



Article Meta-Reflexivity as a Way toward Responsible and Sustainable Behavior

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Abstract: In line with the social morphogenetic approach, this article explores the role of metareflexivity in responsible concerns and actions oriented toward achieving a sustainable society. Based on the case study of Slovenia, this article addresses individuals' social and environmental responsibility by considering the relationships between their attitudes, intentions and behavior. It draws on a survey questionnaire that includes the reflexivity measurement tool. The path-analysis is applied to consider the aspects of responsibility as endogenous variables, while the social/cultural conditions (age, gender, educational level, income and the survey wave) and meta-reflexivity as a specific mode of inner dialog are included as exogenous variables. A coherent index of socially and environmentally responsible behavior can be constructed and explained by social/cultural conditions and meta-reflexivity. The COVID-19 pandemic indicates negative effects on responsibility, mostly due to a decline in meta-reflexivity. The study reveals two different—although not mutually exclusive—paths towards socially and environmentally responsible behavior. The first one is based on a combination of well-established values, habits and inertia. This behavior is more typical for older generations, as indicated by the impact of age. The second one is mostly based on critical, meta-reflexive thinking and it is more typical for younger, more educated and more affluent people.

Keywords: meta-reflexivity; sustainability; COVID-19; social-environmental responsibility; Slovenia; social morphogenesis

1. Introduction

The unsustainable societal conditions caused by the fast degradation of the ecosystem, social injustice and lack of social cohesion call for a thorough social transformation. More than 8 million people died from fossil fuel-related air pollution in 2018. In Europe, the life expectancy is shortened by at least 8 months in that regard [1]. The climate conditions threatening the ecosystem are getting worse each year [2] and are closely related to social issues such as inequality, military conflicts, deprivation in vulnerable social groups and underdeveloped regions. The recent COVID-19 circumstances have even worsened the persisting inequalities and deepened the problems, such as the exploitation of child labor and gender inequalities [3]. The latest report of the Intergovernmental Panel on Climate Change under the patronage of the United Nations has been seen as a "code red" for humanity, according to the statement of Antonio Guterres, the general secretary of the United Nations. This should concern even the most anthropocentric individuals, as our quality of living depends on the balance of the Earth's ecosystem. If we, as humanity, are not going to fundamentally change the ways of production, consumption and the underlying norms and values legitimizing social actions, our civilization will cease.

This article deals with mechanisms on an individual level that enable radical social change to occur and that provide the circumstances for a prosperous and sustainable society. In our efforts to consider the prospects for an environmentally and socially sustainable



Citation: Golob, T.; Makarovič, M. Meta-Reflexivity as a Way toward Responsible and Sustainable Behavior. *Sustainability* **2022**, *14*, 5192. https://doi.org/10.3390/ su14095192

Academic Editor: Haywantee Ramkissoon

Received: 1 April 2022 Accepted: 24 April 2022 Published: 25 April 2022

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Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). society, we draw on the notion of responsibility. On a macro-social level, responsibility refers to the methods of strategic steering of different social subsystems. That means that subsystems, for instance, political, economic, juridical, and media subsystems, are articulating common goals referring to sustainable development. In that regard, they enable a proper institutional and legal environment within which individuals can act. On a micro level, it refers to individual behavior. People are choosing every day between the actions that contribute to environmental protection and social solidarity, and the actions that contribute to their destruction.

In this paper, we argue that social change toward a sustainable society can only be reinforced when individuals are able to elaborate on a social context and decide to act in a responsible manner. In that regard, responsibility refers to individuals' concerns and actions in terms of achieving common goals that provide long-term stability and the wellbeing of society and contribute to sustainability in all contexts [4,5]. These perspectives are in line with the morphogenetic perspectives of society (cf. [6]) indicating that social actors can alter social settings to meet their needs by considering their intentions and future concerns through reflexive internal conversation. Reflexivity is an inner dialogue in which all normal people engage "to consider themselves in relation to their (social) contexts and vice versa" [7]. This social morphogenesis starts when individuals actively respond to initial socio-cultural conditions that contradict their desired modus vivendi. Through their reflexive deliberations, they are able to engage in actions and behavioral practices that contribute to the transformation of the initial socio-cultural conditions.

Such a stream of scholarly thought, elaborated especially by Archer [8] and in the relational sociology of Donati [9,10], has been actively engaged in advancing ideas of how contemporary social changes can provide common good, leading to new social utopias or eudaemonia where people can flourish. The morphogenetic approach has also been proven to be an efficient analytical tool in different studies focusing on good society [11,12], active political and civic participation [13], and sustainable development [14–17]. These perspectives analytically disentangle the effects of structure, culture and agency, seeing every social outcome as the emergent product of their interplay. Individual agency ensues from reflexivity as an intrinsic feature of the human psyche, enabling people to consciously and strategically orient their actions toward achieving their goals.

