Analysis

"Something inside me has been set in motion": Exploring the psychological wellbeing of people engaged in sustainability initiatives

Mirijam Mock[a,*], Ines Omann[a], Christine Polzin[b], Wouter Spekkink[c,1], Julia Schuler[d], Vlad Pandur[e], Ambra Brizi[f], Angelo Panno[f]

[a] Vienna University of Economics and Business, Department Socioeconomics, Austria
[b] Helmholtz Centre for Environmental Research GmbH – UFZ, Department of Environmental Politics, Germany
[c] Delft University of Technology, Faculty of Technology, Policy and Management, the Netherlands
[d] University of Leipzig, Department of Medical Psychology and Medical Sociology, Germany
[e] West University of Timisoara – UVT, Department of Psychology, Romania
[f] Roma Tre University, Department of Education, Italy

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ABSTRACT

The role of sustainability initiatives and niche groups in transitions towards sustainability has received a good deal of attention. However, little is known about the people who make up these groups. This paper discusses their psychological wellbeing – a concept that comprises six elements: self-acceptance, personal growth and development, purpose in life, environmental mastery, autonomy, and positive relations with others. In the study we performed 46 semi-structured interviews with people from 11 sustainability initiatives in five countries across Europe. We find that the groups offer a platform to build and maintain social relations with other, often like-minded, people. While these relations often serve an important motivational function to stay engaged, they are not free of challenges. The interviews show that sustainability initiatives can also provide fertile ground for personal growth and other dimensions of psychological wellbeing. Environmental mastery – and specifically the capacity to cope with global environmental problems beyond individual control – is a major challenge for people engaged in sustainability initiatives. Overall, the data suggests strong links between social engagement and psychological wellbeing. From a theoretical perspective, this paper enriches the transition literature by exploring the role of psychological wellbeing among people engaged in niches.

1. Introduction

A large number of people around the world are active in local groups that aim to contribute to a transition towards sustainability. Such groups may include initiatives such as repair cafés, food-coops, transition towns, ecovillages and the like. These groups can be understood to form niches where innovative ideas and practices are developed that may challenge and help to reshape incumbent sociotechnical regimes as, for example, the market or culture (Rip and Kemp, 1998; Geels, 2002, 2011; Geels and Schot, 2007; Seyfang and Smith, 2007).

While the literature on sustainability transition and transformation has paid much attention to the ways in which niches can develop successfully (e.g., Kemp et al., 1998; Raven et al., 2010; Raven, 2012) and how niche innovations may diffuse (Schot and Geels, 2008; Smith, 2007; Smith and Seyfang, 2013; Seyfang and Longhurst, 2016), far less work has been done on the agency, perspectives and experiences of individuals who operate in niches (Rauschmayer et al., 2015; O'Brien, 2012; Genus and Coles, 2008; Smith et al., 2005). This paper helps to unpack the role of individuals in sustainability initiatives, which has been identified as an area of research in both the field of transition and transformation (Hölscher et al., 2018). As it is people who make change happen, there is good reason to inquire into their wellbeing and resilience, that is, their ability to sustain themselves in order to contribute to sustaining change over the long-term.

This paper contributes to closing this research gap by probing into the wellbeing of niche actors. The literature suggests that wellbeing is one of the principal benefits that people get from engaging in sustainability niches and that it mainly stems from working with like-minded

people, from expressing values that are difficult to practice in mainstream society, and from being actively involved in creating practical alternatives to the market logic (Seyfang and Smith, 2007; Seyfang, 2009).

Gaining empirically founded insights into the wellbeing of sustainability niche members may support the understanding why individuals engage and remain involved in initiatives that sustain niche development. The results of our study may thus open up new avenues for research on the role of individuals in niche development. Our investigation is based on 46 interviews with members of 11 sustainability initiatives in five European countries, conducted as part of the EU FP7 project GLAMURS.[2] Following a data-driven and theory-guided interview process, the research team jointly looked for a common theoretical framework to help analyse the data on wellbeing.

We found the concept of psychological wellbeing (Ryff, 1989) to be particularly useful in shedding light on what people experience as members of sustainability initiatives as it offers a useful conceptualisation of recurring aspects of wellbeing that came up in the interviews.

In the next section, we lay out our theoretical argument, embedding our subjects in the multi-level perspective on sustainability transitions. We then look at the level of sustainability initiatives that make up niches and the individuals who engage in these initiatives, focussing particularly on their psychological wellbeing, an aspect that has not yet received much attention in the literature. Section 3 describes the case studies and method of our investigation. We then report our findings (Section 4) and discuss them (Section 5). The last section concludes and suggests future avenues for research (Section 6).

2. Theoretical background

2.1. Sustainability initiatives from the multi-level-perspective

Studies of sustainability transitions often employ a multi-level perspective, which differentiates three levels to analyse innovations: the niche level, the sociotechnical regime, and the sociotechnical landscape (Geels, 2002, 2011; also see Rip and Kemp, 1998). *Sociotechnical regimes* channel societal developments along certain trajectories. Despite their stabilizing dynamics, sociotechnical regimes may undergo radical change, which often originates in *niches* that emerge at the margins of existing regimes (Seyfang and Smith, 2007). These niches constitute protected spaces where people can experiment with non-mainstream practices or technologies, express alternative values, and engage in different types of learning (Smith, 2007; Seyfang and Smith, 2007), with a particular orientation towards sustainability problems in incumbent regimes.

The *socio-technical landscape* is an exogenous environment that is beyond the direct control of niche and regime actors, including, for example, macro-economic or macro-political trends and deep cultural patterns (Geels and Schot, 2007). The landscape is usually understood to apply pressure to incumbent regimes, which creates opportunities for niche innovations to offer solutions, diffuse widely and potentially displace an extant regime on the long term (Seyfang and Longhurst, 2016).

Niches can be of different sorts (Smith and Raven, 2012; Seyfang and Smith, 2007). While the niche-oriented literature originally focussed on market-based niches, the niches we consider here are more similar to what Seyfang and Smith (2007: 585) refer to as grassroots innovations:

"[N]etworks of activists and organisations generating novel

bottom–up solutions for sustainable development; solutions that respond to the local situation and the interests and values of the communities involved. In contrast to mainstream business greening, grassroots initiatives operate in civil society arenas and involve committed activists experimenting with social innovations as well as using greener technologies."

Grassroots innovations may include initiatives such as food networks, community energy projects, ecovillages, and Transition Towns (Seyfang and Smith, 2007). In line with Seyfang and Smith's (2007) notion of grassroots innovations, we understand a sustainability initiative as a movement, an informal group, a formal association or an organisation that aims to contribute to a transition towards sustainability in its respective region through its activities and members' engagement. Grassroots innovations tend to focus on social and institutional innovations rather than technological innovations and are often sustained by some form of ideological commitment to alternative ways of doing things. They are typically driven by social needs, such as providing goods and services that are of value to other people (see also OECD, 2015), and that are hardly or not at all provided by traditional markets. The protected space that sustains sustainability initiatives consists primarily of alternative values and culture, rather than market regulation and (government) subsidies (Seyfang and Haxeltine, 2012). Following these criteria, the sustainability initiatives analysed here are part of grassroots innovations.[3]

2.2. Niche actors from the multi-level perspective

Prevailing concepts and models of understanding and managing sustainability transitions mainly focus on the substantial changes, dynamics and governance challenges that such transitions involve. However, transition research still lacks a good understanding of the actors who are involved in the sustainability initiatives (often as volunteers) that make up the niche.

