

Environmentally Relevant Behaviour in a Future with a Universal Basic Income

A qualitative study examining the meaning of the
determinants of the adapted Theory of Planned and
Contextualized Behaviour in Letters from the Future

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Abstract

Background: Consuming non-environmentally responsibly in industrial countries has been identified as a main cause for the ongoing environmental crisis. At the same time, unsustainable economic growth has led to unfair resource distribution, resulting in a growing precariat and shrinking middle-class. One possible means to reverse both tendencies might be the Universal Basic Income (UBI), i.e., 1,000 € paid monthly to everyone without further testing's or requirements. It is proposed that a UBI in the transformation to more sustainability can offer necessary existential security that will foster behaviours for sustainable ends-away from the pursuit of consuming ever more. In order to assess how exactly a UBI might affect the determinants of environmentally relevant behaviour, this study introduces the *Theory of Planned and Contextualized Behaviour* (TPCB) in an attempt to uncover personal and contextual factors to individuals' environment relevant behaviour to answer the research question: *How do people envision their environment-related behaviour in a society with a UBI under particular consideration of attitude, subjective norm, perceived behavioural control and context (i.e. TPCB determinants)?*

Method: The TPCB was examined through a qualitative exploration of *Letters from the Future*. Future imaginations from 13 Dutch-speaking participants were collected online as a part of an extensive survey study. For the purpose of this study the original data was reanalysed with a focus on climate change. Deductive and inductive coding was used to identify letter types. Letter types portray different versions of how people envision their future with a UBI.

Results: Qualitative analyses revealed two letter types, namely the "Green Future" and the "Business as Usual Future". Per letter type two subtypes emerged: 1) the "Global Perspective" (n=3); 2) the "Personal Perspective" (n=2); 3) the "Happy Consumer" (n=4) and 4) the "Hopeless Citizen" (n=1). Per letter subtype characteristic patterns of TPCB-determinants were identified. For example, under the context of a UBI, some authors envisioned spending it on hedonism ("Happy Consumer"), whereas others used it for the benefit of the environment ("Personal Perspective").

Conclusions: This study suggests that the introduction of a UBI might promote both environmentally-friendly as well as environmentally-unfriendly behaviours. Findings indicate that the impact of the UBI on sustainable behaviour might be through its influence on perceived behavioural control and be moderated by attitude and subjective norm. The guaranteed income was envisioned to enable either more and non-ecological purchases by providing financial stability, or environmental-friendly behaviours, through the experience of having more time, as a consequence of reducing work time. Two letter types have emerged, which represent this polarising influence, which is already prominent in related literature. The relationship between a UBI and sustainable behaviour should be explicitly researched in future studies.

Keywords: Unconditional Basic Income, Sustainability, Climate change, Letters from the Future, Theory of Planned Behaviour, The three stories of our time

Preface

The present paper is the outcome of a master thesis of The University of Twente. The objective of this qualitative study was to research the potential role of a Universal Basic Income (UBI), in times of growing unequal resource distribution, in the western transformation to more sustainability. It was assumed that a UBI, through inducing a change in lifestyle, might offer necessary existential security that might foster individual behaviours for sustainable ends.

I am convinced that drastic economy-based changes are needed in the global transformation to more sustainability. Overall, I do support the stand that increasing income equity might help raising awareness for environmental protection and mitigating climate change. A UBI can offer many existential security and justice that could help to condition more environmental-friendly behaviour and thus to create sustainable lifestyles. Yet, in the face of broken climate records, increasing income inequality and political idleness it is easy to become desperate and paralyzed. However, one must not forget that human behaviour definitely is a vital component in the global climate dynamic. Therefore, it provides me with hope that we have the chance, to alter our behaviour, and thus to positively influence the planets earth condition, maybe even with a UBI in the future. Small changes on an individual level, in sum, can have huge impact.

