also raise a question about whether or not sustainability professionals are effectively coping with pressures to prevent burnout, avoid feelings of cynicism, and ultimately remain productive as change agents (Sohr, 2001).

Unfortunately, the relationship between stress and coping behaviour in climate change remains inconclusive (Taylor et al., 2014). While some find that negative emotions, like worry and guilt, can illicit positive adaptive changes (Rees et al., 2015), these emotions can also lead to psychological distancing, indifference, and avoidance depending on the individual (Gifford, 2011). Therefore, there is a knowledge gap regarding what exactly spurs individuals to positively cope with negative emotions surrounding existential concepts like climate change or other environmental issues. Fortunately, neuropsychology and cognitive theories of emotion, along with this study, might point to this difference being variations in identity narratives and predisposed coping styles.

Coping Mechanisms and Burnout

While cognitive appraisals mainly occur on a subconscious level, individuals are capable of deliberately altering their own thought processes to change their behaviours (Garland et al., 2009). Our capacity for self-regulation and imagination without direct sensory input is partly what separates humans from other species (Baumeister, 2002), and makes us highly adaptable to existential stress and unsolvable problems. Ironically, this same

imaginative ability is a double-edged sword, and can equally lead to chronic states of depression, anxiety, and neuroses without proper intervention (Raune et al., 2005).

Psychology literature recognises three main types of coping resulting from negative emotions: 1) emotion-focused coping (EFC); 2) problem-focused coping (PFC); and 3) meaning-focused coping (MFC). EFC occurs when the observer attempts to ease or eliminate negative emotions caused by the stressor, rather than alleviate the stressor itself (Lazarus & Folkman, 1984). This entails mechanisms like avoidance, distancing, emotional repression, and emotional disclosure, e.g., through venting or journaling. Conversely, PFC involves minimising or eliminating the threat of the stressor itself through direct action. For instance, if one is concerned about plastic waste and pollution, the PFC response could be to engage in a clean-up of their local park, or lobbying local retailers to remove single use plastics. In contrast an EFC response might be to avoid thinking about the problem, writing a journal entry about it, or distracting oneself from the emotion by doing or thinking about something else.

MFC falls somewhere in the middle and involves deliberately altering one's perception of the stressor in order to alleviate negative emotions about the stressor (Schwarzer & Knoll, 2003), perhaps by seeking relevant knowledge or reframing the issue as an opportunity. This perspective reduces the potential harm and allows for the triggering of positive affective states like gratitude, hope, satisfaction, and determination. While attribution theory posits that negative potential outcomes lead to negative emotions, Folkman (2008) recognises instances where positive emotions occur despite the prediction of negative outcomes, giving the individual a sense of mastery and control.

Another term for MFC is cognitive reappraisal (Lazarus & Alfert, 1964). Lazarus' (1991b) model only acknowledges EFC and PFC, and categorises MFC as a form of EFC. This schism in psychology still exists today, in which some scholars do not acknowledge

MFC as a separate coping mechanism. However, others have made the case for isolating MFC (Folkman & Moskowitz, 2007) because MFC has shown to be notably effective when dealing with existential stressors that cannot be solved in a short period of time such as chronic illness (Gruszczynska & Knoll, 2015), grief (Guo et al., 2013), and bereavement (Gillies & Neimeyer, 2006). MFC is especially relevant to sustainability issues in the sense that appraising negative information can still result in the desire to keep pushing and not give up (Ojala, 2012).

It is important to note that no particular coping method is superior to another, although some have tried to make this claim for PFC (Riley & Park, 2014). This ranking approach to coping can perpetuate stereotypes against EFC methods like emotional disclosure through counselling or psychotherapy. Scholars have recently challenged this idea to demonstrate that both EFC and PFC are necessary to manage stress, and that relying on one form of coping is a recipe for burnout (García-Arroyo and Osca, 2017). In reality, the effectiveness of coping likely depends on the nature of the stressor. Researchers find that EFC is effective if the stressor is out of the individual's control, such as dealing with the loss of a loved one (Folkman, 2008). Yet, PFC is more effective when it comes to stressors in our control, like wanting to lose weight or improve grades in school. However, when it comes to wicked problems like climate change, poverty, or death, the notion of control is not very clear. This initial appraisal differs among individuals, and is what results in such a varied spectrum of reactions.

The field of psychology acknowledges certain maladaptive ways of dealing with stress that harm well-being, such as rumination (Joormann, 2006) or emotional suppression (Petrie et al, 1988). Managing stress and preventing burnout requires the presence of positive emotions to maintain a healthy balance of EFC, PFC, and MFC mechanisms, otherwise known as psychological resilience (Tugade et al., 2004). In line with this perspective, we

argue that it is more effective to employ a mixed range of adaptation mechanisms, rather than prioritising one form of coping. For instance, relying only on PFC can lead to having unreasonably high expectations and result in frustration, anxiety, and exhaustion. Equally, relying only on EFC may cause individuals to isolate themselves, abandon personal commitments and lead to depression or even substance abuse (Penley et al., 2002). This depletion of cognitive resources is essentially what researchers refer to as 'burnout,' and prevents individuals from leading healthy, productive lives.

The purpose of this study is to examine the role of change agents' identities in determining particular emotional experiences and narratives around climate change by observing stress through qualitative interviews and physiological monitoring. By understanding how one's emotional appraisal of stressors like their professions and climate change can shape perceived coping potential, this research can help sustainability change agents become aware of their predisposed styles of stress and coping. This study gets us closer to establishing effective stress management resources that can be accessed by sustainability professionals to prevent burnout, improve productivity and satisfaction, and ultimately equip a cognitively resilient workforce for addressing society's systemic problems.