Different typologies have been developed that group actors involved at the different levels of the multi-level-perspective (niches, regimes, landscapes) (Fischer and Newig, 2016; Avelino and Wittmayer, 2016; Farla et al., 2012). These typologies classify the actors from a broad perspective and involve mostly collective actors from a variety of backgrounds, such as policymakers, public authorities, firms, social movements, civil society, third sector, etc. One particular stream of research also deals with multi-actor decision making by analysing governance mechanisms, power relations, questions of legitimacy, etc. (Avelino, 2009; Grin et al., 2010; Kern and Smith, 2008; Smith et al., 2005).

An explicit focus on niche actors conceptualised as individuals and not collective actors is still missing. Individual actors only appear when they have particularly influential roles to play, notably as frontrunners (Rotmans and Loorbach, 2010), change agents (Nevens et al., 2013), champions or policy entrepreneurs (Brown et al., 2013; Farla et al., 2012). There is still a gap in the literature in terms of empirically based descriptions of these and other niche actors, for example, regarding their backgrounds, roles, motivations, behaviours, resources, or wellbeing.

The individual perspective is important in studying societal change because it allows us to understand dynamics at the micro level, including perceptions and feelings connected with change such as fear, anger, joy, or anticipation, which may act as motivation or barriers for individuals to engage with change initiatives. The next section introduces the concept of psychological wellbeing, which will guide us through our analysis of the empirical data.

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[3] A minor exception is he energy cooperative studied in the Austrian case study as it was founded in response to government initiatives. However it depends on the active participation of civil society partners as well as continual government cooperation.

2.3. Psychological wellbeing of people engaged in sustainability initiatives

While not much is known about the sources, types and dynamics of wellbeing of people in sustainability initiatives or niches within the context of sustainability transitions, individuals have been studied in the broader context of volunteering. Volunteering in social and environmental contexts, such as social provision, health care, education, environmental preservation, or development cooperation, is widely regarded as beneficial for both society and the individual volunteer (Klar and Kasser, 2009; OECD, 2015; Meier and Stutzer, 2008; Binder and Freytag, 2013; Binder, 2015; Wilson and Musick, 1999), at least when volunteering takes place on a regular basis (Binder and Blankenberg, 2016: 5).

While engagement in sustainability initiatives (whether paid or unpaid) may have similar benefits as other types of volunteering in the social field, it also poses a number of challenges. People who regularly contribute to sustainability initiatives may be confronted with a range of challenging emotions and experiences, such as feelings of guilt about one's own contribution to climate change, fear and anxiety due to an increased awareness about climate change impacts (Büchs et al., 2015), restricted political and economic influence, as well as limited resources (Middlemiss and Parrish, 2010; Wilson and Musick, 1999). Engaging for sustainability thus entails similar challenges to those that have been widely studied in the literature on pro-environmental behaviour (Venhoeven et al., 2013), notably the temporal and spatial discord and difficulties to realise goal attainment. A commonly reported feeling is that of frustration about the seeming futility of small steps in the face of much more powerful counter-dynamics at the macro level. This may result from the distance in time between action and results when engaging for intergenerational goals, such as preserving nature for future generations, as well as in space, when engaging for intragenerational goals, such as not harming people living in other parts of the world (Büchs et al., 2015; Middlemiss and Parrish, 2010; Neumayer, 2004; Anand and Sen, 2000).

Given the challenges outlined above, how do people who engage in sustainability initiatives feel about and experience civic engagement, i.e. what can we learn about their wellbeing? As the term wellbeing has a plethora of definitions (Dodds, 1997), we will briefly discuss how the concept is being used in two research areas related to ours: i) studies of pro-environmental behaviour (for an overview, see Venhoeven et al., 2013) and ii) volunteering (Klar and Kasser, 2009, OECD, 2015). A common distinction in these studies is between eudaimonic and hedonic wellbeing. Within the hedonic tradition, the goal of life is considered to be the experience of a maximum amount of pleasure while minimising the amount of pain. This notion of wellbeing is closely associated with life satisfaction and happiness, which is described as the totality of one's hedonic moments (Henderson and Knight, 2012; Ng and Diener, 2014; Ryan and Deci, 2001). Some authors argue that the hedonic conception of wellbeing is strongly related to material affluence (e.g. financial satisfaction, income), and that such affluence has a short-lived effect on people's wellbeing as individuals soon become accustomed to a given level of material welfare (e.g., Binswanger, 2006; Seligman, 2002). Seligman (2002) labelled such a phenomenon as the hedonic treadmill effect.

The eudaimonic concept of wellbeing does not equate wellbeing to happiness and life satisfaction (Ryff, 1989). Central to its conceptualisation is the expression of virtue, which Aristotle defined as 'behaving in a way that is noble and is worthwhile for its own sake' (Henderson and Knight, 2012: 197) alongside with the realisation of one's inherent potentials, living in accordance with "one's true self" (Ryan and Deci, 2001), i.e., in a way that is most congruent or meshing with one's deeply held values (Waterman, 1993; Ryan and Deci, 2001). Eudaimonia occurs through the pursuit of personal meaningful goals, which are congruent with deeply held values, and are tackled holistically and fully engaged. It embraces the idea of striving towards excellence based on one's unique potential (Ryff and Keyes, 1995; Ryan

and Deci, 2001). The two pillars of eudaimonia are personal growth and purpose in life.

The eudaimonic aspect of wellbeing provides the foundation for the concept of psychological wellbeing, as posited by Carol Ryff (1989). She integrates several theoretical approaches to define and operationalise six dimensions that are considered to promote emotional and physical wellbeing: i) *self-acceptance*, which is expressed by holding positive attitudes towards oneself and one's past life; ii) *personal growth* in the sense of continued self-realisation and personal development; iii) *purpose in life* as the belief that one's life is meaningful and purposeful; iv) *environmental mastery* defined as the ability to manage effectively one's life and surrounding world; v) a sense of *autonomy and self-determination*, which represents the individual's skill to resist social pressures and evaluate oneself by personal standards rather than socially desirable standards; and vi) *positive relations with others*, referring to the capacity to show empathy and maintain satisfying and trusting relationships with others (Ryff, 1989; Ryff and Keyes, 1995).

3. Methods, sample, and limitations

The data for this study was collected as part of the European Commission's FP7-funded research project GLAMURS, in which case studies were conducted in seven European countries. For the present paper, interview data from five of these case study countries – Austria, the Netherlands, Germany, Italy and Romania—were chosen to be analysed in detail. This selection was based on the relevance and quantity of available data in the seven case study countries.[4] Within each of these countries, one or more sustainability initiative within the same region was analysed, leading to a total sample of 11 initiatives. In-depth, semi-structured interviews with initiative members were carried out in order to explore their wellbeing and other aspects.

3.1. Initiatives, participants and sampling

We conducted the interviews in the first half of the year 2015. In each case study, we interviewed between seven and 12 members of the sustainability initiative(s), leading to a total of 46 interviews and 80 h of interview material (for an overview of the interview sample see Table 1). Some of the interviewees were chosen through a snowball sampling technique (i.e., they knew each other, although they did not necessarily engage in the same initiative or focus on the same issue), while others included a small number of gatekeepers who had been identified prior to the interviews as part of an actor-network analysis (see Hauck et al., submitted). Criteria for the sampling included a balance between members of the core group of the initiative (e.g. founders) and more loosely connected members, as well as gender and age balance. Initiatives differed considerably in their objectives, activities, methods and degree of formality. While some had a clear focus on single activities (e.g. energy cooperatives building and operating photovoltaic plants), others engaged in a broad range of activities and touched on the whole lifestyle of members (e.g. ecovillages). An overview of the initiatives and their diversity is presented in Table 2 (see Appendix A).

