Why We Should Empty Pandora's Box to Create a Sustainable Future: Hope, Sustainability and Its Implications for Education

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Abstract: (1) Hope and optimism are strongly connected to physical and psychological health and have been much researched in the field of positive psychology. Research has shown that hope is connected to pro-environmental behavior and plays an important role in ESD. (2) In order to operationalize hope and optimism, in a survey, 2564 young people and 525 teachers in Germany assessed the probability and desirability of predefined future scenarios. (3) Only every fourth respondent is optimistic regarding the global future. The biggest discrepancy between expectation and desirability exists with regard to climate change. Latent class analysis revealed four classes, whereby 50% of the participants are "sustainability-affine but disillusioned". This half of the sample has great potential to promote a sustainable future: For them, a positive socio-ecological future has by far the highest value. They report the strongest emotions regarding SD and want to take the most responsibility for SD. Surprisingly, they do not disclose more sustainable behavior in comparison to the other classes. (4) The low expectation of positive socio-ecological developments might be a central factor in preventing half of the sample from behaving more sustainable and indicating a strong potential for hope. The implications for Education for Sustainable Development are discussed.

1. Introduction

"Pandora's box" is as well-known Greek myth addressing hope. Pandora (Greek: "all-gifts" or "all-giving", see [1]) and her box, which was deceivingly called the casket of happiness [2], were created by the gods to punish humanity for stealing fire from heaven. Zeus in this regard stated: "an evil thing in which they may all be glad of heart while they embrace their own destruction" [3] (II, 54–59). Besides all the evils of the world, the box also contained hope. Pandora opened the box and "[o]ut of it flew all the evils, living winged creatures, thence they now circulate and do men injury day and night" [2] (p. 70). Only hope remained there in an unbreakable home under the rim of the great jar, and did not fly out [4]. Differing interpretations refer to the role and value of hope presented in this story: In the classical narrative, hope is the only noble god remaining among mankind [4]. From Nietzsche's [2] perspective, however, hope is the worst of all evils, since it prolongs the torments of man. The question remains whether hope should be seen as a blessing or a punishment.

Several parallels to sustainability can be found: The theft of fire by humans can represent the human attempt to control and use nature; seen through the lens of progressivism, it represents the restless movement forward toward progress [5] since humans have been and are able to shape the world and themselves with the help of these resources. The enormous development that humanity has been able to achieve could run parallel to the fact that the seductive gift initially looked like a perfectly

good thing. That humanity has indeed embraced its own destruction is reflected in the threatening course humanity is currently on, acting beyond a "safe operating space for humanity" [6].

In the following study, the construct of hope is theoretically examined from the perspective of Positive Psychology, Sustainability, and Education for Sustainable Development (ESD). The empirical part measures hope and optimism by analyzing the responses of 2564 young people and 525 educators in Germany, assessing future scenarios in terms of their probability and desirability. The methodology and the results are being discussed and conclusions for ESD are drawn.

2. Theory

2.1. Synergies between Psychology and Sustainable Development

Psychology as the science of the human mind and behavior is deeply intertwined on several levels with SD (see also [7]). Sustainability can only be achieved through a change on the level of individual thinking and feeling, while behavioral transformation is only effective when sufficiently implemented and supported on a collective level. Here, psychology can contribute with the knowledge of proximal (other people, neighborhood) as well as distal (economic as well as cultural) influences on behavior [8].

The psychological barriers that make it challenging to achieve SD are widely discussed. The questions on the topic of individual change revolve around information-presenting-and-processing, identity as well as individual needs. Among them are, for example, the (lack of) closeness (timely, spatially and socially) of events [9], delay discounting [10] and a lack of self-efficacy [11]. Also, the basic psychological need for control and orientation [12] is impeded when dealing with complex and interconnected problems. Often on a global scale, these problems are additionally characterized by conflicting goals of different stakeholders [13].

Vice versa, the dynamics of the current unsustainability effect mental health in manifold ways (see e.g., [14]). The psychological impact of global change phenomena such as climate change are understood to be as far-reaching that they should "not be left only to an environmental subdiscipline of psychology" [8] (p. 16). On the one side, connections between environmental degradation, poverty and poor mental health mediated through e.g., insecurity, hopelessness, rapid social change, risks of violence and poor physical health are shown [15]. On the other side, positive relations between mental health and other sub-domains of SD such as restorative interactions with ecosystems [16] or economic factors like a decent work situation are proven [17,18].

One of the most pressing and therefore most vivid research fields of psychology and SD is related to climate change. Manning and Clayton [19] for example, summarize deep mental health challenges (related to food insecurity, migration, economic crisis) as consequences of climate change. Analyzed through a clinical lens, Burke et al. [20] concluded: "effects of climate change place children at risk of mental health consequences including PTSD, depression, anxiety, phobias, sleep disorders, attachment disorders, and substance abuse" which can lead "to problems with emotion regulation, cognition, learning, behavior, language development, and academic performance" [20] (p. 1).

The work of Ojala [21] focuses on the perception of the future: Among young people, feelings of helplessness, worry, and hopelessness regarding the global future together with sadness, frustration as well as anger are widespread [21] (p. 5). While for young people, worry was the main emotion regarding climate change, it was found to have a strong connection to individual value orientation: The stronger young people express universal values (global justice, peace, equality) or values concerning the biosphere (rights of animals and nature), the more pronounced they worry [22,23].

Here, psychology also contributes to a growing research field on coping with several impacts of unsustainability. Given the still existing tendency of SD-related issues to focus mainly on avoiding negative or even catastrophic developments and thereby lacking pull-factors towards a desirable future, one psychological sub-discipline, in particular, has valuable contributions to offer: Positive Psychology.

2.2. Positive Psychology and Sustainability

Positive Psychology is a subfield of general psychology and focuses on the positive aspects of life [24]. It researches constructs such as Positive Emotions, Engagement, Relationships, Meaning and Accomplishments (PERMA Model [25]). While Positive Psychology focuses on aspects to render individual life worth living and make it meaningful (ibid.), the aim of SD is to ensure such worthwhile life for all human beings for present as well as for future generations [26].

The strong need to bring together the two research fields has already been underlined [27–29]. According to Corral-Verdugo [28], a negative bias exists, which postulates that sustainable behavior is accompanied by negative emotions. This refers to antecedents like fear, guilt, and shame and their consequences like discomfort, inconvenience, sacrifice. Instead, he argues that "sustainable behavior is positive behavior originated by positive dispositional factors, and maintained by psychological benefits" [28] (p. 651). The main dispositional antecedent variables of sustainable behavior are positive emotions, positive motives and attitudes, positive psychological traits as well as psychological capacities. The intrinsic psychological benefits encompass satisfaction, competence motivation, happiness, and well-being [28]. Tapia-Fonllem et al. [30] provide an overview of the contribution of sustainable behavior to quality of life.

