

## Article

# A European Mixed Methods Comparative Study on NEETs and Their Perceived Environmental Responsibility

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**Abstract:** This study explores whether young people's propensity to take responsibility for the environment—and, consequently, to make pro-environment consumption choices—is negatively affected by living in a condition of social exclusion, such that of NEETs (i.e., Not in Education, Employment or Training). By adopting a mix of comparative methods, we used the fuzzy-set qualitative comparative analysis (fs-QCA) to compare European countries to find which configurations of types of NEET can be associated with different levels of perceived individual environmental responsibility. In addition, we implemented a mediation model by using Generalized Structural Equation Modeling (GSEM) estimation, to find whether the association between the NEET condition and the level of perceived environmental responsibility is mediated by individual happiness—as a proxy of social exclusion's consequences on the individual's well-being. Fs-QCA results are integrated at the micro level to test context-related variation. Data come from the 2016 European Social Survey, the 2016 Eurofound report, and the 2018 Italian Youth Report. We found that the presence of more vulnerable NEETs is associated with lower levels of perceived environmental responsibility. At the micro level, only in some countries does the condition of NEET lead to attribute environmental responsibility to the institutions, rather than to the single individual, and it seems related to a general lower well-being.

**Keywords:** NEET; environment; mixed method; QCA; GSEM; consumption choices

## 1. Introduction

Sustainability has been defined by the United Nations (UN) in 1987 (*Report of the World Commission on Environment and Development: Our Common Future*, ed. V. Hauff, Oxford University Press) as the satisfaction of the needs of the present generations that does not adversely affect the satisfaction of the needs of the future generations. Following this definition, the UN's report identifies three spheres in which sustainability should be guaranteed in order to assure satisfying living conditions for the next generations: environmental protection, economic growth, and social inclusion. Our interest is in the relationship between environmental protection and social inclusion goals. In particular, we claim that two of the main issues of today's political debate in the European Union are deeply interrelated: those regarding the living conditions of the young population and the future of the environmental crisis. More specifically, we want to test whether the sense of individual responsibility for the environment among young unemployed people is associated with their condition of social exclusion. We focus on a widespread condition among the young population in Europe, which is that of NEET, i.e., Not (engaged) in Education, Employment or Training. The proportion of NEETs, in fact, rose in most of the countries in the last decade, reaching one of the highest levels in Italy (about 28.9% in 2018 for young people aged 20–34; source: Eurostat). This condition has been found typically associated with low life satisfaction, low happiness, and low optimism [1–4], and it leads to a high risk of social exclusion, poverty, low

participation, and low perception of self-responsibility [5–8]. We claim that where the NEET condition is detrimental for young people's well-being, their sense of responsibility towards the environment is also negatively affected. In particular, unhappiness associated with the condition of NEET is expected to mediate the relationship between being NEET and the willingness to adopt pro-environmental attitudes and behaviours.

Existing literature on the topic is rather scarce. Few studies address the issue at the macro level, finding a significant relationship [9], but empirical evidences are quite mixed at the micro level [10–14]. Moreover, these studies lack some elements to disentangle the relationship. First, the traditional definition of NEET adopted in these studies is limited because it does not take into account the different levels of vulnerability that different types of unemployed individuals can experience; the NEET condition might compromise the individual's responsibility towards the environment, especially when associated with social exclusion and low well-being. Second, a context where long-term unemployment is widespread might lead young people to be more pessimistic towards their future and to experience lower well-being, (e.g., [15]). Macro level evidence shows that a high presence of NEETs in a country with a high long-term unemployment rate is associated with a high level of pessimism in the young population [16,17]. Additionally, according to the capability approach [18], measures of subjective well-being are informative about the link between economic performance and social integration; for example, they catch the negative returns of unemployment on the individual sense of community belonging [19]. We claim that where the NEET condition reduces the individual's well-being—due to the individual's limited capability of social participation—this might have a negative effect on the sense of individual environmental responsibility. The underlying mechanism might be that, where the condition of high vulnerability among NEETs is widespread, the individual would perceive an external locus of control, i.e., he or she feels their action is not effective, while only more powerful others can lead the change [20]. Under this condition, individuals are more prone to give responsibility to the institutions seen as responsible for their exclusion from the labour market and less responsibility to themselves also in other spheres, apparently unrelated, such as the environment.

The aim of our paper is to contribute to the literature about the consequences of youth unemployment on the perceived responsibility for environment protection in the European context. To do that, we overcome the separation between macro and micro level analysis by integrating both in a multi-methods approach. We claim, in fact, that an integration of the two levels allows a better comprehension of the mixed results in the existing literature. Moreover, we improve the understanding of the topic by considering the different levels of social exclusion experienced by vulnerable and non-vulnerable NEETs. Finally, we explore a possible mechanism behind the relationship between social exclusion and perceived self-responsibility for the environment by considering the role of subjective well-being.

## 2. Theoretic Framework and Empirical Evidences

The relationship between social exclusion and individual responsibility for the environment can be interpreted under the framework of the capability approach [18]. The approach is not a theory on well-being, but it is more a global perspective which entails two claims: the priority of achieving well-being over other priorities, and the freedom to do this according to individual and collective capabilities. This approach has been recently developed to include the relationship between achieving individual well-being and the ecological sustainability of the individual and collective action [21]. According to this perspective, at the individual level people have an ex-ante responsibility towards Nature (i.e., environment) to preserve the ecosystem. Nature is a common good, as the “ecosystems can cater for basic human physiological needs, such as clean air, water, food, and so forth, and also perform economic and social functions that contribute to both personal and collective well-being” (p. 79, [21]). Therefore, to consider other people's well-being is a precondition to the exercise of individual responsibility towards the environment [22], intended as a voluntary self-restraint in order to satisfy others' needs. However, psychologists show that egoistic orientation tends to prevail, and

people put their own well-being before the others' well-being [23]. Therefore, egoistic orientation can motivate pro-environment actions only if individuals have positive returns in terms of well-being, or if their basic psychological needs have been satisfied. In other words, if the individual is not satisfied with important aspects of his or her life, which is valued more than the common good, ex-ante responsibility towards the environment might not be activated. A study by Becchetti and Conzo [24], for example, shows how dissatisfaction with one's own economic well-being has the strongest negative effect on the individual's overall well-being if compared with 11 other well-being domains, social relationship and environment among them. In this case, the authors show that people tend to give more importance to their own economic well-being than to the other spheres of well-being, which might be more related to the preservation of the common good. Next to the individual responsibility, the capability approach also considers the collective responsibility towards the common good, e.g., in our case, the environment. The collective dimension of environmental responsibility does not result from the simple sum of individual responsibilities, but from the social interactions among social agents [25,26]. In this sense, collective responsibility implies a partnership among stakeholders (government, communities, organizations, etc.), who collaborate and bargain with the authorities to manage their actions [21]. This topic is a hot one in both the scientific and the public debate, where it is often discussed whether the responsibility for protecting the environment and reducing the consequences of climate change should be institutional or individual. Some scholars have stressed the effective role of individual action and responsibility for environmental protection [27–29]. Others, instead, argue that institutional indifference reduces the efficient distribution of environmental responsibilities, (e.g., [30]). In other words, if institutions do not act to promote environmental sustainability, individuals may tend to perceive their single actions as insufficient for the environment's protection. This happens because individuals are strongly influenced by the cultural, social, political, and economic context in which they live: policy measures can promote environmentally friendly behaviours, making them less costly and easier to adopt, with a consequent diffusion of pro-environment attitudes and values in the society [31]. Therefore, institutional responsibility—and the consequent intervention—is crucial to resist the widespread perception that individual contribution to environmental sustainability is marginal and ineffective. People, in fact, tend to underestimate their role as “pollution sources” and causative factors in environmental degradation [32]. This perception leads individuals to resist changing their habits and adopting environmentally friendly behaviours.

The satisfaction of the individual's well-being is not the only antecedent of taking self-responsibility towards the environment. Another important role is played by locus of control. It represents the individual's perception of his or her own abilities to change their conditions and the environment through behaviours [20]. People with an internal locus of control perceive that they are able to change, while those with an external locus of control feel their behaviours cannot change the situation, and that only powerful others can do it. In this second case, people are not prone to take responsibility towards the common good, i.e., the environment, because they think this would not make a difference anyway [33].