Individuals who are willing and capable of engaging in reflexive relations and responsible actions toward a sustainable society should be highly aware of their priorities and concerns. Based on their reflexivity, they should act in terms of disrupting routines supporting unsustainable practices. One of the preconditions of such actions seems to be meta-reflexivity, which denotes a critical inner dialog toward existing socio-cultural conditions. According to Archer [18] there are different modes of reflexivity that correspond to specific structural and cultural conditions defined by societal development. In traditional societies, the dominant mode of reflexivity is the communicative one, implying that one needs confirmation from significant others before acting. Modern society, involving dense industrialization, urbanization, capitalist markets, and individualization influences various transitions in everyday life. Consequently, it encourages autonomous reflexivity, which implies self-sufficient individuals striving for personal development, successful careers and higher social status, at any cost. The structural uncertainties of late-modern society, underpinned by information-communication technologies and globalization, have increased the importance of critical meta-reflexivity. This mode ensues from the multiple, ambivalent, and complex structures and cultural settings that are hardly offering a stable referential point for the individual to act. Meta-reflexivity refers to a critical re-evaluation of one's own inner dialogs and of the social setting and involves concerns beyond solely individual success

In that regard, meta-reflexivity entails the potential to go beyond the established narratives, ideologies, rules and religious affiliation, and to constitute the social actors who are striving for sustainable social change. It plays a crucial role in this time of the pervasiveness of digital information, providing grounds for the accelerated influence of fake news and disinformation. Digital distractions [19] can substantially hinder our responsible behavior, evoking certain emotions leading to harmful or even dangerous identifications, affiliations, and actions. They are often encouraged or praised by particular systemic operations or actors (e.g., advertising, propaganda) and by the rise of technology-driven filter bubbles [20], leading to extreme political polarization and preventing sustainable and rational (democratic) actions to take place [21]. These phenomena are making it even more difficult for individuals and collectivities to take critical stances toward the current social situation. Meta-reflexivity is crucial in that regard, as it is linked to the critical thinking that enables one to select information from the abundance of the media landscape and to properly understand it [22].

Meta-reflexivity refers to the critical re-evaluation of one's own inner dialogs and of the social setting. Agents who are critically elaborating on a particular social context orient their concerns and actions toward the transformation of existing conditions and enable structural change to occur [7,18]. They adopt specific stances toward society, enabling them to form ideas regarding favorable environments (whether natural, social or technological). This constitutes the micro–macro link, referring to the "active agent" (cf. [18]) who is striving to enable social change to take place.

Meta-reflexivity seems to be even more needed in the current social conditions characterized by perpetuating health measures while new crises are emerging, whether they be economic, political or social. People are accordingly becoming more and more apathetic, uninterested and non-empathetic. As the World Health Organization emphasizes, we can even speak of "pandemic fatigue" [23]. All these issues raise important questions about the impact of such crises on meta-reflexivity and its potential for promoting responsible behavior.

The following sections of this paper continue with a literature review on responsible behavior, sustainability and reflexivity. Based on this review, Section 2 also includes an explanation of our research problem with the corresponding theoretical model, including the general hypotheses. In Section 3, Materials and Methods, we present the social survey that was applied to obtain the relevant data. This includes the construction of the questionnaire, with the question batteries focused on responsibility and reflexivity, as well as the presentation of the procedure, showing how reflexivity scores are calculated. Section 4 provides path analyses indicating the paths toward socially and environmentally responsible behavior, as well as the regression analyses demonstrating the factors of meta-reflexivity and socio-environmentally responsible behavior. An interpretation of the findings is presented in Section 5, which also connects them to the previous studies on responsible behavior—thus placing the results in a broader context. In the final section, the article offers a brief conclusion, along with the implications of the findings for scholars, educators, businesses and decision-makers. The limitations of the review and ideas for further research are included as well.

2. Literature Review and the Research Problem

2.1. Reflexivity and Responsible Behavior

Due to the dynamic and uncertain social conditions, reflexivity has become an increasingly significant concept when exploring and debating sustainability issues. It has been applied in a number of research areas related to environmental sociology, such as science and the related expertise, environmental governance, and citizen-consumers [24]. Reflexivity is seen as a major aspect of sustainable strategic steering at the macro-social level, which calls for reflexive governance [25,26] and governance networks [27]. It has been applied at the mezzo-social level to corporate sustainability [28] and system innovation processes [29,30]. This "reflexive turn" has emphasized the need for critical reflexivity in learning social processes [31]. This, in turn, calls for changes in knowledge consumption as well as in its production, which implies shifts in the funding and management practices in science [32]. Finally, the applications at the micro-social level, which are those most directly relevant for the current study, show the important role of reflexivity in everyday responsible

and sustainable practices [33–35]. In that regard, reflexivity has been considered in terms of relationality and social and material entanglement [36], as well as the significance of reflexivity for forging a sustainable community [37].

Most of these studies are based on the theoretical framework of Beck, Giddens and Lash [38], regarding reflexive modernization [24,26,39]. In contrast, herein, we focus on a specific conceptualization of reflexivity emphasizing the agency of individuals capable of contributing to social morphogenesis, as elaborated by Margaret Archer [11,18]. Unlike the theoretical tradition of reflexive modernization and a reflexive society [38], she emphasizes a clear distinction between the social/cultural structure and individuals' agency, seeing them as emergent levels in their own right. She considers reflexivity not only as a way of observing and monitoring the flow of activities and structural settings but also as a mediator between structure and agency.