A frequently used theory of Positive Psychology are the Values in Action-theory (VIA) [31], a description of strength-oriented personality traits. The VIA includes six virtues: Wisdom, Courage, Humanity, Justice, Temperance, and Transcendence. The importance of these virtues when wanting to achieve a sustainable future is self-evident. This is illustrated specifically by the virtue justice as a core objective of SD [32]. Here, a positive relationship was found between character strengths and life satisfaction [31]. Importantly, hope (operationalized as one of 24 character strengths related to the 6 virtues) has the greatest positive correlation to life satisfaction ([31], $r = 0.48$–0.59). Among the following, the focus is put on hope, a central character strength connected to life satisfaction and a crucial component of SD and ESD.

2.3. Hope and Optimism

Hope and optimism are personality traits defined as beliefs about the future, and are "related to several indices of psychological and physical well-being" [33] (p. 821). Besides these similarities, they were found to be distinct, but connected constructs: A meta-analysis of 16 studies ($n = 4202$) showed a medium strong correlation between hope and optimism ($r = 0.53$; [33]; see also [34]).

Optimism is described in the literature in two ways. The first is dispositional optimism. Accordingly, "Optimists are people who expect good things to happen; pessimists are people who expect bad things to happen" [35] (p. 2). Thus dispositional optimism is characterized by positive "general outcome expectancies" [36] (p. 219). In connection to expectancy-value models (see 3.2), dispositional optimism therefore implies a high expectation of desired futures and a low expectation of undesired futures. Because of that, the extend of dispositional optimism can be described through a linear function [37]. The second form is optimism as an explanatory style [38]. The central dimensions of attribution are internal vs. external, stable vs. transient and global vs. specific. An optimist is a person who imputes positive events internally, stable, and globally. In this paper, the theoretical foundation will be dispositional optimism rather than optimism as an explanatory style, given that the latter does not match the collective dimension of possible SD-relevant futures.

Hope, in contrast to the more general focus of optimism, addresses goals connected to personal actions. In Positive Psychology, a common definition is: "Hope is a motivational factor that helps initiate and sustain action toward long-term goals, including flexible management of obstacles that get in the way of goal attainment" [39] (p. 520). Therefore, important factors of hope are: a) value of the goal, b) seeing pathways to reach that goal and c) having agency towards achieving that goal [40,41]. Important to note, that the pathways to achieve the goal of a sustainable future are invariably collective. Hope is only relevant when uncertainty is prevalent [21]. Thus, a desired future has to be at stake but

at the same time not too unlikely [42]. Therefore, in contrast to optimism, the function that underlies hope is not linear.

In addition, different sub-forms of hope were described and analyzed (see [43,44]). One distinction is made between critical hope and unrealistic optimism. Critical hope acknowledges the negative aspects of the contingent situation, its complexities, and the multiple views on it and will embrace them [44]. Unrealistic optimism does not rest on a critical appraisal of reality, but might be based on illusions and can be understood as a "feel-good emotion" [44] (p. 77).

2.4. Connections between Hope, Mental Health and SD

Several positive effects come along with hope: "Mounting evidence shows that individuals high in hope gain psychological, physiological, cognitive, and behavioral advantages in comparison with those who hope less" ([43], p. 27, see also [45]). Cousins [46] found as early as 30 years ago that hope is the central psychological factor impacting mortality. It is also associated with better academic performance and improved personal relationships [47]. It was shown that hope in general is an important antecedent to a positive development of young people: a six-year longitudinal study revealed that hope leads to more positive emotions, especially in transitional periods which, similarly to SD, are concerned with an uncertain future [39].

In terms of the SD-relevance of hope, the work of Ojala [48] is especially insightful. Here, a medium strong correlation ($r = 0.49$) between constructive hope (as opposed to unrealistic optimism) and pro-environmental behavior was found. Interestingly, it is not only hope that correlates with behavior ($\beta = 0.30$) in regards to climate change, but also does worry ($\beta = 0.22$) [49]. Hope and worry regarding climate change were found to be correlated to each other ($r = 0.53$) [50]. On the other side of the emotional spectrum, fear, similar to hope, can become a collective emotion and, by that, shape the behavior of whole cultures [51]. Another insightful study underscores the importance of hope for pro-environmental behavior in an educational context: environmental hope was found to function as an essential mediator. It translates green educational activities of pupils in schools into general pro-environmental behavior and a higher ratio of positive against negative emotions [52]. Important to note that this mediation was only detected in pupils with high self-control skills.

2.5. Hope and Education for Sustainable Development

A fundamental insight is that hope and optimism are not ingrained in us, but they are attributes which are modifiable [53,54]. This malleability makes these constructs relevant for learning as well as education in general. With its significant role in fostering SD, it is crucial to consider hope for ESD in particular.

"ESD empowers learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society, for present and future generations, while respecting cultural diversity." [55] (p. 12). Therefore, the underlying idea of ESD is that education can make meaningful contributions to overcome unsustainability. This again implies components of hope: that such a contribution is worthwhile, realizable and something individuals are ready to commit to. Against that background, a commitment to ESD can be interpreted as an expression of collective hope that the SD-related hurdles and even the harder-to-overcome societal lock-ins in unsustainability are in principle conquerable. The meaning of fostering ESD-competencies such as shaping competency ("Gestaltungskompetenz") [56], which are needed to co-create a more sustainable future, is by its very nature linked to the malleability and improvement of the status quo.

Several scholars already discussed the role of hope for ESD and environmental education (e.g., [21,48–50,52,57]). When dealing with SD issues in educational settings and exploring the ways to address and overcome unsustainability, especially for young people, the path from feelings of empowerment to frustration and hopelessness is narrow [21] (p. 12), especially given the complexity and quality of the needed solutions. Further studies show the difficulty of young people's perception when they lack trust in the ability to bring about positive social change [58], especially their perceived

as well as actual lack of control to address climate change in private as well as political contexts [49]. Similarly, young people in Germany value the option to get involved in issues of SD. Unfortunately, and in resonance with what has just been mentioned, in Germany young people do not see (enough) options to get involved [59]. Also the feeling of agency to engage in sustainability as an important facet of hope-supporting ESD is being challenged "[e]ven among the more engaged and radicalised, they [young people] feel that any effort they make will be ignored, marginalised or ridiculed" [60] (p. 29). This is why hope, "as the quality that gives us strength in the face of difficulty" [61] (p. 49), is a vital ingredient of an ESD that successfully avoids frustration, which might lead to passivity or cynicism as a side-effect. At this point, however, the difference mentioned above between critical hope and unrealistic optimism is key. Therefore, ESD should be based on critical hope.