Other studies highlight how social integration and social participation can represent the main channels to convey the importance of individual involvement in pro-environmental behaviours [7]. The idea is that there is a strong link between the rights and responsibilities that the individual takes towards the community and pro-environmental behaviours [34]. In this sense, people can be invited to feel responsible for their community's well-being only if they feel their rights have been guaranteed. This is especially important in the phase of transition to adulthood [35,36]. The more difficultly young people move into autonomous adulthood, the more they feel to be marginalized, and the less probably they will engage in active citizenship. If rights can influence the way young people take social responsibilities—and environmental responsibilities among them—then the “right to be employed” has a strong predictive power in that. Long-term unemployment and youth unemployment, in particular, violate young people's expectations of “how things should be”. It has been found that

young people feel no reason to consider themselves responsible for the community because of their feeling of exclusion [7].

There is a high probability that those experiencing the NEET condition suffer from social exclusion and therefore are more prone to having a low well-being and external locus of control. This condition, in fact, is usually adopted as an indicator of young people's vulnerability in terms of labour market participation and social exclusion, and it is associated with a more difficult transition to autonomy and adult responsibilities [36]. Moreover, many evidences suggest that there is a relationship between unemployment and having an external locus of control when the condition is associated with low life satisfaction, depression, and low self-esteem [37–39], which is quite typical among NEETs. However, the broad definition of NEET has incurred criticism because it is more variegated than this. According to the 2016 Eurofound Report [40], for example, the first great distinction is between vulnerable and non-vulnerable NEETs. Non-vulnerable NEETs are those with high social, cultural, and human capital, and they do not suffer the risk of being marginalized. On the contrary, vulnerable NEETs do not have the “right” characteristics that make them attractive for the labour market. Moreover, the definition of NEET is usually based on the employment status of the individual during the week before the interview. However, young people can stay unemployed in the short or in the long term, and this cannot be disentangled by simply looking at the last seven days prior to the interview. Because of this heterogeneity, Eurofound proposed a 7-class classification of the NEET condition. These categories are: (1) the re-entrants (i.e., those that are soon re-entering the labour market); (2) the short-term unemployed; (3) the long-term unemployed; (4) the unavailable due to illness and disability; (5) the unavailable due to family responsibilities; (6) the discouraged workers (i.e., those that are no longer looking for a job because discouraged; this is the most vulnerable category); and the residual category of (7), the other inactive individuals who can hardly be classified across countries. While types 1 and 2 are typical among the non-vulnerable NEETs, types 3, 4, 5, and 6 are more common among the vulnerable NEETs. The residual category is mixed. Therefore, the experience of being NEET is not univocal, and it is strongly related to the institutional context, and in particular to the labour market structure. This is the reason why, as shown in the 2016 Eurofound Report [40], countries have different configurations of types of NEETs.

We expect that different configurations of NEETs will modify the relationship between being NEET and the level of perceived individual responsibility for the environment. In particular, in the context of more vulnerable NEETs, being NEET might be associated with the perception of having lower chances to change one's own condition, with lower happiness and, in a broad perspective, with reduced capabilities to be effective with one's actions. This might lead NEETs to think that other authorities, such as institutions, have the responsibility for both their own life conditions, and similarly for the environmental crisis. On the other way round, in the context of a higher diffusion of non-vulnerable NEETs, being any type of NEET does not imply a sense of the inevitability of one's own condition of life. This would keep happiness higher without affecting the individual's general perception of his or her own capabilities of changing the current situation.

### 3. Data and Methods

In the first step of our study, we conducted macro level analysis to single out specific configurations of the NEET condition in the European context that are associated with a general sense of environmental responsibility among young people and highlight the relative importance of these attributes.

In the second step, we tested the mediated relationship between young adults' living conditions, happiness, and perception of environmental responsibility at the micro level, through a generalized structural equation model. The aim was to estimate the association between being NEET on the level of perceived individual responsibility for the environment, mediated by individual happiness.

### 3.1. The Macro Level Analysis: Method and Measures

The macro level analysis was conducted using the qualitative comparative analysis (QCA) approach. QCA does not aim to test the significance and signs of the effect of variables; instead, it identifies the roles of different conditions in terms of sufficiency and necessity, and of conditions as parts of complex configurations (conjunctural causation) leading to a specific outcome. QCA also accounts for equifinality—a plurality of configurations equally sufficient to the outcome—and evaluates the explanatory power of each solution [41].

QCA is a bunch of set-theoretic techniques. In the fuzzy set Qualitative Comparative Analysis (fs-QCA) version, cases can show different degrees of membership to the conditions and the outcome, and the membership score can take a value in the continuum from 0 to 1, where the 0.5 value is the threshold between being more a member than a non-member, and vice versa. The process through which we define the degree of membership in each condition and in the outcome is named calibration. In order to calibrate, we need to decide under which requirements a case fully belongs (or does not belong) to the condition/outcome. An ad hoc algorithm of the software calibrates the remaining values based on a log-shaped function. The calibration's outcome is the truth table. The minimization of the truth table returns three different solutions: the complex, the most parsimonious, and the intermediate solutions. The differences among the three regard the way in which the software treats the logical remainders in the minimization—i.e., the truth table lines for which we do not have empirical cases. The complex solution is derived by minimizing only those lines for which we have empirical correspondence in our population; the parsimonious solution, instead, includes the entire truth table in the minimization; finally, the intermediate solution considers only the logical remainders satisfying some assumptions—made by the researcher—on the relationship between the presence/absence of the conditions and the presence of the outcome. The “goodness of fit” of the model can be evaluated with two parameters, i.e., consistency and coverage. In the analysis of sufficiency, consistency expresses the level to which a certain solution is sufficient in our population. The parameter is lower if there are many cases that are outliers with respect to the sufficient relationship. Consistency ranges from 0 to 1: a value of 0.5 means that “almost half of the empirical evidence contradicts the subset relational statement of sufficiency” (p. 127, [41]). Coverage, instead, is the numeric expression of the empirical importance of the sufficient solution [41]. In other words, it indicates how much of the (empirical) outcome is covered by the solution (which might be the overall solution or the single alternative configurations that form the overall solution).

Figure 1 shows the model we aim to test with QCA in a sample of European countries (Austria, Belgium, Czech Republic, Germany, Estonia, Spain, Finland, France, U.K., Hungary, Ireland, Italy, Lithuania, Netherlands, Poland, Portugal, Sweden, Slovenia): it relates the presence of different types of NEETs to the high diffusion of the sense of environmental responsibility among young people. Analyses have been run on the fs/QCA3.1b software.

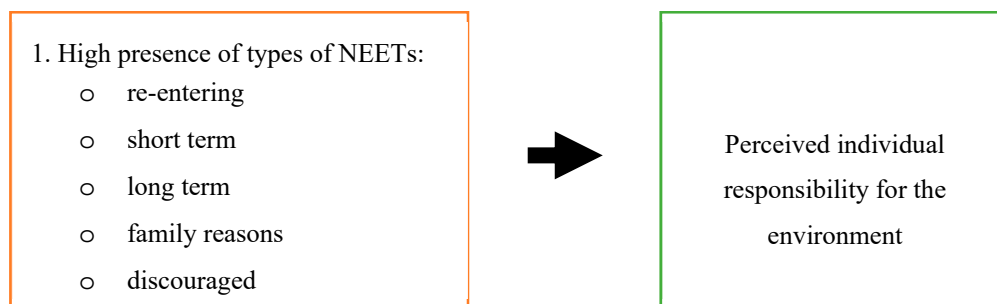


Figure 1. Model for the fuzzy set QCA.

## Conditions and Outcome

Macro level data at the country level used in the analysis came from the Eurofound (*Exploring the diversity of NEETs*, Publications Office of the European Union, Luxembourg, 2016) Eurostat online database (<https://ec.europa.eu/eurostat/data/database>) and the 2016 European Social Survey (ESS). For the total number of NEETs, we relied on Eurostat definition and data for 2016. Regarding the different types of NEETs, we referred to the classification reported in the Eurofound report [40]. For this study's sake, we considered only the following five categories: (1) Re-entering; (2) Short-term unemployed; (3) Long-term unemployed; (4) Discouraged; (5) Outside for family reasons. We excluded the residual category Other because of its heterogeneity, including both vulnerable and non-vulnerable NEETs in different proportions across countries. Regarding the perceived individual environmental responsibility, we took the mean level of the ESS variable *To what extent do you feel a personal responsibility to try to reduce climate change?*, whose answers scale from 0 (*Not at all*) to 10 (*A great deal*) in the sample of people aged 15–25.