METHODS

In this research we took a mixed method and multimodal approach to data collection. Recent advances in emotions literature suggest that different modes of data collection can facilitate greater understanding of the emotional experience (Barrett, 2016; Clore et al., 2018; Siemer et al., 2007). As Mauss and Robinson (2009, p. 209) contend, "experiential, physiological, and behavioural measures are all relevant to understanding emotion and cannot be assumed to be interchangeable" (see also Barrett, 2016). We also note that while the assumption of classical emotion theory is that different modes of measuring emotion should be correlated, this is not often the case (Barrett, 2004, 2016; Mauss et al., 2005). In our

methods we therefore used a multimodal approach using self-reported and physiological measures of emotion in order to gain a more nuanced understanding of the emotional experiences of our participants.

We took a qualitative interview approach in order to capture the rich descriptions of the core constructs (Denzin & Lincoln, 2003), allowing participants to describe in detail their work, their understanding of climate change, their feelings and experience, their coping styles, as well as any related behaviours they engaged in. We supplemented our qualitative data with quantitative physiological measures of heart rate and sweat response to observe participants' physiological stress over the course of the interview. These physiological measures are indicators of the sympathetic nervous system, which controls the largely involuntary response to stimuli. The sympathetic system supports the mobilisation of the body in response to threatening events (i.e., fight or flight) and this system is a central component of the emotional experience (Christopoulos et al., 2016; Mauss & Robinson, 2009). Thus, the sympathetic system is a neuro-physical system that is involved in emotions states (Gross & Levenson, 1993; Izard, 1977; Li et al., 2015).

The measurement of physiology is indicative of the broader dimensions of arousal and stress and can therefore provide additional information that cannot as easily be observed from self-reported emotions alone. Thus, although the physiological measures could not help us identify specific types of emotion but rather this additional measurement gave us an indication of the level of arousal and stress experienced by our participants during the interviews.

Participants

Participants were residents of the United Kingdom and we recruited them through a mix of personal and online networks, and direct recruitment at 'Green Drinks' networking events (a monthly informal gathering of sustainability professionals, Green Drinks, 2020).

Participant recruitment was from any sector, job role, and organisation of any size in order to capture a broader scope of sustainability change agency narratives. They qualified for participation as long as they self-identified that their work was directly related to sustainability. We define sustainability using the classic three-pillar approach (Elkington, 1994), as in those who advocate or work towards solving social, economic, and environmental issues, but also including those more broadly engaged in addressing wicked problems like climate change, food security, poverty, etc. Correspondence was primarily via email, and participants were given a detailed information sheet outlining the procedures and potential risks before they agreed to participate.

Participation was voluntary, incentivised with a coffee voucher as a token of appreciation, and all subjects gave their informed consent before the interview. We replaced participants' names with pseudonyms and redacted all other identifying information (company name, age, degrees and affiliations) from transcripts. The research was conducted in alignment with The British Psychological Society Code of Human Research Ethics (The British Psychological Society, 2014).

The sample included 17 participants (11 females, 6 males) between the ages of 23 to 62, with an average age of 36. Participants represented a wide range of roles including: environmental and sustainability consultants (3), community organisers (3), an engineering consultant (1), a city counsellor (1), CSR managers/advisors (4), academic researchers (2) and administrators (3). Participants collectively held current positions across a total of 20 organisations.

Procedure

Interviews lasted 70 minutes on average, ranging from 39 to 98 minutes. Before beginning the interview, we asked participants to place the physiological sensors on their

non-dominant hand and then asked them to relax and refrain from moving their hand as much as possible to avoid disturbing the physiological measurement (Li et al., 2016).

We gathered physiological data using the NEULOG Heart Rate (HR) and pulse logger 208 to record heart rate, and the NEULOG Galvanic Skin Response (GSR) logger 217 to record sweat response. The NEULOG equipment uses non-intrusive sensors that attach to the skin to monitor and record heart rate (beats per minute) and sweat response (measured in micro-siemens) at 10-second intervals throughout the interview. To ensure accurate measurement, we asked all participants not to engage in strenuous exercise (defined as thirty minutes aerobic activity) in the hour prior to the interview. All participants were over 18 with no history of heart conditions, hypertension or diabetes, and all were non-smokers.

We piloted questions prior to interviews commencing and carefully selected questions to invoke an understanding of the individual's view of climate change and sustainability change agency. This required the subject to describe their experience from multiple perspectives and situations, a common strategy in identity studies (Kraus, 2000). Though the field of sustainability engages on a broad range of issues, for the sake of simplicity, we asked participants to specifically reflect on the existential threat of climate change.

The interview was split into three broad areas of questioning. In the first section, we asked participants to describe their personal life map or timeline of their journey to becoming a change agent. They were then asked directly about their perceptions and emotions related to climate change including the importance of climate change and other issues, the responsible agent, and whether they believed we were capable of addressing it (availability of resources for coping); thus elucidating participants' key appraisal dimensions (Siemer et al., 2007). In the final part of the interview, we asked participants about their experience with coping with any emotions from their work as sustainability change agents and they were asked to provide

advice for other change agents on how to best cope with their jobs based on their own experiences.

Analysis

We used several frameworks to theorize and develop a template analysis for coding the interviews and thematically; namely: 1) rhetoric on identity based on the codes and three categories expressed in Wright et al. (2012); 2) their appraisal of climate change based on the four most common appraisals (Siemer et al., 2007), specifically looking at the importance of the situation, the expected outcome, the responsible agent, and the degree of control; 3) the types of coping behaviours used, namely whether it was EFC, PFC or MFC; and 4) physiological arousal. We analysed qualitative data on an individual basis, but also pulled together broad themes and common observations across all participants. This is because past research has shown that individuals typically demonstrate characteristics of more than one identity due to the fluid nature of narrative and self (Wright et al., 2012).