While the theoretical segment illustrated the importance of hope for an individual's health as well as a sustainable future, the following sections focus on the empirical study. The main objective is to better understand the relationship between hope and SD based on a differentiated operationalization of the three stand-alone dimensions of hope: value, pathways to what is desired, and agency.

3. Method

3.1. Context of the Present Study and Participants

The present survey is part of the national ESD monitoring in Germany in the context of the ESD Global Action Programme (GAP). At the time of the survey, the national monitoring was composed of four phases: 1. Desk Research 2. Qualitative Interviews 3. Quantitative Study 4. Desk Research II. The data presented here has been derived from the Quantitative Study in which 2564 young people between 14–24 years old (M = 19.7 years; SD = 2.6 years) and 525 teachers (M = 42.9 years; SD = 12.7 years) were questioned via an online access panel. Through this survey methodology, it was possible to recruit a sample of teachers, which is representative in terms of gender (63% female, 36.8% male, 0.2% "other"). Given the federal structure of the German educational system, the aim was to recruit at least 80 young people from every federal state. The sample mirrors the proportions of inhabitants between the federal states. Because of this requirement, a representativeness regarding gender could not be assured in this group: 74.7% of the young people are female and 24.8% male (0.5% "others"). This needs to be considered while interpreting the results, which reveal gender differences. Three educational areas are captured within the sample of young people: school (31.6%), vocational training (21.6%) and university (46.8%). Within the sample of teachers, 82.5% work in schools, 17.5% in vocational training. The teachers report an average professional experience of 12 years. Regarding the place of residence, similarly for young people as well as for teachers, a majority is living in cities (> 100,000 inhabitants; 38.9% and 36.2% respectively), nearly one out of four is living in medium-sized towns (20,000–100,000 inhabitants, 25.7% and 23%), about one out of five is living in small-towns (5000–20,000 inhabitants, 18% and 21.2%) and under a fifth is living in countryside (<5000 inhabitants, 17.4% and 19.6%).

The survey was conducted between March and April of 2018. Besides the assessment of future scenarios, data on e.g., sustainability related knowledge, attitudes, behavior and emotions, and ESD-implementation was collected. For a summary of the study's results, see [62,63].

3.2. Hypotheses and Procedure

The objective of the study is to explore hope and optimism of young people and teachers in Germany concerning their perception of the future in 50 years on a global level. A special focus is the analysis differentiating the three dimensions of hope: value of a goal, pathways and agency, opposed to an operationalization based on one score that represents hope. The method presented can display different constellations of these three dimensions. While using one score for hope, people with varying characteristics on the different dimensions may obtain the exact same score in the test.

Central variables of both hope and optimism are the expectation and the desirability of possible futures. Therefore, the operationalization is guided by expectancy value theory, which traditionally explains motivation as a factor of probability and value of a goal (see [64,65]).

3.2.1. Optimism Regarding the Global Future (H1)

Optimism derives from the linear connection between expectation and desirability of future scenarios. A positive correlation represents an optimistic view of the future, a negative correlation a pessimistic. The higher the positive correlation coefficient the more optimistic is a person, the higher the negative correlation coefficient, the more pessimistic is a person. Here, the following is assumed:

H1: *Young people and teachers are on average pessimistic about the global future, therefore the mean correlation in both groups is negative.*

The method to determine optimism is based on the work of Wenglert and Rosén ([37]; see also [66]). Here participants dealt with 20 personal and 20 global scenarios concerning their subjective probability and the subjective value of each scenario. A correlation coefficient was calculated for every person by correlating expectation and desirability for the 20 personal as well as the 20 global scenarios. The same procedure was chosen in this study with six global future scenarios.

The correlations between optimism and gender, age and—for group of young people—the educational degree were analyzed.

3.2.2. Hope Regarding the Global Future (H2)

The importance of the domain-specific operationalization of hope [67] is addressed here through the focus on hope regarding the global future in relation to three SD-relevant themes: climate change, social inequality, and digitalization. As described above, the analysis aims to carve out different constellations of the three dimensions of hope: a) value of a goal, b) pathways to reach the goals and c) agency. Because of an insufficiently robust theoretical foundation, Hypothesis 2 will be viewed as explorative:

H2: *Different groups that emerge from differing expectation-desirability constellations show significant group differences regarding agency, sustainable behavior, emotions regarding SD, personal hurdles regarding sustainable behavior, perceived threat to the climate system and biodiversity as well as desired rates of ESD implementation.*

The three elements of hope are operationalized distinct from one another: (a) The value of a goal was captured through the desirability of the future scenarios. (b) The pathways to reach that goal are in regards to SD determined by the collective and can only be minimally influenced by the individual. In principle, individual pathways to reach these future scenarios can be considered. They were not included in the present study because of the vast importance of collective action to shape the global future. This is why the pathways have been operationalized through the expectation of future scenarios. (c) The agency facet is captured here through the amount of responsibility one is willing to take for SD. Additionally, personal hurdles regarding sustainable behavior can also be seen as an indicator of a facet of agency.

To provide a deeper insight into what might characterize the different extents of hope, a Latent Class Analysis (LCA) was conducted. As a preparation for the LCA, two exploratory factor analysis (one for expectation, one for desirability) were run to determine which of the six scenarios can be condensed to facilitate the interpretation of the classes. Indices were built using averages of the items, as suggested by the factor analysis.

Given the skewness of some of the indices, the range of the 10-categories scale is sparsely populated. To make comparisons across indices more meaningful, it was decided to transform the

raw scores into quintiles and run the LCA on the resulting five categories. The optimal number of four classes was decided based on the BIC (Bayesian Information Criterion; [68]) of alternative models fitted with 2 to 10 classes. The model was also chosen for the interpretability of the results. The final model with four classes was run in 50 iterations. A fixed random seed was set to guarantee the reproducibility of the results. Classes were assigned based on the most probable class with a cutoff at 0.5. The robustness of the classes was tested by running the same model on the raw data without the quintiles, treating the 10 scale of the index as an ordinal variable and rounding average values to the nearest integer as necessary. Results are approximately the same. Even if some individuals are classified in different classes, the overall composition of the resulting classes is comparable to the solution obtained from the transformed indices in terms of average values of the indices by class.

To test for differences between the classes, Kruskal-Wallis-H Test was used due to non-normality. The size of effect (η^2) was then computed through the parameters *n*, *H* and the number of groups [69,70]. >0.01 is a small, >0.06 a medium and >0.14 a big effect [71]. For a detailed analysis of group differences between single classes, Mann-Whitney-U Tests were used, also due to non-normality. U-Scores where then converted to *d* to report the effect size [72].

