

Article

Climate Concern and Pro-Environmental Behaviour in the Light of Trust

Zoltán Grünhut¹, Viktor Varjú^{1,2,3,*}  and Ákos Bodor¹

¹ Institute for Regional Studies, HUN-REN Centre for Economic and Regional Studies (CERS), 7621 Pécs, Hungary; grunhut.zoltan@krtk.hun-ren.hu (Z.G.); bodor.akos@krtk.hun-ren.hu (Á.B.)

² Institute of Rural Development and Sustainable Economy, Hungarian University of Agriculture and Life Sciences (MATE), Kaposvár Campus, 7400 Kaposvár, Hungary

³ Institute of Social Connection, Faculty of Humanities and Social Sciences, University of Pécs, 7624 Pécs, Hungary

* Correspondence: varju.viktor@krtk.hun-ren.hu

Abstract: When exploring individual motivations of pro-climate behaviour, researchers investigate a multitude of factors, including the role of trust. Based on the empirical results obtained to date, the literature does not paint a uniform picture regarding the strength of the relationship between trust and environmental awareness. Using a large-scale, representative survey conducted in Hungary in June–July 2022, the present study—based on a data analysis—provides an answer to the question of how much the trust of the individual motivates the given individual to take pro-climate action. The results of the study show that most of the respondents cannot be viewed as pro-climate actors in spite of the fact that, in the meantime, they are concerned about climate change. Most of them are mistrustful of their fellow human beings, in other words they think that protecting the climate and taking action against climate change is not particularly important for others. One of the most important conclusions that may be drawn from the analyses is that trust influences both pro-environment/pro-climate action, and the intent to act. Research results confirm the general conclusion that supporting and increasing social trust would have a beneficial effect on more effective action against environmental challenges.

Keywords: climate change; trust–behaviour relations; pro-climate concern; pro-climate action



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1. Introduction

Climate change is just one of the transformations taking place on the Earth that were initiated by human activity [1], but it is currently a very important one. Climate change is not only a climatological and geographical issue, but also a social and political one. It is not sufficient to examine it using scientific methods and then provide various prognoses. The reason for this is that climate change cannot be understood without a consideration of global political, economic and social processes [2].

One of the main problem areas in research in connection with pro-environment and pro-climate action is the examination and explanation of individual motivations. A detailed examination of the social, cultural, structural and political context of these individual attitudes and practices is needed. The essential question can be simply posed: why do certain individuals exhibit pro-environment behaviour and others do not? As this is an exceptionally broad and diverse subject field, many focuses and approaches may be found in the literature [3]. A more current approach indicates that while it may be widely observed that people exhibit increasing concern over the state of the natural environment, the proportion of those who are willing to act consciously in the interest of reducing environmental damage and the challenges that are looming down upon us is relatively low [4–8]. It is in connection with this problem that the role of trust has been examined in research expressly related to climate change and pro-environmental action [9,10]. On the basis of the empirical results to date, the literature does not paint a uniform picture

regarding the strength of the relationships between trust and pro-environmental behaviour. The present study wishes to contribute to this debate with an analysis of a large-scale questionnaire survey, and of its variables, partially adjusted to the subject, along with an interpretation of the results obtained. This was conducted in such a way that we placed an emphasis on individual trust; in other words, we sought an answer to the question of how much the trust of an individual motivates the given individual to take pro-climate action and influence the individual's intent to take such action. It is from this perspective that we wish to contribute to one of the somewhat neglected, until recently, aspects of the discourse in the literature in connection with climate change: namely, the investigation of the relationship between climate awareness and the trust of the individual.

In the interest of this aim, the study discusses the theory of trust. Then, as an organic continuation of this section, it reviews the four main directions of the investigation into trust and climate awareness, among which, following the section presenting the research material and method, it analyses in depth the first direction, the indicator role of individual trust. The study closes with the argument that individual trust promotes conscious thinking and action in connection with climate change, based upon which decision makers can build important strategies. However, it must be added that it is very difficult to change the unique social-structural dynamics related to trust, and this will take a long time.

2. A Brief Review of the Theory of Trust

Below, we provide a compact review of the exceptionally complex and diverse trust theory literature. The purpose of this section is to present those anchor points that are essential in order to interpret the phenomenon of trust. While providing details of the ideas presented, we strive to convey the context in which it is necessary to consider trust with respect to climate change in the form of short references.

Research into trust started to take shape in the 1960s in the scope of social psychology [11–13]. Later on, sociology, society theory, political science and economic science all turned to the subject with lively interest [14]. Today, it is clearly treated as a multidisciplinary research problem, although its most important concepts and theoretical propositions are still linked to the disciplines mentioned above [15]. In spite of the whole library of literature on the subject, few definitions of trust may be found in the various works published [16]. This may be primarily explained by the disputed scientific problematisation of the phenomenon. It is not as if many were disputing trust itself, it is much more that the individual interpretations of trust have today been organised into trends that sharply diverge from each other, with different concept constructs and terminologies that are difficult to compare [17]. Precisely because of this, it is generally accepted that trust exists and may be investigated as a fundamentally important individual-social phenomenon, and that different trends do not strive for a universal definition because rivalling approaches would not accept it anyway. Nevertheless, it is worth quoting two brief concept descriptions. According to Sztompka, trust "is a bet about the future contingent actions of others" [18] (page 25). In addition, Offe [19] is of the opinion that trust is a conviction guided by affective impulse, meaning, in effect, that others do not want to intentionally cause harm to us.