The letters which I analyse in this study stem from a different study about the UBI and job pressure, time management, well-being and openness to the future. However, for the preparation of my study I was asked to read the letters with the goal to identify yet different topics which I would analyse in my thesis. I am engaged in politics next to my study which made me interested in a study about a UBI in the first place. Since the preservation of nature has already been important to me, during my global reading of the letters, my interest was drawn to the envisioning of environmentally relevant behaviour and its determinants. I did not intend to find this topic from the beginning, but my background surely influenced my attention. However, it was striking that I could read about this in every letter.

Finally, I would like to thank my supervisors for their guidance during the writing process. Also, I benefitted from debating political issues with my friends and family. Your sometimes quite deviating political stands, helped me to keep a broad focus in a topic that is of personal relevance to me.

1 Introduction

The topic of climate change is omnipresent in public and social media as well as hotly debated in political and private contexts. In the following, the advantages and possible disadvantages of sustainable lifestyles will be examined, and influential determinants on global and personal levels will be discussed. The Theory of Planned and Contextualized Behaviour (TPCB) will be introduced as an explanatory framework in the context of a future with a Universal Basic Income (UBI). The instrument *Letters from the Future* will be described and used to extract the meaning which people would lend to sustainable living under the condition of a UBI.

The ongoing ecological crisis presents an existential problem to humanity. Estimates suggest that the consequences of anthropogenic climate change and pollution will lead to severe food, water, energy and habitat shortages in 2050, when no drastic measures will be taken (Wiebe, K. et al., 2015).

At the same time, interest in how to slow climate change, save resources and avert deforestation and biodiversity loss has gained much public attention and activism. One recent example is the Fridays For Future Movement, founded in 2018 by the now world-famous Greta Thunberg (<https://fridaysforfuture.org/>). Furthermore, the recent elections of the European parliament show that public interest in environmental matters has risen significantly. In the most recent European election in 2019, the Greens/European Free Alliance (EFA) had their best result since the founding of the European Parliament (<https://europawahlergebnis.eu/>).

Sustainable lifestyles have risen in popularity, not least because of the evident damage human behaviour has on the environment (Pew Research Center, 2007, 2009, 2013). Generally, sustainable consumption means a use of finite resources that meets the present generations needs without hampering the potential of need satisfaction for future generations (Kenny & Meadowcroft, 2002). Examples for sustainable consumption are environmentally responsible behaviours such as sharing and purchasing less products, reducing travel and commuting, recycling, minimizing waste and energy use (Haanpää, 2007; Peattiie, 2010). Another aspect of sustainable consumption is green purchasing, i.e. buying ecological products.

However, sustainable lifestyles are not without criticism and are sometimes said to backfire (Cucca, 2012). Cities that pursue a sustainable development have been accused of a phenomenon called *green growth* (Bluhdorn & Welsh, 2007; Vavouras, 2011). Green cities have shown to be especially attractive for tourism and investments, which again leads to resource consumption (Kavaratzis, 2004). Risen attractiveness of green cities would involve an increase in living expenses like housing costs, which hits the underprivileged and may exacerbate social inequality (Cucca & Tacchi, 2012). Thus, wherever growth occurs it is

connected to environmental unfriendly behaviour (Cucca, 2012). Therefore, all contributions whether they are intended to be green or not would be futile or even counterproductive.

Also, on a more individual level, so-called sustainable behaviour may pose problems. Many people who do describe themselves as environmentally-conscious, in reality do not live thoroughly sustainable. Research in consumer behaviour has shown that easy but trivial actions are taken while more demanding actions with higher environmental impact are ignored. Thus, consumers name themselves green because they purchase ecological products, but neglect changing their diet, although the latter example is more influential. Therefore, the wish to pursue sustainability is often criticized as a mere self-deception (Csutora, 2012). Moreover, rebound effects have shown to offset savings actually reached by environmental-friendly attitudes. So, money saved from pro-environmental activities like energy-savings will create additional income that is at one's disposal for further environmental-unfriendly spending's. Similarly, an electric car may create the impression that driving is non-polluting, which eventually fosters extra mileage (Csutora, 2012).

In spite of the urgency of the topic of climate protection, the question remains whether the adoption of sustainable lifestyles is attainable for everyone. To illustrate, the Fridays for Future Movement, predominantly consists of white privileged students, mostly from academic households, without any financial problems or social degradation. However, one searches in vain for students from lower socio-economic backgrounds, with few prospects of career progression (M'Barek, 2019).