### 3.2. The Micro-Level Analysis: Method and Measures

To test the mediation hypothesis—represented in Figure 2—we adopted a mediation model with the general structural equation model estimation, with the maximum likelihood estimation method. Estimation was done using IBM AMOS 25.0. Because we used cross-country data, we could not avoid the endogeneity issue derived by testing the relationship between two subjective variables (i.e., happiness and the perception of one's responsibility for the environment), and the one derived by the relationship between being NEET and happiness. Therefore, results from our models should be interpreted more as associations than in a causal sense, even though we can argue that, based on the existing literature, the main direction of the relationship was the one that we tested. Differences among clusters of countries were explored by running a cluster-specific model and testing the invariance between couples of them.

The analyses were conducted on two samples derived from two different surveys: the 2016 wave of the ESS and the Italian 2018 Youth Report. The ESS is a cross-national survey that has been conducted—every two years—across Europe since 2001. The sample is representative at the national level for the population aged 15-and-over resident in the country. The individuals' selection follows a random probability method at every stage. The final sample size for each country must be higher than 1500 individuals. In 2016, ESS included an ad hoc module on “Public attitudes to climate change”.

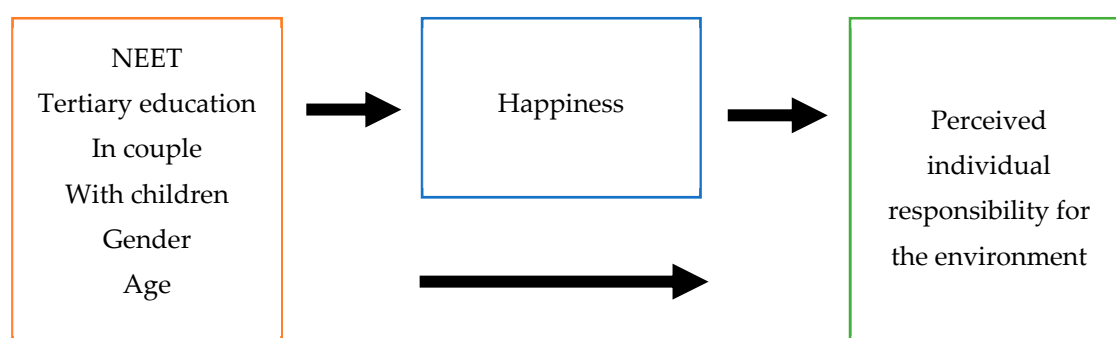


Figure 2. The mediation model.

The Italian Youth Report is a nationwide Italian survey launched in 2015 by the Toniolo Institute of Advanced Studies with the inclusion of the CARIPLO Foundation and IPSOS LTD as executive partners. The sample consists of 9358 individuals aged between 18 and 32 years, taking under consideration the age bracket as constituting emerging adulthood. The individuals were chosen with a stratified sampling technique. The sample is representative of the Italian youth population. The representativeness is given by a significant set of different variables (gender, age, geographical origin, education, marital

status, etc.) on which the sample has been stratified. In 2018, an ad hoc module on the environment, sustainable behaviours, and attitudes was carried out. For this topic, a specific survey was conducted on a sample of 2004 individuals, aged between 21 and 34 years.

To make the ESS and the Italian Youth Report samples comparable, we selected the 22–35-year-old individuals in the ESS. By making use of ESS data, we explored if there were statistically significant differences among clusters of countries, as identified by the fs-QCA solutions. Then, taking advantage of an ad hoc survey with a large representative sample on a single country (i.e., the Italian Youth Report), we enriched the studied relationship by including pro-environment consumption behaviours as an outcome.

### 3.2.1. Dependent Variables

In ESS 2016, a specific question was introduced regarding the perception of self-responsibility for environmental emergencies. In particular, it asked “To what extent do you feel a personal responsibility to try to reduce climate change?” and respondents answered their level of involvement on an 11-point scale, from 0 (*Not at all*) to 10 (*A great deal*).

The 2018 Italian Youth Report module on sustainability has a specific focus on the environmental issue. A set of questions was introduced regarding the individuals’ involvement in pro-environmental behaviours and their perceptions about institutional and other citizens’ involvement and responsibility. Even though there are no identical questions to the one reported in the ESS questionnaire, one of them is comparable in terms of meaning. It asks whether the individual agrees with the sentence “The protection of the environment is the responsibility of the authorities, the individual citizen can do little” on a scale from 1 to 10. However, the question has a reversed polarity if compared to the one in the ESS. Indeed, it measures how much the individual attributes the environmental responsibility to the institutions rather than to the single individual. Additionally, this question belongs to a Likert scale, which aims to explore the individual’s perception of personal responsibility and behavioural efficacy in reducing the environmental emergency significantly. Respondents agreeing on this question implicitly assume that their behaviours have the power to make a difference for the environment; therefore, they are prone to change their habits because they feel responsible for their consequences. The other items of the Likert scale are reported in Table 1. These items were collapsed in a multiplicative index measuring the overall individual attitude towards their involvement in pro-environment behaviours. Both the variables—i.e., the institutional vs. individual responsibility for the environment—and the pro-environment attitude index are dependent variables in our analysis.

**Table 1.** Items of the Likert scale on the pro-environment attitude.

Items	
1	The protection of the environment is the responsibility of the authorities, the individual citizen can do little
2	I am willing to change habits to be more respectful of the environment
3	I try to minimize waste (e.g., of water, light, food, plastic, etc.)
4	I try to separate waste carefully
5	In words they are all respectful of the environment then in fact they are not at all
6	Even small gestures are important to respect the environment
7	Generally, I prefer to buy the products of the companies that operate safeguarding the environment

### 3.2.2. Predictors

According to our hypothesis, individuals perceive their behaviours as affecting the environment at a level that depends on their life conditions and on their consequent level of happiness. Both the ESS and the Youth Report ask the individual’s level of happiness. In the ESS, the question asks “Taking all things together, how happy would you say you are?”, and respondents answer on a scale ranging from 0 (*extremely unhappy*) to 10 (*extremely happy*). In the Youth Report the same question is asked with a vote from 1 (*not at all happy*) to 10 (*very happy*).

In order to define the NEET condition in both the datasets, we created a dummy variable which takes value 1 in case the individual is not working, not actively looking for a job, and not in training or education during the last seven days before the interview.

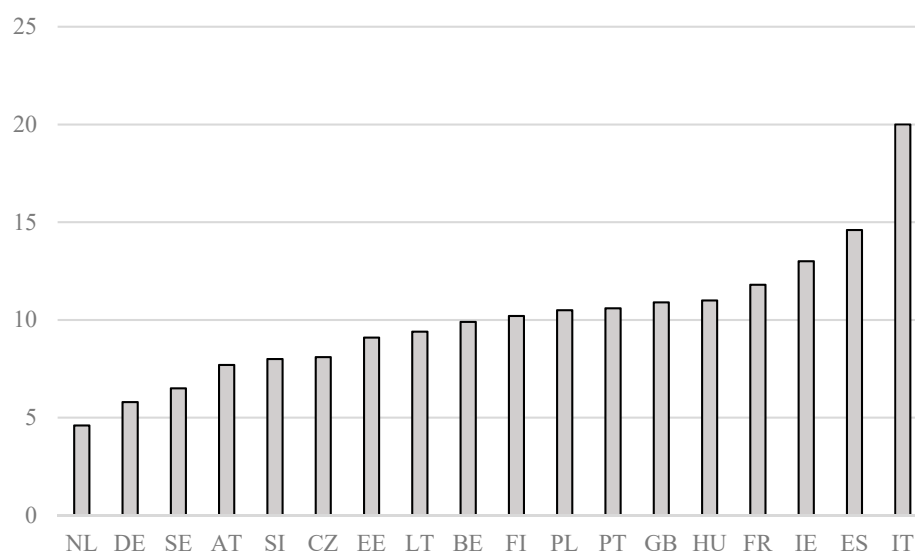
Other control variables that describe the individual's life condition are marital status—in this case a dummy for individuals living in a couple outside the family of origin—the presence of children—again a dummy variable—whether the individual has achieved the tertiary education or not, and age and gender of the respondent. Also, the parents' level of education was initially considered in the analysis as a proxy for the family socioeconomic status (SES) instead of the income level, which was not present in the Italian Youth Report. However, the family SES was not significantly related to our dependent variables, nor did the inclusion of the variable in the models modify the effect of the other predictors.