Common elements appear in both definitions. On the one hand, at least two participants are essential for the relation of trust [20]: a trusting party, who feels and displays trust, and a trusted party, towards whom trust is felt and displayed. The latter is not necessarily a concrete person, this party may be an official position operated by people, official proceedings, an organisation, institution; it may be a thing or device created by people, an automatic digital system, and it may also be various groups of people that cannot be identified as individuals, only imagined as such. This broad interpretation of the trusted party, i.e., this aspect of the targets of trust, is one of the questions around which the markedly diverging trust research trends have developed in recent decades [21]. It is difficult to delimit these trends, but two fundamental approaches may, in all events, be outlined. On the one hand, we can speak of interpersonal trust, and on the other, we

can speak of trust felt towards abstract entities—things. Additional research orientations may be identified within these two trends. Therefore, in the case of interpersonal trust, the dominant subject area is situational trust research linked to concrete situations and particular partners [22], which is opposed to the trust disposition approach, with this concentrating on how in general the individual relates to small and larger groups of their fellow human beings [23]. The approaches striving to map out the trust felt towards abstract entities—things are not sharply delimited from each other. The reason for this is that they are all linked by the criterion that human competence and capacity controls (operates, guides, creates, etc.), the given entity—thing. If this human factor does not exist, then we cannot speak of trust—confidence at the most (which may be rationalised up to a certain point), or of hope (which is in actual fact belief with logical relationships that cannot be reasonably concluded) [18]. When, in other words, in the case of climate change we are discussing trust (or the lack of it) in connection with the handling of this challenge, then this may only be applied to human activities searching for (or ignoring) the possible progressive-reflective solutions. There is no feeling of trust behind the “nature will sort it out” type of opinions—at the most confidence, or more likely hope.

Returning to the two definitions, another common element of them is an orientation to the future [24]. The reason trust is essential is that the individual does not know what will happen, how the other party will act, in a concrete situation or in a more general, more abstract context. In other words, trust is a part of the present, but the past has a strong effect on it, which effect is in the form of previous personal experience, individual convictions that have become routine, conditioning, reflexes, habits, interiorised social-cultural patterns-references [25]. In spite of all this, trust always turns to the future. In other words, the individual feels trust (possibly mistrust) in something that is, for the time being, unknown to him/her on the basis of what he/she already knows (because he/she has experienced it, knows it, felt it, etc.). This stratified timeline is also relevant in the case of trust (mistrust) in connection with climate change. As the individual’s cognitive–affective experience of how the matter of climate change was judged in the past and handled with various form of action, indubitably has an effect on how the given individual views the commitment of his/her close social environment, or of humanity in general, in connection with the future solution to the challenge of climate change. All this, of course, may change in both favourable and unfavourable directions, if the subjective past of the individual gains more or less pro-environment experiences.

The third common element of the two definitions is a consequence of the future orientation of trust: the element of risk. If there is no risk then there is no need for trust [26]. If the individual is nearly sure about what is going to take place, about how the other person/entity will act, then he/she does not need to mobilise much trust, which, of course, the individual may grasp as having either a great deal of trust in the trusted party, or precisely the opposite, as having no trust at all in the party [27]. However it turns out, trust is needed so that the individual sees the existing risks as possible but not necessarily occurring corollaries [28]. Unfounded trust may be damaging; indeed, unjustified mistrust may also involve negative consequences. The former may lead to abuses and disappointments, while the latter is unnecessary (e.g., costly, burdensome, crippling, or even eliciting mistrust) and may end up in over-securing things and being over-careful. This is why a realistic assessment of risk is important. The essence of risk, in other words, is that it may be thoroughly considered. It is not certain that the individual always takes all the possible risk elements into consideration. Nor is it certain that the individual is in possession of all the knowledge and information for this. However, in theory, the risks may be fully considered [29]. This is contrary to uncertainty, in which there will always remain unknowable details, or chance, which almost entirely falls beyond the limit of knowability. In the case of trust (or mistrust) in connection with climate change, the risks are not of a natural–ecological nature. The individual can only feel trust (mistrust) in connection with human aspects. For example, the individual may think about whether others (persons and organisations-institutions) are ready to actively do something in the

interest of preventing or slowing down climate change. The individual may consider whether they will undertake the tasks, expenses and self-imposed restrictions, etc., related to this, or about whether we can believe in pro-environment production, or procedural and organisational solutions and innovations. The individual may question whether devices classified as pro-environment really are that. It is possible to consider these and similar risks. The basis of the trust dilemma running behind these questions is how much the individual is afraid of the free-rider mentality and/or of the hostile deceit of others. If the individual is more likely to feel that others generally do not undertake the extra expenses, lifestyle changes and changes of attitude, the reduction in needs, etc., involved with pro-environmental action, then, for the individual, it would also be irrational to act like this. In a similar respect, if the individual feels that pro-environmental action is just catchy, sellable marketing, then he/she will not see any sense in supporting such procedures, buying such devices, or in advocating for or demanding policies.