Our analysis of physiological data (sweat response and heart rate) was used to complement the individual qualitative analysis and helped us to capture any interesting patterns or trends. We first isolated individual physiological data and calculated mean heart rate and sweat response for the duration of each individual interview. Peak arousal periods were identified by isolating peaks and troughs that surpassed one standard deviation above or below the baseline mean. Periods of high or low arousal were characterised by a minimum of 60 seconds sustained high or now arousal in order to avoid analysing irrelevant 'chance' peaks and troughs that were likely caused by irrelevant fluctuations or other environmental factors such as slight variations in temperature. By overlapping the physiological arousal data with the matching interview transcripts, we were able to enhance coding of the qualitative data through this mixed method approach.

RESULTS

Our respondents presented themselves in different ways when describing their work, emotional experiences and coping strategies. Based on our analysis and building on the three identities outlined in Wright et al. (2012), we identified three emotion paradigms of sustainability change agents, which we label the 'rational avoider', the 'committed go-getter', and the 'green philosopher'. Each built upon a respective appraisal narrative of loss, threat, or challenge respectively, and was associated with a dominant coping style (EFC, PFC, MFC respectively). We also found distinct patterns of physiological arousal within each archetype. In the following sections we outline each archetype, describe the dominant emotional attributions in relation to climate change, highlight their dominant stress tendencies and coping styles. We then explore the implications and contributions this research makes to the wider literature on sustainability change agency and stress management.

The Rational Avoiders

The first identity archetype we identified were detail-oriented, analytical thinkers who primarily described their motivations in terms of logic and evidence-based thinking. These participants described how they thought change should be enacted within existing systems and institutions incrementally. They described their goals as change agents as a need for cohesive, steady, and meaningful long-term progress. There was also a sense of pragmatism for these participants, and a recognition that individual action was constrained by the system in which they were operating.

Our finding of this archetype parallels the 'rational managers' described by Wright et al. (2012) and our findings echo their descriptions of pragmatic individuals who generally reject associations with environmental activism in order to maintain a trustworthy reputation. Our findings extend the work of Wright et al. (2012) by identifying the emotional attributions and coping strategies of this group of sustainability change agents.

Participants who identified with this archetype described their evidence-based worldview and reported a pessimistic appraisal of climate change. For this group, there was a dominant emotional attribution of loss; and no number of small actions could offset the apocalyptic projections modelled by scientists. Participants also expressed the lack of someone to blame or suggested 'everyone' was to blame, and cited their lack of control over environmental issues, particularly climate change. Thus, there were frequent expressions of disheartenment and in some cases, depression. For example, James, a CSR manager at a financial services company, expressed his disheartenment and disengagement,

> *Why bother trying to solve something that you know is unsolvable? . . . I [concluded] that no matter what I do as an individual, it's too late. So, I've taken the view of, I'm going to enjoy my life. I still care about it, and I still try to actively not contribute, but I'm definitely in the camp of, it's too late.*

The primary loss appraisal thus led the individuals to perceive little to no resources available for coping, and therefore the dominant response described was EFC, mainly through avoidance and distancing, to combat their pessimistic view of the future.

Within interviews, rational avoiders most often appeared calm, stoic, and relaxed. They often denounced a disruptive or activist approach, and argued that taking such an approach would be likely to hurt their reputation among important stakeholders. For this group there was a dominant coping style of detachment and a focus on task and work efficiency. When dealing with the stress of climate change, participants of this type leant predominantly on avoidance and psychological distancing in order 'keep plugging away' to get the job done.

> *"I'm not . . . worked up about it. I kind of look at look at myself as a spectator on this… almost view society as I'm watching these things evolve and seeing it*

happening in front of my very eyes . . . spectating on the activity rather than being an active participant within it." (James, CSR manager)

Rational avoiders discussed their experiences of burnout and described entering states of depression, cynicism, and feeling that their work was meaningless. Yet, these participants also described how they suffered quietly and gradually removed themselves from their peers and their responsibilities.

Physiological data analysis. Analysis of physiological data was consistent with these self-reported expressions. We examined the extent to which participants had sustained spikes or troughs (longer than 60 seconds) in their physiological measures. As illustrated in Figure 1, rational avoiders rarely had sustained peaks and troughs in either heart rate or sweat response. This suggests that those in this group kept their emotions in check and did not demonstrate the same high levels of sustained physiological arousal that was present in the other two groups.

Insert Figure 1 about here

The Committed Go-getters

On the other end of the spectrum, we found a group of outspoken individuals who placed great value on building networks and communities of advocacy and support. This group, which we label the 'committed go-getters', demonstrated a fierce passion and commitment to sustainability and a commitment to activism across their personal and professional lives. These individuals were often very energetic, citing examples of their personal sustainability behaviour. They reported strong beliefs in 'practicing what you preach' and not compromising on their personal values. Participants also described efforts to disrupt or break free from institutions and traditions that they saw as deterring progress towards achieving sustainable societies. Because of this, they saw their goal as change agents

was to enact rapid, drastic change, no matter how big or small. Our findings in this category parallel Wright et al.'s (2012) descriptions of committed activists and our findings extend current knowledge by showing how this group tended to experience emotions associated with an attribution of threat and engage in problem-focused coping as their dominant coping style.

Our results showed how go-getter types predominantly interpreted the stress of climate change as a threat. Narratives illustrated how the problem of climate change was framed in terms of a long-term problem, but also one that was able to be solved. Participants reported clear and direct attribution of responsibility for and a belief that climate change is a threat exacerbated by certain guilty parties, particularly governments and industry. Thus, the emotions expressed within this group were more varied than those that dominated in the rational avoider's archetype.