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[4] The data we got from the interviews in the UK have not been analysed because the majority of the interviews were done with staff of two Local Authorities, some of whom had professional roles as sustainability officers. While these interviews informed many other aspects of the GLAMURS project, they could not inform this part of the research which focussed on grassroots innovations and niche members. The data from Spain could not be analysed because the question on wellbeing was reframed in such a way that the answers we received were more about the general wellbeing of the group than about the experiences and feelings of the individual members being interviewed.

Table 1
Overview of the interview sample.

Case study	Initiative(s)	Total of interviewees	Age range	Gender (f/m)
Austria	Network for organic consumption and production; energy cooperative	10	47–57	4/6
Netherlands	Energy cooperative; 3 repair cafés	12	40–70	2/10
Germany	Transition Town Movement	10	31–61	4/6
Italy	Agricultural cooperative	7	29–72	3/4
Romania	3 ecovillages	7	30–40	3/4
Total		46	21–72	23/33

3.2. Procedure, material and methodological limitations

The questionnaire that guided the interview was jointly developed by the project team and combined eleven broad questions with a range of optional prompts and probing questions that were pre-tested by all team members. The questions addressed the members' wellbeing, conflicts related to sustainable behaviour, governance representations (see Fischer et al., 2018) and sustainable lifestyles more generally. The question most directly related to wellbeing was "You have participated in [name of the initiative] for [add time]. What has this changed for you – if anything?", optionally followed by the prompt: "What do these changes mean to you? Would you say that they've had rather positive or negative impacts on your life?" The interviewers would typically further explore these topics by asking follow-up questions. Local researchers conducted the interviews in the respective national language according to shared agreements on sampling and interview procedure.

The researchers conducted the majority of the interviews in an everyday surrounding and met the participants at their home, workplace, the initiative's office, a public park or restaurant.[5] We audio-recorded all interviews and transcribed them verbatim.

Using a step-wise procedure, we generated a rough coding framework for responses related to personal wellbeing. Each local research team coded their transcripts (using NVivo and Atlas.ti) and wrote detailed analytical summaries in English that served as a basis for the further refinement of the codes and for reflections on how to theorise the data. After intense discussion, a training and exchange session on the coding system and a process of interrater-comparisons, we agreed that Ryff's framework of psychological wellbeing (Ryff, 1989) applied well to the data without having to artificially squeeze it into a theoretical frame. We then refined the coding framework along Ryff's categories before applying it in the analysis of our interview data.[6]

3.3. Methodological limitations

Although our interview guideline included general questions about wellbeing, Ryff's six dimensions of psychological wellbeing did not appear explicitly in the guideline. We did not have the possibility for follow-up interviews, which means that further exploring initial findings on the six dimensions of psychological wellbeing was not possible in the context of our study. It is possible that inclusion of questions tailored to the six dimensions of psychological wellbeing would have yielded more specific insights on each of these dimensions, and would have led to a more balanced representation of information on these categories in our interview data. For example, it is likely that interviewees were more at ease talking about social relations than about other dimensions of psychological wellbeing that are less frequently talked about unless prompted, such as "meaning of life" or "self-acceptance". However, the fact that we did not ask explicitly about the six

dimensions also means that where they did come up, they came up naturally. Finally, it was not our aim to 'test' Ryff's framework of psychological wellbeing, but upon initial inspections of the interview data, the framework proved to be highly useful in understanding the wellbeing-related experiences of actors engaged in sustainability initiatives.

As our data encompasses self-reports of wellbeing only, people may have provided socially desirable responses rather than reveal their actual wellbeing.

A selection bias is likely to have occurred due to the snowball sampling technique we used in order to find interview partners. This technique restricted our control over the diversity or representativeness of the sample.

Our study was qualitative and explorative by nature and did not allow us to examine causality. Thus, we mainly looked at the association between engagement and psychological wellbeing. We could not infer whether or not psychological wellbeing was the direct effect of engagement.

4. Results: psychological wellbeing in the context of sustainability engagement

The data from all countries and case studies provided a comprehensive basis for the analysis of wellbeing among the members of sustainability initiatives and – in most cases – an alignment with Ryff's categories of psychological wellbeing. Two of the six categories of psychological wellbeing clearly stand out in the analysis because of the frequency with which interviewees addressed them: positive relations and personal growth. Self-acceptance, autonomy and self-determination came up least often in the interviews. While this may say something about the relative ease with which interviewees talked about certain dimensions of wellbeing, it may not necessarily reveal something about the relative importance or salience of these responses, as this may have been influenced by a variety of factors. A minority of quotes referred to negative states of wellbeing, while most referred to positive ones. This rough overview of the results may help to put the following results into perspective (we provide exemplary quotes for each dimension of psychological wellbeing, in the order of their frequency of appearance in the dataset).

4.1. Positive relations: "Meeting like-minded people, having fun and making others smile"

The experience of building and maintaining social relations with other, often like-minded, people within sustainability initiatives was most widely shared among the interviewees. Having the opportunity to form and maintain positive relations with a group of similar people sharing common goals is an important contributor to subjective wellbeing.

Gernot,[7] a member of the German Transition Town group reflects on the effects of spending time with like-minded people:

"*And that's what keeps me running, this one-to-one human recognition. That's why I go to anti-fascist demonstrations […] being around with*

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[5] In the Romanian case study we interviewed most of the participants via online calls.

[6] More details on data collection and analysis is provided in the project report on the empirical work in the cases studies: http://glamurs.eu/wp-content/uploads/2016/01/WP5_Deliverable_D5.1.pdf.

[7] All names of interviewees used in this paper are pseudonyms.

people who are very similar to me."

(Gernot, Transition Town, Germany)

In a world full of structures and institutions that foster unsustainable behaviours, swimming against the stream by following a sustainability-oriented lifestyle can sometimes foster feelings of loneliness or isolation from the rest of society (Weintrobe, 2012). In such an environment, positive relations to like-minded people may be all the more important as a counterbalance and important contributor towards psychological wellbeing. In some cases, being part of a sustainability initiative can also create a feeling of collective efficacy, as evidenced by Evi from the energy cooperative in Austria:

"*Yes, the internship at the Climate and Energy Model Region has indeed changed something because I've gotten in touch with people who do pioneering work in this field or who are simply involved with all their heart, who really serve as an engine and who say: 'If we stand together, if we do something together, we are simply more powerful and we can really get something going.' It helps to know that I'm not all alone and I see those pioneers who have already been involved for a long time. If they can do it, I can sustain it as well. And I can withstand the storm and remain strong and say 'And it's still the way it is, and it's worth fighting for'.*"

(Evi, energy cooperative, Austria)

This theme of collective efficacy recurred throughout our data. The work in the Italian agricultural cooperative, for example, was said to be easier and more pleasant when done together. In the Dutch repair cafés doing things together and asking for help and advice was described as enjoyable. Similarly, one member from the Austrian energy cooperative suggested that the harmony that emerged from working together in the group contributed to the members' wellbeing. A member of the German Transition Town describes his initiative as consisting of like-minded people who benefit from their different interests by complementing each other. Relationships within ecovillages were most exceptional in our sample. Generally, and in contrast to the other initiatives we looked at, ecovillagers know each other very well. They described and valued their community as a group of diverse people and not as being composed of like-minded people as the other initiatives did, as illustrated by the following quote:

"*If we were all alike it wouldn't be so much fun anymore.*"

(Tamara, ecovillage, Romania)

Overall, meeting people, getting inspired by them, discussing and exchanging ideas and having good times while working together were frequently mentioned as positive aspects of engagement and as important motivational factors of niche actors. In some groups (notably the repair cafés), the opportunity to help others and contribute to their wellbeing ("*Making other people happy*") was also mentioned as a motivation.

