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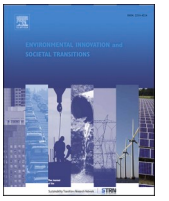

Coping with transition pain: An emotions perspective on phase-outs in sustainability transitions

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ABSTRACT

With this perspective paper, we aim to raise awareness of and offer starting points for studying the role of emotions and associated behavioural responses to losses in relation to phase-outs. We start from a psychological perspective and explain how losses due to phasing out dominant practices, structures, and cultures may threaten core psychological needs and lead to - what we introduce as - 'transition pain'. We borrow insights from the psychological coping literature to explain that different forms of transition pain may elicit characteristic coping responses (e.g. opposition, escape, negotiation), shaping individual meaning-making and behaviour in ongoing sustainability transitions. We then expand this psychological lens and present three additional perspectives, namely, that transition pain is (1) dynamic and process-dependent, (2) collectively shared and socially conditioned, and (3) political. We discuss how a 'coping with transition pain' lens can contribute to a better understanding of individual and collective meaning-making, behaviour and agency in transitions as well as a more emotion-sensitive governance of phase-outs.

1. A plea for understanding emotions in phase-outs

Public attention is increasingly directed towards breaking down unsustainable and unjust practices, structures, and cultures, such as the continued use of fossil fuels or intensive farming. Accordingly, transitions research has begun to examine mechanisms underlying *phase-outs* and related concepts like breakdowns, exnovation, unlearning, or unmaking (Feola et al., 2021; Hebinck et al., 2022; Oers et al., 2023). Phasing out is politically difficult, related to questions of power, legitimacy, and equity, and implies "economic and social losses" (Rinscheid et al., 2021, p. 29). Losses often affect 'followers' in transitions, such as mainstream consumers, managers of incumbent firms, or societal actors who are no longer able to maintain their current practices (Geels, 2021). These losses deeply manifest in people's everyday lives (Köhler et al., 2019), not only threatening existing social orders but also current *individual* practices (e.g. the need to stop intensive meat consumption), structures (e.g. the loss of economic infrastructures and certain jobs), and cultures (e.g. a shift in shared values of what is considered 'good' consumption).

Due to its strong focus on the meso-level and dynamics between niches, regimes, and the landscape, transition studies have largely

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neglected the manifestation of loss, as well as corresponding emotions, in individuals' lives (Köhler et al., 2019). Only recently, emotions have been suggested as a promising area for theorising on transitions (Feola and Jaworska, 2019) and as playing "an integral and important part in the success of sustainability transitions" (Martiskainen and Sovacool, 2021, p. 619). However, the few studies that have been investigating the role of emotions in sustainability transitions focused on patterns of build-up, for example, related to consumers' acceptance of low-carbon energy projects (Martiskainen and Sovacool, 2021) or technology adoption (Valor et al., 2022), rather than phase-out.

The transitions community's neglect of the role of emotions in response to losses in phase-outs limits the current understanding of individuals' and groups' meaning-making, behaviour, and agency in transitions and, consequently, our ability to provide advice for governing transitions. It is thus the aim of this perspective paper to increase the current understanding of the role of emotions in response to losses in the context of phase-outs, thereby providing entry points for transitions research into the subject. While our arguments are independent of domains and industrial sectors, we chose to illustrate our points throughout the paper by means of illustrative examples from the field of agriculture.

2. A psychological perspective on emotions in phase-outs

The most obvious starting point for engaging with emotions in sustainability transitions is the psychological literature, which defines emotions as "complex psychophysiological reactions consisting of cognitive appraisals, action impulses, and patterned somatic reactions" (Folkman and Lazarus, 1988, p. 310)[1]. Psychological research focuses on understanding and explaining individual meaning-making and behaviour, as well as the relationship between emotions, cognition, and behaviour. Accordingly, Psychology has been suggested as "the missing link in transitions research" (de Vries et al., 2021) that could add to an increased understanding of individual and collective agency in sustainability transitions (Bögel and Upham, 2018). We follow this suggestion by leaning on the concept of psychological pain to introduce the notion of 'transition pain' and build on literature on coping strategies to argue that different emotional responses to loss can be related to characteristic behavioural responses.