Anxiety was a common emotional expression for those who aligned with this archetype. For example, Monica, a corporate responsibility administrator, spoke about the pervasive anxiety in sustainability work,

> *I think by nature of a lot of people who work in sustainability are quite anxious people. And I think that's why we care, why we get into the field. But then obviously, that has its negative aspects as well, where we do push ourselves really hard. And we do want to see really good work and good projects and good results. And when we don't necessarily get those. Erm, yeah, that can have negative impacts on people as well.*

There were, however, also clear descriptions of blended emotions, with both positive and negative emotions being experienced concurrently. Thus, while negative emotions like fear, anger, guilt, and fatigue, prevailed, committed go-getter types also demonstrated a surprisingly positive worldview, because they believed any problem can be solved. As Martha, a sustainability research administrator, explained:

"Because I'm an administrative, I'm really very flexible and pragmatic. I'm always focused on, 'what is your issue? How can I solve it?' I think everything is solvable, apart from death . . . But there are people who work in administrative units that are rigid . . . I'm not interested in 'you can't do that.' I'm interested in 'how do we solve the problem?'"

As illustrated in the comment from Martha, the dominant coping style for participants most aligned to this archetype was problem-focused coping. Rather than avoiding the anxiety or stress as was dominant in the rational avoider group, those who aligned to the committed activist archetype reported being able to experience stress and then quickly bounce back and proceed to the next best option. To cope with their anxiety and frustration, participants reported taking direct action to address the issues they had identified. For instance, Martha found that when there was a lack of support and collaboration among others in their network, she would be the one to establish the support network themselves,

"It was one of those things where I just thought, 'I feel really strongly about this. But where is this community of people in the UK we can share this information?' . . . And I found that having a community of people who are concerned and sharing stuff, you feel like, yeah, I'm not alone in this."

Holly also described how she coped with negative thoughts and feelings by attending a class that she says revitalised her passion. Since engaging in these problem-focused activities she reported feeling more positive and resilient to stress since she started taking better care of herself physically and emotionally.

I was having conversations with other people in the field, and they just seemed really vital and energized and I really enjoyed the course and it just honestly really kind of turned me around and made me feel like interested in the career again.

Physiological data analysis. In analysing the physiological data for this group, we found that participants had frequent periods of arousal (longer than 60s) in both heart rate and sweat response, but these returned to baseline levels quickly (see Figure 2). Thus, the physiological measures were consistent with the self-reported expressions of high emotional arousal and the ability to recover quickly. The qualitative results suggested that the focus on reframing or changing attributions was more positive and action oriented, suggesting that participants 'bounced back' from negative emotion experiences. The physiological data also suggests that participants in this group were able to regulate their emotions following a period of arousal. That is, the graphs in Figure 2 show the experiences of peaks and troughs in physiological arousal followed by a reduction in arousal and a return to baseline levels.

Insert Figure 2 about here

The Green Philosophers

The final category of participants we identified we have labelled the 'green philosophers.' Participants who most closely aligned with this group spoke of being goal-oriented, purpose-driven, and working from a systems-thinking perspective. Participants presented themselves as deep thinkers and described a hunger for knowledge and a sense of ambition for achieving their sustainability-related goals. Within this archetype, participants spoke of engaging in sustainability change agency not only in their working lives but also their commitment to 'off the clock' advocacy and particularly their enthusiasm and passion for discussing sustainability with their friends and family. Thus, for these participants sustainability was core to both their personal and professional lives.

This group paralleled findings from Wright et al. (2012) who described them as 'green change agents'. This archetype is the classic case of the tempered radical, living in a flux state of duality and carrying an underlying sense of otherness. These individuals

identified with the specific role of embedding sustainability changes within wider society and engaged in shaping collective meaning by raising awareness and discussion through discourse. These individuals reported profound satisfaction in their work and are highly purpose driven. Regina, an environmental consultant at an environmental consultancy firm, described how she felt about her current role, "I kind of am in my dream job already. I'm extremely happy where I am. And it's very challenging, and it is stressful at times. But it's really rewarding at the same time."

Those most aligned with the green philosopher archetype reported a desire for new knowledge, frequently seeking out the latest information and engaging in discussions with peers, friends and family. While this was knowledge seeking was sometimes an effective way to ensure they were up to date with the latest information and evidence, participants also reported times when this strategy led to rumination, causing them to shift them into a negative space of doubt, anxiety, and hopelessness.

> *"It's not sleepless nights. It's more of a, thinking about every waking moment . . . I don't really deal with it. I usually get to a point where I just resigned myself to the fact that I can only do what I can do."*

Philosopher-types showed a tendency to align most closely to an appraisal of climate change as a challenge. While they saw the stressor as having a negative outcome, they were still somehow able to elicit positive emotions about their work, including hope, satisfaction and determination. Philosopher-types thus demonstrated a profound sense of realism, citing that although the culprit of climate change is unclear, this shouldn't stop us from trying to solve it. For instance, Regina states, *"I feel like I accepted the fact that the world we currently live in is hypocritical, and we can't escape that."* Thus, this group was comfortable with uncertainty and duality, and they stayed motivated and found positive meaning from the stress of climate change, making them skilled meaning-focused copers.

Through their meaning-focused coping practices participants who aligned with this archetype changed the meaning of the stressor itself in order to make it more emotionally manageable for themselves and digestible for others. Knowledge-seeking was a primary coping method for philosopher-types, though MFC took on several forms like engaging with like-minded peers, planning, and deep reflection or prayer and meditation. Participants reported trying to find the 'bigger picture' and celebrating small victories and their contributions to larger scale change. One participant, Leonard, describes the books and philosophies he leans on to influence his work, as well as why he admires certain heroes:

> *". . . people like Gandhi, Martin Luther King, offering leadership with a theological underpinning, which I think gives it deep, deep underpinning . . . so, when think about what shaped my work, it's my engagement with, I suppose ideas and theories, that then helped me . . . make sense of . . . what we intuitively already kind of feel like we're doing or should be doing are doing."*