## 4. Results

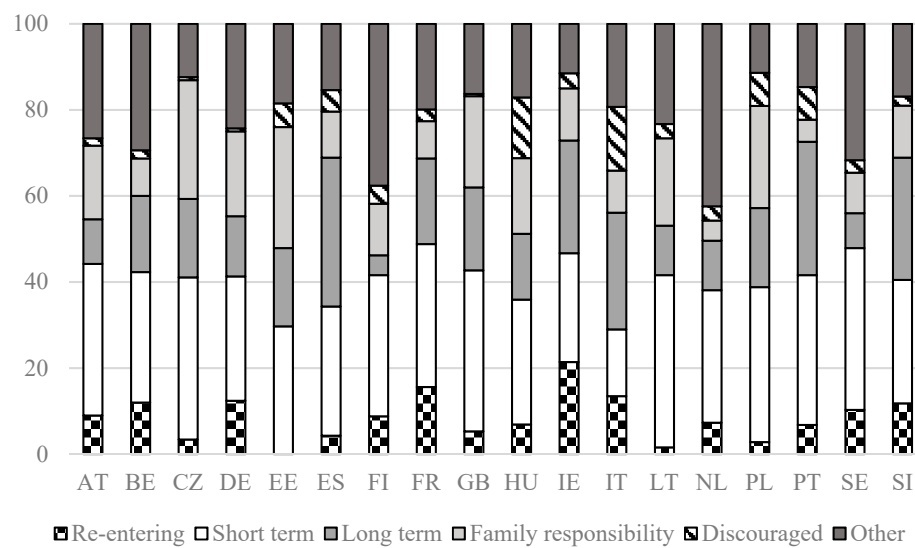
### 4.1. Descriptive Results

Some descriptive findings at the macro level showed the by-country variation of our dependent variable and the main predictor—i.e., the fact of being NEET. Figure 3 shows the distribution of NEETs (15–25 years old) among the selected European countries (acronyms of the countries are reported in the Table A1 of the Appendix A). Italy was the country with the far highest proportion of NEETs (20%) in 2016, followed by Spain (14.6%), while the Netherlands (4.6%) and Germany (5.8%) had the lowest rates.

As previously argued, the simple distribution of the total number of NEETs was not informative about the vulnerability of the youth in a country. It became evident by plotting the distribution of the different types of NEET (Figure 4) according to the Eurofound definition. We decided to include in the residual category “Other”, corresponding to the heterogeneous group of other types of NEETs, also the very small proportion of NEETs because of illness. Italy and Spain, where the proportion of NEETs was the highest, showed also a high proportion of vulnerable NEETs—i.e., discouraged, long term, and for family responsibility—among the European countries (29%). But the Netherlands was not the country with the highest proportion of non-vulnerable NEETs, which was, instead, France, followed by Sweden.



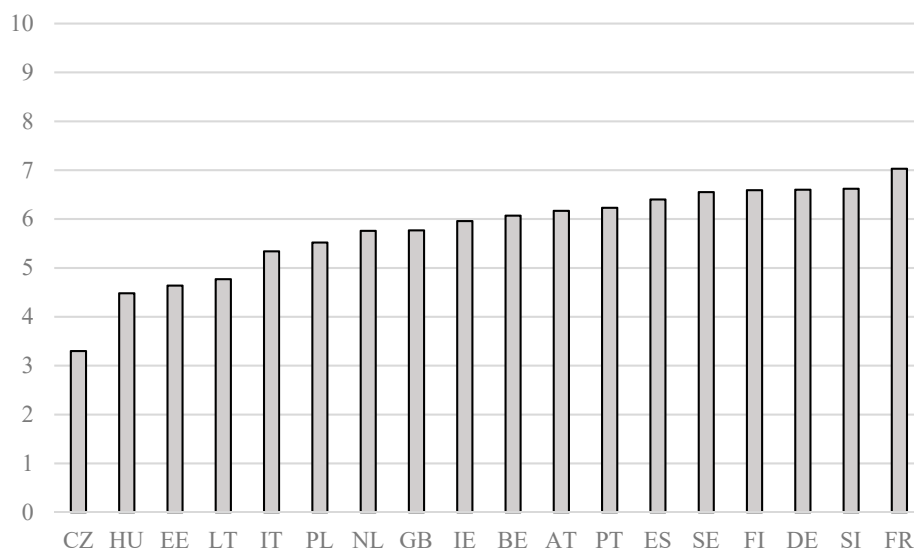
**Figure 3.** Proportion of NEETs (ages: 15–25) in selected European countries (source: Eurofound elaboration on EU-LFS, 2013).



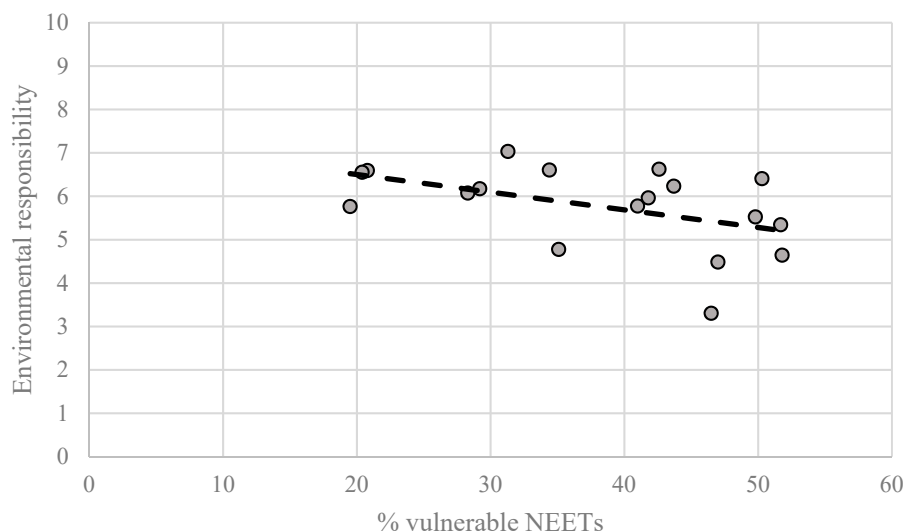
**Figure 4.** Proportion of different types of NEETs (ages 15–25) in selected European countries (source: Eurofound elaboration on EU-LFS, 2013).

Regarding our dependent variable, Figure 5 shows the distribution of the perceived individual environmental responsibility across countries for people aged 15 to 25. Eastern European countries and Italy presented the lowest levels, while Nordic countries, Germany, Slovenia, and France showed the highest. The Netherlands did not show such a high level of perceived responsibility towards the environment, clustering with countries below the median of the distribution.

In order to test whether it was meaningful to explore the relationship of interest, Figure 6 shows that there was a negative significant relationship (at  $p < 0.05$ ) between the proportion of vulnerable NEETs in the country and the average level of perceived individual responsibility for the environment.



**Figure 5.** Mean level of perceived environmental responsibility among the young population (ages 15–25) in selected European countries (Source: our elaboration on ESS 2016 data).



**Figure 6.** Scatter plot with tendency line for the linear relationship between the proportion of vulnerable NEETs in the country and the mean level of perceived individual responsibility in the population of young people (ages 15–25) in selected European countries (Source: Eurofound 2016 and ESS 2016). Note:  $R^2 = 0.214$ .

#### 4.2. Results from QCA

Unpacking NEETs' conditions, we analysed whether some combinations of high proportions of vulnerable or invulnerable types of NEETs were sufficient conditions for the presence (or absence) of a widespread sense of individual environmental responsibility among young people. Because QCA is not a symmetrical technique (i.e., the results for the absence of the outcome cannot be inferred from the results for the presence of the outcome, and vice versa), the analyses for necessity and sufficiency were conducted for both the outcome presence and absence. Table 2 reports the empirical information for the six conditions—i.e., the five types of NEETs and the proportion of NEETs in the sample (source: Eurofound 2016)—and the outcome—i.e., the mean level of individual environmental responsibility in the sample (source: ESS 2016).