Finally, we should discuss the common content of the two definitions, i.e., that the parties involved are both active agents. This is sufficiently clear in the case of the trusted party. The trust felt or displayed towards him/her is earned by his/her intentions, behaviour, decisions and actions, etc., displayed in concrete situations (or in a more general form) [30]. In the case of the trusting party, the active characteristic refers to a more or less conscious verification and justification in the background of the advanced trust. The individual knows what he/she expects, may expect from the other. He/she is able to verify this more concrete and/or more general expectation for him/herself, with the possible risks being taken into account [31]. If the expectations can be verified, it is still not certain that the trust can be justified. For this, it is necessary to consider the trustworthiness of the other [32]. The trustworthiness of the other can be justified from rational, moral, and/or emotional points of view. The various trends in trust research strongly dispute each other's lines of argumentation in connection with all this. Contrary to the standpoint that overemphasises the cognitive aspects, they have good cause to support the criticism that trust is a feeling, and it is quite difficult to decide what we want to feel: emotional impulses simply develop, have an impact [33]. At the same time, what the affective trend has to say in this is challenged in that it does not sufficiently account for reasonable consideration: the individuals think, and sometimes become uncertain, due to the effect of new information, knowledge, experiences, or to the contrary, they start to trust because of these things [34].

In the above section, we discussed the targets of trust in the light of the two definitions highlighted above; the time aspect of trust, as it links the past, present, and future; about how trust and risk are inseparable; and about the sense in which trust is verified on the basis of possible expectations, or justified according to the assumption of the trustworthiness of the other. Strangely enough, both examined definitions leave out a single important aspect: namely, what is the source of trust. What is the personal experience or set of experiences, what is the individual background, what is the social-cultural environment that incites the given individual to elicit trust (or precisely to the contrary: to incite mistrust)? Research on trust has sharply diverging trends with respect to this question. The so-called psychological approach claims that the given individual denotes his/her social relationships and their quality as the source of his/her dispositional feeling of trust, which has a determining deep impact on his/her personality [35]. Thus, in this perspective, the trust of the individual depends on his/her primary relationships starting from early childhood, then later on it depends on the relationships the individual participates in in the various settings of socialisation, and by how much these relationships are characterised by trust. Indeed, the individual records these experiences, and projects them to others, to new acquaintances and people the individual does not know [36].

In another line of argument, the level of trust people have is a consequence of the state of the moral patterns and criteria that constitute the fabric that holds society together [15]. If these moral measures frame human relations in such a way that they prescribe equality, equal ranking, respect, acknowledgement and acceptance, etc., for all, and these prescriptions are characteristically observed by the members of the given society, then the

individuals have good reasons to trust each other [31]. This, in other words, is a culturalist and structuralist approach.

There also exists a structuralist approach that concentrates much more on institutions, particularly on their formal projections, according to which modern societies are not organised according to the custom-based pattern references and personal acquaintance relationship systems characteristic of smaller communities, but on the basis of legal, procedural and political mechanisms created, maintained, guaranteed, monitored and, if necessary, sanctioned, by abstract institutions [37]. If these institutional frameworks are stable, just, legitimate, reliable, and transparent, if the institutional participants may be called to account and removed from their positions, then the individual has institutionally secured guarantees that make trust possible [38].

Finally, there is an individualist, expressly rationalist explanation for the source of trust that claims nothing else than that individuals are able to trust others if the burden of the risks does not weigh down on them [18]. For this there is a need for knowledge, awareness, education, equity, income, status, position of power, personal connections, a stable family background, etc. We could also call this a form of capitalisation, as long as this “capital” can be translated into trust.

In the present study, it is not our task to take a position in the extremely diverse and sometimes fierce trust theory debates presented above. Whatever position we do take, what we have stated, even read from various perspectives, is sufficient to make the presumption that trust must instinctively impact on us in order for us to take pro-environmental action, simply because those who are able to trust smaller and larger groups of their fellow human beings, and various entities in their institutional environment, in other words, those who are less afraid of the risks, and have a belief in the future, and a characteristically optimistic image of humans, are significantly freer in connection with their own opportunities and abilities to take action [39]. Namely, they are able to go beyond themselves and act as a part of society, according to more comprehensive goals, interests and motivations, adjust their own needs, demands, intentions to be in line with the common good that broadly advocates for more beneficial conditions for people in general, and continuously change and modify their customary routines and approaches accordingly. Therefore, the conceptual linkage between trust and climate change awareness and pro-environmental behaviours can be simply summarized as the following: trust encourages people to be self-transcendent, both respective to their ideationally relevant and praxis-related individual substances and personal characteristics, since it makes them, not only cognitively, but affectively, believe that others would be helpful, fair, kind, honest, generous, supportive, cooperative, responsible, reliable, etc., in their interactions. Thus, this trust-induced stance of self-transcendence enables people to construct and apply rather pro-environmental forms of actorness because nature is one of the most important common goods of humanity.