The complex social structures and ambivalent fluid cultural meanings are triggering reflexive thinking that should encourage meta-reflexivity among people. According to Archer, meta-reflexivity has even been marked as the "imperative of modernity". However, it is far from being exercised by all people, and not everyone is equally able to do so [40,41]. Our previous research findings have shown that reflexivity modes are changing due to the "context contributed by the socio-cultural structure" [22,42]. Women are, for instance, more reflexive but have difficulties with post-reflexive choices. Young people are more often meta-reflexive than the rest of the population, but it remains open to debate what attitudes their future life stages will bring. However, there are not only structural settings but also internalized identities, values, attitudes, and beliefs and their emotional impacts, of which one is not necessarily aware—and that have not yet been explored.

In order to explore the linkage between meta-reflexivity and responsibility, we took inspiration from the theories of planned behavior [43], distinguishing between three conceptual components of responsible functioning, i.e., attitudes, intentions and behavior. We see attitudes as a result of the internalization of social context, while they can also be consciously deliberated through reflexivity processes, these being the imperative of contemporary time [44]. Intention and behavior can, thus, ensue from habitual, pre-reflexive contexts or they can be reflexively deliberated. Reported behavior has also been demonstrated to have relevant effects in actual everyday practices [45]. Studies leaning toward such theoretical prepositions [46–49] have shown that there is an indirect influence of attitudes on behavior through intentions, but the factors influencing such attitudes and behavior remain insufficiently explained. There is also a strong need for exploring the direct factors influencing sustainable behavior, which subsequently influences consciousness and not just vice versa [50].

We take into account the fact that the factors influencing individuals' responsible functioning on the micro-level are very complex. The relevant studies have revealed different impacts of income [45,51,52] and education [24,33,34,49,53–55]. However, existing findings on the factors affecting responsible behavior often exceed demographic frames. For instance, in more developed countries with prevailing post-material values, there can be more individuals supporting environmental sustainability [46], but this is not linked to their readiness to change or actual sustainable behavior [56,57]. On the other hand, some studies show that those who have a more stable life are also less interested in sustainability issues [52]. Studies concerning demographical settings report unconvincing results as well. One can see women, and the more educated population in general, being more concerned with eco-friendly behavior [58]. However, factors influencing the differences among them can be quite uncertain. For instance, age has a statistically significant influence on sustainable behavior [59,60], but while young people are more environmentally conscious in China [61], this is not so straightforward in Europe [56]. In addition, a higher income positively correlates with eco-concerns but living in a degraded environment and having a low income seems to be even more influential. Comparative data indicate the need for considering the factors of influence not only in the transnational and global contexts but

also in terms of local and national specifics. As Dolenec et al. [62] observe, it is crucial to consider contextual sociodemographic characteristics.

2.2. Research Problem

In the present study, we focus on the role of meta-reflexivity in responsible behavior in Slovenia. This choice is based on several reasons. First, Slovenia is geopolitically positioned at the crossroads between the central, southeastern and Mediterranean parts of Europe. Slovenia is subject to a variety of socio-cultural influences from these regions-making it, at least to some extent, representative of the broader European variety despite its comparatively small size—with a population of roughly two million. Secondly, it is a case study exemplifying rapid social change. As a European post-communist country, it has experienced a quick shift from a comparatively predictable social environment, maintained through communist rule, to sudden exposure to global neo-liberal pressures [63,64]. Thirdly, in terms of development, it is close to the middle: between the more developed, established EU member countries, and the developing "New Europe". Among the former communist countries, it is particularly interesting because of its good starting position at the beginning of the democratic and market reforms [65] and underwent a comparatively successful transformation, integrating it into the wider European environment. This can be illustrated by the fact that Slovenia has been the first among the new member states that joined Europe in 2004 to adopt the Euro. Finally, it does not stand out in terms of sustainability when placed in the European perspective. While its precise positioning varies significantly depending on the criteria, it is mostly close to the European Union average.

Our theoretical model (see Figure 1) addresses social and environmental responsibility at the level of personality by considering the relationships and intervening variables between an individual's attitudes, intentions and behavior.



Figure 1. A theoretical model of social and environmental responsibility.

In this paper, we are testing our theoretical model at the micro (individual) level in order to answer the following general hypotheses:

- H1. Social and environmental responsibility are influenced by the initial structural/cultural conditions, in terms of individuals' age, gender, education and income;
- H2. Socially and environmentally responsible behavior is affected by the related social and environmental intentions and attitudes;
- H3. Meta-reflexivity affects responsible attitudes, intentions and behavior and is influenced by the initial structural/cultural conditions;
- H4. Changed structural conditions caused by the COVID-19 pandemic have affected certain aspects of responsibility;
- H5. Social and environmental responsibility at the level of behavior can be seen as an overall socio-environmental responsibility—as a condition for achieving an overall sustainable society and what the factors are that directly predict it.

Exploring these factors is crucial for understanding the prospects for future sustainable societies because—in line with the morphogenetic theory [11]—the listed mechanisms should lead to a positive feedback loop, enabling social morphogenesis. This means

that social change encourages further elaboration and reflexive action and enables the transformation of initial structural and cultural conditions.

3. Materials and Methods

Based on the theoretical model, we constructed a survey questionnaire. Taking into account previous research [60,66] and the responses from the pilot phase, the final version of the questionnaire was administered in two waves to representative Slovenian national samples of 904 adults in 2020 (15–23 October) and of 912 adults in 2022 (from 19 January till 1 February), using a standardized computer-aided phone interviewing (CATI) method. As the time-lapse between the waves is rather short, on the one hand, we can treat them as a single survey and test our model in a more robust way using this combination. On the other hand, we are also able to observe potential changes within this time frame that may be related to the effects of the COVID-19 pandemic—with the first wave marking the beginning of the pandemic and the second wave representing its (relative) end.