"*I enjoy being committed and doing something for others. One always receives something in return […] – that's where I get my strength and energy from and what I enjoy*"

(Maria, transition Town, Germany)

Ruben, a member of a repair café, states that these social aspects are even more important to him than the original motivation to reduce waste:

"*You can make people happy with it, and that you reduce waste, that is very nice, but… Yes, for me it is more about the people and the joy of doing something.*"

(Ruben, repair café, The Netherlands)

Another member of the repair café stresses that the word "café" in the initiative's title reflects the importance of this positive social atmosphere.

While most of the interviewees' statements allude to positive and

supporting effects of the social relations within the group, a few interviewees also mention problems and conflicts arising from group dynamics.

"*It disturbs me that people interrupt each other … I got really annoyed. … Officially, I'm still part of the editorial board* [of a local magazine on sustainability issues]*, but I can't stand these meetings anymore. I get so annoyed when one of these trolls starts talking again. It's impossible. I get too agitated.*"

(Maria, Transition Town, Germany)

4.2. Personal growth "Eventually personal development felt good"

Our interviewees reported about processes of personal growth, varied phases and ambivalent feelings regarding their engagement in sustainability initiatives. In other words, being engaged in such groups can go along with varying phases of positive and negative wellbeing. Three interviewees shared similar experiences of going through hard phases, but could learn through experiencing them and finally enjoying their development. Tamara from the ecovillage in Stanciova (Romania) compares this process with running:

"*It began with a lot of frustration, but now I realize I've reached that point – not the end of the line, but… I'm past the point where… It's like when running, you feel a lot of effort at the start, you feel the fatigue, then after... Whoop! You're past the point of fatigue, your endorphins start rushing in and… it's just this great joy. My staying in Stanciova has passed this point.*"

(Tamara, ecovillage, Romania)

They agreed that it needs effort and energy, sometimes a sacrifice but in the end it was deemed worth it, because one can enjoy what one was reaching for, after going through a challenging process.

Personal growth, i.e., 'a sense of continued growth and development as a person' (Ryff and Keyes, 1995: 720), was frequently brought up in the interviews.

Sustainability initiatives can provide fertile ground for self-reflection and self-knowledge, a basis for personal growth, as documented by interviewees from the Transition Town, the agricultural cooperative and the network for organic production and consumption. The following quote exemplifies this finding:

"*And I realise that something inside me has been set in motion, and I understood that one is different in a different world. That had a pretty big impact on my perception of the ego. There is no fixed ego. Instead, depending on the context one is always a social ego. In a social context I always have to integrate myself differently. So a lot has changed about my self-perception and that was pretty good.*"

(Claudia, Transition Town, Germany)

The initiatives may sometimes also provide an intellectual stimulus for people to ponder about deeper questions of meaning in life, as experienced by Josef:

"*If you measure it in monetary terms, engaging in this initiative is not profitable for me. But it is valuable for myself, internally. I can develop my own philosophy of producing, of integrating myself. 'What are my values, what is valuable to me? Where do I have problems translating my values into actions?' Such a group is incredibly valuable in finding answers to those questions. […] Our meetings stimulate me to reflect. … That gives me something, I feel better afterwards.*"

(Josef, network for organic production and consumption, Austria)

This kind of personal growth processes can be regarded as "second-order learning", a frequently used concept in the niche literature to explain sustainability transitions - as values and assumptions underlying established ways of doing things are questioned and changed (e.g., Smith, 2007; Geels, 2010; van de Kerkhof and Wieczorek, 2005). This goes in line with some authors suggesting that socio-ecological

transformations require a form of value change from extrinsic to intrinsic values (Crompton, 2010; Maiteny, 2000).

Personal growth can be experienced particularly strongly when engagement encompasses a radical lifestyle change. Moving to an ecovillage or so-called intentional community is a good example. In this process of radical transformation, it is common to undergo processes of community building that entail effective approaches to coping with fear and uncertainty, as described by one interviewee of the Romanian case study:

[…] *"but the fears are always here and many people say 'how are you so brave, so courageous, you don't have fear, you are fearless'. You know, I have so many fears* (giggles)*, but the difference is that I can cope with them. I can look at them, face them and walk with it, walk in with the fear. It's, it's amazing."*

(Costanza, ecovillage, Romania)

Similarly, Vlad (Costanza's husband) from Romania describes the following experience of personal growth:

"You realize you can actually do things that before used to seem so far away […] And what I've realized is that I am aware of a very powerful zone of inner resilience and self-confidence. In the sense that… These darker zones, where you don't know what lies beyond, they don't cause as much fear in a given context, and even if it is there, you are a lot more capable of noticing it."

(Vlad, ecovillage, Romania)

4.3. Purpose in life: "Doing something meaningful"

The belief that one's life is meaningful and purposeful (Ryff and Keyes, 1995: 720) can arise, among other things, from engaging in activities that are perceived as meaningful. Classical examples include voluntary work, caring for others or practising hobbies or professional activities, as long as the personal goals one pursues through these activities are congruent with one's deeply held values (Ryff and Keyes, 1995; Ryan and Deci, 2001). For people who are voluntarily engaged it is important that this engagement makes sense to them, that they can do something useful. This may contribute to their wellbeing, as stated by Jasper and Ruben from the Dutch repair café. Among members of repair cafés, experiencing a sense of meaning was often linked to the gratitude they receive.

"Yes, in any case being useful. I don't like to sit still. I really need something to do. And the best is if I do something useful, of which I say: Well, that was fun."

(Jasper, repair café, Netherlands)

"Well, and then someone leaves completely happy. And that is such a grateful thing."

(Ruben, repair café, Netherlands)

Meaningful engagement can lead to inner satisfaction and gratitude, as the following quote shows.

"I believe the engagement in the groups simply reflects the meaning of life to me. If I know I can take part in creating something or I can change something in my environment in some respects, then I think that's an important mission for me. So I say: hey, I'm committed to that, I can do something there, and often there is an inner satisfaction and gratitude."

(Ernst, network for organic consumption and production, Austria)

For a small number of our respondents, engagement in the initiative is paid work, which allows them to receive an income from a job that provides meaning, as Alessandro, an Italian food-coop member explains:

"It gave shape to the dreams. My dream was to do a job that would bring me in contact with the essence, working with my hands as well as with my head, and agriculture, (…) gave me the opportunity to work outside. I wanted to have an essential life where it was possible to produce and sell my own products and services to other people using a multifunctional agriculture. […] Even if the engagement in the cooperative meant a reduction of my leisure, when I look back, I do not regret my choice because I improved my way of using time."