In his synthesising work, Sztompka [18] excellently gathered together the certainly beneficial effects of trust of this type that are manifested at the social level. At the same time, the Polish author also pointed out that the proceeds of trust are also the sources of trust: those individual–collective approaches, attitudes and practices that are based on trust, in actual fact, do re-produce trust itself. In other words, trust is born of trust. Sztompka [18] argued that, among its social functions, trust supports common thinking, collective responsibility, participation and inclusion, the expansion of networks and the realisation of the various forms of collaboration. It mitigates indifference and disinterest with respect to common objectives–affairs. It aids constructive debate, advocacy, and the search for consensus. It facilitates solidarity, social sensitivity, and action against inequality. It promotes inclusion and acceptance, tolerance, all forms of pluralism, and the legitimisation of differences. It reinforces the individual’s sense of belonging to the community and his/her identity; and it encourages the making of sacrifices for the community and volunteering. The effects of trust listed above are undoubtedly relevant from the point of view of taking collective action and collaborating against climate change. In other words,

we may expect more pro-environment practices from those individuals who have more trust. We examine this assumption in the following analysis.

3. Trust and Environmental Awareness

Works on the subject discuss the significance of trust and its almost exclusively beneficial effects, relevant from the point of view of environmental awareness, according to various lines of reasoning. First, they highlight the fundamental importance of trust in the case of the common efforts (collective action) made in the interest of common affairs (social objectives) [40,41]. In this line of argument, trust appears as a motivator of macro-level responsibility and obligation undertaking, reciprocity, and collaboration. Second, trust is essential for the purpose of resolving situations of a social dilemma nature, when the individual rises above his/her own interests and needs to see the circumstances and relationship from a broader and more comprehensive perspective; when, in the background of decisions and actions that may possibly seem irrational from his/her own point of view, he/she needs to discover the social good [42–44]. Third, trust helps us to rise above the preconception of free rider, in other words the preconception that many people will want to get away from the burden of pro-environment action anyway (extra expenses, change of approach, reviewing accustomed routines, etc.), and so the individual would be better off by not undertaking any responsibility until the pro-environmental attitude of others is proven to exist [45,46]. Obviously, if the majority thinks in the same way, there will never be any change. Fourth, it is customary to discuss the cost-optimising significance of trust. The essence of this claim is that trust actually makes the over-formalisation of the criteria of environmental awareness, the development and maintenance of an expensive organisational network to ensure that prescriptions are observed, the creation and operation of effective monitoring systems and the financing of authorities with the competence and capacity to impose sanctions unnecessary, in other words, the costly bureaucratisation of environmental awareness [47–51]. Similar to these arguments, certain authors mention that trust is essential for the political and civil organisations entrusted with environmental protection and responsible for the promotion of environmental awareness to be able to work successfully, including in the creation of strategies, decision-making, and implementation [52,53]. Without trust, both institutional and economic actors, as well as individuals, will try to circumvent and ignore the prescriptions, and only observe them with reservations.

Among the directions of the subject presented above, this study deals with the very first problem: namely, how much does the trust of the individual encourage the given individual to take pro-climate action and influence the individual's intent to take such action. We examine this question using the example of Hungarian society, using our own data.

4. Materials and Methods

We performed the examination of the relationship between trust and environmental awareness using data obtained from our self-developed questionnaire survey. The questions were developed by the research team. The questionnaire includes 42 questions, 95% of which are closed questions. For measuring the responses, we used the 1–4 Likert scale in order to avoid the 'pulling to the middle' of responses. Out of the 42 questions, 11 aimed to reveal the sociodemographic situation of the respondents relating to their gender, age, financial situation, occupation, and education. The questions then sought to explore the respondents' attitudes towards cross-cutting societal issues, including climate change. In relation to climate change, the questions sought to explore respondents' perceptions, attitudes, intentions, and actions. In addition, as will be shown later, questions exploring the level of trust were also formulated. The questionnaire was completed in the scope of a large-scale probability sampling survey based on an approximately 20 min in-person interview (Computer Assisted Personal Interviewing—CAPI). The reason for the large scale was to perform a more precise analysis. Within the 7000-respondent survey sample representative of the regions of Hungary, we obtained a sample of 3013 persons representa-

tive of gender, four age groups, four school qualification categories and five settlement-size categories relating to the entire population of Hungary. In Hungary, regions have different structures of settlement types, with some having much smaller settlements, and others having medium-sized cities, etc.). The survey was representative of regions as well in order to represent the different types of settlements accordingly. We used this for our analysis. The interviews were successfully performed in June and July 2022. The starting date occurred after the first heatwave, and the duration of the survey occurred during another two heatwaves in Hungary. The authors of the present study put together the questions in the questionnaire related to trust. The interviews (fieldwork) were performed by a public opinion research company employed in the scope of public procurement. The analysis of the cleaned database was conducted by the authors.