3.3. Measures

All measures presented in this paper can be found in German in the Supplementary Materials.

This paper focuses on the respondents' assessment of future scenarios set 50 years from today. Six future scenarios were given whereby the participants were asked to rate every scenario in regard to its probability and desirability on a slider scale of 1 to 10 (1 = extreme unlikely/not at all desirable–10 = extreme likely/highly desirable). The given future scenarios (see Supplementary Materials) were fabricated around the topics of climate change, digitalization, and social inequality, with one positive and one negative scenario for each. E.g., the positive climate change scenario: "The importance of climate change was recognized by all sectors of society. Curbing it has become top priority resulting in a stable Earth system".

Agency was measured with five items on a five point Likert scale (all the following scales use five point Likert scales as well) obtaining the responsibility that respondents are willing to take for SD (adapted and extended based on [73]). Unidimensionality was proven and sufficient, respectively, with good internal consistency attested ($\alpha_{\text{young people}} = 0.773$, $\alpha_{\text{teachers}} = 0.832$).

Emotions regarding SD have been measured on a seven-item scale, capturing guilt, pride, admiration, worry, indignation, and anger related to SD issues (scale bases on [73,74]). Here also, sufficient internal consistency has been assured for both groups ($\alpha_{\text{young people}} = 0.717$, $\alpha_{\text{teachers}} = 0.747$) while the unidimensionality is questionable: A second factor might exist constituting of a single item measuring anger. Through exclusion of this item, only a very small increase in α would have been achieved. Because of that and the indistinct factor structure, no item was excluded from the scale.

Sustainable behavior was measured with 11 items questioning the respondents with regard to their behavior within the last three months as well as the last year. The scale has sufficient internal consistency ($\alpha_{\text{young people}} = 0.736$, $\alpha_{\text{teachers}} = 0.784$) while the screeplot underlines the unidimensionality. Thematically, the items capture, among others, engaging oneself for SD, sustainable consumption (meat, green energy), mobility, finance and donations. As a whole, the scale was designed for the survey based on slightly adapted items from existing scales [75,76].

The scale referring to *personal hurdles regarding sustainable behavior* measured typical hurdles that might prevent sustainable behavior with six items. Nonetheless, while this scale is insufficiently internally consistent ($\alpha_{\text{young people}} = 0.446$, $\alpha_{\text{teachers}} = 0.588$), the decision to use the scale was made due to the nature of the construct: It is very plausible that the different hurdles do not correlate highly with one another. Therefore, the scale is understood as a sum score of relevant hurdles that can exert influence independently of one another.

Perceived threat to the climate system and biodiversity was measured with reference to the planetary boundaries concept [77]. The participants were asked to estimate the endangerment of the climate system and biodiversity on a slider scale.

Desired ESD implementation was measured with the ESD Scale from Boeve-de Pauw et al. [78] operationalizing ESD on two dimensions: holistic approach to content and pluralistic approach to teaching. The only difference in comparison to the original scale is that participants were additionally asked about the desired ESD implementation. Internal consistency is respectively good: Holistic dimension: $\alpha_{\text{young people}} = 0.782$, $\alpha_{\text{teachers}} = 0.886$ Pluralistic dimension: $\alpha_{\text{young people}} = 0.742$, $\alpha_{\text{teachers}} = 0.740$).

Social desirability was controlled through the usage of a six-item scale ([79]; also see [80]) measuring deceptions of self and others. In cases where results for constructs were biased through social desirability, those individuals who showed this tendency were excluded according to cutoff scores [80].

4. Results

4.1. Descriptive Analyses of Future Scenarios

Figure 1 illustrates the results of the descriptive analysis of the responses concerning the future scenarios.
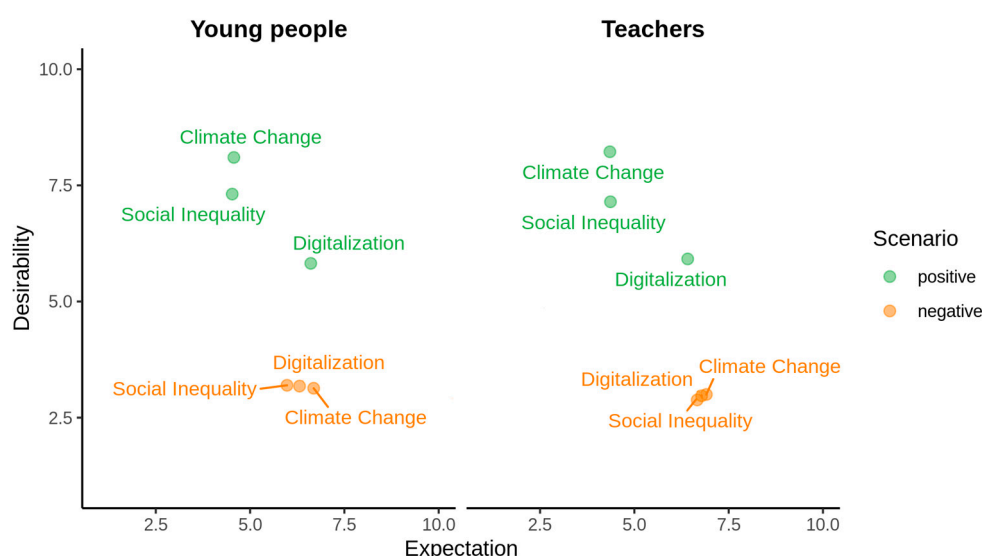
Figure 1. Means of desirability and expectation regarding the six future scenarios of young people and teachers.

The results reveal that young people and teachers show very similar patterns regarding perception of the future.

First of all, and not surprisingly, the positive future scenarios are much more desirable than the negative ones (Young people: $M_{pos} = 7.08$, $M_{neg} = 3.17$; Teachers: $M_{pos} = 7.10$, $M_{neg} = 2.93$). At the same time, the participants perceived the positive scenarios as more unlikely (Young people: $M_{pos} = 5.24$, $M_{neg} = 6.33$; Teachers: $M_{pos} = 5.04$, $M_{neg} = 6.78$). The respondents find only the positive scenario on digitalization as equally probable to the negative scenarios. At the same time, it is by far not as desirable (Young people: $M = 5.82$; Teachers: $M = 5.92$) as the positive scenarios regarding climate change (Young people: $M = 8.10$; Teachers: $M = 8.22$) and social inequality (Young people: $M = 7.31$; Teachers: $M = 7.15$).