One explanation might be that citizens with a low socio-economic status (SES) have to deal with other problems, like making-ends-meet, that exhaust their capacity for concern for climate issues (M'Barek, 2019). Thus, although many of the underprivileged are aware of environmental problems and the negative environmental impact of their own behaviour, they are not willing to pursue a more sustainable lifestyle (Achterberg, 2002; Josephs, 2017). It has been shown that low-income groups generally appear to be politically more inactive compared to high-income groups (Franzese, 2001). An explanation might be that the underprivileged feel excluded from society which leads to a perceived social alienation (Josephs, 2017; Kenny & Meadowcroft, 2002). Thus, green lifestyles are up until now rather reserved for the better educated higher earners within societies (Lockie, Lyons, Lawrence & Mummary, 2002).

However, the social stratum which is most concerned with averting climate change – the (upper) middle class - is shrinking (Lambin, 2009; Oxfam, 2016; Standing 2014). Since the 1970s ongoing globalization paved the way for increasingly unequal distribution of wealth and resources in European welfare states (Standing, 2015). There are even signs that this process

will exacerbate through technological progress. Some recent estimates suggest that approximately 50% of all jobs could be taken over by artificial intelligence, information technology or applied robotics in the next two decades (Beckett, 2018; Mason, 2016).

Environmentally relevant choices can be assessed from a global or societal perspective as illustrated above, but also on the individual level. A theoretical framework which can be used to explain and predict individual behaviour like environmentally relevant choices is the Theory of Planned Behaviour (TPB, Ajzen, 1985). The TPB assumes that a strong behavioural intention is the best direct predictor of future actions. This intention is determined by three determinants: „(a) a person’s global evaluation of performing the behaviour (positive attitude toward the behaviour), (b) the perceived social pressure to perform the behaviour (subjective norm), and (c) the person’s conviction about whether the required skills and resources to perform the behaviour are at one’s disposal (perceived behavioural control or PBC) (p. 2506., Harland, Staats & Wilke, 1999).

One phenomenon related to environmentally relevant behaviour is the green attitude-behaviour gap, which has been accounted for with the help of the TPB. The green attitude-behaviour gap emerges in the context on green purchasing. It means that consumers do have a “green”, environmentally-friendly attitude, but make unsustainable purchase choices (Chen & Chai, 2010; Harland et al., 1999; Moser 2015; Tanner & Kast, 2003; Vermeir & Verbeke, 2008). Although most consumers’ attitudes towards sustainability and green products have developed positively over the last years, there is no evidence that the purchase of green products has increased significantly (Joshi & Rahman, 2015; Bray, Johns & Killburn, 2011). In a study of Hughner et al. (2007) the majority of participants reported a positive attitude towards green food purchases (67%), yet only a fractional number of consumers (4%) actually purchased these products. It has been shown that when having limited means, saving money becomes first priority while the sustainable content of a food becomes secondary (Joshi & Rahman, 2015).

A number of studies have been conducted to explain the green attitude-behaviour gap by examining the relative influence of the determinants of the TPB. Having a positive attitude towards green products or overall environmental protection has proven to be not enough for translating positive intentions into actual purchase of green products. Especially, when lacking a feeling of trust in the green features of a product or when lacking personal obligation towards the betterment of the environment one is not willing to select green products despite being convinced of the importance of environmental protection (Joshi & Rahman, 2015).