At the beginning of the empirical part of the study, we identified respondents within the total sample as the target group for our analysis. We created this narrowed sample using a multi-stage procedure based on several questionnaire items as filter variables. This procedure was required in order to avoid misleading results, as our problematization excluded those respondents who: (1) do not believe in climate change; (2) do not acknowledge that human activities play a part in its involvement; (3) do not feel that climate change is a serious problem; and (4) who are not concerned about the potential consequences of climate change at all. After creating this narrowed sample, logistic regression models were used to examine whether trust has an effect on pro-environmental behaviour among those respondents for whom the above-listed four conditions are all true.

For the data analysis, IBM SPSS v.24. software was used. In addition to descriptive statistical methods, correlation analyses between the responses and different sociodemographic variables were performed.

In the survey and the fieldwork, both the research group and the company conducted the study according to the ethical code of the Hungarian Academy of Sciences (https://mta.hu/data/dokumentumok/hatteranyagok/tudomanyetikai_bizottsag/tudomanyetikai_kodex_kgy_20100504.pdf (accessed on 10 September 2023)). We ensured the respondents that their responses were voluntary and anonymous, that the data gathered were to be used only in an aggregated form, that the aim of the data collection was strictly scientific, and data were stored in the Databank of the KRTK under a strict data storage GDPR regulation that is available on the KRTK's webpage.

5. Results

The proportion of men in the sample was 47.7% compared to 52.3% of women. Regarding age, 15.7% of respondents were aged between 18 and 29, 36% between 30 and 49, 24.2% between 50 and 64, and 24.1% over 65. The distribution of the school qualification categories showed that 25.3% had a primary education, 22.7% a lower secondary education, 32.8% an upper secondary education, and 19.2% had a tertiary education degree.

5.1. Narrowing the Sample and Presenting the Variables Used in the Analysis

As mentioned above, we developed the variables relating to the individual content elements ourselves, but while elaborating on them we considered the instruments used in international environment and climate research that measure concrete action. We strove to grasp action that really was motivated by environmental awareness, and to ensure that practices performed from merely financial considerations were not mixed with such actions. International surveys are characteristically steeped in this problem.

Before performing the actual analysis, we narrowed down the sample in the interest of only working with the data of those respondents who: (1) accept the fact of climate change; (2) acknowledge the role of human activity in its development; and (3) are concerned about the consequences of climate change. In accordance with these criteria, we used a number of questionnaire questions as a filter for setting up the final database. Table 1 contains a presentation of these.

Table 1. Distribution of the responses to the filter questions, (%).

Do You Think the Earth's Climate Really Is Changing? (N = 3013)		In Your Opinion to What Extent Is Human Activity Contributing to Climate Change? (N = 2706)		In Your Opinion How Serious Is the Problem of Climate Change at Present? (N = 2657)		How Concerned Are You about Climate Change? (N = 2657)	
Definitely yes	47.2	completely	29.3	Exceptionally serious	31.9	I am extremely concerned	23.9
Probably yes	42.6	To a large extent	56.4	Rather serious	60.6	I am rather concerned	63.8
Probably no	6.5	To a small extent	12.5	Rather not serious	6.2	I am rather not concerned	10.9
Definitely no	1.1	Not at all	0.8	Not at all serious	0.2	I am not concerned at all	0.9
Do not know/no response	2.5	Do not know/no response	1.0	Do not know/no response	1.2	Do not know/no response	0.5
Total	100	Total	100	Total	100	Total	100

Source: own table based on the results of the data collection. Note: Responses with grey background in the table were excluded in the following analysis.

With the first filter question we wished to screen out from the sample the respondents who rejected climate change. The variable relating to this was at the end of the questionnaire, as a check question, and was worded in the following way: “Do you think the Earth’s climate really is changing?”. On the basis of Table 1, it can be seen that 2.5% of those asked did not respond, or were unable to respond to the question, while 1.1% stated that it is clearly not changing, and 6.5% of them think that the Earth’s climate is probably not changing. We discarded these cases because the appearance of respondents in the sample who reject climate change does not fit with the problem we are examining, and so would distort our results. With this action, our original sample of 3013 persons was reduced to 2706 persons.

Then, we identified those who, although accepting the fact of climate change, viewed it as being independent to human activity. Our filter question relating to this was the following: “In your opinion to what extent is human activity contributing to climate change?”. We can see in connection with this variable that 0.8% of respondents clearly reject human contribution to climate change and an additional 1% were unable or did not want to answer this question. In the second step we also discarded these cases. In this way, the sample dropped to 2657 persons.