The social and environmental responsibility have been assessed in the survey via a range of statements corresponding to attitudes, intentions and behavior. The list of the six statements from the questionnaire is provided in Table 1.

	To What Extent Do You Agree wi (Answer on a Scale of 0 to 5, with True at All and 5 That T	How Often Have You Been in the Last Year (0 Means Never, and 5 Means Almost Every Day)		
	Attitudes	Intentions	Behavior	
Social responsibility	You feel a responsibility to help the poor, disabled, sick and other people in need.	You invest much of your time into voluntary help for people in need.	Have you participated in activities that help people in need?	
Environmental responsibility	You feel a responsibility to protect our natural environment, all animals and plants.	You invest much of your time to save the planet, the forests and seas.	Have you participated in activities that contribute to the protection of the natural environment?	

Table 1. Operationalizing the aspects of social and environmental responsibility.

To assess the impact of structural/cultural conditions, we observe individuals' circumstances in terms of gender, educational level, age and income.

In order to operationalize the concept of personal reflexivity, we applied a reflexivity measurement tool (RMT) intended to provide an approximate assessment of one's reflexivity in terms of quantitative scores for different reflexivity modes. The tool's validity and reliability have been tested through our previous qualitative and quantitative research [67,68] and, later on, it was also applied in research with a national representative sample [22,42].

The first quantitative measurement instrument to measure reflexivity was the internal conversation indicator (ICONI), developed earlier by Archer [7], based directly on her theory and previous qualitative research. The RMT (presented in more detail in [42,68]) applied in this research is a further adaptation of Archer's indicator, after taking into account the critical responses to the original ICONI [69,70] and the work by Porpora and Shumar [71]. Drawing from ICONI and based on the contribution by Porpora and Shumar [71], the reflexivity level is measured through the responses to questions asking, "During the last year, how often did you ... " about the following items, indicating the intensity of internal conversation:

- Plan your own future;
- Rehearse what you would say in an important conversation;
- Imagine the best and worst consequences of a major decision;
- Review a conversation that ended badly;
- Clarify your thoughts about some issue, person or problem [71].

These 5 statements have been included in our survey questionnaire. The reflexivity level is, thus, the sum of the Likert scale responses to these five items, calculated by the following formula:

$$R = r_1 + r_2 + r_3 + r_4 + r_5$$

where the values from r_1 to r_5 represent the answers to each of the five items above on the Likert scales, with each of them ranging from 0 (never) to 4 (all the time), while *R* indicates the reflexivity level. The reflexivity level *R*, as the sum of the Likert scores for all of the five items previously identified by Archer [7], Porpora and Shumar [71], thus ranges from 0 (no reflexivity) to 20 (full reflexivity).

However, while this measurement of the intensity of people's internal dialogs provides an indication of the reflexivity level, it tells us nothing about the personal reflexivity mode. It should, thus, be combined with an indication of a certain reflexivity mode: for the purposes of our research, this is personal meta-reflexivity as it indicates a critical way of thinking and acting about oneself and about one's own social environment [44]. It can, thus, be seen as most relevant for developing intentions to be individually, socially and environmentally responsible, and to implement these intentions in terms of responsible behavior.

Obviously, nobody can be highly meta-reflexive without being highly reflexive: the more people are reflexive, the more intensive their meta-reflexivity can be. This should be seen as a *multiplier* effect, combining the intensity of internal dialog based on the 5 statements listed above (or the reflexivity level R) and the meta-reflexive way of think-ing [22,42,68]. Using the RMT, we thus multiply each person's reflexivity level (R) with her/his Likert scale responses to the item also included in our survey questionnaire: "During the last year, how often did you carefully consider the key priorities of your life and why you are doing what you are doing?" (L_{met}), ranging again from 0 (never) to 4 (all the time):

$$M_{met} = R \times L_{met}$$

The value obtained in that way represents the score for the personal meta-reflexivity mode (M_{met})—ranging from 0 (no meta-reflexivity) to 80 (full meta-reflexivity).

In order to test the relationship between socially and environmentally responsible attitudes, intentions and behavior, as well as the ways in which they are affected by structural/cultural conditions and meta-reflexivity, we apply path analysis. Linear regression models are applied to assess the influence of structural/cultural conditions on meta-reflexivity and to observe the factors that directly affect socio-environmentally responsible behavior.

4. Results

Unsurprisingly, as shown in Table 2, the reported social and environmental responsibility declined in relative terms when moving from attitudes to intentions and from intentions to behavior. Just as the mean values were decreasing in this regard, the standard variations were increasing: people's awareness of social and environmental issues was more uniform when compared to the higher diversity between those who actually acted regarding social and environmental goals and those who do not.

What is more striking is a rather slight but still statistically significant decline in both socially and environmentally responsible behavior from 2020 to 2022. A similar decline can be noted for reported intentions regarding environmental responsibility. In other words, there are no indications that the average adult Slovenian has become more responsible in social and environmental terms during this two-year period—the opposite trend is more likely.