(Alessandro, agricultural initiative, Italy)

A sense of purpose and meaning can also derive from the idea of contributing to something that will last and influence younger generations, as for example in the case of Heinz, who describes this feeling as follows:

"It really has to make a deep sense and I see, if the youth, if the younger ones get a meaning, a motivation, to see that it makes sense what we are doing, that there is an unbelievable motivation in it. […] What makes me burn for it, is simply to witness that independent of me also others are burning for it. That is beautiful, that is beautiful, because I will pass away at some point. And if something goes on burning…"

(Heinz, network for organic consumption and production, Austria)

4.4. Environmental mastery: "Learning to set boundaries"

Ryff and Keyes define environmental mastery as "the capacity to manage a complex environment, and to choose or manage and mould environments to suit needs" (Ryff and Keyes, 1995: 720). When our interviewees spoke about their engagement, they revealed strongly diverging degrees of this capacity. A major share of the negative feelings reported by our interviewees touches perceptions of environmental mastery. Valentin, a member of the Austrian climate and energy model region describes how and why his engagement for the initiative leads to stress and psychological problems.

"Yes, of course it affects you, because obviously it takes a lot of time to engage in these initiatives, and you have less time for the private sphere. I'd say you're more under stress. It would be better for me, personally, and for my health, to use the time I've invested there for myself, because I feel drained, I honestly have to say that. I'm affected psychologically, on the brink perhaps to burnout. I've already received treatment for a number of years, again and again."

(Valentin, energy cooperative, Austria)

Later in the interview, Valentin describes how some of his psychological problems are linked to global environmental challenges that are beyond individual control. His feelings of helplessness with regard to environmental problems derive from the realisation that environmental mastery is necessarily limited, when many of the most serious challenges are impossible to tackle individually. The following quote demonstrate how he experiences fear and anxiety about climate change impacts and the seeming futility of small steps in the face of much more powerful counter-dynamics at the macro level.

"These days I hardly ever listen to the news, because I think they are detrimental for my health, so many negative things, which one hears, those conflicts everywhere, these environmental issues, […] because somehow this is hopeless, at least for me, that is how I see it."

(Valentin, energy cooperative, Austria)

For him, relations to the other group members and harmonious collaboration are especially important as they help him to cope with the problems reported above. Others complain about having got sick because of overload related to the initiative's activities.

Being aware of environmental problems seems to translate into thoughts, such as "*more should be done*" (*Gernot, Transition Town, Germany*) or "*it does not work fast enough*" (*Heinz, network for organic consumption and production, Austria*). These thoughts illustrate the perception of restricted political and economic influence, and limited resources, which were identified as challenges for sustainability initiatives in Section 2.3 (see also Middlemiss and Parrish, 2010; Wilson

and Musick, 1999).

People engaged in ecovillages and repair cafés seem to experience higher degrees of environmental mastery than those in the other initiatives in our sample. In ecovillages, feelings of environmental mastery were often related to personal growth processes or the relaxed atmosphere in the community.

> "*There is a sense of fantastic tranquillity that comes over me and when I get home, I can deal with all of my problems. I can just break away because… because that's what the vibe is like. Because that's what home is like and what friends are like. So it's this kind of completely unwinding atmosphere.*"

> (Adina, ecovillage, Romania)

In the repair cafés those feelings were linked to the success of repairing things and the associated gratitude of the owners:

> "*The reactions of people. The unexpected. There are people that go home almost crying of joy, because you fixed something that… Of which they thought it was hopeless. Yes, that is funny. Or people that can really not afford it and have tried to have something repaired and then heard that it will cost… Well, I'm just saying something… 200 euros. And that we do it in an hour for nothing. Yes.*"

> (Frank, repair café, Netherlands)

Sabine is active in the same initiative as Valentin in Austria and she is politically very active. She also reports about the big amount of time the initiative requires. However, she does not experience this as stressful but instead as fulfilling:

> "*I'm engaged in lots of activities, lots of work and don't have much time. But that's not stress or pressure because I think I benefit from the things I do or the meetings I have.*"

> (Sabine, energy cooperative, Austria)

These diverging experiences show that environmental mastery depends on the way in which one is able to deal with time pressure, stress as well as environmental problems. The latter has a second component, the incapability to tackle them as a single person with restricted personal efficacy.

Two Romanian ecovillagers told us that strategies to strengthen environmental mastery can be learned in sustainability initiatives:

> "*I suppose I grew up. I think the biggest change is that we are a lot more realistic. And thinking back 12 years ago, we were more enthusiastic. A lot more enthusiastic, but less realistic. And now we are more realistic, but sadly, less enthusiastic, although just as engaged, which is good. Because now we are involved while being perfectly aware of the workload a project requires or the workload required to organise an event.*"

> (Adina, ecovillage, Romania)

4.5. Self-acceptance: "How I am and what I do makes sense"

Being able to hold a positive attitude towards oneself and towards one's past life as well as being able to concede and to accept varied aspects of self, is what Ryff refers to when speaking about self-acceptance (Ryff and Keyes, 1995: 720). Some of our interviewees reported how doing something for the environment or something good for the world is important for them, giving them a good feeling. If they did not do it, something would be missing from their integrity:

> "*I just think I have done something for the environment. And that's important for me. It gives me a good feeling. I can say I've done something for future generations, even though we don't have children ourselves. I think everyone has a responsibility for the Creation. … And I want to take this responsibility to some extent.*"

> (Valentin, Austria KEM)

> "*… for me, at the emotional level, it has the meaning to have integrity, notwithstanding difficulties. I believe we are doing something good for the*

world."

> (Martina, agricultural initiative, Italy)

Gernot reports having some difficulties with this aspect of psychological wellbeing as he regards himself as "being isolated in being old and living an alternative lifestyle (seebelow) and as he sometimes feels like a "weirdo"". The recognition he gets from the people of the Transition Town is all the more important to him:

> "*In the [name of the sub-initiative] I get a kind of recognition that I do not get in my job or in my family, I think, I claim. […] In those alternative settings, I'm not a weirdo, and at work I am, or at my in-laws, exactly.*"

> (Gernot, Transition Town, Germany)

4.6. Autonomy and self-determination: "How it feels to take new paths"

Regarding this sixth aspect of psychological wellbeing we did not find many results, but the ones we found were of a salient similarity and spread over all the initiatives, except for the repair cafés. When sustainability initiatives are set up as an alternative to mainstream patterns of living and consuming, individual members sometimes feel like outsiders, as Gernot and Sarah from the German Transition Town report:

> "*Sometimes, I'm not satisfied because I let other people tell me that one is supposed to have an ordinary job and that one should put some money on the side for retirement or at least for summer holidays or other things. And I don't have anything left, yes, I just live from week to week, getting my food from the organic store I work at.*"

> (Sarah, Transition Town, Germany)

A healthy sense of autonomy and self-determination refers to an individual's ability to resist social pressures and to evaluate herself by her own personal standard rather than the standard that is deemed socially desirable (Ryff and Keyes, 1995: 727). Still, being a member of a niche sometimes means doing things differently, not following the norm. Taking new paths as a form of resistance requires some degree of autonomy and self-determination, which may foster feelings of happiness and satisfaction and serve as a source of energy, as different interviewees reported in a similar manner:

> "*The cooperative gave me the courage not to give in to conformism. (…) The job in the cooperative is becoming the main aim of my daily routine. It is what I wanted from life. Thus, it represents my goal.*"

> (Antonio, agricultural cooperative, Italy)

> "*Yes, it also involves courage and fun to take a path that not everyone has taken before. That was an incredible appeal; it is also an incredible enrichment for oneself, energy-wise. That carries you.*"

> (Emma, network for organic production and consumption, Austria)

5. Discussion

5.1. Interpreting the results of the six dimensions of psychological wellbeing

The perspectives of people engaged in niches, captured through numerous interviews, offer a kaleidoscope of insights and experiences related to psychological wellbeing. The experiences that were both most widely shared and most similar were related to *positive relations* and *personal growth*. Experiences related to *environmental mastery*, by contrast, proved to be most challenging.