After these steps, only those respondents remained in the database who accept the fact of climate change and also acknowledge that human activity contributes to it. The next and final narrowing task was to discard those persons who, although acknowledging the content of the previous two statements, do not feel that the process of climate change is a significant problem; in other words, they are not concerned about it. We used the following two questions for this: “In your opinion how serious is the problem of climate change at present?”, and “How concerned are you about climate change?”. In the case of the first variable, a total of 6.4% of the respondents believe that climate change is not a very serious problem, and a further 1% were unable or did not want to answer this question. In the case of the second question a total of more than 10% (precisely 11.8%) responded by saying that they are not very concerned about climate change, and a further 0.5% were unable or did not want to answer this question. In the case of both variables, we deleted the cases belonging to these categories from the database.

Each of the filter variables we used count as a standard question formula. Their use has become widespread in research on climate change, and they are now used by the largest international comparative studies (e.g., Eurobarometer, European Social Survey).

A total of 2282 respondents remained at the end of the filtering process. It was with this database that we started the main part of our analysis. Of the respondents remaining in the sample, we can say that: (1) they believe in climate change; (2) they acknowledge that human activity plays a part in its development; (3) they feel that climate change is a serious problem; and (4) they are concerned about the consequences—in other words, they may be viewed as being concerned about the climate.

Indicators measuring pro-environment action and the intent to act appear in our analysis as dependent variables, as our aim is to examine the effect of trust in relation to these dimensions. We identify pro-environment action via three different activities:

- consciously refraining from the use of motor vehicles (1);
- environmentally aware refrigerator purchasing, refrigerator replacement (2);
- environmentally aware monitoring of the energy consumption of own household (3).

In the subject of motor vehicle use (1) the authors experienced in some research that reasons for car use in Hungary are not the same in the case of highly classed urban populations and poor rural areas [54,55]. Therefore, the first question was that “how often do you travel on foot, by bicycle, bus or train instead of by car”. There were four answer categories available here: (1) “never or almost never”; (2) “sometimes”; (3) “mostly”; and (4) “always or nearly always”. This was followed by a subsequent question only for those who selected the last two options: “What is the main reason for rarely or not using a car?” Here there were six answer options available: (1) “I don’t have a car because I cannot afford one”; (2) “I don’t have a car because they are not pro-environment”; (3) “I don’t have a car because I don’t travel much by car, and if I need one, someone helps me”; (4) “I have a car, but it is expensive to use”; (5) “I have a car but I prefer pro-environment solutions”; and (6) “The family does have a car, but usually someone else uses it”. In our interpretation, those respondents consciously refraining from using a car chose options 2 or 5.

The transition to more sustainable production and consumption patterns and levels requires changes in consumer attitudes as well [56]. Therefore, distinguishing between reasons (2) is essential. The wording of the question regarding to the purchase of a new refrigerator is as follows: “When you buy a new fridge or replace your fridge, what is the most important thing for you?” The respondent had four response options: (1) “The product’s price”; (2) “The product’s brand”; (3) “The product’s energy consumption for financial reasons”; and (4) “The product’s energy consumption due to environmental protection”. In the case of this variable, we viewed those respondents as being pro-environment who chose the last category.

In the war against climate change, the issue of energy transition is a key point. However, the transition is a very complex phenomenon, and the attitude towards energy transition is an important aspect of this [57,58]. Hence, aspects of monitoring energy consumption (3) formed part of our survey and were worded as follows: “Do you monitor your own or your family’s electricity consumption?” The three possible responses included: (1) yes, because I would like to save money; (2) yes, for environmental protection reasons; and (3) no. Those viewed as being pro-environment chose the second option.

In our analysis we generated a combined indicator from the variables detailed in the footnotes. We viewed those as being pro-environment who stated that they do at least one of the three action alternatives. On the basis of this criterion, 30.3% of the sample could be viewed as being pro-environment, while 69.7% of the sample could not. The result we obtained confirms the concern/action discrepancy that many in the literature mention. We should not forget that the only respondents remaining in the sample were those who were concerned about climate change. However, among these, only a total of 30.3% reported at least one pro-environment action.

In addition to the concrete action, we also investigated intent to act. Here, we worked with a variable that measures whether the respondent would be willing to pay a form of “climate tax/carbon tax”, or would completely reject the idea (4). The idea of carbon taxation as an instrument for mitigation is not new. Although it is a contested area, its environmental effectiveness is generally positive [59,60]. There are calculations and analyses on acceptance of price by potential tax payers/everyday people [61,62]. Taking into account the Hungarian average salary, we adapted and implied prices for Hungary. For the survey we worded the question (4) as follows: “What rate of carbon tax would you be willing to pay?” After the question was asked, the interviewers also read out a brief explanatory text, which was as follows: “As you surely know, the national governments all over the world are searching for a solution to how achieve a reduction in the greenhouse

gases that are causing climate change. One solution is the introduction of carbon tax, which is an environmental protection charge that is imposed on the production and use of fossil fuels (e.g., oil and natural gas). As a result of this the consumers are encouraged to consume less pollutant, while the producers are encouraged to develop and use technologies that emit low levels of pollutants." The response options to the question were as follows: (1) none/nothing; (2) 1000 HUF/month; (3) 3000 HUF/month; 6000 HUF/month; and 12,000 HUF/month. Respondents were viewed as being pro-environment if they displayed a willingness to pay at least the smallest amount of tax.