Another significant decline during this period characterizes the mean score for metareflexivity, assessed in terms of RMT—from the mean of 30.64 in 2020 to 26.25 in 2022. This is a remarkable shift when bearing in mind that this score remained very stable from

		Social Responsibility (Scale Ranges from 1 to 6)		Environmental Responsibility (Scale Ranges from 1 to 6)			Meta-Reflexivity (Scale	
	Statistics	Attitudes	Intentions	Behavior	Attitudes	Intentions	Behavior	Ranges from 0 to 80)
Wave 2020 -	Mean	4.72	3.97	3.62	5.23	4.11	3.53	30.64
	Std. dev.	1.15	1.43	1.59	0.98	1.39	1.52	18.85
Wave 2022 -	Mean	4.66	3.91	3.59	5.17	3.96	3.45	26.25
	Std. dev.	1.21	1.37	1.52	1.07	1.40	1.54	18.40
Mean change		-0.055	-0.058	-0.025	-0.064	-0.154	-0.083	-4.370
t-test –	t *	1.406	1.797	** 1.994	0.939	** 3.131	** 2.546	** 4.973
	Signific.	0.160	0.073	0.046	0.348	0.002	0.011	0.000

2018—when the mean meta-reflexivity score in a comparable survey on reflexivity was 30.43 [42]—until 2020.

Table 2. Descriptive statistics for social and environmental responsibility and meta-reflexivity.

* Equal variances assumed in all comparisons based on f-test statistics. ** The difference between 2020 and 2022 in the survey wave is significant at the 0.05 level.

After we tested all the theoretically feasible impacts from the perspective of our theoretical model (Figure 1), we established path-analysis models of responsible behavior for the Slovenian population, as presented in Figure 2 for social responsibility and Figure 3 for environmental responsibility. Both figures present standardized values of coefficients to make them fully comparable with each other. In the final path analysis models, we have only kept those connections where the significance levels are below 5% (i.e., we are able to reject the null hypothesis of the coefficient being zero). The path analyses consider the aspects of responsibility as endogenous variables, while the social/cultural conditions (age, gender, educational level, income and the survey wave) and meta-reflexivity are included as exogenous variables, influencing the former ones.

As indicated in Table 3, both models indicate an acceptable fit, as shown by the standardized root mean squared residuals (SRMR) being well below 0.08, the root mean square error of approximation (RMSEA) being below or only slightly exceeding 0.05 (for social responsibility), the comparative fit index (CFI) being above 0.9 and the Tucker–Lewis index (TLI) above 0.95.



Figure 2. The factors of social responsibility, with standardized coefficients.



Figure 3. The factors of environmental responsibility, with standardized coefficients.

		Social Responsibility	Environmental Responsibility
	Attitudes	0.060	0.042
Variance explained (R ²)	Intentions	0.340	0.198
companied (11)	Behavior	0.386	0.202
RMSEA		0.051	0.023
CFI		0.984	0.991
TLI		0.961	0.976
SRMR		0.017	0.012

Table 3. Regression results explaining social and environmental responsibility.

Initial conditions, into which individuals are positioned by their age, gender, education and income, influence people's sense of social and environmental responsibility. Age slightly increases the probability of pro-environmental and pro-social attitudes and behavior. However, this is not the case for socially responsible intentions, where age has no statistically significant effect, and environmentally responsible intentions, where its influence is even slightly negative. Women favor social and environmental responsibility more than men in terms of their attitudes. These differences, however, disappear at the level of intentions and even reverse, with females being slightly less likely than males to report pro-environmental behavior. Having a tertiary education—by itself—does not contribute to socially or environmentally responsible behavior. It even has an opposite effect, with more educated people being slightly less likely to express pro-social and pro-environmental intentions. The same can be observed regarding the influence of income: people with incomes of more than 1000 EUR per month seem to be less likely to report environmentally responsible intentions. This confirms most of the elements of our general Hypothesis 1.

A strong relationship between responsible attitudes, intentions and behavior, consistent with the assumptions of the theory of planned behavior, can be confirmed. Attitudes are a good predictor of intentions, and intentions are a good predictor of behavior. The standardized regression coefficients indicate that, within our models, intentions are the single most important factor explaining the variance of behavior, while attitudes are the single most important factor explaining the variance of intentions. This confirms Hypothesis 2.

Consistently with our theoretical assumptions of Hypothesis 3, we can confirm the significance of meta-reflexivity for social and environmental responsibility. In fact, meta-reflexivity turns out to be the most important exogenous variable in our path-analysis models, in terms of standardized regression coefficients and their statistical significance

levels. People with higher meta-reflexivity scores are significantly more likely to be socially and environmentally responsible, in terms of attitudes, intentions and behavior.

Meta-reflexivity is itself to some extent influenced by structural/cultural conditions. We tested this finding using an additional linear regression model presented in Table 4. While age, gender, education and income influence social and environmental responsibility, they also influence meta-reflexivity, which is consistent with our previous findings [42]. Younger people are more likely to be meta-reflexive than older ones. People with tertiary education and with monthly incomes over 1000 EUR are also more likely to be meta-reflexive. The standardized coefficients, however, also indicate that age is a comparatively stronger predictor of meta-reflexivity than education and income. Although women might be slightly more meta-reflexive than men, our regression cannot confirm this within the usual threshold of significance—the probability of obtaining our results, even with no gender effects, is slightly above 5%.