2.1. Transition pain

While some individuals and societal groups in transitions may feel optimistic or even happy about phase-outs as these can open up room for new, more just and sustainable practices, structures and cultures, many others who are more affected in their practices will suffer economic and social losses (Rinscheid et al., 2021). We argue that such losses are likely to inflict *psychological pain*.

Psychological pain is a state characterised by lasting, unpleasant emotions related to perceived threats to meet one's core psychological needs (Meerwijk and Weiss, 2011), i.e. the *need for competence* (perception of one's ability to succeed), the *need for autonomy* (feeling of control), and the *need for relatedness* (feeling connected to others; Deci et al., 1985).[2] Threats to these core needs elicit characteristic emotions such as self-doubt, guilt, pessimism, despair, fear, aggression, anger, or shame (Skinner et al., 2003).

In the specific context of phase-outs in sustainability transitions, we introduce the notion of *transition pain*. Transition pain refers to a psychological state characterised by a variety of lasting unpleasant emotions conditioned by expected or perceived losses in phase-outs experienced as threats to core psychological needs.

We assume that transition pain is mainly experienced by 'mainstream actors' and 'followers' (Geels, 2021) and highly depends on how deeply these actors are embedded in regime practices, structures, and cultures that are threatened to be phased out. We argue (and explain this later in more detail) that both individuals and societal groups can be in transition pain and that such transition pain is highly related to other aspects of transitions that link the individual with the collective sphere, such as (social) identities (Janssen et al., 2022), values and worldviews (Wojtynia et al., 2023), or mental models (van den Broek et al., 2023). Consider the example of governance interventions that aim at phasing out intensive agricultural practices, for instance, demanding a 30 % livestock reduction by 2030. Farmers that engage, for example, in large-scale factory farming are likely to be threatened in their financial security (i.e. economic losses) as well as in their professional identity or their social role as 'providers' of food (i.e. social losses). Other farmers, however, that already engage in niche practices, such as organic agriculture, could be less threatened by the phase-out endeavors. Hence, despite individuals being members of the group 'farmers', we cannot draw conclusions from the individual to the group or the other way around. Not all farmers will experience transition pain in the same way, but their emotions depend on the extent to which they expect or experience losses and feel their core psychological needs as being threatened as well as on individual and context

[1] There are heated debates between and even within disciplines on the origins and "correct" definition of emotions. For an overview of these debates see, e.g. Dixon (2012,2023), Evans (2003) or Izard (2009).

[2] Self-determination theory was previously used in transitions studies to explain motivation, pro-active behaviour, and empowerment (Avelino et al., 2020; Pel et al., 2020).

factors.

2.2. Coping with transition pain

Especially in clinical psychology, there has been a long tradition of studying how individuals are coping with adversity. A helpful starting point for harvesting this rich research is the taxonomy of coping families developed by Skinner et al. (2003), of which we present a simplified version[3] (see Table 1). The taxonomy links threats to the three aforementioned core psychological needs to typical emotional responses and related families of coping strategies. These responses can either target the *context* (i.e. change the situation) or the *self* (i.e. change one's cognitions). While the taxonomy may not cover all potential combinations of responses to perceived losses, and the coping families should be understood as ideal types rather than linear cause-effect models, the taxonomy collects 50 years of psychological research and provides valuable insights into questions of how individuals may cope with transition pain.

2.2.1. Coping with threats to competence

When impairing individuals' perception to be able to succeed, phase-outs may threaten individuals' *need for competence*. Returning to the example from above, farmers engaging in more traditional, intensive agricultural practices might perceive a threat to their competence in managing their farms the way they are used to. They may consider the policy-set goals unachievable or undesirable. When in transition pain, they might become pessimistic, scared, or desperate. In consequence, if they focus their coping on the *context*, they may apply various escape strategies, such as trying to withdraw from the requests politicians make or just ignoring them, or might even eventually leave their farm. A more *self-focused* response to a threat to the need for competence is related to emotions of guilt, discouragement, and self-doubt. Coping responses may take the shape of *helplessness*, i.e. farmers from the example might become passive and surrender control.