The first step in the QCA analysis was the calibration of the conditions and the outcome. Even though the thresholds were extremely qualitative in their definition, we had no theoretical reasons guiding the decision. Therefore, we defined the full-presence (fuzzy value 1) and the full-absence (fuzzy value 0) based on the empirical data, i.e., respectively the maximum and the minimum of the distribution of each condition and the outcome. The threshold for the presence of the outcome (0.5) was based on the median of the distribution: the condition/outcome was present for cases reporting a value higher than the median. When cases had the empirical value identical to the 0.5 threshold, the new threshold was set below the median. In Table 2, cases belonging to the condition/outcome are those in the grey cells. Results of the calibration and the truth table are reported in the Appendix A (Tables A2 and A3 respectively). Even though we did not expect necessary conditions, the analysis of necessity was an important prior step in order to avoid the presence of trivial conditions. The analysis did not reveal any necessary—and so trivial—conditions (see Tables A4 and A5 in Appendix A).

The analysis of the sufficiency instead showed several different sufficient paths toward the presence and the absence of the outcome. As already said, the sufficiency analysis returned three solutions: the complex, the parsimonious, and the intermediate. We decided to focus on the intermediate solution, because it was more parsimonious than the complex, but also more selective regarding the exclusion of the logical remainders than the most parsimonious (the most parsimonious and the complex solutions are reported in the Appendix A). In particular, for the outcome presence, the intermediate solution was derived by imposing the following assumptions: absence of high presence of NEETs; discouraged, long-term NEETs; NEETs because of family responsibilities; and presence of high proportion of

short-term and re-entering NEETs. Table 3 shows the three alternative paths that emerged from the minimization. The value of the consistency of each solution and the consistency of the overall solution are also reported, together with the raw and unique coverage for each path and the coverage of the overall solution. As explained in the methodological section, the consistency returns the information on the “goodness of fit” of the model. In this case, consistency values were always high (close to the maximum, i.e., 1). The raw coverage indicates which share of the outcome is explained by each path, while the unique coverage indicates which share of the outcome is exclusively explained by a certain alternative path. While the unique coverages were quite low, the overall coverage and the raw ones were quite high, supporting the relevance of the results.

**Table 2.** Empirical data on conditions and outcome, with results from calibration.

Country	Re-Entering	Short-Term	Long-Term	Family Responsibilities	Discouraged	Total NEETs	Environment Responsibility
AT	9	35.2	10.4	17.1	1.7	7.7	6.17
BE	12	30.3	17.7	8.7	1.9	12	6.07
CZ	3.4	37.7	18.2	27.6	0.7	8.1	3.3
DE	12.4	28.9	14	19.7	0.7	6.4	6.6
EE	0	29.7	18.2	28.1	5.5	11.7	4.64
ES	4.3	30	34.6	10.7	5	17.1	6.4
FI	8.8	32.8	4.6	12	4.2	10.2	6.59
FR	15.6	33.2	19.9	8.7	2.7	11.4	7.03
GB	5.3	37.4	19.3	21.2	0.5	11.9	5.77
HU	6.9	29	15.3	17.6	14.1	13.6	4.48
IE	21.4	25.3	26.2	12.1	3.5	15.2	5.96
IT	13.5	15.5	27.1	9.8	14.8	22.1	5.34
LT	1.6	40	11.5	20.3	3.3	9.9	4.77
NL	7.3	30.8	11.5	4.7	3.3	5.5	5.76
PL	2.8	36	18.4	23.7	7.7	12	5.52
PT	6.8	34.8	31	5.1	7.6	12.3	6.23
SE	10.3	37.6	8.1	9.4	2.9	7.2	6.55
SI	11.8	28.7	28.4	12.1	2.1	9.4	6.62
Value for the 0 threshold	0	15.5	4.6	4.7	0.5	5.5	3.3
Value for the 1 threshold	21.4	40	34.6	28.1	14.8	22.1	7.03
Value for the 0.5 threshold	8.05	31.8	18.19	12.09	3.29	11.55	6.015

The first solution was specific for Spain and Portugal: here a context with a low presence of re-entering NEETs and NEETs because of family responsibilities was sufficient for finding a high level of sense of responsibility for the environment among young people. The second solution represented the case of France and Sweden: the low proportion of discouraged NEETs and NEETs because of family reasons, together with the high presence of short-term NEETs, led to a strong perception of the individual environmental responsibility. Finally, the third solution mirrored the cluster of countries made by Germany, Sweden and Austria, where the absence of discouraged and long-term NEETs combined with the high proportion of re-entering NEETs was sufficient for measuring a high level of environmental responsibilities among the young population. Compared to the complex solution (see Tables A6 and A7 in the Appendix A) the intermediate solution was more parsimonious; it is interesting to note that in the complex solution a high proportion of NEETs was always present in all the alternative sufficient paths towards the outcome. This seemed to go against our expectations, which associated the NEET condition with a lower propensity towards feeling responsible for the present environmental condition, and so being capable to contribute to the ongoing environmental crisis in a positive or negative way. However, as we hypothesized, the NEETs’ composition more than

their incidence in the youth population was associated with the outcome. In particular, non-vulnerable NEETs were more likely to feel responsible for the environment than vulnerable ones.

**Table 3.** Analysis of sufficiency for the outcome presence: intermediate solution.

	Raw Coverage	Unique Coverage	Consistency	Countries
SOL. 1 ~family responsibilities*~re-entering	0.5	0.09	0.95	Spain, Portugal
SOL. 2 ~discouraged*~family responsibilities*short-term	0.52	0.03	0.99	France, Sweden
SOL. 3 ~discouraged*~long-term*re-entering	0.52	0.11	0.98	Germany, Sweden, Austria
Overall solution coverage: 0.72				
Overall solution consistency: 0.95				

Note: \* stands for the logical “and”; ~ stands for the logical “not”.

Results for the absence of the outcome—i.e., a low level of perceived individual responsibility for the environment—(see Table 4) showed that the combination of the presence of non-vulnerable NEETs and absence of vulnerable NEETs was predominant across the paths (complex and parsimonious solutions in the Appendix A, Tables A8 and A9). The first solution referred to the case of the Netherlands, where the low presence of NEETs because of family responsibility and short-term NEETs led sufficiently to the absence of a widespread sense of environmental responsibility. The second solution was represented by Estonia, Hungary, and Lithuania: here the low level of perceived individual responsibility among young people was associated with a high presence of discouraged NEETs and NEETs because of family reasons, combined with a low presence of re-entering. The third solution was exclusively for Poland, where a high incidence of long-term and discouraged NEETs, combined with a low incidence of re-entering, was sufficient for the absence of the sense of individual environmental responsibility. Finally, the fourth solution mirrored the case of the U.K. and Poland: the path was similar to the one in solution 3, where the presence of discouraged NEETs was replaced by the presence of NEETs because of family responsibilities. The parameters of consistency and coverage were at a good level, even though the consistency for the path of the Netherlands was definitely lower if compared to the other paths.

**Table 4.** Analysis of sufficiency for the outcome absence: intermediate solution.

	Raw Coverage	Unique Coverage	Consistency	Countries
SOL.1 ~family responsibilities*~short-term	0.48	0.19	0.75	Netherlands
SOL.2 discouraged*family responsibilities*~re-entering	0.47	0.11	0.84	Estonia, Hungary, Lithuania
SOL.3 discouraged*long-term*~re-entering	0.41	0.01	0.82	Poland
SOL.4 family responsibilities*long-term*~re-entering	0.47	0.1	0.9	UK, Poland
solution coverage: 0.83				
solution consistency: 0.79				

Note: \* stands for the logical “and”; ~ stands for the logical “not”.

### 4.3. Results from the Mediation Model

In this section, we aimed to investigate if the fact that NEETs are more prone to having a lower subjective well-being is related to their happiness, and whether this affects their level of perceived individual environmental responsibility. Results from the QCA analysis were included in this step by running different models for each cluster of countries. These models suggested that different configurations of NEET population might favour the presence of high (or low) levels of perceived environmental responsibility. We also performed a separate model for Italy using ESS data, in order to complement the discussion of the Italian case with the model run on the Italian Youth Report data.

Before testing the mediation model, we performed the multiple regression model for the perceived individual responsibility for the environment without including the happiness variable as predictor. In this way, we tested whether there was an effect of being NEET on the dependent variable without controlling for the mediation. Results for Italy and all the selected European countries together are reported in Table 5. Being NEET was negatively associated with the sense of individual responsibility, particularly in Italy.

**Table 5.** Multiple regression for the perceived individual environmental responsibility among young population (ages 22–35) in Italy and Europe (selected countries).