The proportion of respondents expressing willingness was 24.8% in our sample; in other words, only a quarter of the respondents displayed intent in this respect. Similar to the indicator measuring concrete action, here too it can be clearly seen that the intent to act is much more modest than concern.

The central problem of our study is to explore the role of trust in the development of pro-environmental behaviour. As mentioned above, numerous research studies have dealt with this subject in the past. These characteristically empirical studies use so-called standard trust questions for the measurement of generalised trust (i.e., trust displayed towards the unknown other) ("Generally speaking, would you say that most people can be trusted or that you cannot be too careful in dealing with people?"). Apart from its numerous advantages, this variable also has serious disadvantages (for more on this see [22]). In this research study we did not use this conventional tool, instead we drew up questions relating to the topic of the climate that, on the one hand, also take context into consideration, and, on the other hand, maintain the abstraction aspects that are of decisive importance from the point of view of the concept of generalised trust (cf. [63]). The two questions used by us are as follows:

- "Do you agree with the claim that people are too selfish and comfortable to do something about climate change?" The answer options are as follows: (1) "I completely disagree"; (2) "I somewhat disagree"; (3) "I somewhat agree"; (4) "I completely agree";
- "In your opinion is protecting the climate important for the local population?" The answer options are as follows: (1) "Not at all"; (2) "Slightly"; (3) "Very much so"; (4) "Absolutely".

The results obtained are included in Table 2.

Table 2. Distribution of the responses of variables of generalised trust, (%) (N = 2282).

Do You Agree with the Claim that People Are too Selfish and Comfortable to do Something about Climate Change?		In Your Opinion Is Protecting the Climate Important for the Local Population?	
I completely disagree	0.8	Not at all	7.0
I somewhat disagree	10.5	Slightly	34.0
I somewhat agree	54.6	Very much so	44.1
I completely agree	34.1	Absolutely	14.9
Total	100	Total	100

Source: own table based on the results of the data collection.

On the basis of the two questions, the most important finding may be that the majority of those remaining in the sample, who are concerned about the environment, are mistrustful of their fellow human beings. This is particularly conspicuous in the case of the first variable, where a total of nearly 90% (88.7%) agree with the statement that "people are too selfish and comfortable to do something about climate change". In the case of the second question, nearly half of those asked (41%) think that protecting the natural climate is not really important ("not at all" or "slightly") to the local population.

We also created a combined indicator from the two trust variables, and we used this in the following part of the analysis. On the basis of this, more than one third of the respondents (36.3%) display mistrust in the light of both the original variables, 56.8% of them expressed trust in one variable, and mistrust in the other variable, while hardly 6.9% of them stated that they trust their fellow human beings in the case of both questions.

Overall, it may be stated that on the basis of the statistics analysis describing the variables, a large majority of the respondents cannot be viewed as being pro-environment in spite of being concerned in the meantime about climate change. In addition to this, we also determined that there is a significant proportion who are particularly mistrustful of their fellow human beings; in other words, they think that protecting the climate and taking action against climate change are not important for them.

In the following section we look for an answer as to whether the feeling of trust towards others can contribute to someone displaying greater willingness to act in a pro-environmental way.

5.2. The Effect of Trust on Pro-Environment Behaviour

Above, we made reference to the literature containing contradictory results regarding the effect that trust has on pro-environment behaviour. In the light of this, it certainly seems justified to perform additional investigations.

In the present study, using the questionnaire questions already discussed, we present the results of logistic regression models, in which we used pro-environmental behaviour and the intention to take action as dependent variables. The primary purpose of the regression process was to be able to test the effect of trust built in as an explanatory variable.

In addition to trust, we also involved other sociodemographic variables in the analysis, the effects of which may also be relevant from the point of view of pro-environmental behaviour. By expanding the scope of the explanatory variables, our basic objective was to obtain a more precise picture regarding the role of our most important explanatory variable, trust. The other explanatory variables involved were as follows:

- gender;
- age;
- school qualifications;
- subjective financial situation (Table 3).

Table 3. The odds ratio of the logistic regression models.

	1. Action	2. Action intent
Gender (ref: male)	0.96	1.01
Age (ref: 18–29 years)	30–49: 1.03	30–49: 1.09
	50–64: 1.01	50–64: 1.10
	65+: 0.70 **	65+: 0.69 **
School qualification (ref: up to basic)	secondary without baccalaureate: 1.04	secondary without baccalaureate: 0.92
	baccalaureate: 1.66 ***	baccalaureate: 1.40 **
	higher education: 2.50 ***	higher education: 2.03 ***
Financial situation (ref: financial problems, hardship)	just about: 0.86	just about: 1.21
	by budgeting: 1.41	by budgeting: 2.32 ***
	without problems: 2.65 ***	without problems: 3.89 ***
Trust (ref: very mistrustful)	slightly mistrustful: 1.36 ***	slightly mistrustful: 1.09
	trust: 1.50 **	trust: 1.83 ***
R _L ²	0.066	0.071
Nagelkerke R ²	0.104	0.107
N	2079	1937