We see such dynamics related to threatened needs for competence, for instance, in reactions to increasing technology implementation in business organisations. In a study by Tsai et al. (2007, p. 396), employees described the demanded changes as "competence destroying". This led to strategies of escaping from the situation (e.g. leaving the position in which IT is relevant, quiet quitting) or helplessness in the sense of giving up on always staying up to date with the latest IT.

2.2.2. Coping with threats to autonomy

If the need for autonomy is perceived as threatened, for example, due to changing regulations, the ideal-typical *context-oriented* response family is *opposition*. In this state, individuals may become aggressive or blame others, which leads them to actively fight the situation. Farmers from the example above may show anger or aggression for losing their right to make their own decisions about their farm and might engage in public protests against the demanded changes. Other individuals who show a more *self-focused* approach to coping with a threat to autonomy may exhibit *submission* to the change but remain rigid and unresponsive, i.e. some farmers may officially submit to the regulation but can experience intrusive thoughts, continuously reminding them about the undesired situation.

The described response patterns to threats to autonomy could be observed in empirical studies analysing emotions and reactions to energy policies in the Netherlands. It was found that citizens who do not feel in control over the processes and outcomes of these policies express anger and address the context by engaging in opposition (Huijts, 2018). Concerning the self-focused strategies, recent findings on responses to COVID-19 lockdowns show that when individuals were forced to submit to the imposed change, the lack of control and freedom of choice led to increased rumination and intrusive thoughts (Lopes and Nihei, 2021).

2.2.3. Coping with threats to relatedness

Phase-outs may create situations that threaten individuals' *need for relatedness*, either directly by actually limiting social life (e.g. limited mobility during the COVID-19 pandemic prevented people from visiting family members) or indirectly by creating social situations that lead, for instance, to social stigmas. Skinner et al. (2003) taxonomy accounts for the latter case. If people perceive their *need for relatedness* as threatened, the ideal-typical response addressing the *context* is *isolation*. Because individuals feel desolated, they try to stay away from their social contacts to prevent feelings of shame or social exclusion. Farmers from the example above could, for instance, perceive that broader society, policymakers or the media treat them unfairly and withdraw from this unsupportive context, which could even result in social fragmentation. The ideal-typical *self-focussed* way of coping with threats to relatedness is referred to as *delegation*. That is, individuals feel shame and self-pity, which they aim to overcome by complaining about others and the situation, and by focusing on limits of resources rather than opportunities. For instance, farmers who feel treated unfairly and consider their relatedness threatened, may gather groups (e.g. with other farmers or other actors they feel related to), and vent their unpleasant thoughts and feelings.

Empirical research on farmers in India, for instance, has shown that changes in the agricultural landscape were connected to

[3] Searching for a comprehensive structure of coping, Skinner and colleagues (2003) analysed 100 assessments of coping used since the 80s in the psychological literature, thereby identified 400 ways of coping, for which they presented different ways of hierarchical presentation. The taxonomy we rely on is the only one that connects the psychological needs to coping, as it is based on an action theoretical model of motivation (Deci and Ryan, 1985), an analysis of 100 assessments of coping, and confirmatory factor analysis of primary coping scales. In the original taxonomy, they distinguish challenges versus threats to psychological needs. When an adverse situation is experienced as challenge, emotions may be more pleasant (e.g., hope, optimism), and the coping families are more problem-focused (e.g., help-seeking, shouldering). Because we focus in this paper on transition pain, that is, threats to these needs, we exclude families related to challenges to needs from our elaborations table.

Table 1
Strategies for coping with transition pain, depending on affected psychological need and target of coping, adaptation to Skinner et al., 2003).