Roger, an expert media communicator, gave a thoughtful reflection on the role of narrative and personal paradigms, summarising the essence of his own practice of meaning-focused coping:

> *Your worldview is a narrative. They're the same thing. So, your worldview is an overarching narrative and you can divert from it up to a point, but after a while you get this cognitive dissonance and you either have to change the narrative or you have to deny the interloping idea.*

> *Physiological data analysis.* The physiological data for those in this group was markedly different to those in the other two archetypes (see Figure 3). Our analyses showed that the level of arousal, particularly evident in their sweat responses, continued to increase over the course of the interview. Observations of those in the green philosopher category showed that although heart rates peaked and recovered, sweat response moved in an upward

trajectory throughout the course of the interview, with little to no recovery to baseline levels. This is illustrated by Holly's and Leonard's physiological output in the graph below (see Figure 3). This could be a result of rumination, where participants were not able to process or recover from their emotional experiences and thus, their physiology continued to show a high level of arousal.

        Insert Figure 3 about here

DISCUSSION

This study confirms three main findings. First, most sustainability change agents report experiencing some form of stress and burnout in their roles, either due to their workload, personal matters, or because of general anxiety about the state of the world. By delving deeper into Wright et al.'s (2012) work and threading together common narratives and emotional experiences of sustainability change agency, we observed how individual stress and coping styles can manifest in at least three distinct ways. The three archetypes, Rational Avoiders, Committed Go-getters, and Green Philosophers each have their own unique advantages and approaches to change agency, as well as their own drawbacks when it comes to managing stress. These inner paradigms can affect one's perceived capacity and effectiveness for achieving broader societal change and life satisfaction (Saklofske et al., 2012; Tsaur et al., 2016). If stress is prolonged and maladaptive coping methods remain unchecked, change agents can risk becoming disillusioned, self-deprecating, anxious or depressed over time. Working with passion might require a degree of emotional awareness in order to self-regulate negative stress and stay motivated. Appraisal theorists make suggest that emotions are a form of internal narrative and that self-awareness can be facilitated through tools like storytelling (Lazarus, 2006).

Secondly, this research highlights potential training content that could be developed to help sustainability professionals develop their emotional resilience and mindfulness skills. While change agents do encounter resistance to change in a general sense, perhaps from loved ones or within the public discourse, most participants did not find that was the case in their current job roles, and generally felt that their organisational culture and top managers did align with their values and supported their desires to have a positive impact. However, this level of emotional support from their colleagues is mainly contingent on the nature of the industry or job role itself and organisational norms (Meyerson & Scully, 1995). For instance, those working in environmental consultancies or academic institutions may be likely to be surrounded by like-minded peers, and do not face the plight of the tempered radical. As a result, these participants reported more general satisfaction with their roles, with some comparing it to previous sustainability roles in which they felt more isolated and ineffective. This might also depend on the organisational hierarchy and how closely they integrate the change agent's role within their team, which results in the change agent feeling more connected and validated by the organisation (Parisi, 2013).

Overall, however, more research is needed to better support sustainability change agents in their mental health. Studies have shown a strong link between empathy and environmental activism (Hirsh & Dolderman, 2007). This may mean that, in general, those working in climate-related fields are naturally more sensitive and emotionally solicitous than the average person. Thus, behavioural coping training can perhaps be integrated early on in sustainability education curriculum or integrated into professional workshops and resources that are accessible to sustainability change agents. Additional resources outside of this study that were proposed by some participants included establishing a special support network, sharing positive stories and circulating materials directly relevant to sustainability professionals.

Finally, this study makes the case for MFC as an isolated method of coping, rather than categorising meaning-focused coping as a form of EFC. This is because the pursuit of MFC may involve a mix of both PFC (seeking information, establishing instrumental networks, planning) and EFC (meditation, self-reflection, journaling) strategies (Schwarzer & Knoll, 2003). Countless studies have also found that MFC is the most effective way to engage in positive reappraisals of negative stress (Folkman, 2008; Folkman & Moskowitz, 2007; Guo et al., 2013), and is a crucial mechanism in dealing with long-term stressors like climate change to elicit positive affective states such as hope (Ojala, 2012). MFC, otherwise known as cognitive reappraisal, may require unique cognitive skills related to a form of interoception in where the individual can understand what is happening internally and readjust the stimulus accordingly to reduce negative emotions (Garland et al., 2011). MFC is essentially the ability to be able to rewrite your own story.

These findings are compelling enough to spur further research into narrative identity among change agents and their influence on emotional health and predisposed behaviours. Addressing stress and burnout among change agents must be part of the wider global climate resilience strategy. No amount of scientific evidence or technological innovation will help us reach sustainable development goals without an emotionally resilient workforce implementing these ideas and advocating for the necessary paradigm shift to facilitate change for sustainability on a global scale.

Limitations

There was some evidence in our data that the archetypes were not unidimensional for participants, but rather that they had experienced other types at different times, and that each participant tended to cycle through all three to an extent when talking about themselves or their peers, perhaps exhibiting one or two dominant types personally. This is supported by other studies (Wright et al., 2012), and thus, it may be that participants move between

archetypes over time and more research is necessary to examine whether this is the case and how this process might influence individuals' abilities to cope with the emotions associated with sustainability change agency. Thus, future studies that employ a longitudinal approach would be valuable in further advancing understanding of the lived experience of sustainability change agents.

We would also encourage future research to examine a broader range of demographics. Our sample was predominantly female (65%), which may have influenced our results. There is some evidence, for example, that suggests gender influences coping tendencies, with females more likely to engage in EFC (Billings & Moos, 1981; Matud, 2004). However, some studies conclude that these differences are negligible (García-Arroyo & Osca, 2017).