It may not come as a surprise that the emergence of positive relations with others – one of the six components of positive psychological functioning according to Ryff – is the most recurrent theme among people engaged in groups of like-minded peers who share similar goals and values. This might be due to the different ways positive relations relate to the wellbeing of the sustainability initiatives' members: In the interviews, in the most direct way positive social relations are

experienced as appreciation, gratitude, social belonging, and collective efficacy. Positive relations may also work as a buffer against negative feelings. Positive social relations may be one of the most crucial aspects in relation to psychological wellbeing in sustainability initiatives. This finding is also reflected in in a large-scale German quantitative study by Binder and Blankenberg exploring the relation of environmental concerns and (environmental) volunteering; their findings argue that involvement in other social activities is more predictive for (environmental) volunteering than being concerned about the environment (Binder and Blankenberg, 2016: 9).

Our data reveal that experiences of personal growth are common among people engaged in sustainability initiatives and that these experiences are positively associated with their wellbeing. Actors of all the different initiatives we studied reported about personal growth, for example, in the form of going through difficult phases and emerging stronger from the process. Members of three different sustainability initiatives described this in a very similar way. It seems that the more radical the lifestyle changes an initiative demands, the higher the chance for profound personal growth processes for those who are willing and able to commit to such an endeavour. This was most clearly reflected in the accounts of the Romanian ecovillagers, who learned to deal with strong feelings of fear and uncertainty. Members of the Dutch repair cafés were the only ones, who did not talk about profound personal growth processes in the sense of second-order learning (van de Kerkhof and Wieczorek, 2005).

How this can be explained is not immediately clear. It might be due to the nature of the initiative, but it might just as well be a consequence of cultural differences in how and what people communicate.

In relation to environmental mastery, some of our findings reveal that people experience negative feelings when there is a gap between their ambitions and ideals, on the one hand; and the concrete outcomes of their engagement (or the overall initiative), on the other hand. This finding is in line with Binder and Blankenberg's findings that people engaged in environmental initiatives experience the positive benefits of volunteering overall (on life satisfaction) but without a specific effect on environmental satisfaction. They suggest that a "speculative explanation could lie in individuals perceiving their efforts as a 'drop in the ocean' and as ineffective for the environment" (Binder and Blankenberg, 2016: 9).

Interestingly, members of repair cafés seemed to struggle less with negative feelings about environmental mastery than members of other initiatives in our sample. Although further research is required to confirm this, our hypothesis is that this has to do with the extent to which initiatives have tangible, short-term goals, with immediately observable outcomes. A strong example of such goals in the repair cafés is the successful repair of broken items. Even though repair café volunteers may equally experience frustrations about not always coming closer to their overall, long-term vision of a more sustainable society, the small successes of their engagement possibly contribute to a greater sense of environmental mastery.

Talk about *purpose in life* was rare in our interviews. One reason for this silence may be that the engagement is perceived as meaningful and in line with one's values. Purpose in life came up as a topic in interviews with people who got some form of direct return from their engagement, for instance in the form of gratitude by clients of the repair cafés. This purpose is often aligned with doing something good for the world, which increased *self-acceptance* of some of the interviewees.

Although *autonomy* is not a direct consequence from being engaged, it could be increased in some cases, where the interviewees perceived themselves as outsiders. The engagement did not bring them more into the centre of a community, nor did it let them to follow the norm. However, through sharing some values or characteristics with other members, they felt better and had a stronger sense of agency.

5.2. Success factors for niche development start at the individual level: linking individual wellbeing of niche actors in sustainability contexts to the multi-level perspective

Our empirical work offers detailed insights into the wellbeing of niche actors in the context of sustainability and takes the understanding of individual actors in the multi-level perspective a step further. Linking these insights back to the transition literature and its conceptualisation of niche actors as collective actors shows that what this literature describes as success factors of niches largely corresponds to wellbeing aspects at the individual level. What contributes to wellbeing in the context of engagement in a sustainability initiative often simultaneously fosters positive niche development. While much of the transition literature focuses on the meso-level when dealing with niche development, we focussed on the individual micro-level and found that meso-level trends are reflected at the micro-level. In the transition literature, at least three key processes are supposed to foster successful niche growth and emergence: managing expectations, building social networks, and learning[8] (Kemp et al., 1998; Seyfang and Haxeltine, 2012; Seyfang and Longhurst, 2016).

First, our results show that setting tangible goals can play an important role in shaping the expectations of the people involved in niches. Within our sample, initiatives with tangible goals tend to have members who feel optimistic about their ability to make positive changes in the world (i.e., environmental mastery). Conversely, we found that people who experienced a large gap between their ambitions (or ideals) and the actual outcomes of their engagement, felt more negative about what they could achieve. This link between the goals of particular initiatives and the experience of environmental mastery of the people engaged in them may be an important micro-foundation for the successful management of expectations at the niche level. Kemp et al. (1998) recommend setting specific, realistic and achievable expectations in transition processes. Our findings suggest that it may be important to do so at the initiative level as well. In a similar vein, Seyfang and Haxeltine (2012: 393) emphasize the importance of 'developing and promoting short-term steps (both internal and external)' towards long-term shared visions of system change. Doing so may attract new members and deliver 'a sense of purpose and achievement' (i.e. a sense of environmental mastery) to existing members.

Second, the transition literature reveals that networking activities are central for successful niches and ideally embrace many different stakeholders. Correspondingly, our data suggest, that positive social relations go hand in hand with psychological wellbeing. Also, it was frequently reported that the diversity of the initiative members was part of the fun of engagement. Positive social relations may lead to a sense of collective efficacy.

Third, the transition literature stipulates learning as a key mechanism for niche development (see for example Seyfang and Haxeltine, 2012 for the case of transition town groups). Our data show a set of examples of "second-order learning" as well as how fruitful learning processes can be for the wellbeing of people engaged in sustainability initiatives. We already indicated in the results section that the reported learning processes can be understood as second-order learning as members of the initiatives often question core values and assumptions of mainstream society. The engagement in sustainability initiatives helps to align one's values with actions and helps to overcome initial phases of frustration, fears or uncertainty when changing the personal lifestyle towards a more sustainable direction. Some respondents reported that they did not overcome these challenging feelings but learned how to cope with them. In niches, people can experiment with non-mainstream practices and adapt their value set (Smith, 2007; Seyfang and Smith, 2007). As many niches aim to replace

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[8] Kemp et al. (1998) talk about "articulation processes" when they refer to learning.

dominant ways of thinking and doing by alternatives, these processes of learning, adapting and experimenting are crucial for successful niche development. Learning induced by engagement was perceived as positively associated with subjective wellbeing. Thus, learning processes themselves may be crucial for the success of niches, while simultaneously contributing to the wellbeing of their members.

6. Conclusion

The two most important pillars of eudaimonia, personal growth and purpose in life, play a key role in engaging for sustainability. Initiatives may offer a wealth of opportunities for personal growth – through social learning, common efforts and energy, rooms for individual and common reflection - but engaging in them also requires time and energy, it involves a number of challenges and requires ways of coping with them. Engaging for a bigger cause gives people a purpose in life. Given the energy and commitment, that all of our interviewees gave to their initiatives one may safely assume that this would hardly be possible if it were not for some bigger purpose in life.

Looking ahead, we would like to make some suggestions for further research, based on our findings and on the limitations of our study.