Psychological needs	Exemplary emotional responses	Coping family (targeting context vs. self)	Coping responses
Competence Feeling confident and able to complete tasks, feeling goals are achievable.	pessimistic, scared and desperate	**Escape** (context)	Individuals try to avoid or leave the situation (e.g. leaving, mentally withdrawing, disengagement, denial)
	guilty, discouraged and self-doubting	**Helplessness** (self)	Individuals remain passive and inactive; they give up and relinquish and surrender control, but do not support the change
Autonomy Feeling in control and have choices; feeling free and willing.	anger, aggression, venting, explosion	**Opposition** (context)	Individuals oppose the change or demand and remove constraints (e.g. through showing aggression, noncompliance, blaming other); they express their anger and frustration against inanimate objects, events, or fate
	self-blame and disgust	**Submission** (self)	Individuals submit to the change but show an involuntary stress reaction such as perseveration, rigidity, unresponsiveness, rumination, intrusive thoughts, orobsession
Relatedness Feeling connected to others around.	loneliness, desolation, yearning	**Isolation** (context)	Individuals aim at staying away from others and preventing others from knowing about the situation, such as freezing, (social) withdrawal, cutting off; they withdraw from unsupportive context.
	shame, self-pity	**Delegation** (self)	Individuals engage maladaptive help-seeking, dependency, complaining, whining and focus on limits of resources

accruing indebtedness and poverty of farmers (Mathew, 2010). Farmers felt ashamed, isolated and lonely. Focussing on the context, they distanced themselves from the shame-provoking situation (Mathew, 2010). Hence, they disengaged from their regular social groups.

While these examples suggest that behavioural responses in transition pain are highly intertwined with the experienced emotions, this does not imply that experiencing transition pain is the sole explanation for behavioural responses and ongoing dynamics. Taking the example of farmers' resistance, some of them who are more deeply embedded in incumbencies might consider it most economic and rational to restore the status quo. Or they might agree with the need to intervene in the system but not with the directionality of the intervention. But even if they oppose changes for many reasons, be it due to a different evaluation of the need for change or different worldviews, phase-outs imply a loss of the current practices, structures, and cultures these individuals are embedded in. Hence, they may still feel transition pain.

3. A broader perspective on transition pain: going beyond psychology

While the psychological literature is a rich source of knowledge on threats to core psychological needs, emotions, and coping responses, due to their natural base in individualistic and cognitive paradigms and neglect of social and cultural context (Bögel and Upham, 2018), it can only be a start in theorizing about transition pain and emotions in phase-outs. We identify three aspects with regard to which the individualistic paradigm needs to be enriched with other perspectives to add to sustainability transitions research in a meaningful way: (1) The dynamic and process-dependent nature of emotions, (2) the social and cultural embeddedness of emotions; and (3) the political dimensions of emotions.

3.1. Transition pain is dynamic and process-dependent

Emotions are processual in at least two ways. First, emotions are no 'static' responses to perceived losses, but they are likely to change throughout phase-out processes. For example, the change management literature builds on different processual models (e.g. by Kübler-Ross and Kessler 2005), explicitly accounting for the fact that, when grieving a loss, people undergo different emotional phases (Cameron and Green, 2010). These phases can range from denial to anger, bargaining, depression, and acceptance, and ultimately to experimentation and discovery. Thereby, the length of these phases is highly person- and context-specific. These models suggest that the 'valley of tears' cannot be skipped. If people do not properly engage with emotions in response to losses, they may get stuck and thus attempt to restore the status quo to avoid so-called cultural traumas (Brulle and Norgaard, 2019). On a related note, experiencing unpleasant emotions and grieving losses may be necessary preconditions for individuals to prioritize their behavioural choices and engage in collective action (Bulkeley et al., 2018; Head, 2016). For all those reasons, sustainability transitions research may put a stronger emphasis on understanding how emotional dynamics unfold over time in transition processes, instead of studying static discrete individual emotions (Bericat, 2016).

The second way in which emotions are processual is that emotions in transitions are strongly shaped by the process of *how* phase-outs take place. In this context, one of the most important factors is the perception of justice that is typically also discussed in debates on just transitions (Wang and Lo, 2021). Emotions are not only related to perceived distributive justice, for example, when phase-outs are placing proportionally large burdens on certain groups but they are also relevant in the context of procedural justice, for instance, when the phase-out process is considered non-transparent and non-inclusive (Hegtvedt and Parris, 2014; Huijts, 2018; Oreg et al., 2011). Those who feel the phase-out burdens them over-proportionally or those who feel treated unfairly in the process might experience stronger unpleasant emotions, such as anger (Huijts, 2018). Hence, justice perceptions have a strong impact on which

emotions emerge and how individuals cope with transition pain.