	Coefficient	Std. Error	t	Significance	Std. Coefficient (Beta)
Gender (female)	1.614	0.871	1.85	0.064	0.043
Age	-0.186	0.028	-6.61	0.000	-0.160
Income above EUR 1000	2.529	0.950	2.66	0.008	0.068
Pandemic	-4.548	0.858	-5.30	0.000	-0.122
Tertiary education	5.251	1.001	5.24	0.000	0.128
Constant	3.681	1.776	20.72	0.000	
<i>R</i> ²	0.080				

Table 4. The factors of meta-reflexivity.

The COVID-19 pandemic and the responses to it can also be seen as a major aspect of structural conditions. Our research framework does not allow us to isolate these effects, but it can be argued that they clearly constitute the single most significant disruption in the social context between the first wave of our survey in October 2020 and the second one in January–February 2022. Although COVID-19 was already present in Slovenia before the first wave of the survey, its effects were mild before that time. The daily rates of infections were far below 100 cases before September 2020; the lockdown in spring 2020 was rather brief and no major additional measures were adopted before the end of October that year. The period from November 2020 till January 2022, on the other hand, has been characterized by several surges in the infection rate and prolonged and strict measures to fight the infection, as well as protests against them. Consequently, we may assume with some caution that the shifts between the first and second waves of our survey can be mostly—although not entirely—attributed to the effect of the pandemic and the responses to it.

While this effect cannot be confirmed as being statistically significant in relation to social responsibility in our path analysis models, it can be confirmed in terms of affecting pro-environmental intentions in a negative way (see Figure 3). In addition, it can be observed in the regression model in Table 4 that it has a significant impact on meta-reflexivity. As meta-reflexivity itself directly affects responsible attitudes, intentions and behavior, its decline from 2020 to 2022 also partly contributes to the explanation of the decline in socially and environmentally responsible behavior, as well as in environmentally responsible intentions. Consequently, we confirm Hypothesis 4 insofar as it refers to environmental responsibility, which has clearly declined (see also Table 2). This can also be partly explained by the decline in meta-reflexivity. Regarding social responsibility, the decline has been smaller, mostly limited to behavior and mostly explainable through the decline in meta-reflexivity.

Finally, we observe the relationship between social and environmental responsibility and whether they can be combined into a single index at the level of responsible behavior. The correlation increases when one moves from attitudes to intentions and from intentions to behavior. Thus, the Pearson correlation coefficient between social and environmental attitudes is 0.342. It increases to 0.471 when we move to intentions and reaches 0.666 at the level of reported behavior. Principal component analysis shows that 84.8% of the variance in socially and environmentally responsible behavior can be covered by a single component. This makes the construction of an index of socio-environmentally responsible behavior, as suggested by Hypothesis 5, fully justifiable.

Based on findings from our path analysis models, we can construct a regression model with the independent variables directly affecting socio-environmentally responsible behavior presented through this index. As shown in Table 5, the comparative predictors of socio-environmental responsibility are intentions regarding social responsibility, followed by intentions regarding environmental responsibility. The third most important factor is meta-reflexivity, with the more meta-reflexive persons more likely to behave in socio-environmentally responsible ways. Finally, we can observe slighter but still statistically significant influences of age and gender, with older persons and men being slightly more likely to report socio-environmentally responsible behavior.

	Coefficient	Std. Error	t	Significance	Std. Coefficient (Beta)
Intentions of social responsibility	0.974	0.043	22.65	0.000	0.479
Intentions of environmental responsibility	0.374	0.042	8.84	0.000	0.186
Gender (female)	-0.265	0.106	-2.49	0.013	-0.047
Age	0.014	0.003	4.19	0.000	0.081
Meta-reflexivity	0.018	0.003	5.96	0.000	0.116
Constant	0.621	0.261	2.38	0.018	
R ²	0.389				

Table 5. The factors of socio-environmentally responsible behavior.

While our path-analysis models explain 38.6% of the variance of socially responsible behavior and 20.2% of the variance of environmentally responsible behavior (see Table 3), the regression model for socio-environmentally responsible behavior explains 38.9% of its variance (see Table 5).

5. Discussion

The results of empirical testing on the Slovenian national sample are in line with our theoretical model. Moreover, they suggest two different—although not mutually exclusive—paths toward socially and environmentally responsible behavior. The first one is based on a combination of well-established values, habits and inertia. It is more typically seen in older generations, as indicated by the impact of age. The second one is mostly based on critical, meta-reflexive thinking and is more typical for younger, more educated and more affluent people.

The first path is shown by the significance of age, with older people expressing more responsible attitudes and reported behavior, which is consistent, for example, with the findings by Shikaleska et al. [59]. Nevertheless, age in our study has no significant influence on intentions. This implies, on the one hand, the traditional acceptance of certain proenvironmental and pro-social values and, on the other hand, behavior based on habits or even inertia—and not necessarily on intentions. This type of responsibility can function without meta-reflexivity but cannot lead to any significant social change. Any kind of responsible behavior is desirable, but the world is changing so quickly that responsibility based on routine and habit is not necessarily enough to achieve sustainability in the long run. In order to establish a truly sustainable society, a break with the existing conditions is needed—but this is impossible without meta-reflexivity. This finding is consistent with the study by Davidson [35] on social responses to climate change, in which reflexive individuals turned out to be more capable of dealing with the complexities of climate change.