Taking the determinants of the TPB and their explanatory value concerning the green attitude-behaviour gap in to account, it appears that each determinant has a particular role in

translating purchase intentions into actual purchase behaviour. Overall, results are inconclusive whether the subjective norm or the PBC has the biggest influence on green purchasing (see for examples: Connell, 2010; Gupta & Odgen 2009; Eze & Ndubisi, 2013; Wang, Liu & Qi, 2014). Yet, a positive attitude towards pro-environmental actions has shown to have the least predictive power (Gupta & Ogden, 2009; Moser, 2015). The subjective norm has typically been identified as the right thing to do, wanting to set a good example to others and having a surrounding that supports and, or pursues a behaviour (e.g. green purchasing). Overall, reference groups emerged as an important driver or e.g. barrier of green purchasing (Eze & Ndubisi, 2013). Perceived behavioural control (PBC) has shown to comprise a twofold significance. Firstly, if individuals do not feel as consumers who can alleviate environmental problems, they are apathetic towards green purchasing (Allen, 1982; Ellen, Wiener & Cobb-Walgren, 1991). Secondly, when making purchase decisions individuals rationally evaluate their abilities to afford products. Simultaneously, the perceived product benefit has been shown to be weighed against the effort the purchase takes. Eventually, the perceived positive influence on nature and society of a product must outweigh the perceived efforts taken (Joshi & Rahman, 2015).

Despite the explanatory power of the TPB, one critique of the TPB is that it ignores environmental influences on the individual (Carrington, Neville & Whitwell, 2010). In order to complement the individual perspective of the TPB with the societal and situational influences on human behaviour, a contextualised version of the TPB was developed for this study (Figure 1). Studies using the TPB as a model of explanation have found inconsistencies, which will be explained below. By taking into account the wider context in which behaviour occurs, these modifications might help to expose reasons behind the observed attitude-behaviour inconsistencies (Joshi & Rahman, 2015).

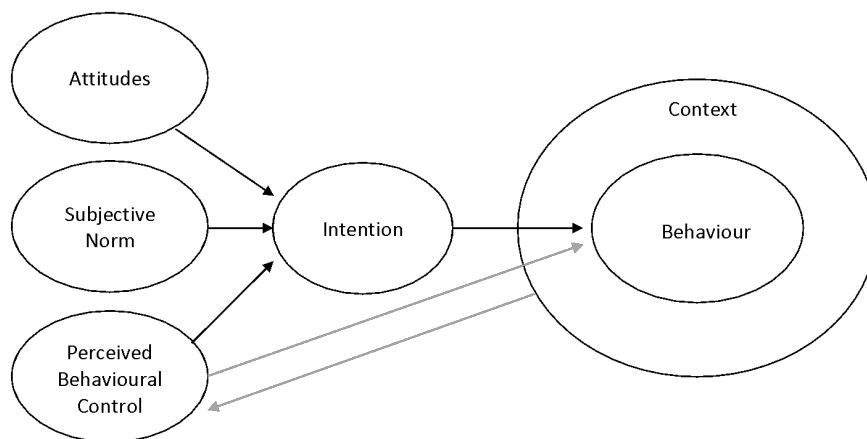


Figure 1. The Theory of Planned and Contextualized Behaviour (TPCB)

As described, the PBC depends on perceived benefits of and perceived efforts for a certain behaviour. This is where the context – as in the contextualised version of the TPB – can play an important role. Generally, the relationship between the determinants and the actual behaviour is strengthened by supportive contextual factors and reduced by unsupportive ones (Joshi & Rahman, 2015). Under favourable conditions, even individuals with weak environmental attitudes might act environmentally-conscious, whereas in unfavourable conditions, strong environmental attitudes might not be translated into environmentally-conscious behaviour (Joshi & Rahman, 2015). One example is a family living in a poorly isolated flat located in an expensive district, which fosters huge energy consumptions. Despite having strong environmental attitudes, financial means to move house into a more modern flat might not be available. Thus, the surrounding context (e.g. overpriced district) forces the family to act unsustainably.

From the TPCB, conclusions can be drawn regarding possibly beneficial political and societal changes. Since behavioural context appears to exert an important influence, a broader legislative response from public policies might help to foster sustainable behaviour by addressing creating a context which may motivate the individual to participate in environmentally-friendly behaviour for the greater good of all (Zacca, 2008). As described above, one problem is that the underprivileged have no capacities for sustainable lifestyles and the environmentally-motivated middle-class is shrinking. In order to create truly sustainable societies that simultaneously meet the fundamental needs of the deprived, policy has to come with new responses (Beckett, 2018; Bregman, 2016; Standing, 2005). One idea how the positive effects of a stable economic background could promote the development of sustainable societies is the universal basic income (UBI) (Van Parijs, 1992). Proponents argue that a basic income could mend income inequality, which in turn makes a society more stable, happy and healthy (Pickett & Wilkinson, 2010).