3.2. Transition pain is collectively shared and socially and culturally conditioned

Transition pain and related emotions go beyond individual experiences in at least three regards. First, emotions are contagious; they are shared with others via so-called interpersonal emotion transfer (Parkinson, 2011; Parkinson and Simons, 2009). Especially when emotions are highly unpleasant, individuals tend to express them to others, likely leading to 'collective rumination', that is, conversations that revolve around the negative aspects of the situation (Knipfer and Kump, 2019). That way, transition pain and related coping responses are likely to spread in groups, contributing to collective emotions, shared negative assessments, and thus shaping group responses to societal events (Bar-Tal et al., 2007).

Second, and beyond the mere spreading argument, fields such as the sociology of emotions or cultural anthropology highlight that both individual experiences and expressions of emotions and strategies of coping with these are shaped by processes of socialisation. That is, responses to losses are heavily influenced by the social groups and the formal and informal institutions in which individuals are embedded (Bericat, 2016; Lutz and White, 1986; Turner, 2009). Cultural norms provide guidance on how people 'should' feel and how they 'should' express emotions in a certain situation (Hochschild, 2012), leading to 'feeling rules' (Summers-Effler, 2002) or 'emotional regimes' (Dixon, 2023). Hence, culture shapes the meaning given to emotions (Leavitt, 1996) and, consequently, how both individuals and groups publicly express emotions, including those related to transition pain (Lutz and White, 1986). Feminist literature on emotions further specified that, even within cultures, intersectional differences (i.e. along the axes of class, gender, race, cultural background or religion) influence embodied living experiences, which also influence emotions and behavioural responses to cope with emotions (Lepinard, 2020).

Third, emotions are collective in the sense that individuals do not only feel about themselves but also in relation to what happens in and to the communities they belong to or identify with. For example, individual farmers may be angry about how the farmers' are treated by the government. This leads to socially shared emotions due to extended or social identities (Bericat, 2016). These are especially present and reproduced through practices and rituals that manifest in cultures, such as in sharing certain forms of food and hospitality – which might be threatened in phase-out endeavours. In this context, strategies to overcome unpleasant emotions can be to reaffirm the own communities' practices and cultures by so-called 'othering', that is, affirming the own group's worth by representing other groups as deviant and in a negative light (Hart, 2022). Such 'others' can, for example, be a state agency wanting to introduce a meat tax, or an activist group framing meat consumption as murder.

Overall, emotions in response to losses should not be treated as purely individual experiences, but need to be considered against the background of social and cultural contexts in which they occur.

3.3. Transition pain is political

Finally, transition pain and corresponding coping strategies are related to agency, that is, people's ability and motivation to act in transitions. Hence, emotions should also be understood as political. First and foremost, emotions are known to influence political positioning (Holmes et al., 2020). Here, the sociology of emotions explicitly understands emotions as giving meanings and imaginative potential to political and economic transformations (Yang, 2014).

Furthermore, the literature on the 'emotions of protest' (Jasper, 2018) has highlighted that displaying emotions and publicly coping with them, for example, in the form of protests or social conflicts, can be interpreted as democratic acts of participation that inform and influence societal discourse. In this context, emotions, as normative appraisals of ongoing transition dynamics (Cuppen, 2018), can be understood as fuel, which drives collective action, for example, in social movements (Turner, 2007). Regarding the phenomenon of transition pain, collective unpleasant emotions may lead to political responses that target societal macrostructures such as social groups, institutions or political entities. Turner (2007) argues in this regard that, especially when local networks sustain a high level of negative emotional energy, they offer ground for violent collective action. That is, strong forms of collective transition pain could potentially lead to 'political' coping strategies in the shape of violent collective action (e.g. sabotage, vandalism). It is important to note, however, that emotions in general are neither 'good' nor 'bad' in transitions contexts, nor does the occurrence of unpleasant emotions automatically lead to coping in the form of violent action. We understand emotions in transitions first and foremost as informative und useful, not as to be 'managed away'.

From this 'political' perspective, emotions may be seen as a source of information about what is perceived as just or desired.

4. What can a 'coping with transition pain' lens add to sustainability transitions research

In this perspective paper, we have argued that phasing out dominant practices, structures, and cultures may lead to perceived losses that threaten core psychological needs. Such threats to psychological needs can lead to 'transition pain' that individuals and societies at large need to cope with. With such a lens, we add to the demanded "more integrated engagement with phase-outs" (Rinscheid et al., 2021, p. 29) in at least three ways.