	Italy			Europe		
	Coeff.	S.E.	Sign	Coeff.	S.E.	Sign
NEET	−0.862	0.291	**	−0.278	0.103	*
woman	−0.131	0.240		0.394	0.059	***
tertiary education	1.369	0.287	***	0.691	0.059	***
in couple	0.198	0.678		0.079	0.211	
with children	0.131	0.302		−0.239	0.067	***
age	−0.022	0.032		0.009	0.008	
constant	5.857	0.900	***	4.939	0.224	***

Note: \*\*\* < 0.001; \*\* < 0.01; \* < 0.05.

Thus, is happiness a mediator between being NEET and the individual attitude, and does it have to be involved in pro-environment behaviours? Results from the mediation model for Italy and Europe are reported in Table 6. In both these contexts, being NEET was negatively and significantly associated with happiness. However, while a full mediation effect was observable in the European context, a partial mediation effect was present in Italy. Indeed, the NEET variable became non-significant as predictor of the level of individual environmental responsibility in the model for European countries; in Italy, instead, it kept a significant negative effect. In both these contexts, as expected, an increasing level of happiness was associated with a higher level of individual responsibility.

However, the comparison between Italy and the European context was not very informative, because European countries were not homogeneous in terms of NEET composition. We saw, indeed, that different configurations of NEETs could be sufficient conditions for the same outcome—i.e., high or low sense of individual environmental responsibility among young population. We included the QCA solutions in our model to see whether there was a context-effect that affected our relationship of interest, and whether this context-effect differed according to the sufficient NEET configuration for the outcome. Since the same country can belong to different configurations, we modelled the relationship in the different clusters of countries as identified by the solutions; subsequently, we performed an invariance test between couples of models.

**Table 6.** Generalized structural equation model for the level of individual sense of responsibility for the environment, mediated by happiness, among young people (ages: 22–35) in Italy and Europe (selected countries).

			Italy			Europe		
			Coeff.	S.E.	Sign	Coeff.	S.E.	Sign
happy	<—	NEET	−0.592	0.188	***	−0.743	0.065	***
happy	<—	woman	0.13	0.155		0.099	0.037	**
happy	<—	tertiary education	0.326	0.187		0.206	0.037	***
happy	<—	in couple	−1.331	0.444	**	−0.249	0.133	
happy	<—	with children	0.097	0.195		0.467	0.042	***
happy	<—	age	−0.021	0.02		−0.028	0.005	***
environmental responsibility	<—	with children	0.118	0.298		−0.317	0.067	***
environmental responsibility	<—	in couple	0.441	0.675		0.13	0.21	
environmental responsibility	<—	tertiary education	1.304	0.284	***	0.653	0.059	***
environmental responsibility	<—	woman	−0.151	0.237		0.377	0.059	***
environmental responsibility	<—	happy	0.185	0.071	**	0.169	0.017	***
environmental responsibility	<—	NEET	−0.75	0.29	**	−0.153	0.103	
environmental responsibility	<—	age	−0.019	0.031		0.014	0.008	**

Note: \*\*\* < 0.001; \*\* < 0.01; \* < 0.05.

The first group of countries are those for which there was a sufficient solution for the presence of high levels of perceived individual responsibility for the environment, namely, Austria, France, Germany, Portugal, Spain, and Sweden. In addition, Belgium, Finland, and Slovenia would potentially belong to this group, but the three countries did not sustain any sufficient configuration in the QCA analysis. The multiple regressions for environmental responsibility are in the Appendix A (see Table A10). NEET was significantly related to the environmental responsibility only in the cluster of Austria, Germany, and Sweden. Therefore, mediation was hypothesized only for this group of countries. In fact, happiness mediated the relationship in this case (see Table 7), being negatively related to being NEET, and positively related to responsibility.

The second group of countries were those displaying a low level of sense of individual environmental responsibility among young population, and for which there was a sufficient path linking the outcome with the configuration of NEETs—i.e., Estonia, Hungary, Lithuania, Netherlands, Poland, and the U.K. Other countries showed a low level of responsibility, but they did not sustain the sufficiency of the solutions: Czech Republic, Italy, and Ireland. In particular, Italy showed the same configuration sustained by the solution for the Netherlands, but its outcome level was a little bit lower than expected for sustaining the consistency of the solution. By looking at the results of the multiple regressions (in the Appendix A, Table A11), no one of the clusters showed a significant relationship between being NEET and the level of perceived responsibility for the environment.

**Table 7.** Generalized structural equation model for the level of individual sense of responsibility for the environment, mediated by happiness, among young people (ages: 22–35) in Austria, Germany and Sweden.

			Austria, Germany, Sweden		
			Coeff.	S.E.	Sign
happy	<—	NEET	−1.188	0.211	***
happy	<—	woman	−0.017	0.096	
happy	<—	tertiary education	0.287	0.103	**
happy	<—	in couple	0.070	0.299	
happy	<—	with children	0.678	0.112	***
happy	<—	age	−0.022	0.013	
environmental responsibility	<—	with children	−0.299	0.163	
environmental responsibility	<—	in couple	−0.491	0.430	
environmental responsibility	<—	tertiary education	0.748	0.148	***
environmental responsibility	<—	woman	0.425	0.137	**
environmental responsibility	<—	happy	0.134	0.042	***
environmental responsibility	<—	NEET	−0.526	0.312	
environmental responsibility	<—	age	−0.003	0.019	

Note: \*\*\* < 0.001; \*\* < 0.01; \* < 0.05.

#### 4.4. A Focus on the Italian Case: Results from the Youth Report Data

We replicated the same regression model by using the Italian Youth Report data applied to two dependent variables: the one measuring the attitude on the institutional vs. individual environmental responsibility, and the index derived by the Likert scale to which the question belongs.

Results for the analysis on the responsibility variable are in Table 8—the multiple regression model—and Table 9—the mediation model. The multiple regression returned a positive significant coefficient, linking NEET with the level of institutional vs. individual responsibility for the environment. Including the mediation variable, the link between NEET and happiness was negative—as expected—but there was no significant relationship between happiness and individual responsibility. The sign of the relationship between NEET and responsibility in the multiple regression suggested that NEETs are more prone to assign the responsibility for the environmental situation to institutions than to the single individual—and themselves among the others. This result mirrored the results found with ESS data.

**Table 8.** Multiple regression model for institutional vs. individual environmental responsibility (source: Italian Youth Report 2018).

	Coeff.	S.E.	Sign
NEET	0.402	0.139	**
woman	−0.500	0.123	***
tertiary education	0.006	0.136	
in couple	0.482	0.158	**
with children	0.012	0.160	
age	−0.008	0.015	
constant	4.750	0.434	***

Note: \*\*\* < 0.001; \*\* < 0.01; \* < 0.05.

**Table 9.** Generalized structural equation model for institutional vs. individual environmental responsibility (source: Italian Youth Report 2018).

			Coeff.	S.E.	Sign
happy	<—	NEET	−0.703	0.104	***
happy	<—	woman	−0.023	0.082	
happy	<—	tertiary education	0.209	0.08	**
happy	<—	in couple	0.627	0.097	***
happy	<—	with children	0.069	0.101	
happy	<—	age	−0.058	0.011	***
environmental responsibility	<—	age	−0.009	0.017	
environmental responsibility	<—	with children	−0.009	0.157	
environmental responsibility	<—	in couple	0.27	0.153	
environmental responsibility	<—	tertiary education	−0.172	0.125	
environmental responsibility	<—	woman	−0.224	0.128	
environmental responsibility	<—	NEET	−0.02	0.163	
environmental responsibility	<—	happy	0.052	0.035	

Note: \*\*\* < 0.001; \*\* < 0.01; \* < 0.05.

The remaining set of questions in the Likert scale are summarized in an index, which was calculated by taking the mean of all the items, excluding the one measuring the attitude toward the institutional vs. individual responsibility for the environment. The decision was based on the factorial structure of the items: the factor analysis showed that all the items belonged to one factor with a high Cronbach's alpha—i.e., 0.89. Both the multiple regression model (Table 10) and the mediation model (Table 11) were estimated on the new dependent variable. The index measures the overall attitude toward the individual involvement in pro-environment behaviours; this mirrors the perception of the individual capability of doing something for the environment, which is linked to the perceived individual environmental responsibility. The multiple regression revealed a negative significant relationship between being NEET and pro-environment attitudes and behaviours, while the GSEM model supported the hypothesis of the existence of a (full) mediated relationship by the level of happiness.