When responsibility is combined with a critical elaboration of one's position in society, responsibility becomes an integral part of the desired modus vivendi, integrating ideas for a better society and involving the creation of and adaptation to technological and social innovations. For example, disposing of a plastic bottle in the required recycling bin can be either a matter of routine habit or of critical reflexivity. However, searching for new ways to find a new use for an old or recycled item demands more strategic concerns for the corresponding actions—it goes far beyond routine and involves meta-reflexivity.

Someone who is meta-reflexive critically evaluates previous inner dialogs and is critical regarding effective action. This mode is driven by an ultimate concern and is framed by specific value orientation, which undermines the existing structural and cultural hegemony. As Archer [44] says, it is transcendental toward the social. Those who are meta-reflexive are not just following the herd but are looking for additional information and arguments, from which they are able to decide what is effective. One of our previous studies [22] confirmed, for instance, that meta-reflexivity enables one to be more skilled in media literacy and when checking for alternative information within the media landscape. Moreover, according to Archer [44], meta-reflexivity is the one mode that enables us to properly respond to an ever-changing, morphogenetic society. Relying simply on internalized norms, as in pre-modern and early modern societies is, thus, no longer sufficient for responsible answers to the contemporary social and environmental challenges in such a society—personal meta-reflexivity is needed in that regard.

Our regression analysis demonstrates that this is easier to achieve for younger, more educated individuals with a higher income. This is in line with previous research showing that well-educated and politically interested citizens are more interested in pro-environmental behavior [49,53,55] in terms of everyday practices on the one hand [24,34], and activism [33] and political preferences [54] on the other hand. Insufficient financial resources may also hinder pro-ecological behavior [51]. However, as shown already by Hadler and Kraemer [52], higher income does not necessarily imply readiness and actual sustainable behavior but may even have the opposite effect. A previous study by Mikuła [56] was not able to confirm the role of tertiary education in pro-environmental behavior in EU societies. Our study has also shown that the factors of young age, higher education and income, per se, are not necessarily a guarantee of a sense of responsibility. They only function through increased meta-reflexivity, while their direct effect on responsibility is even negative. When we isolate the effects of meta-reflexivity, tertiary education and a monthly income above EUR 1000, as such, have a slightly negative impact on responsible intentions, while a younger age has a negative impact on responsible attitudes and behavior. This confirms the significance of meta-reflexivity to responsibility even more.

Responsibility is a complex phenomenon defined by different aspects, combining individuals' attitudes, intentions and behavior. Our research confirms the causal relationship between the three, as assumed by Ajzen [43], which is in line with a huge body of previous research [46,60,72–74]. There is also another effect, that of behavior influencing values, which is relevant in terms of educational, media and policy interventions, explaining the significance of activities that promote and encourage responsible attitudes [50,75].

In addition, our study has demonstrated that attitudes, intentions and behavior should be considered clearly distinct since they are affected differently by the initial structuralcultural conditions—demonstrating that responsibility is not a straightforward issue. This is clearly illustrated by the effects of gender. On the one hand, women express stronger pro-environmental and pro-social attitudes, which may be based both on conformity with the social norms (as indicated by the direct effect of gender in our path-analysis models) or on their innate meta-reflexivity (as our regression model seems to indicate). On the other hand, women are less likely to report environmentally responsible behavior. This can be explained by the structural-cultural limitations to which women are exposed. As we argued in our previous research [42], "Women are supposed to compete for all social positions, just like men but, on the other hand, they remain unable to escape from certain traditional gender-based limitations and expectations" and face difficulties in escaping such positions [76–78]. In Slovenia, women are still playing a protagonist role in the redistribution of household chores, although both genders invest a great deal in their professional life. Consequently, they perceive themselves as being more severely affected by the reconciliation of their job and their family. It has been argued [79] that labor market conditions and the still-dominant roles ascribed to them serve as a strong counteraction against equal opportunities. Women are often emotionally torn between family life and their career options. As has been shown elsewhere, it is commonly perceived that women have to sacrifice more in order to achieve a successful professional life [79]. However, neither reflexivity nor responsible attitudes lead to responsible behavior when obstructed by these structural-cultural conditions.

The period affected by the COVID-19 pandemic and people's reactions to it had some negative impacts on responsibility, especially in terms of environmentally responsible intentions and behavior. This has manifested in two ways: directly, by affecting the decrease in pro-environmental, and indirectly, through the decrease in meta-reflexivity, which affects all aspects of responsibility. Besides the direct effects of COVID-19 measures, such as the increased amount of medical waste, discarded masks, gloves, and disinfectants, a crucial role is played by the changed patterns of human behavior. It has been shown that signs of pandemic fatigue, as a significant psycho-social phenomenon, are already in place [80]. This trait can also be manifested through increased apathy, passivity and—as our study suggests—a subsequent indifference toward pro-social and especially pro-environmental behavior. We see this as an extremely relevant finding, which would, however, require extensive further investigation in the years to come. In that regard, it is crucial to observe whether this is just a temporary disturbance or a part of broader general social trends reinforced by the pandemic, such as social isolation, fragmentation and polarization [81]. The presence of meta-reflexivity is crucial to counter such negative phenomena but it becomes very difficult to exercise it when individuals are confined to echo chambers and filter bubbles (cf. [19]).