First, a 'coping with transition pain' lens improves the current understanding of individuals' and groups' meaning-making, and the role emotions play in this. Acknowledging that individuals and groups may be in transition pain and that they may attempt to cope with it in various ways, invites us to explicitly acknowledge that it is also humans and their intimately personal embodied experiences in their daily lives that shape and are shaped by transitions (Feola and Jaworska, 2019; Martiskainen and Sovacool, 2021). Furthermore, it invites us to recognize and anticipate how individuals and groups may feel about the governance of phase-out

processes. This can help overcome the "'under-theorizing' of the dynamics of emotions in justice processes" (Hegtvedt and Parris, 2014, p. 103), e.g. when researching emotions around perceived distribution, recognition and procedural justice of phase-outs.

Second, this lens can improve the current understanding of behaviour and agency in transitions. Concretely, it allows us to better comprehend and investigate actors and actor roles in the broad group of 'followers' (Geels, 2021), and develop better understandings of who may partake, follow, or resist in the face of phase-out. This also helps to better engage with typically overlooked marginalized groups, non-users, non-dominant, and non-state-based actors (Köhler et al., 2019) and gives us a more nuanced picture of the diverse roles people in transitions hold simultaneously (Avelino and Wittmayer, 2016). By drawing this more nuanced picture, a transition pain lens shifts the focus towards behaviour beyond innovating, consuming, or producing, toward varieties of (dis)engagement with transitions, such as political positioning, social movements, or resistance. While mobilization and resistance to change are only two possible coping responses of many, and while resistance can also be triggered by economic or political considerations beyond emotions, emotions can be part of the puzzle of better explaining not only social movements, but also social inertia, social fragmentation, political positioning, and resistance to sustainability transitions (Rinscheid et al., 2021).

Furthermore, acknowledging the social nature of emotions, as suggested in this perspective paper, will help us to better make sense of interconnected meaning-making and behaviour at different levels (Feola and Jaworska, 2019), for example, regarding the question of how *individual* emotions and individual coping with transition pain might be contagious and translate into *collective* emotions, meaning-making and behaviour.

Third, a 'coping with transition pain' lens has implications for the governance of phase-outs. Attention needs to be paid to the dynamics of the phase-out process, as well as individuals' and groups' potential responses in different phases (e.g. denial, anger, grief). More emotion-sensitive phase-out processes can better account for perceptions of justice and increase the co-creation and legitimacy of interventions. Acknowledging loss beyond economic aspects helps in understanding why phase-outs can never be 'governed' only as resource deprivation (Fukuyama, 2018) and why, for instance, paying out farmers in trying to phase out intensive farming practices can only be one part of the solution.

Understanding and engaging with losses involves considering how they relate to collective identity, rituals, shared stories, or symbols. For instance, addressing emotions and creating spaces and rituals for grieving (as suggested by Coops et al. 2024) can be an additional way to govern these processes more broadly. Additionally, changing, reframing, or mending old narratives, rituals, or symbols can give them new meanings (e.g. discharging meat or fish from its symbolic meaning of being *the* main ingredient of traditional festive food related to solemnity and family time). This approach can also help link the need to phase out certain practices, structures, or cultures with the collective emotional energy needed to envision and prefigure alternative futures.

Last but not least, inspired by research on "Hope and Grief in the Anthropocene" (Head, 2016), and especially in societies currently also threatened by political radicalization and social divide, we hope that accounting for and embracing emotions in debates more generally reminds us of our being humans among humans and can open up new spaces and forms of conversation and discourses about transitions-in-the-making.

CRediT authorship contribution statement

Kristina Bogner: Conceptualization, Investigation, Supervision, Visualization, Writing – original draft, Writing – review & editing, Project administration. **Barbara Kump:** Conceptualization, Investigation, Writing – original draft, Writing – review & editing. **Mayte Beekman:** Conceptualization, Investigation, Writing – original draft, Writing – review & editing. **Julia Wittmayer:** Conceptualization, Investigation, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article.

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