Additionally, the NEULOG equipment limited the depth and types of quantitative analysis available. For instance, the sweat response monitors only measured between $0 - 10$ micro Siemens, which made it challenging to utilise participant data that went 'off the charts.' Data readings of both heart rate and sweat response were static and unidimensional, as the equipment simply logged readings in 0.5 second increments. This deterred more in depth analysis of other physiological determinants of stress such as heart rate variability (HRV), sweat response amplitudes, and mean recovery times (Christopoulos et al., 2016). This does, however, point to opportunities for future research to further investigate these issues using more detailed measurements; however, more sophisticated equipment does tend to be costlier and require advanced training to operate correctly.

CONCLUSION

Managing future climate impacts requires an effective and emotionally resilient workforce to successfully embed sustainable changes within society. However, climate change can become a deeply personal issue for sustainability professionals, and lead to

burnout when not properly managed (Sohr, 2001). This study confirms that change agents do experience some form of burnout due to job-related factors, personal issues, and existential stressors such as climate change. Results also assert the importance of MFC as an isolated cognitive appraisal style, rather than as a form of EFC. Finally, this research spurs further exploration of stress management through innovative mixed methods that combine physiological indicators with the power of identity and storytelling to produce rich, descriptive data.

Using temperament theories as a basis for categorising predisposed stress and coping styles can help change agents become self-aware of their own symptoms of burnout and coping tendencies (Moos & Holahan, 2003) and prompt the adoption of personally relevant and successful stress intervention methods (Martelli et al., 1987). Cognitive resilience is a key facet of personal sustainability, and will help change agents recover from stress more quickly and remain productive in response to climate change. This emotional intelligence should be required as part of their ongoing training, especially considering climate impacts are projected to worsen in the foreseeable future. The concept of behavioural temperaments in narrative genres can make this information easily digestible and transferable into workshops, reading materials, personality assessments, and other stress management tools.

In conclusion, research needs to pay more attention to stress and burnout among change agents as part of the wider global climate resilience strategy. No amount of scientific evidence or technological innovation will help us reach sustainable development goals without an emotionally resilient workforce implementing these ideas and advocating for a paradigm shift.