A remarkable gap between desirability and expectation is revealed concerning climate change: The positive climate change scenario is by far the most desirable future scenario for the sample (Young

people: $M = 8.10$; Teachers: $M = 8.22$), while the negative climate change scenario on an average is the most probable to the respondents (Young people: $M = 6.69$; Teachers: $M = 6.90$).

4.2. Pessimism about the Global Future (H1)

Within the group of young people, a mean correlation between desired and expected futures of $r = -0.3166$ ($SD = 0.549$) was empirically found, meaning that young people are generally pessimistic about the global future. Only 26.3% of the surveyed young people show a positive correlation and are therefore optimistic.

Within the group of teachers, a mean correlation of $r = -0.3678$ ($SD = 0.576$) was empirically found. The teachers are on average even a bit more pessimistic regarding the global future than the young people. Merely every fourth teacher (25.2%) looks towards global future developments with optimism.

Exploratory, an analysis for group differences, was conducted to see which groups of respondents are especially optimistic about the global future. Small, but significant connections were found between the optimism of young people and other variables. Young people are by tendency more optimistic about the global future when they are male ($r = -0.172$* whereby * equals $p < 0.001$), have a lower educational degree ($r = -0.103$*) and are younger ($r = -0.100$*). When controlling for age, the connection between the own educational degree and optimism is not significant anymore ($p = 0.103$). Among the teachers, no meaningful correlation has been detected.

4.3. LCA of the Future Scenarios (H2)

The factor analysis, in preparation for the LCA, revealed the same results for expectation and for desirability: The three negative scenarios load highly on one factor, while the positive items on climate change and social injustice load on the second one. The positive item of digitalization does not correlate highly with the two factors and was treated separately.

The resulting indices where then used for the LCA analysis. Results are shown in Table 1.

Table 1. Results of the LCA (highlighted in green: positive future scenarios; highlighted in orange: negative future scenarios; highlighted numbers represent the lowest und highest scores comparing the classes).

	Expectation			Desirability		
	Digitalization	Social Inequality Climate Change	Digitalization Social Inequality Climate Change	Digitalization	Social Inequality Climate Change	Digitalization Social Inequality Climate Change
Class 1 ($n = 1545$)	6.4	**3.4**	**6.8**	5.7	**9.0**	**1.6**
Class 2 ($n = 693$)	6.6	5.8	6.2	5.8	6.4	**5.2**
Class 3 ($n = 454$)	**8.8**	**6.3**	6.6	**7.7**	7.3	3.6
Class 4 ($n = 397$)	**4.7**	4.6	**4.9**	**4.6**	5.2	4.8

The different classes show clear patterns. This allows to make assumptions about each group and to define each class in relation to the others.

Class 1: "Sustainability-affine but disillusioned": The respondents in the first class (50% of the whole sample) are characterized by the highest desirability of the positive future scenarios regarding social inequality and climate change ($M = 9.0$), paired with the lowest desirability of the negative future scenarios ($M = 1.6$). They also perceive the positive future scenarios regarding social inequality and climate change as least probable ($M = 3.4$) and the negative scenarios as most probable ($M = 6.8$) in

comparison with the respondents of other classes. To sum up, participants in that group have a strong desire for a bright socio-ecological future but regard that as unlikely to occur.

Class 2: "Indifferent": The respondents in the second class (22% of the whole sample) show average values in most categories. The positive future scenarios regarding social inequality and climate change are the most desirable of all the future scenarios for this group. In relation to the other classes, to them the negative future scenarios are most desirable. For this class, the positive scenario related to digitalization is most likely ($M = 6.6$) compared to the other scenarios. This group shows only small gaps between the desirability and the expectation of the future scenarios.

Class 3: "Digitalization-affine and sustainability-supporting": The respondents in the third class (15% of the whole sample) stand out with respect to digitalization. For those participants, the positive digitalization scenario ($M = 7.7$) is the most desired future scenario, also compared to other classes. The same holds true for the probability they attribute to digitalization ($M = 8.8$) compared to other scenarios and other classes. Furthermore, they are the group that attributes the highest probability towards the positive scenarios regarding social inequality and climate change ($M = 6.3$). This is also the only class where the expectation of their most desired future scenario (here the positive digitalization scenario) is higher than its desirability.

Class 4: "Sustainability indifferent and digitalization distanced": The respondents in the fourth class (13% of the whole sample) stand out due to the lowest desirability of the positive future scenarios as well as a low expectation of the positive future scenarios. They are also characterized by the lowest desirability of the positive digitalization-scenario among the classes. The assessed probability of positive versus negative futures are close to the same level in that group.

Class differences regarding socio-demographic variables: Small class differences present themselves in the group of young people regarding age ($\eta^2 = 0.012$), the educational degree of the respondents ($\eta^2 = 0.013$) and the educational degree of their fathers ($\eta^2 = 0.015$). Whereby the respondents of class 1 are on average slightly older, have a higher educational degree and have fathers with a higher educational degree. No connection between class and gender was found for the teachers ($\chi^2 = 1.823$; $p = 0.610$). For the young people, a significant connection between class and gender was identified ($\chi^2 = 45.616$; $p < 0.001$, which equals a small sized effect). Whereby young men are slightly underrepresented in class 1 and slightly overrepresented in class 3.

4.4. Differences between the Classes (H2)

The extracted groups were compared regarding central psychological dimensions of sustainability and the desired ESD implementation. Table 2 illustrates the results of the Kruskal-Wallis-H Tests ($df = 3$).

Table 2. Effect sizes for group differences between the four classes.

	Young People	Teachers
Emotions regarding SD ($n_{Young people} = 2049$, $n_{Teachers} = 453$)	$\eta^2 = 0.216$ *	$\eta^2 = 0.111$ *
Agency: Taking responsibility for SD ($n_{Young people} = 2193$, $n_{Teachers} = 453$)	$\eta^2 = 0.091$ *	$\eta^2 = 0.044$ *
Personal hurdles regarding sustainable behavior ($n_{Young people} = 2049$, $n_{Teachers} = 453$)	$\eta^2 = 0.053$ *	$\eta^2 = 0.034$ *
Perceived threat to the climate system and biodiversity ($n_{Young people} = 2564$, $n_{Teachers} = 525$)	$\eta^2 = 0.102$ *	$\eta^2 = 0.048$ *
Desired ESD implementation ($n_{Young people} = 2049$, $n_{Teachers} = 453$)	$\eta^2 = 0.105$ *	$\eta^2 = 0.037$ *
Sustainable behavior ($n_{Young people} = 2049$, $n_{Teachers} = 453$)	$\eta^2 = 0.008$ *	*n. sig.* ($p = 0.058$)

$\eta^2 > 0.01$ is a small, >0.06 a medium and >0.14 a big effect. * equals $p < 0.001$.