Even though we shed light on the relevant relationships between psychological wellbeing and engagement in sustainability initiatives; we cannot draw causal inferences. Future studies using quantitative methods (e.g. field experiments, representative surveys) or a living lab (i.e., lab where a participatory interaction design is applied) are needed. For example, it would be interesting to look into the causalities between engagement in sustainability initiatives and psychological wellbeing. In this paper, we pointed out an association between individuals' engagement in sustainable initiatives and psychological wellbeing but future research is needed to causally corroborate this association. One could draw important lessons for the design and management of these groups if future research would show direct or indirect effects of engagement in sustainability initiatives on psychological wellbeing of individual members.

A second follow-up question could be how increased subjective wellbeing contributes to improved outcomes of the sustainability initiative. This kind of evaluation would involve not only the self-reporting of actors (interview data) but also the measuring of outcomes of the actors' sustainability initiatives. Addressing this question would require additional questions in the interviews and surveys that allow for coding along those lines as well as an evaluation of the outcomes of the initiatives.

A third suggestion is to explore to what extent (and how)

engagement in sustainability initiatives may help individuals develop a positive attitude towards themselves (self-acceptance).

Additionally, a long-term study that not only allows for experiments such as the above-mentioned living lab, but which also allows for a second or third round of interviews might lead to results that are more robust.

Our study, which was based on rich qualitative data, may be regarded as complementary to the large quantitative study by Binder and Blankenberg (which was based on SOEP data) on the relation between environmental concerns and (environmental) volunteering. In part, our study has provided some insights into what Binder and Blankenberg called for in their conclusions: 'a more detailed collection of environmentally relevant information (via questionnaires, interviews, diary studies) […] to explain the puzzle that environmental activism seems to increase life satisfaction but not environmental satisfaction' (Binder and Blankenberg, 2016: 13).

Finally yet importantly, a relational conceptualisation of wellbeing (in our case with engagement) may benefit from a process-oriented perspective. We found that psychological wellbeing is regularly subject to change over the course of one's engagement, especially when dealing with sustainability issues and within groups. Sometimes negative impacts on wellbeing arise, but some groups also enable learning processes to deal with such impacts and thereby help to put things into perspective, which is perhaps one of the most important abilities in life.

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Declaration of interest

None.

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Appendix A

Table 2
Overview of the sustainability initiatives analysed in this study.

Initiative	Domain	Objectives	Methods/approaches/activities	Structure
Network for organic consumption and production (-AT)	Food	Become the leading region in Europe concerning organic agriculture; increase share of organic agriculture; strengthen regional economy	Education, in organic farming; connecting processors and marketers of organic products; strengthening the position of organic products in tourism, gastronomy, handcraft, industry and service,	Network of 125 companies (e.g. farmers, restaurants, producers) for organic consumption and production, installed by country government
Energy cooperative (AT)	Energy, mobility	Regional energy autarky with renewable energy	Development and implementation of numerous projects, e.g. decentralised energy production and smart grids, car-sharing, energy cooperatives and use of renewable raw materials for construction and local heating	National programme; manager financed by LEADER; Integration of citizens, administration and companies
3 repair cafés (NL)	Consumption	Support in repairing goods, reduction of waste, strengthening social relations;	Freely accessible meeting places where people gather to fix broken objects, share knowledge and experience on repairing, offering a pleasant environment for people to meet and build up or strengthen social contacts	Started with one repair café in Amsterdam, but currently a global network of 1500 repair cafés; individual repair cafés are mostly independent and locally embedded and an international

(continued on next page)

Table 2 (*continued*)

Initiative	Domain	Objectives	Methods/approaches/activities	Structure
				repair café foundation addresses issues for the movement as a whole.
Energy cooperative (NL)	Energy, mobility, housing	Make the neighbourhood free of emissions (carbon neutral) by 2040	Different projects (insulation of houses, smart energy meters, private photo voltaic plants etc.); providing of information to residents of the district about energy-related improvements; information campaign	A cooperative association with 250 members and led by 8 board members; a separate cooperation exists for the solar roofs project.
Transition Town Movement (D-E)	Food, consumption	Establishment of local environmental resilience and a sustainable lifestyle	Deals with subjects such as local food production, food sharing, local currencies, community supported agriculture, non-violent communication workshops and open space art projects	Part of the international transition town movement; umbrella group for different initiatives
Agricultural cooperative (IT)	Food	Development of an agricultural urban model that is healthy, organic and multi-functional; replace the degraded concrete buildings with a proposed new way of living, based on environmental concerns, on respecting the dignity of labour and on the social value and meaning of agriculture.	Production and distribution of food as well as offering services (agricultural training and experimentation, didactics, workshops, urban gardening, food services, restoration, green tourism, and outdoor sports).	Farmers, agronomists, chefs, architects, day workers, anthropologists, educators with a passion for sustainable agriculture, healthy food production, environment and landscape preservation.
3 ecovillages (RO)	Food, mobility, housing, energy, consumption, work-leisure	Development and living of a holistic, sustainable lifestyle, autarky,	No special method. Members who live in the ecovillages dedicate their life to the issue of sustainability. Workshops and seminars are organised; International networking; awareness raising	Self-organised grassroots movement, built on the principles of permaculture, downshifting and a sharing economy

References

Anand, S., Sen, A., 2000. Human development and economic sustainability. World Dev. 28, 2029–2049.

Avelino, F., 2009. Empowerment and the challenge of applying transition management to ongoing projects. Policy. Sci. 42, 369.

Avelino, F., Wittmayer, J.M., 2016. Shifting power relations in sustainability transitions: a multi-actor perspective. J. Environ. Policy Plan. 18, 628–649.

Binder, M., 2015. Volunteering and life satisfaction: a closer look at the hypothesis that volunteering more strongly benefits the unhappy. Appl. Econ. Lett. 22, 874–885.

Binder, M., Blankenberg, A.-K., 2016. Environmental concerns, volunteering and subjective well-being: antecedents and outcomes of environmental activism in Germany. Ecol. Econ. 124, 1–16.

Binder, M., Freytag, A., 2013. Volunteering, subjective well-being and public policy. J. Econ. Psychol. 34, 97–119.

Binswanger, M., 2006. Why does income growth fail to make us happier? Searching for the treadmills behind the paradox of happiness. J. Socio-Econ. 35, 366–381.

Brown, R., Farrelly, M., Loorbach, D., 2013. Actors working the institutions in sustainability transitions: the case of Melbourne's stormwater management. Glob. Environ. Chang. 23 (4), 701–718. https://doi.org/10.1016/j.gloenvcha.2013.02.013.

Büchs, M., Hinton, E., Smith, G., 2015. 'It helped me sort of face the end of the world': the role of emotions for third sector climate change engagement initiatives. Environ. Values 24, 621–640.

Crompton, T., 2010. Common cause: the case for working with our cultural values. WWF-UK, London http://assets.wwf.org.uk/downloads/common_cause_report.pdf (last accessed May 4th).

Dodds, S., 1997. Towards a 'science of sustainability': improving the way ecological economics understands human well-being. Ecol. Econ. 23, 95–111.

Farla, J., Markard, J., Raven, R., Coenen, L., 2012. Sustainability transitions in the making: a closer look at actors, strategies and resources. Technol. Forecast. Soc. Chang. 79, 991–998.

Fischer, L.-B., Newig, J., 2016. Importance of actors and agency in sustainability transitions: a systematic exploration of the literature. Sustainability 8, 476.