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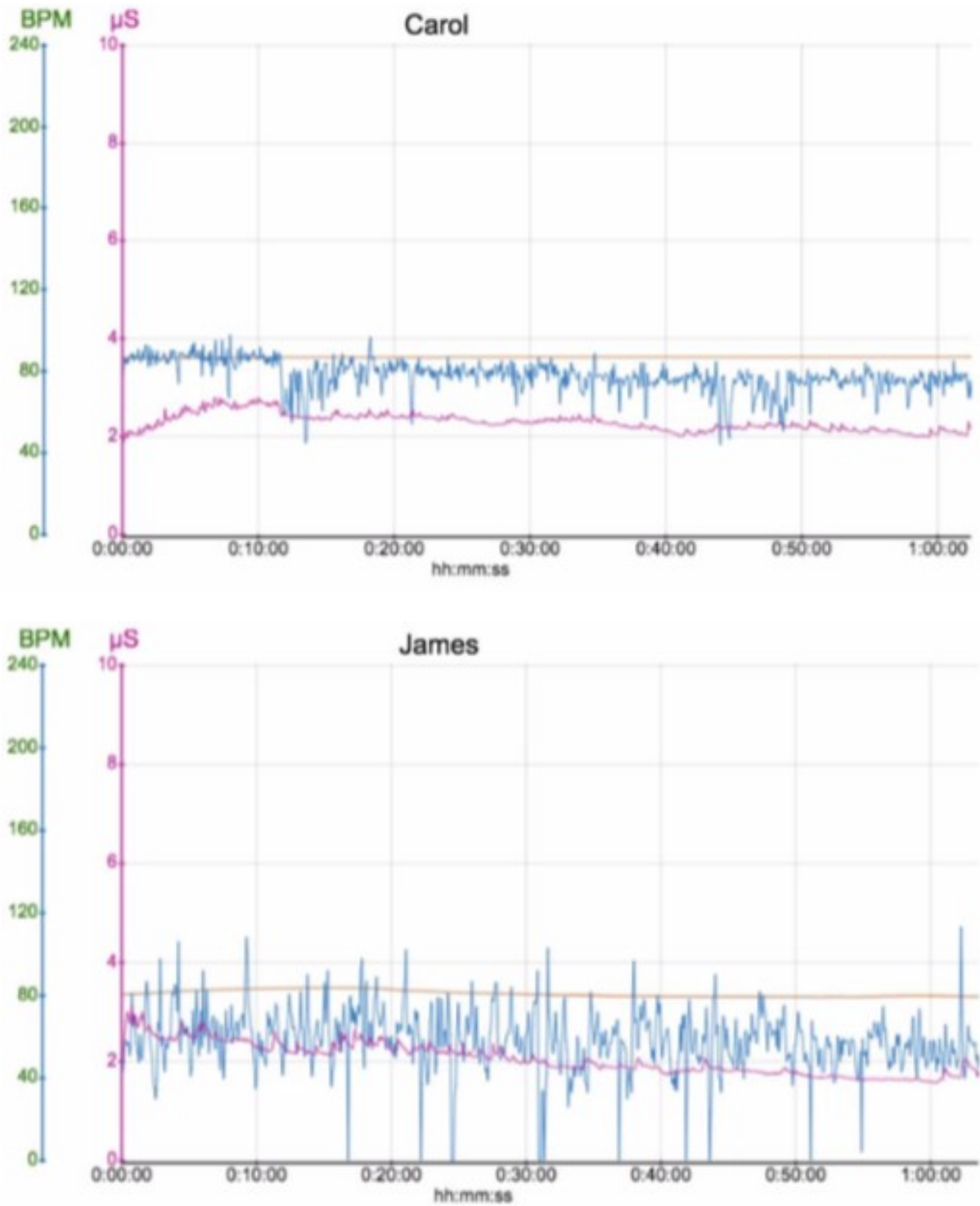
Figure 1. Physiological output of heart rate (beats per minute) and galvanic skin response (micro-siemens) for Carol and James, illustrating the rational avoider archetype
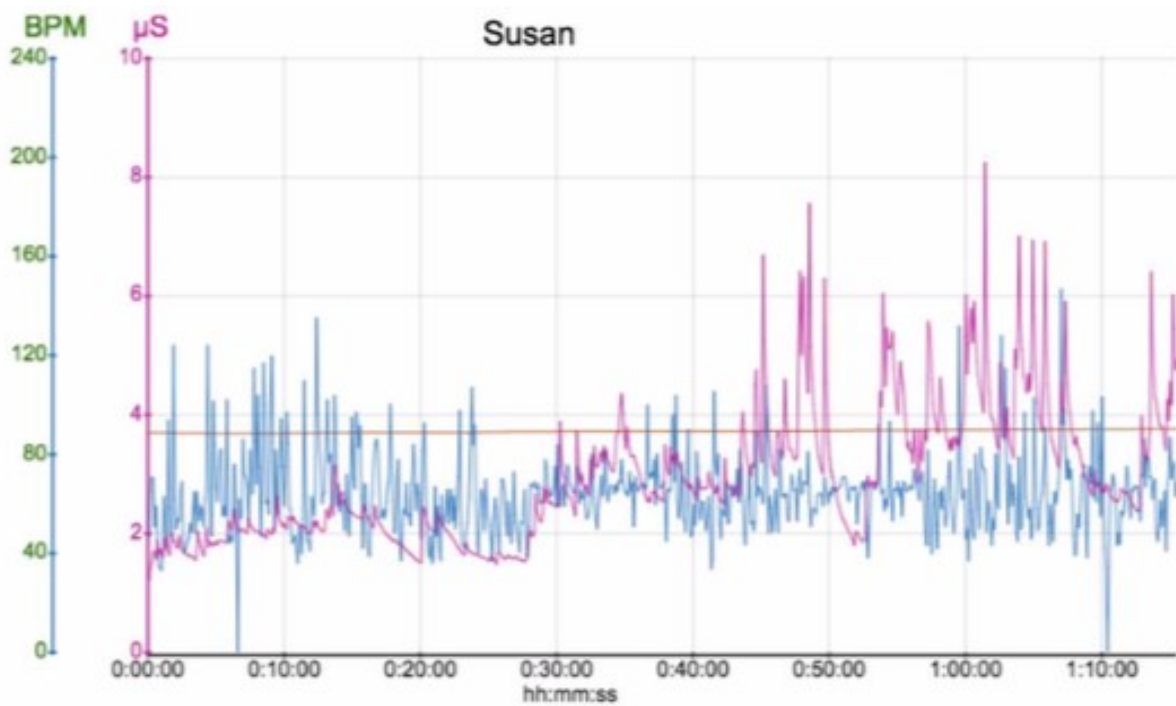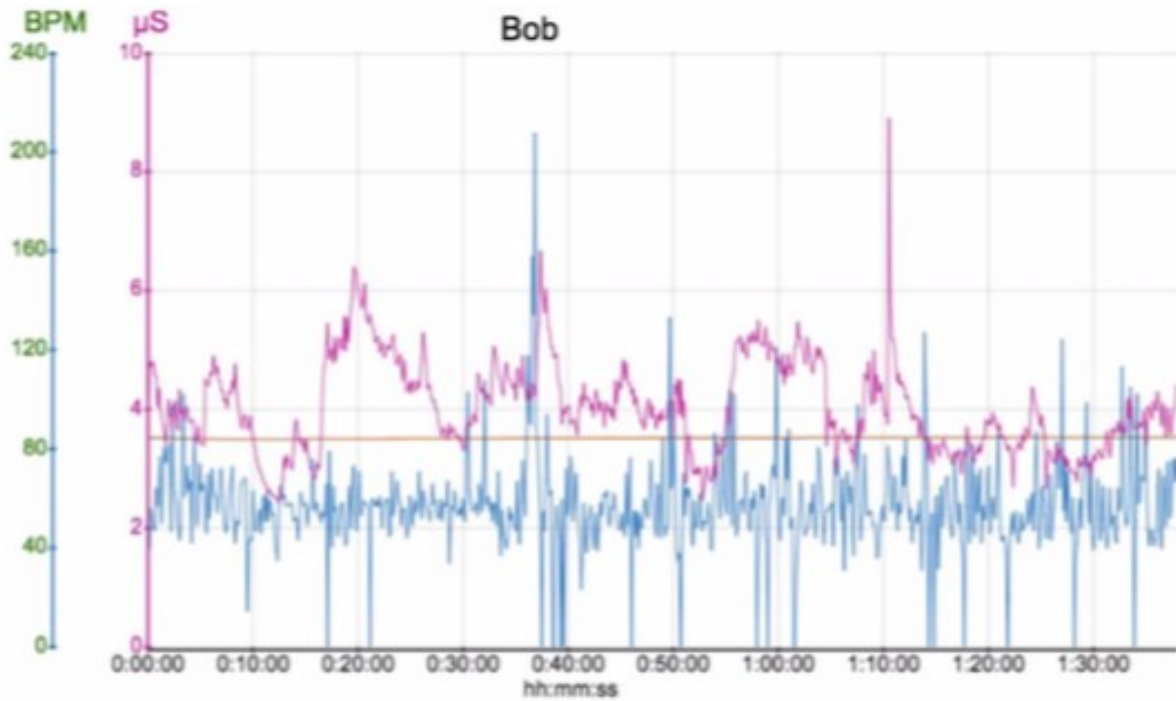