**Table 10.** Multiple regression model for the pro-environment attitude (source: Italian Youth Report 2018).

	Coeff.	S.E.	Sign
NEET	−0.394	0.091	***
woman	0.112	0.081	
tertiary education	0.186	0.090	*
in couple	0.492	0.104	***
with children	−0.056	0.105	
age	−0.027	0.010	**
constant	7.993	0.286	***

Note: \*\*\* < 0.001; \*\* < 0.01; \* < 0.05.

**Table 11.** Generalized structural equation model for the pro-environment attitude (source: Italian Youth Report 2018).

			Coeff.	S.E.	Sign
happy	<—	NEET	−0.706	0.103	***
happy	<—	woman	−0.022	0.082	
happy	<—	tertiary education	0.221	0.081	**
happy	<—	in couple	0.642	0.097	***
happy	<—	with children	0.079	0.101	
happy	<—	age	−0.057	0.011	***
environmental responsibility	<—	happy	0.156	0.020	***
environmental responsibility	<—	NEET	−0.086	0.094	
environmental responsibility	<—	woman	0.310	0.074	***
environmental responsibility	<—	tertiary education	0.194	0.073	**
environmental responsibility	<—	in couple	0.007	0.088	
environmental responsibility	<—	with children	0.029	0.090	
environmental responsibility	<—	age	−0.012	0.010	

Note: \*\*\* < 0.001; \*\* < 0.01; \* < 0.05.

## 5. Discussion and Conclusions

The aim of our study was to explore whether there is an association between the condition of NEET and the level of perceived responsibility of the individual for the environment. This relationship was interpreted under the framework of the capability approach, with a focus on the link between ex-ante responsibility and Nature as common good [21]. In order to answer our research question, we adopted a mixed methods strategy: we combined a set-theoretic method—i.e., fs-QCA—with a mediation model estimated by GSEM, and investigated the relationship at both macro and micro levels. From the qualitative stage, we derived sufficient configurations of NEETs—more or less characterized by vulnerability—which led to the presence (or absence) of a high level of sense of environmental responsibility among the young population. The groups of countries belonging to each configuration were then included into the statistical analyses, to explore whether the living conditions of young people in a certain country were in some way related to the perceived environmental responsibility at the individual level.

We found that those contexts favouring the presence of non-vulnerable NEETs were also those with a high level of perceived environmental responsibility of the individual in the young population. On the contrary, countries with widespread conditions of vulnerability for NEETs were those reporting a low level of individual responsibility for protecting the environment. However, the same relationship was not always present at the micro level. By analyzing the micro-level hypothesis in each context—as derived by the results of the macro-level analysis—we found a significant relationship only in Italy and in the cluster of countries characterized by the absence of discouraged and long-term NEETs, combined with a high proportion of re-entering NEETs (i.e., Germany, Austria, and Sweden). Germany, Austria, and Sweden not only had a high proportion of non-vulnerable NEETs, but also a very low proportion of total NEETs (the lowest together with the Netherlands). Italy, instead, had the highest proportion of NEETs, and most of them were in conditions of vulnerability. A further interesting result is that, in both the contexts, the relationship between being NEET and the level of responsibility was mediated by individual happiness. Thus, it seemed that, independent of the context, if there was a significant relationship between being NEET and the feeling of being responsible for the environment, this was mediated by the amount of individual happiness. This was consistent with what psychological

literature shows: individuals tend to prioritize their well-being over the common good [23], and self-responsibility towards the common good is felt only when the individual's priorities have been satisfied [24]. The fact that NEETs tended to give more environmental responsibility to the institutions than to the individual is in line with the interpretation that they more probably experience an external locus of control, which makes them feel less responsible for the common good.

While the main contribution of our study is to show the existence of a macro- and micro-level relationship between young people's social exclusion and their scarce sense of environmental responsibility, it does not provide a justification for why this happens only in some countries. There are also cases, such as the Netherlands, in which the mean level of perceived individual responsibility for the environment was below the median of the distribution, which seems surprising for a country that acts well in terms of environmental protection. A possible explanation might lie in the link between the perceived collective efficacy and the individual responsibility towards the environment [42]. Where pro-environmental behaviours are promoted by institutions, people are aware of the collective efficacy of their actions and feel more responsible for that. Therefore, the cultural and institutional spheres play an important role in shaping individuals' behaviours, sometimes more than the individual's attitudes [33]. For example, consolidated practices in a certain community might lead to widespread pro-environment actions independent of the individual's perception of his or her own responsibility, in favour of a wider perception of collective responsibility. Further studies taking into account the cultural dimension and the meaning of individual and collective responsibility might explain the different results we obtained across countries.

The lack of information on the specific types of NEET in surveys that explore the attitudes and behaviours towards the environment makes it difficult to test our macro-level hypothesis at the micro level. Further research might try to collect more detailed information on the NEET condition to disentangle the relationship. For the Italian case, however, we were able to get a deeper insight by using an ad hoc youth survey. Even though we could not distinguish among different types of NEET, we could explore in more depth the complexity of the dependent variable. In particular, we were able to test whether the association found with ESS data persisted when we asked about the responsibility of the institution, or about the attitudes toward adopting pro-environmental behaviours. The consistency among the results suggests that being NEET in Italy seems to be detrimental for the environment. The reason might be a high level of dissatisfaction with the actual life condition, mirrored by a low level of happiness for which the institutions are perceived as responsible. This might bring a feeling of disaffection regarding the enlarged community/institutions and of indifference for the environmental problem, seen as more marginal in the individuals' priorities scale.

Our study is of interest to policy makers, because it suggests the necessity to find a common solution to two urgencies that our societies are facing, which are very relevant for the next generations. If we provide people with the capability to participate to the labour market or in the education system, to be integrated in the social life, this has positive returns also in terms of individual propensity to take responsibility for the common good. In other words, sustainability can be reached through social inclusion. Therefore, effective policies can be implemented by considering the ecological and social sustainability together. In some countries, for example, policy-makers and organizations are already investing in the involvement of young people, especially those at risk of exclusion from labour market, in the green economy, which is a promising sector of the future production system. These policies expand the demand for labor and offer highly trained workers who are immediately employable, potentially reducing the level of youth unemployment and NEET prevalence. A not-secondary effect is the spread of greater ecological awareness. This recalls the link between the individual and the collective responsibility towards the environment. If it is true that individuals should act as responsible consumers, we see that institutions and organizations have a strong responsibility in enabling the individual's capability to act in an environmentally sustainable way. Responsibility should be distributed among social agents, and institutions and corporations have probably the greater share of it, as they are also responsible for the individual's empowerment and social inclusion.

We think that studies on ecological returns of policies for youth employability—not only in the green economy—are of great interest and should be implemented to evaluate whether and how sustaining youth's social inclusion and involvement in environmental protection can represent a unique strategy to guarantee a (happy) life to future generations.

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## Appendix A

**Table A1.** Acronyms of the countries.

Acronym	Country
AT	Austria
BE	Belgium
CZ	Czech Republic
DE	Germany
EE	Estonia
ES	Spain
FI	Finland
FR	France
GB	United Kingdom
HU	Hungary
IE	Ireland
IT	Italy
LT	Lithuania
NL	Netherlands
PL	Poland
PT	Portugal
SE	Sweden
SI	Slovenia

**Table A2.** Results from calibration.

Country	Environmental Responsibility	Re-Entering	Short-Term	Long-Term	Family Responsibility	Discouraged	Total NEET
AT	0.58	0.55	0.78	0.15	0.72	0.16	0.71
BE	0.51	0.71	0.43	0.48	0.2	0.19	0.82
CZ	0.05	0.15	0.9	0.5	0.95	0.06	0.72
DE	0.84	0.73	0.37	0.29	0.81	0.06	0.67
EE	0.18	0.05	0.4	0.5	0.95	0.64	0.81
ES	0.74	0.2	0.42	0.94	0.37	0.61	0.91
FI	0.84	0.54	0.59	0.05	0.5	0.56	0.78
FR	0.95	0.85	0.63	0.57	0.2	0.36	0.81
GB	0.42	0.26	0.89	0.55	0.85	0.05	0.82
HU	0.15	0.39	0.37	0.35	0.74	0.94	0.85
IE	0.47	0.95	0.23	0.79	0.5	0.52	0.88
IT	0.31	0.77	0.05	0.81	0.29	0.95	0.95
LT	0.2	0.08	0.95	0.19	0.82	0.51	0.77
NL	0.42	0.43	0.45	0.19	0.05	0.51	0.64
PL	0.36	0.12	0.82	0.51	0.9	0.76	0.82
PT	0.62	0.39	0.75	0.89	0.06	0.76	0.83
SE	0.82	0.62	0.89	0.1	0.26	0.42	0.7
SI	0.85	0.7	0.36	0.84	0.5	0.23	0.76