Several group differences between the classes became evident: Every dependent variable besides the self-reported sustainable behavior of the teachers revealed a statistical significant group difference.

Among young people, the greatest differences between the classes were found in terms of emotions regarding SD. Medium effect sizes were revealed when it comes to taking responsibility for SD, the perceived threat to the climate system and biodiversity, as well as the desired ESD implementation. A small effect was found concerning personal hurdles regarding sustainable behavior, where a statistically significant, but practical rather negligible group difference became apparent.

Among teachers, a similar pattern presented itself with smaller effect sizes. A medium-sized group difference was found for emotions regarding SD. Besides that, small effects were found for taking responsibility for SD, the perceived threat to the climate system and biodiversity, desired ESD implementation and personal hurdles regarding sustainable behavior. Interestingly enough, no group difference was detected with regard to sustainable behavior.

Until here, it has been shown that four classes can be formed that derive from the assessment of the future scenarios. These four classes all differ in each analyzed dimension, besides one: sustainable behavior. A deeper analysis of class differences on central constructs in terms of hope and SD is presented in Table 3: Agency, emotions regarding SD, and sustainable behavior.

Table 3. Differences between the classes: Mean scores of agency, emotions regarding SD and sustainable behavior (highlighted numbers represent the highest scores when comparing classes).

	Agency: Taking Responsibility for SD		Emotions Regarding SD		Sustainable Behavior	
	Young people $\eta^2 = 0.091$ *	Teachers $\eta^2 = 0.044$ *	Young people $\eta^2 = 0.216$ *	Teachers $\eta^2 = 0.111$ *	Young people $\eta^2 = 0.008$ *	Teachers *n. sig.*
1. Class	**3.90**	**4.02**	**3.86**	**3.77**	**2.66**	2.80
n = 1545 (50%)	(*SD* = 0.65)	(*SD* = 0.72)	(*SD* = 0.49)	(*SD* = 0.57)	(*SD* = 0.52)	(*SD* = 0.63)
2. Class	3.45	3.73	3.37	3.47	2.62	2.74
n = 693 (22%)	(*SD* = 0.74)	(*SD* = 0.76)	(*SD* = 0.52)	(*SD* = 0.46)	(*SD* = 0.53)	(*SD* = 0.54)
3. Class	3.57	3.53	3.59	3.39	2.64	**2.81**
n = 454 (15%)	(*SD* = 0.76)	(*SD* = 0.99)	(*SD* = 0.52)	(*SD* = 0.68)	(*SD* = 0.57)	(*SD* = 0.61)
4. Class	3.42	3.68	3.21	3.28	2.48	2.53
n = 397 (13%)	(*SD* = 0.76)	(*SD* = 0.78)	(*SD* = 0.52)	(*SD* = 0.62)	(*SD* = 0.57)	(*SD* = 0.54)

* equals *p* < 0.001.

The attribute revealing the greatest differences between the classes is emotions regarding SD. Here, the first class of the "Sustainability-affine but disillusioned" respondents show by far the strongest self-reported emotions regarding SD. Looking at the young people, the effect sizes in comparison to the others classes are ranging between *d* = 0.455 (Class 3)–1.044 (Class 4). In the case of the teachers, the effect sizes in comparison to the other classes range between *d* = 0.609 (Class 2)–0.643 (Class 4).

Class 1 also shows the highest scores regarding agency. Within the group of young people, small to medium effect sizes are found in comparison with the other classes (*d* = 0.387 for Class 3 and *d* = 0.572 for Class 4). Within the group of the teachers, the effect sizes are small (*d* = 0.36 for Class 2 and *d* = 0.423 for Class 3).

The young people of the first class also report the highest desire for ESD (*d* = 0.172–0.74). Within the group of teachers, no difference between class 1 and 3 was found (*p* = 0.408). However, teachers from class 1 wish for a stronger ESD implementation than teachers positioned in class 2 (*d* = 0.369) and class 4 (*d* = 0.346).

The same patterns emerge regarding the personal hurdles one sees for behaving more sustainable: In both groups (young people and teachers), the respondents from class 1 see fewer personal hurdles regarding sustainable behavior and class 3 sees the second fewest personal hurdles. This can underline that respondents from class 1 have the strongest agency, if the personal hurdles are seen as an indicator for a facet of agency.

Also, when looking at the perceived threat to the climate system and biodiversity, the exact same pattern reoccurs. Here as well, class 1 perceives the highest threat.

Surprisingly, only when looking at sustainable behavior, the described pattern does not occur. Here among the young people, class 1 doesn't show significant differences to class 2 ($p = 0.255$) and class 3 ($p = 0.244$). Only class 4 reports a slightly lower degree of sustainable behavior than class 1 ($d = 0.255$). For teachers, as reported above, sustainable behavior is the only dimension where differences between the classes could not be detected.

5. Discussion

5.1. Methodological Strengths and Limitations

One central methodological limitation of the present study is embedded in the acquisition of the data through an online access panel. Besides the general problem of self-selectivity, it is feasible that the sample is also more technically affine than the general public. However, the significance of this can be put into perspective, as the online panel is not thematically predefined and is open to all topics. This even avoids a selection bias towards sustainability-affinity. The overrepresentation of females as a result of the survey method is also a big limiting factor. On the other hand, it also allowed for precise tailoring of the sample such as sufficient participants of all 16 federal states, which is critical given the high federal autonomy in educational matters. Furthermore, it is plausible that the anonymity of the online survey contributed to more honest and less socially desirable answers. That would explain why the tendency to social desirable responses is lower in the presented study compared to a German interview study that used the same instrument to measure social desirability [80].

Another important limiting factor lies in the operationalization with the help of self-report data, especially in regards to sustainable behavior. Kormos and Gifford [81] showed in a meta-analysis that the connection between self-reported pro-environmental behavior and actual behavior is $r = 0.46$. This signifies that only 19% of the variance of pro-environmental behavior is explained through self-report data. A similar correlation regarding sustainable behavior is very likely.

The operationalization of hope makes a contribution to the current state of research, as the respondents were not asked directly about hope. Instead, the three dimensions of hope were captured and led to a detection of different constellations of them. This differentiated operationalization made it possible to identify differences: within half of the sample, the only dimension where a shift is probably needed for strong hope is the low expectation of positive futures. That is especially important, not just for explaining SD-relevant dimensions, but also for deriving practical implications from the insights. However, also here, limitations of this operationalization occur. In terms of hope theory, Snyder´s [41] three dimensions of hope build a stable theoretical fundament. But the theory was developed considering the individual quest for goals. The transfer to the context of SD was as such not straightforward, as these futures can only be achieved through the efforts of the collective. Therefore, the pathways towards the future have been operationalized on a collective level and agency on an individual level. The limitations result from the factual interweaving of the collective and individual levels with regard to the paths to SD and agency. A linkage to the work of Li and Monroe [82] might be of value here. As a result of constructing the Climate Change Hope Scale, factor analysis revealed a differentiation of "collective-sphere willpower and waypower" and "personal-sphere willpower and waypower".