Source: own table based on the results of the data collection. Note: In the case of the two dependent variables, the coding took place in the following way: 0—not pro-environment actor, 1—pro-environment actor, and 0—no pro-environment intention to act. We built age into the model in the form of a four-category variable (1—18–29 years old, 2—30–49 years old, 3—50–64 years old; 4—over 65 years old). School qualification was also used as a four-category variable (1—up to 8 grades, 2—secondary education without baccalaureate, 3—baccalaureate, 4—higher education). In its original form the variable measuring subjective financial situation consisted of five response categories (1—we live without financial problems, 2—by budgeting we live well from our monthly income, 3—our income only just covers our expenses, 4—we struggle with financial problems from month to month, 5—we live in hardship). As the number of cases in the last category was very low, we combined that one with the one before it. In the case of the independent variables, we indicated the reference categories in parentheses, the odds ratios in these cases must be interpreted with respect to these categories. We indicated the significance level of the odds ratio in the following way: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

On the basis of the models, our most important finding is most certainly that trust has an effect on both pro-environmental action and the intention to act. Compared to those who are particularly mistrustful, even the “slightly mistrustful” have a greater chance of acting in a pro-environment way, while the probability of this among those who clearly view others with trust is one and a half times greater than those who are mistrusting. We can see a similar relationship in the case of intention to act as well, with the only difference being that here there is no significant difference between those who are mistrusting and those who are slightly mistrusting; however, those who display trust are nearly twice as likely to display the intention to act compared to those who are mistrusting. All these relationships can be observed under the controls of sex, age, school qualification and subjective financial situation.

6. Discussion

Our results show that the large majority of the respondents cannot be viewed as being pro-environment in spite of being concerned in the meantime about climate change. This phenomenon can be seen in a former Hungarian representative investigation as well (cf. [64]).

Previous research [3,9,10] could not clearly demonstrate the role of trust in pro-environmental action. Based on Muth’s literature review on theories of climate awareness, most of the studies investigated correlations between political regimes and institutional trust and climate awareness [65]. The present study, however, firmly demonstrates the existence of a relationship between trust and pro-climate actions, and, additionally, the intention to act. The latter is especially important, as based on several studies, intention is the most important predictor of behaviour [66], including in investigations relating to pro-environmental behaviour [67,68].

Smith and Mayer analysed a secondary database covering 35 countries. Based on the number of respondents, the survey they analysed should have used a normal (or rather a minimal) sample size [69]. In contrast, our empirical investigation used a much higher sample size, hence providing a more precise result. Smith and Mayer [69] found that at the individual level, trust was generally positively associated with ameliorative behaviour [69]. Our analysis verified this result, and furthermore also approached the trust and pro-climate relationship from the point of view of mistrustfulness. Our investigation determined that there is a significant proportion of respondents who are particularly mistrustful of their fellow human beings; in other words, they think that protecting the climate and taking action against climate change are not important for others.

The results of our investigation are particularly important for decision makers in Hungary, precisely because the current government and its pro-climate narrative, and the appearance of this narrative in the centre-right press, are not necessarily conducive to pro-climate action (cf. [70]). Knowledge of the factors shaping climate awareness also has important public policy implications, as effective climate policy needs to respond effectively to individual preferences as well as to the differences in society [65]. Individuals with high trust in society are twice as likely to support costly climate policies [71] or carbon taxation [72].

As regards to the limitations of this study, it should first be noted again that, with respect to trust towards unknown others and pro-climate behaviour, the questionnaire included newly elaborated survey items. In order to test these items’ content validity and statistical reliability, further survey applications would be certainly useful with regard to various target groups and samples. Second, our results are related to Hungarian society’s attributions of trust and environmental concerns/attitudes, as well as to the interplay between these dimensions. It would be surely beneficial in an academic sense to compare our findings to other societies’ specificities based on similar measurement techniques. These basic limitations, in the meantime, do not weaken the theoretical argument, empirical findings, and general conclusions of this paper. On the contrary, the discussed limits could be understood as recommendations for further research.

7. Conclusions

In our study we examined a special form of pro-environmental behaviour and of the intention to take action, and the relationship between actions and motivations in connection with climate change and trust. In our study, we used the example of Hungarian society to examine the abovementioned relationship, using population-representative data we collected ourselves. At the beginning of the paper, we gave a review of trust theory, then we presented the sample and an analysis describing the variables. Finally we examined the relationship between trust and pro-environment behaviour and the intention to act using regression models. According to our results, trust actually does facilitate conscious thinking and action in connection with climate change.

All this confirms the general conclusion and proposal that reinforcing and increasing social trust would have a beneficial effect on more effective action against environmental challenges. Such conclusions were made in the field of trust research, particularly in the nineties. Today, however, policy guidelines of this kind are more cautious because, in the meantime, it has become apparent that it is very difficult to change the unique social-structural dynamic of trust.

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