Today, the concept of a UBI, as means to compensate for the automation and digitalisation of the job market is hotly debated (Beckett, 2019; Bregman, 2016; Standing, 2005). However, the idea of a guaranteed minimum income, which is “*a monthly income of 1000€ unconditionally paid to all on an individual basis, without means or test for work*” (p.3., Van Parijs, 1992) is nothing new. Among the main goals of a basic income are the reduction of poverty, and the assurance of real freedom (i.e. autonomy) by preventing market dependency of the individual (Standing, 2005; Van Parijs, 1992). Any income from other sources is meant to come on top of the basic income (Van Parijs, 1992).

Since its conceptual existence, the UBI is controversially debated. Common instances

of criticism apply to the U in UBI. Since funds would be distributed using a scattergun approach; also the unwilling to work as well as the rich would profit (Panitch, 2011). Panitch (2011) proclaims that a UBI might reduce incentives to take up work and might initiate people to stop working. Another frequent critique is that a UBI is not affordable (Gamel, Balsan & Vero, 2006; Panitch, 2011).

However, several experiments showed that a basic income has positive effects. Overall, willingness to work did not decrease, while the stigma of being unemployed did (Calnitsky, 2016). One of these experiments, MINECOME, was conducted in Dauphin, Canada between 1974 and 1984. Results demonstrated that a guaranteed minimum income improved the subjects' overall health rates and the children's school performance. Hospitalization rates dropped by 8,5%. Moreover, no subject withdrew completely from work, while the total work reduction only ranged from 0-7% (Forget, 2011). Against expectations, another experiment in India even showed that a minimum income caused people to work more. Subjects invested more to become self-employed, while short-time work reduced (Standing, 2013).

Currently, sustainability and the UBI are topical concepts that are discussed worldwide. However, the question remains open whether a UBI would actually lead to more environmental friendly behaviours. It has been shown that an increasing gap between the profiteers and losers of technological and financial developments results in a growing number of people who struggle with their survival and have no capacities for concerning sustainability. Willingness to take part in societal issues, like environmental protection, requires financial security and a sense of collective belonging (Achterberg, 2002). A UBI could mend the gap between the rich and the poor and could provide the basic needs fulfilment so that there is room for the consideration of sustainability.

On an individual level, a UBI may provide a greater freedom of choice, which may result in experimenting with different lifestyles (Kenny & Meadowcroft, 2002). Two scenarios are possible. On the one hand, research indicates that higher-income groups have consistently shown to pollute more, since having more means generally promotes consumption (Csutora, 2012). Consequently, the ecological footprint of a low-income consumer that shows marginal environmental-concern might be smaller than the one of an environmentally-concerned top earner (Csutora, 2012). On the other hand, financial security might motivate consumers to make more expensive but environmentally-friendly choices. For example, they might be more willing to buy organic food, eco-friendly housing and home appliances.

While there is solid evidence that a basic income stabilizes economically (Forget, 2011; Standing, 2013) proof that it is related to sustainability remains theoretical, since experiments

on the effect of an envisioned UBI on sustainable attitudes and actions does not yet exist. Furthermore, existing evidence is predominantly based on geographically isolated experiments with participants of a low-socioeconomic standard (Standing, 2013). Therefore, there is a need to study the envisioned influence of a UBI within the well-educated higher income class of European welfare states. Potentially, the class context influences how the UBI will be utilized.

In this study, the contextualized version of the TPB will be used, in order to illustrate how a UBI could promote environmental (un)friendly behaviours. The theoretical assumption is that a UBI influences the intention towards environmentally relevant actions via affecting the positive attitude toward the behaviour, the subjective norm and the perceived behavioural control. It will be researched, how the three factors influence different kinds of pro-environmental- as well as environmental damaging behaviours.