A central element of the present study is the usage of the six predefined future scenarios. While this methodology seems a promising operationalization of dimensions of hope, this method could be strengthened by offering a broader and thematically more differentiated set of future scenarios. Even though the six scenarios revealed interesting insights, additional future scenarios would render the optimism score more reliably. They can offer a deeper and richer insight into the constellations of expectancy and desirability of various global futures. For example, it is conceivable to have a battery of future scenarios mirroring the three dimensions of SD. In terms of the phrasing, it should be considered that the items are sufficiently diverged from each other: For example, in the current version, the positive digitalization scenario is explicitly framed as a solution to SD challenges as a

whole, while in the other scenarios, only sub-dimensions of SD are mentioned. Furthermore, current public discourses could become the basis when integrating new scenarios.

5.2. General Discussion of the Results

The study brings up that most young people as well as teachers are pessimistic about the future developments in 50 years (H1). This resonates with findings from other studies that also revealed the rather dim view on the future of young people ([60], for German pupils: [83]). The results also show a strong discrepancy between the desired and expected future among young people and teachers (similarly, also [83,84]). This is especially true for the case of the climate change scenario and, to a lesser extent, of the scenario of social inequality. A much smaller gap between desired and expected futures can be found when dealing with digitalization, though it shows a much lower desirability for a positive digitalization scenario compared to a positive climate change scenario. This noteworthy result might be connected to an understanding of sustainability-dimensions as nested systems [85] (p. 192), where the economy and the technological development are subsystems embedded in and existentially depended on a functioning ecological system. This could explain the high discrepancy regarding climate change as potentially diminishing efforts to reduce inequality and foster digitalization. The gap between what is desired and what is expected can be read as an awareness of global SD challenges among a high percentage of the whole sample, which is, however, not sufficiently translated into behavior.

As the LCA shows (H2), the sample could be split up into four classes distinct from each other in various SD-relevant dimensions. The analysis of group-relevant differences among the four clusters revealed that the "Sustainability-affine but disillusioned" encompassed 50% of the whole research sample. They are characterized by sustainability-affine persons: their emotions, their agency, their relatively low perceived personal hurdles for SD-related action, their perceived threat of two planetary boundaries, as well as the desired implementation of ESD. This makes them the most promising group in terms of sustainable behavior, especially given that environmental emotions are highly predictive of environmental behavior [86]. Intriguingly, especially in terms of their potential, this class is showing no statistically significant difference regarding sustainable behavior to the other classes (except in the group of young people to class 4, the "Sustainability indifferent and Digitalization distanced"). This raises the question as to why this large group does not live up to its SD potential in terms of action. One key explanation of this might be offered by hope, more concretely one specific dimension of it: the expectation. It appears very plausible that the low rates of the probability of occurrence of the desired futures and the highest expectancy of the negative futures lead to less hope and therefore weaken the motivation to act according to what is desired.

The assumed role of the low expectation of positive scenarios can be backed by the expectancy-value theory as discussed above. According to this theory, motivation for action is inhibited in case a realization is being perceived as insufficiently probable. In terms of SD and the question of how the world looks like in 50 years, the own sphere of influence is limited. Since two dimensions of hope are given for the "Sustainability-affine but disillusioned"—individual agency and desirability—they have a huge potential to be hopeful. The lack on the expectancy side of hope points to the pathways of the goal, and thereby to the actions of others. This presumably stands in relation to the individual's power to influence or their transformative capacity, with which decision-makers in politics and business are typically disproportionately equipped. A low expectation on the non-individual side of hope might result in a self-fulfilling prophecy in so far as this impedes individual action, which is necessary for collective action and the change of societal structures. Of special importance to explain the tendency of pessimistic views on the world of the respondents and the underused potential for SD-supporting actions, the non-individual side of hope seems to be vital: As also Threadgold [60] has shown, young people, even the ones engaged in SD activities, are not optimistic about "the possibility that social and political change will happen in a timely enough fashion to prevent crisis" [60] (p. 29). According to the results of other studies, pessimism or a lack of hope among young people can also lead to cynicism, apathy, anger, or a life based solely on instant gratification ([60,87]). Signs of cynicism

or even apathy and a possible disinterest in the topic of future might be reflected in the classes of the "Sustainability indifferent and Digitalization distanced" and the "Indifferent": The first ones due to their low desirability and expectation of the positive futures and the latter given the relatively high desirability of the negative socio-and ecological scenarios. The class (3) of "digitalization-affine and sustainability-supporting" young people and teachers, however, are rather optimists. With the highest expectancy value of positive socio- and ecological scenarios, they fit right into the cluster of tech and digitalization optimism, believing on the one hand in a "technological fix" (for technological optimists, see: [88], p. 142). At the same time, however, they have a somehow ambivalent future prospect since they also regard negative scenarios as relatively probable and positive ones as very desirable, which opens them up towards and makes them aware of SD topics. This reveals a potential to further integrate the discourses and practices between digitalization and SD as well as ESD [89].

The results call for effective countermeasure of a resigning look at the future of young people as well as teachers. Above all, but not limited to the fact that freedom from worries and other emotions as well as the rationalizations of a negative future is an end in itself.

5.3. Implications for ESD

The four classes are also very informative from an ESD perspective and for the goal of bringing ESD from the niches into the structures and into the mainstream of all educational areas (see, for example [55]). By their differentiated view on young people and teachers, they can reveal group-specific needs that can be addressed by different facets of ESD: Especially the "Sustainability-affine but disillusioned" are not just very approachable for ESD and wish for the most ESD. Their relatively high pro-SD emotions, the perceived agency, as well as their estimation concerning the planetary boundaries can already be seen as a result of the learning processes on SD. Thus, this group is a highly relevant addressee for ESD on the level of multipliers and learners. They might even function as a mirror of a central characteristic in ESD so far: Having to deal with a huge discrepancy of the current and a desired state of the world. Not lack of information, but rather a misfit between information and expectation plausibly constitutes an important bottleneck towards real-world transformation—at the point of the value-expectancy gap, the whole institution approach [55]. More specifically, an insufficient implementation of it can be understood as a manifestation of such a misfit. In turn, by more clearly living up to this priority of the UNESCO-Global Action Program on ESD, actors can contribute to narrowing this gap. Also for the class of "digitalization-affine and sustainability-supporting", more information might not be the crucial factor because they also show a high concern and desire for SD. The role of knowledge appears more important for the groups of "Indifferent" and "Indifferent to cynics". Here, it cannot be ruled out that a lack of knowledge contributes to their relative indifference towards SD.