Figure 2: Physiological output of heart rate (beats per minute) and galvanic skin response (micro-siemens) for Bob and Susan illustrating the committed go-getter archetype
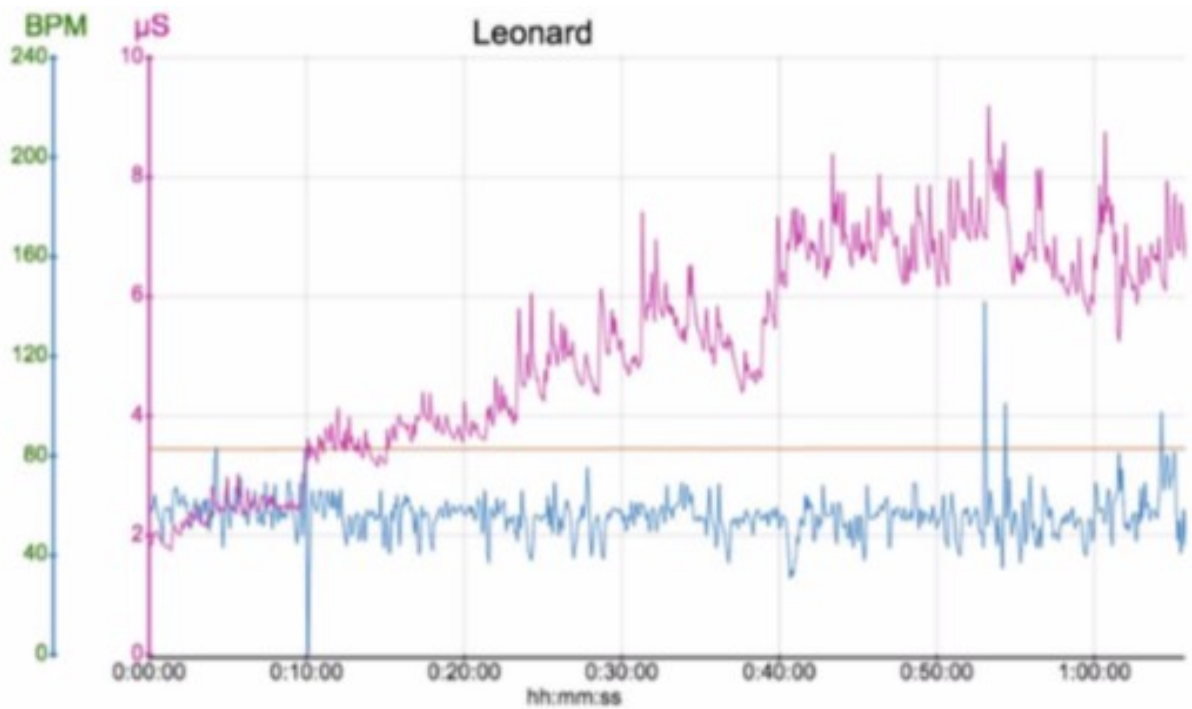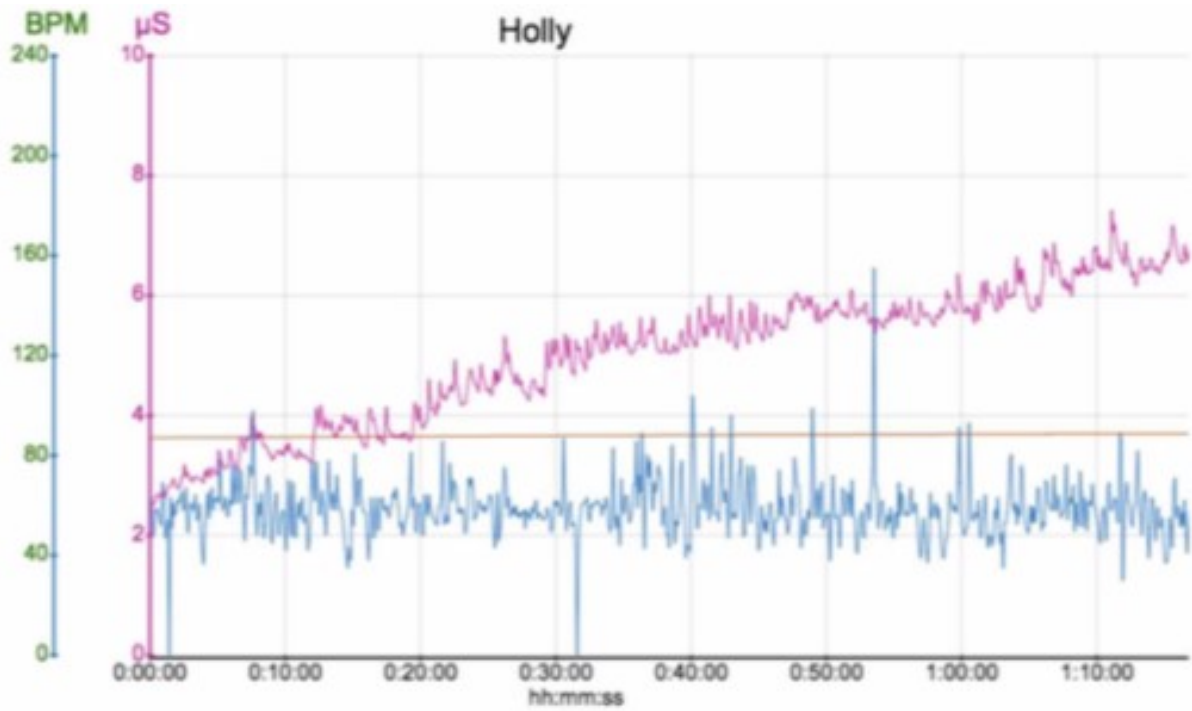
Figure 3: Physiological output of heart rate (beats per minute) and galvanic skin response (micro-siemens) from Holly and Leonard, illustrating the green philosopher archetype