**Table A3.** Truth table.

Re-Entering	Short-Term	Long-Term	Family Responsibilities	Discouraged	Total NEET	Number	Environment Responsibility	Raw Consistency
1	1	1	0	0	1	1	1	1
1	1	0	1	0	1	1	1	0.96997
1	1	0	0	0	1	1	1	0.997409
1	0	1	0	1	1	1	0	0.847887
1	0	0	1	0	1	1	1	0.982456
1	0	0	0	0	1	1	1	0.993865
0	1	1	1	1	1	1	0	0.811075
0	1	1	1	0	1	1	0	0.794595
0	1	1	0	1	1	1	1	0.962585
0	1	0	1	1	1	1	0	0.752089
0	0	1	0	1	1	1	1	0.960573
0	0	0	1	1	1	1	0	0.745161
0	0	0	0	1	1	1	1	0.926471
1	1	1	1	1	1	0		
1	1	1	1	1	0	0		
1	1	1	1	0	1	0		
1	1	1	1	0	0	0		
1	1	1	0	1	1	0		
1	1	1	0	1	0	0		
1	1	1	0	0	0	0		
1	1	0	1	1	1	0		
1	1	0	1	1	0	0		
1	1	0	1	1	0	0		
1	1	0	1	1	0	0		
1	1	0	1	0	0	0		
1	1	0	0	1	1	0		
1	1	0	1	1	0	0		
1	1	0	1	0	0	0		
1	1	0	0	1	1	0		
1	1	0	1	1	0	0		
1	1	0	0	1	0	0		
1	1	0	0	0	1	0		
1	1	0	0	0	1	0		
1	1	0	0	0	0	0		
0	1	1	1	1	0	0		
0	1	1	1	1	0	0		
0	1	1	0	1	0	0		
0	1	1	0	0	1	0		
0	1	1	0	0	0	0		
0	1	0	1	1	0	0		
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0	1	0	0	0	1	0		
0	1	0	0	0	0	0		
0	0	1	1	1	1	0		
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0	0	1	1	0	0	0		
0	0	1	0	1	1	0		
0	0	1	0	1	0	0		
0	0	1	0	0	1	0		
0	0	1	0	0	0	0		
0	0	0	1	1	0	0		
0	0	0	1	1	0	0		
0	0	0	1	0	1	0		
0	0	0	0	1	0	0		
0	0	0	0	0	1	0		
0	0	0	0	0	0	0		

**Table A4.** Analysis of necessity for the outcome presence.

	Consistency	Coverage
re-entering	0.75	0.82
~re-entering	0.61	0.6
short-term	0.74	0.67
~short-term	0.61	0.73
long-term	0.66	0.71
~long-term	0.69	0.69
family responsibilities	0.61	0.58
~family responsibilities	0.71	0.8
Discouraged	0.58	0.65
~discouraged	0.76	0.73
total NEETs	0.94	0.61
~total NEETs	0.37	0.93

Note: ~ stands for the logical “not”.

**Table A5.** Analysis of necessity for the outcome absence.

	Consistency	Coverage
re-entering	0.56	0.58
~re-entering	0.82	0.76
short-term	0.76	0.64
~short-term	0.61	0.68
long-term	0.67	0.67
~long-term	0.71	0.66
family responsibilities	0.81	0.72
~family responsibilities	0.54	0.56
discouraged	0.7	0.73
~discouraged	0.67	0.6
total NEETs	0.97	0.59
~total NEETs	0.83	0.76

Note: ~ stands for the logical “not”.

**Table A6.** Analysis of sufficiency for the outcome presence: complex solution.

	Raw Coverage	Unique Coverage	Consistency	Countries
re-entering*~long-term*~discouraged*total NEETs	0.52	0.1	0.98	Germany, Sweden, Austria
~re-entering*~short-term*~family responsibilities*discouraged*total NEETs	0.35	0	0.94	Spain
re-entering*short-term*~family responsibilities*~discouraged*total NEETs	0.49	0.04	0.99	France, Sweden
~re-entering*long-term*~family responsibilities*discouraged*total NEETs	0.34	0.05	0.97	Spain, Portugal
Solution coverage: 0.71				
Solution consistency: 0.95				

Note: \* stands for the logical “and”; ~ stands for the logical “not”.

**Table A7.** Analysis of sufficiency for the outcome presence: parsimonious solution.

	Raw Coverage	Unique Coverage	Consistency	Countries
~re-entering*~family responsibilities	0.5	0.13	0.95	Spain, Portugal
re-entering*~discouraged	0.66	0.29	0.95	Germany, Slovenia, France, Sweden, Austria
<b>Solution coverage: 0.79</b>				
<b>Solution consistency: 0.93</b>				

Note: \* stands for the logical “and”; ~ stands for the logical “not”.

**Table A8.** Analysis of sufficiency for the outcome absence: complex solution.

	Raw Coverage	Unique Coverage	Consistency	Countries
SOL.1 ~re-entering*~short-term*long-term*discouraged*total NEETs	0.37	0.01	0.9	Hungary, Netherlands
SOL.2 ~re-entering*~long-term*family responsibilities*discouraged*total NEETs	0.41	0.04	0.88	Hungary, Lithuania
SOL.3 ~re-entering*short-term*long-term*family responsibilities*total NEETs	0.44	0.1	0.89	UK, Poland
SOL.4 ~re-entering*short-term*long-term*discouraged*total NEETs	0.37	0	0.85	Poland
solution coverage: 0.8				
solution consistency: 0.81				

Note: \* stands for the logical “and”; ~ stands for the logical “not”.

**Table A9.** Analysis of sufficiency for the outcome absence: parsimonious solution.

	Raw Coverage	Unique Coverage	Consistency	Countries
SOL.1 ~re-entering	0.83	0.47	0.76	Estonia, Czech Republic, Hungary, Netherlands
SOL.2 ~short-term*~family responsibilities	0.48	0.13	0.75	Netherlands
solution coverage: 0.96				
solution consistency: 0.75				

Note: \* stands for the logical “and”; ~ stands for the logical “not”.

**Table A10.** Multiple regression for the perceived individual environmental responsibility among young population (ages 22–35) in selected countries.

	Portugal, Spain			France, Sweden			Austria, Germany, Sweden		
	Coeff.	S.E.	Sign	Coeff.	S.E.	Sign	Coeff.	S.E.	Sign
NEET	−0.195	0.330		0.386	0.337		−0.683	0.311	*
woman	0.117	0.228		0.631	0.192	***	0.422	0.138	**
tertiary education	0.781	0.237	***	0.821	0.194	***	0.780	0.149	***
in couple	−0.241	0.669		0.296	0.641		−0.490	0.433	
with children	−0.154	0.284		−0.371	0.222		−0.206	0.162	
age	−0.021	0.028		0.021	0.027		−0.006	0.019	
constant	6.613	0.808	***	5.697	0.742	***	6.146	0.520	***

Note: \*\*\* < 0.001; \*\* < 0.01; \* < 0.05.

**Table A11.** Multiple regression for the perceived individual environmental responsibility among young population (ages 22–35) in selected countries.

	Netherlands			Estonia, Hungary, Lithuania			Poland			Poland, UK		
	Coeff.	S.E.	Sign	Coeff.	S.E.	Sign	Coeff.	S.E.	Sign	Coeff.	S.E.	Sign
NEET	−0.087	0.578		−0.492	0.401		−0.606	0.434		−0.546	0.339	
woman	0.494	0.292		0.421	0.166	*	0.595	0.278	*	0.498	0.195	*
tertiary education	0.435	0.294		1.042	0.171	***	0.176	0.267		0.668	0.189	***
in couple	−0.119	1.059		0.223	0.655					−1.080	0.537	*
with children	−0.821	0.321	*	−0.340	0.180		0.301	0.296		−0.219	0.206	
age	0.098	0.039	*	−0.012	0.023		0.051	0.036		0.079	0.024	***
constant	2.768	1.124	*	4.605	0.656	***	3.598	1.003	***	2.893	0.703	***

Note: \*\*\* < 0.001; \*\* < 0.01; \* < 0.05.

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