In general, the danger of ESD to create an effect of becoming overwhelmed and passive by conveying information on the multiple SD-related crisis have been discussed [90]. ESD requires to go beyond being informative, but also offering reasons for realistic or, as Ojala [44] stated, critical hope. It appears therefore a significant feature of ESD is to focus on a balance of equipping addressees with realistic, age-group specific facts and perspectives on the current SD-challenges but not belittling them out of a wrongly understood pedagogical ethos to avoid passivity. However, an "epistemic fit" between the magnitude of the SD challenges and—again realistic—ways to effectively address them individually as well as collectively has to be offered.

Even though educational processes and settings can and should not take on the responsibility for this wide gap between the factual and the desired state of the world in SD terms, it is a given that the influence to set the course out of unsustainability lies, as mentioned, over-proportionally in other domains of society such as politics and economy. However, under the precondition of education, and ESD in particular, lies the need to considerably contribute to avoid instrumentalization of learners towards SD and safeguard their autonomy (see for instance [91]). These contributions include at least

two ways of how to find the delicate balance between realistic, but still constructive, motivating and hope-supporting information.

The first way—in comparison to the extent of the SD-problems—is to strengthen the learners' SD-related agency by outlining areas where the individual influence and decision-making will match up to the needed effectiveness. This aim resonates with one of Ojala's [48] source of hope: "trust in one's own ability to influence environmental problems in a positive direction" [48] (p. 628), while environmental issues are expanded to SD here. Even though class 1 shows the highest level of agency, the assumption is that this perceived agency not rarely relates to a narrow array of options to address SD issues compared to the size of challenges. This assumed narrow focus is composed of, firstly an emphasis on "low hanging fruits" like switching off the lights and separating household waste. Secondly, narrow agency results from underestimating the influence individuals can have to change the structural level within the individual-structure-continuum (Here, the relation between individuals and the socio-economic structures is addressed. As Giddens [92] showed, this relation is mutually constitutive: eventually it is the actions of individuals that are reproducing as well as shaping the rules, norms, regulations and paradigms that keep up and shape structures, while they, at the same time, shape the individual's options and behavior). Such a narrow understanding of agency and the resulting misfit between the dimension of problems versus solutions offered might work as a sedative pill—silencing one's conscience, while still being too symbolic. They might, however, also lead to cynicism, as the "Indifferent" and the "Sustainability Indifferent and Digitalization Distanced" show. Neglecting the hard-to-escape imbalance between the magnitude of challenges and the areas of influence now appears like a crucial quality criterion of transformative ESD, which needs to address these challenges. How does an ESD look like that focuses on effective agency, meets the epistemic fit and therefore embraces, but also goes well beyond easy, everyday-life, and low-cost activities? Where can one find such effective and structure-influencing areas of impact?

One answer of effective, high-impact options lies, for example, in discussing the choice of the occupational path with young people and its contributions to (un)sustainability. Another way is to highlight possibilities of individual involvement to transform stable and inert structures related to unsustainability. This idea of being an active citizen and going well beyond the right to vote in elections refers as well to one´s own educational institutions and other SD-relevant institutions. ESD that promotes effective engagement in the political domain thereby emphasizes the collective dimension of SD-solutions and counteracts the tendencies of "privatizing hope" [61] (p. 46). The latter implies a downscaling of SD responsibility to the level of the individual against the background of a narrative on structures that are too hard to alter by one person [61].

Furthermore, ESD that enables (and motivates) to engage in SD activities, also on a political level, counterbalances what Threadgold [60] described as a hierarchy among managing one's own individual future and getting engagement to solve large scale socio-ecological problems. This hierarchy, brought forward and supported by "exerts" of young people's lives, namely parents and teachers, is in favor for managing one's private life. This prioritization delegitimizes the activities of young people towards more global issues (ibid.). To resist such a delegitimization, which leads to "obfuscating the real extent of the coming crises" [60] (p. 28), should be a goal of ESD. While the young people in Threadgold's study recognize the socio-ecological problems and future challenges, at the same time, interestingly, their personal futures are remarkably detached from them like two disconnected tracks [60] (p. 24ff). Here, ESD can contribute to continuously integrating the two tracks of the learner's individual future and that of the socio-environmental system on a global level.

Another way of fostering effective agency with ESD is to engage and provide positive examples that inspire and, at the same time, increase trust in the activities of other (peer-) individuals. Such examples can range from "hopeful and generative practices emerging from student-led transformations in higher education, to citizen-led transformation of urban green spaces, to sustainability minded activist scientist engaging in transformation of energy, water and food systems, to school communities trying to green their schools and curricula in meaningful ways, to economist beginning to challenge

some of the fundamentals that underlie capitalism: there are niches that suggest a perfect storm is in the making" [57] (p. 32). This resonates with another source of hope mentioned by Ojala, the "trust in sources outside oneself" [48] (p. 628). This trust can be directed to other stakeholders in society such as scientists, interest groups, and politicians [21] (p. 13). Another source of hope includes re-appraisal of perspectives, such as focusing on positive aspects like an increase in public recognition of SD-challenges (ibid.).

The combination of half the sample being SD-affine and the potential of an ESD that also addresses hope might be a significant contribution to overcoming one of the most central lock-ins of unsustainability: The political willingness to meet the epistemic fit in politics and to implement the necessary profound changes at the structural level. Currently, the low expectation of voting majorities for such impactful activities contributes to the political lock-in. ESD can, as argued above, meaningfully and effectively contribute to fostering adequate SD-related agency and more positive future expectations for individuals. When a strong SD support—as prevalent in class 1 and also in class 3—then becomes visible beyond early adaptors and even beyond an early majority [93] (p. 269), this will presumably affect assumptions in politics about the distribution of voting powers and, more general, meeting expectations from society, thus helping overcome the lock-in.

In summary, given the importance of hope for SD as discussed above, it is one of its vital and motivating ingredients. The current lack of it might work as an important bottleneck for creating SD-related solutions. Hope can become central for ESD in its role of dealing with challenges, promoting environmental engagement [52], and avoiding cynicism and passivity. Hope-fostering ESD shows and discusses cases of successful ways of SD-solutions and, by that, gives reasons to trust and to expect constructive activities from others. It also deals with possibilities of effective and structurally relevant ways to individually generate more sustainability. In terms of the usefulness of hope, these studies lean more towards the Greek narrative of the positive role of hope than to Nietzsche's. It is why ESD can assist to set hope free from under the rim of the box.

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