Thus, the goal of this study is to examine in an in-depth qualitative analysis how participants imagine how they would shape their lives with a basic income. Special interest will be directed to reports about different lifestyles (e.g. consumerism, sustainability) and to the influence of components of the TPCB on different environmentally relevant behaviours.

Research question: *How do people envision their environment-related behaviour in a society with a UBI under particular consideration of attitude, subjective norm, perceived behavioural control and context (i.e. TPCB determinants)?*

2 Method

2.1 Background

Originally, the data used in this study derived from a larger qualitative survey about the meaning of time pressure in relation to job satisfaction among the working population. The study's survey contains open-ended as well as closed-ended questions. For this study, the data set of the original survey study was reanalysed with a focus on sustainability. This seemed worthwhile since the researcher of this study noticed that the topic of *environment-related behaviour* was mentioned frequently while globally reading the data, most notably in the *Letters from the Future* (day 17). While this topic was present in almost all letters, it was apparent from the start that the authors gave very different meanings to it. Therefore, in this study, the *Letters from the Future* were analysed for the purpose of this study.

2.2 Procedure

On 05.11.2018 the Ethical Committee of the University of Twente approved of this research

project. Data collection was executed by futurists Leontine Lamers and Christoph Kempkes in collaboration with the University of Twente and the free University of Brussels.

Participants were recruited using a combination of three sampling strategies namely, convenience sampling, purposive sampling and a form of active sampling. Intensive recruitment attempts were arranged in various companies, social networks, radio stations and newspapers. Besides, were acquaintances of the researchers' networks approached in person. The sampling was purposive in the sense that it was intended to mainly recruit persons in the work context. For participation a fee of 10€ had to be paid.

In 24 days e.g. three weeks, Lamers visited 24 time zones, starting and ending with the Greenwich meridian in England to research the future of time. In cities, including Tokyo, Ikinawa, Marrakech, Dubai, Kathmandu, Shanghai, Lima, Havana and Fogo Island, Hamer provided participants with daily blog posts about her experiences in the different cities. Additionally, participants filled in daily questionnaires over the course of Lamers journey. The questionnaire focused on three time aspects: the use of own time, the influence of time and time in connection with society. In particular, the experiment focused on the relation between job satisfaction and the experience of time pressure. It was hypothesized that working people experience, through work stress, a different temporal experience (e.g. time pressure). (<http://bureauleontinehamer.com/#header-tijd>).

The whole survey study lasted approximately three weeks. Next to a pre- and post-test with same contents, questions within each of the three weeks were thematically organized: Week one focused on the past, week two on the present and week three on the future, respectively.

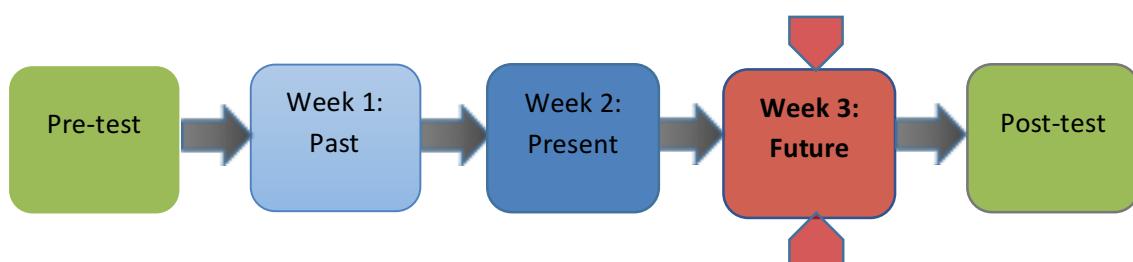


Figure 2. Design of the survey study

This study focuses exclusively on data gathered in the third week, which investigated the relationship between money and time. In detail, it researched whether a UBI leads to a reorganisation of time use. Thus, among other things participants had to imagine at this point their future with a UBI, which is why this study focuses exclusively on data gathered in this week. The content of the remaining two weeks will not be commented, since their content has no added value in this survey study.