At the level of behavior, social and environmental aspects are becoming indistinguishably connected and should, thus, be studied in that manner. In addition, our research confirms that sustainable behavior needs to be placed within a broader perspective of individual thinking, intentions and actual practices taking place in a socio-cultural context, with the crucial intervening role of meta-reflexivity.

6. Conclusions, Implications, Limitations and Future Research

Our study provides an important contribution to the field of studies relating reflexivity to responsibility at the micro-level. It adds a novel perspective of reflexivity, which refers not only to one's observation and monitoring but also to the concrete implications for social morphogenesis [11,18]. By conceptualizing meta-reflexivity as an intervening mechanism between structural/cultural settings and responsibility, we have broadened the existing theoretical perspectives in this research area. In empirical terms, this study has shown that responsible behavior can be seen as a combination of social and environmental dimensions that constitutes a consistent, one-dimensional whole. It is, thus, fully justifiable to speak about social-environmental responsibility as a concept without any questionable conflation. However, the motives that lead to such behavior. On the one hand, it is motivated by tradition, inertia and habits, which is more typical for the older generation. On the other hand, it is encouraged through critical thinking and deliberate intentions. This is more common among younger and more educated people, who are more meta-reflexive in general. Our results show that meta-reflexivity as a critical inner dialog is a crucial

condition of responsible behavior. Education and a young age only positively affect responsible behavior when mediated through increased meta-reflexivity.

These findings have significant implications for scholars, educators, businesses and policymakers. They demonstrate that meta-reflexivity should be seen as an intervening variable between individuals' structural and cultural conditions on the one hand, and their socially and environmentally responsible behavior on the other hand. This is of particular importance for the scholars interested in the potential for radical social change in terms of morphogenesis. Without increased meta-reflexivity, one can expect the risk of declining responsibility, which would clearly undermine the efforts for a more sustainable future society—as the younger and more educated generations seem to require reflexivity in order to act responsibly. This significance of reflexivity should encourage scholars to look beyond the indicators typically considered in the research so far, such as age, education, income and gender on the one hand, and attitudes and values on the other.

Moreover, meta-reflexivity cannot be taken for granted as it is clearly conditioned by the individuals' position in the social structure, which is consistent with our previous research [42]. This finding holds essential implications for policy interventions, especially in the field of education. Meta-reflexivity complies with the most valued skills and competencies that one should obtain in the education process [82]. The educators should be aware that the traditional role of teaching, encouraging the internalization of proper social and environmental values, is no longer sufficient. The same applies to knowledge transfer since education as such is not sufficient either. The educational system should offer competencies and skills in critical analytical thinking, creativity and originality, reasoning and complex problem-solving. These competencies are crucial for a critical inner dialog, on the basis of which one generates one's concerns, future projects and actions and construct a general modus vivendi [18]. Responsible behavior thus becomes a deliberate decision and an integral part of one's self-identification.

Individuals' critical inner dialog at the micro-social level should also be related to the mezzo-social level manifested through corporate responsibility. Business requires innovative managerial and technological skills in order to both flourish on the market and adhere to sustainable visions. Employees who possess the proper skills and exercise meta-reflexivity are expected to contribute to more resilient and flexible enterprises that are able to sustain the increasing technological and social dynamics—as exemplified by the good practices of industrial symbiotic networks [83]. There, the corporate management should pay great attention to the encouragement of meta-reflexivity for the purposes of both responsible behavior and market performance and invest more resources in this field.

On the macro level, responsible behavior based on reflexivity can also be seen as a key building block of the European Union's strategies, such as "Industry 5.0: Toward a sustainable human-centric and resilient European industry" [84]. Industry 5.0 emphasizes a mutual dialectical influence between technology and society enhanced by digitalization, which is showing a great impact on human interaction, cognition, organizations and institutions. People need to be increasingly capable of properly responding to the fusion of virtual and physical reality through enhanced digital literacy and learning—which again requires meta-reflexivity [22].

This article presents significant findings on the impact of reflexivity on social and environmental responsibility. However, there are certain limitations that need to be addressed. Firstly, the research addresses a single national case, and secondly, it is based on quantitative measurements only, which prevents more in-depth analysis. The case of Slovenia is relevant due to its position in Europe at the intersection of different socio-cultural influences, its experience of rather rapid social transformations and its socio-environmental performance, which is close to the EU average. It also manifests some specific features of post-communist societies [62,85]. Nevertheless, in future research, this should be supplemented by a broader comparative perspective, both in synchronic and diachronic terms. This could provide some insights into the cross-national differences and commonalities, as well as into a better understanding of the difference between the short-term COVID-19 pandemic's effects and

longer-term social trends. Further research could also be enriched by qualitative insights into people's perceptions and interpretations.

Author Contributions: Conceptualization, T.G. and M.M.; methodology, T.G. and M.M.; validation, T.G. and M.M.; formal analysis, T.G. and M.M.; resources, T.G.; data curation, M.M.; writing—original draft preparation, T.G. and M.M.; writing—review and editing, T.G. and M.M.; visualization, T.G. and M.M.; project administration, T.G.; funding acquisition, T.G. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the Slovenian Research Agency (Javna agencija za raziskovalno dejavnost Republike Slovenije—ARRS), research project grant number J5-1788 and research programs P1-0383 and P5-0342.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data will become publicly available after the completion of the project, within which the data have been collected.

Conflicts of Interest: The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

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