Fischer, A., Spekkink, W., Polzin, C., Díaz-Ayude, A., Brizi, A., Macsinga, I., 2018. Social representations of governance for change towards sustainability: perspectives of sustainability advocates. Environ. Polit. 1–23.

Geels, F.W., 2002. Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study. Res. Policy 31, 1257–1274.

Geels, F.W., 2010. Ontologies, socio-technical transitions (to sustainability), and the multi-level perspective. Res. Policy 39, 495–510.

Geels, F.W., 2011. The multi-level perspective on sustainability transitions: responses to seven criticisms. Environ. Innov. Soc. Transit. 1, 24–40.

Geels, F.W., Schot, J., 2007. Typology of sociotechnical transition pathways. Res. Policy 36, 399–417.

Genus, A., Coles, A.-M., 2008. Rethinking the multi-level perspective of technological transitions. Res. Policy 37, 1436–1445.

Grin, J., Rotmans, J., Schot, J.W., 2010. Transitions to Sustainable Development: New Directions in the Study of Long Term Transformative Change. Routledge, London.

Hauck, J., Omann, I., Thronicker, I., Spekkink, W., Díaz Ayude, A., Maricchiolo, F., Mock, M., Jaco Quist, J., Pandur, V., 2019. Understanding actor roles and categories in sustainability initiatives. Sustainability (submitted).

Henderson, L.W., Knight, T., 2012. Integrating the hedonic and eudaimonic perspectives to more comprehensively understand wellbeing and pathways to wellbeing. Int. J. Wellbeing 2.

Hölscher, K., Wittmayer, J.M., Loorbach, D.A., 2018. Transition versus transformation: what's the difference? Environ. Innov. Soc. Transit. 27, 1–3.

Kemp, R., Schot, J., Hoogma, R., 1998. Regime shifts to sustainability through processes of niche formation: the approach of strategic niche management. Tech. Anal. Strat. Manag. 10, 175–198.

Kern, F., Smith, A., 2008. Restructuring energy systems for sustainability? Energy transition policy in the Netherlands. Energy Policy 36, 4093–4103.

Klar, M., Kasser, T., 2009. Some benefits of being an activist: measuring activism and its role in psychological well-being. Polit. Psychol. 30, 755–777.

Maiteny, P., 2000. The psychodynamics of meaning and action for a sustainable future. Futures 32, 339–360.

Meier, S., Stutzer, A., 2008. Is volunteering rewarding in itself? Economica 75, 39–59.

Middlemiss, L., Parrish, B.D., 2010. Building capacity for low-carbon communities: the role of grassroots initiatives. Energy Policy 38, 7559–7566.

Neumayer, E., 2004. Sustainability and well-being indicators. In: WIDER Research Papers, 2004/23. UNU-WIDER.

Nevens, F., Frantzeskaki, N., Gorissen, L., Loorbach, D., 2013. Urban Transition Labs: co-creating transformative action for sustainable cities. J. Clean. Prod. 50, 111–122.

Ng, W., Diener, E., 2014. What matters to the rich and the poor? Subjective well-being, financial satisfaction, and postmaterialist needs across the world. J. Pers. Soc. Psychol. 107, 326–338.

O'Brien, K., 2012. Global environmental change II: from adaptation to deliberate transformation. Prog. Hum. Geogr. 36, 667–676.

OECD (Organisation for Economic Co-operation and Development), 2015. How's Life?: Measuring Well-being. OECD, Paris.

Rauschmayer, F., Bauler, T., Schäpke, N., 2015. Towards a thick understanding of sustainability transitions — linking transition management, capabilities and social practices. Ecol. Econ. 109, 211–221.

Raven, R., 2012. Analyzing emerging sustainable energy niches in Europe: a strategic niche management perspective. In: Verbong, G., Loorbach, D. (Eds.), Governing the Energy Transition: Reality, Illusion or Necessity? Routledge, Abingdon.

Raven, R., van den Bosch, S., Weterings, R., 2010. Transitions and strategic niche management: towards a competence kit for practitioners. Int. J. Technol. Manag. 51, 57–74.

Rip, A., Kemp, R., 1998. Technological change. In: Rayner, S., Malone (Eds.), Human Choice and Climate Change. vol. 2. Batelle Press, Columbus, Ohio, pp. 327–399.

Rotmans, J., Loorbach, D., 2010. Towards a better understanding of transitions and their governance. A systemic and reflexive approach. In: Grin, J., Rotmans, J., Schot, J.W. (Eds.), Transitions to Sustainable Development. New Directions in the Study of Long Term Transformative Change Routledge, New York, pp. 105–222.

Ryan, R.M., Deci, E.L., 2001. On happiness and human potentials: a review of research on hedonic and eudaimonic well-being. Annu. Rev. Psychol. 52, 141–166.

Ryff, C.D., 1989. Happiness is everything, or is it? Explorations on the meaning of psychological well-being. J. Pers. Soc. Psychol. 57, 1069–1081.

Ryff, C.D., Keyes, C.L.M., 1995. The structure of psychological well-being revisited. J. Pers. Soc. Psychol. 69, 719–727.

Schot, J., Geels, F.W., 2008. Strategic niche management and sustainable innovation journeys: theory, findings, research agenda, and policy. Tech. Anal. Strat. Manag. 20, 537–554.

Seligman, M.E.P., 2002. Authentic Happiness: Using the New Positive Psychology to Realize Your Potential for Lasting Fulfillment. Nicholas Brealey, London.

Seyfang, G., 2009. The New Economics of Sustainable Consumption: Seeds of Change. Palgrave Macmillan, Basingstoke.

Seyfang, G., Haxeltine, A., 2012. Growing grassroots innovations: exploring the role of community-based initiatives in governing sustainable energy transitions. Environ. Plann. C Gov. Policy 30, 381–400.

Seyfang, G., Longhurst, N., 2016. What influences the diffusion of grassroots innovations for sustainability? Investigating community currency niches. Tech. Anal. Strat. Manag. 28, 1–23.

Seyfang, G., Smith, A., 2007. Grassroots innovations for sustainable development: towards a new research and policy agenda. Environ. Polit. 16, 584–603.

Smith, A., 2007. Translating sustainabilities between green niches and socio-technical regimes. Tech. Anal. Strat. Manag. 19, 427–450.

Smith, A., Raven, R., 2012. What is protective space? Reconsidering niches in transitions to sustainability. Res. Policy 41, 1025–1036.

Smith, A., Seyfang, G., 2013. Constructing grassroots innovations for sustainability. Glob. Environ. Chang. 23, 827–829.

Smith, A., Stirling, A., Berkhout, F., 2005. The governance of sustainable socio-technical transitions. Res. Policy 34, 1491–1510.

van de Kerkhof, M., Wieczorek, A., 2005. Learning and stakeholder participation in transition processes towards sustainability: methodological considerations. Technol. Forecast. Soc. Chang. 72, 733–747.

Venhoeven, L., Bolderdijk, J., Steg, L., 2013. Explaining the paradox: how pro-environmental behaviour can both Thwart and Foster well-being. Sustainability 5, 1372–1386.

Waterman, A.S., 1993. Two conceptions of happiness: contrasts of personal expressiveness (eudaimonia) and hedonic enjoyment. J. Pers. Soc. Psychol. 64, 678–691.

Weintrobe, S., 2012. Engaging With Climate Change: Psychoanalytic and Interdisciplinary Perspectives. Routledge, London.

Wilson, J., Musick, M., 1999. The effects of volunteering on the volunteer. Law Contemp. Probl. 62, 141–168.