Each day of the third week, between the 8th and 14th of December 2018, participants had to fill in a questionnaire consisting of open-ended as well as closed-ended questions. The first part of the questionnaire, concerning the daily time use, remained the same throughout the week. The second part consisted of different reflective, open-ended as well as closed-ended questions starting on day 17 with writing a *Letter from the Future* (Sools & Mooren, 2012; Sools, Tromp & Mooren, 2015). After filling in a questionnaire the participants were thanked for their participation and reminded to fill in upcoming questionnaires.

2.3 Participants

Participants from Dutch-speaking regions e.g. Belgium and the Netherlands, took part in the original survey study. The sampling targeted the non-clinical population from 18 years and older.

Initially, 33 women and 25 men took part in the study. However, within the course of the survey high dropout rates were registered. The first week was completed by 68 participants, the third week by 22 participants. From these 22 participants, only 13 wrote a *Letter from the Future*. Therefore, the final sample of this survey study consists of 13 participants (male=1, female=11; 1= unknown), with an age range from 39-68 years ($M=52.00$; $SD=8.60$). Five participants lived with partner and children, five with a partner, one lived alone, one lived with children. The overall educational level was high ranging from basic vocational training to academic degrees.

2.4 Materials

Dutch versions of the complete questionnaire about well-being and openness to the future were provided to Belgian and Dutch participants. Christoph Kempkes used the software Qualtrics to arrange the questionnaire so that participants could fill it in from their homes. Qualtrics is an online survey tool, which can be used to design surveys and collect data.

Since this study focuses exclusively on the questionnaire of the third week, which was designed by Dr. Anneke Sools, the supervisor of this study, its content is described in more detail. The daily questionnaires of week three (8th to 14th of December 2018) can be divided into two parts. The first part had to be filled in repeatedly throughout the whole week. Here participants had to specify how they had spent their time in hours on different activities such as work, sports, sleep, use of media or childcare. Additionally, participants had to indicate on a 5-Point-Likert-scale how confident they are about how they spend their time on that respective day (1=totally unconfident [...] 5=totally confident). The second part of the daily questionnaires

entailed differing questions every day.

Table 1

Content of the daily questionnaires of week three

Day	Content	Example questions	Response categories
17	Letter from the Future Opinion about UBI	<i>“Where?” “When?”;</i> <i>“Are you for or against the UBI?”</i>	open ended closed ended
18	Reflection on time horizon of the letter	<i>“How would it be if a future with a UBI comes closer?”</i>	open ended Likert-scale
19	Comparison current self with prospective self; future-self continuing scale (Ersner-Hershfield, Wimmer & Knutson, 2009)	<i>“Which positive aspects of your imagined prospective life with a UBI are already present in your current life?”</i>	open ended closed ended
20	Prospective time management; Reflection on writing the Letter from the Future	<i>“Which statement is most fitting to your prospective self in the letter?”; „What did you learn from writing this letter about the role of money in dealing with time?”.</i>	open ended closed ended
21	Reflection on QoL with a UBI	<i>„If you look at your letter about your life with a UBI, which statement is most applicable to this? “;</i> <i>“Did the writing of the letter change</i>	open ended closed ended

		<i>your opinion about the UBI?"</i>	
22	Importance of money	<i>"If you work hard you will be successful?"; "Did writing the letter change how you think about the relationship between money and luck?"</i>	Likert-scale open ended
23	Letter sharing	<i>"Read out your letter to someone else. Consider together what is necessary to realize wishes and goals mentioned in it"</i>	instruction

Note: Only the data (Letters from the Future) from day 17 was used in this study.

This study concentrates exclusively on the *Letters from the Future*, which were produced on day 17 of the survey. The analysis of *Letters from the Future* is a suitable method to explore how people would imagine their (sustainable) life's with a basic income (Sools et al., 2015). Narrative futuring is a qualitative research method that explores narratives in diverse forms e.g. interviews, letters, poems etc. in a bottom-up manner. One specific instrument is represented by *Letters from the Future* in which individuals place themselves into a chosen moment of time (e.g. past, present, future) from which they write a letter to a recipient of choice. Usually, the letter is written to the present self. With regard to the UBI, *Letters from the Future* presents a particularly valuable instrument since it can "deal creatively with an open, uncertain future" (p. 215, Sools & Mooren, 2012). Thus, without external interference and through vivid imagination, the future with a basic income becomes easier to grasp and discloses an individuals' opinions and prospective actions (Sools & Mooren, 2012).

2.5 Analyses

The in-depth qualitative analysis of the *Letters from the Future* was performed both deductively and inductively. At first, the transcripts were read repeatedly by the researcher to ensure sufficient familiarization with the data. All original Dutch transcripts were uploaded into research software Atlas.ti 8.2.3.. Quotations within the result section were translated after

finalising the coding process.

The analysis of the data consisted of the following decisions:

- 1) The unit of analysis ranged from one word to several sentences. To illustrate, the code “attitude” was assigned based on the tone and valence implicit in one to several related sentences. For example, words like “enjoy” indicated a positive attitude, as well as a longer description of positive scenes like sitting on the beach.
- 2) It appeared useful to employ simultaneous coding, i.e. to be able to apply more than one code to one single unit of analysis. This was necessary to illustrate the connections between the determinants and the resulting behaviours. Examples of simultaneous coding will be given under 3).
- 3) The elements of the TPCB were used for deductive coding. As described in the introduction, a contextualised version of the TPB - the TPCB - was developed as the basis of this analysis. The code families “attitude”, “subjective norm”, “perceived behavioural control”, “behaviour” were derived from the TPB, but for TPCB the code for the socio-political “context” in which the behaviour takes place was added. All the elements of the TPCB, namely the three determinants “attitude”, “subjective norm”, “perceived behavioural control”, as well as the resulting “behaviour” and the respective “context” were coded deductively. No example study could be found in which the determinants of the TPB was deductively coded on qualitative data. Therefore, to reasonably operationalise the codes, the scope of the determinants and their appearance in the letters had to be approached, developed and revised carefully in order to arrive at a consistent picture.

A number of challenges arose. First, the original intention was to take coded “behaviours” and to respectively assign “attitude”, “subjective norm”, “perceived behavioural control” to each behaviour. However, it appeared not always feasible to exactly connect behaviour to the determinants, since, e.g., “subjective norms” were mentioned without presenting a resulting behaviour, and - vice versa - behaviours were described while the links to the determinants were not made explicit by the authors. The only determinant which was always coded in connection to a behaviour was “attitude” (either positive or negative). In this study, “attitude” is always the attitude towards a behaviour and, therefore, could not be regarded without a corresponding behaviour, in contrast to “subjective norm” and “PBC”. Thus, “attitude” and “behaviour” are always coded in conjunction, but this was not true for “PBC” and “subjective norm”.

Second, the proximal determinant “intention” from the TPB (Ajzen, 1985) was intendedly not made into a code family, because the distal determinants “attitude”, “subjective norm” and “perceived behavioural control” in combination comprise the more abstract “intention”, so that an extra code-family would hardly render added information. Additionally, the distal determinant “subjective norm” could content-wise not be distinguished from the proximal determinant “intention”. Personal convictions are already covered by “subjective norms”. No distinctive feature could be detected that would separate a general “subjective norm” from the more concrete form of an affirmative or negative “intention” towards an envisioned behaviour.

Third, the distinction between “context” and “subjective norm” was not always easy to make. This was solved by employing simultaneous coding. To illustrate, the fragment: *“Fortunately, more and more greenery has appeared in the city. On the roofs, in the streets and also in our house”* (letter 1) was coded as both “subjective norm” and “context”. The “subjective norm” would be “environmentalism”, since the word *fortunately* indicates a personal conviction, i.e. “subjective norm”. The corresponding context “climate recovery” was coded, since thriving plants even in cities indicate that both people have actively given nature more space and that the climate conditions (temperature, rainfall) are such that these plants can actually thrive. Thus, whenever a value judgement was included it was coded as “subjective norm”, while the more factual description was coded as “context”.

Fourth, the letters present life situations that already have become a future reality. That means, that the “perceived behavioural control” is always implicit in the descriptions, because the authors have indeed been able to achieve the situation they present.

- 4) The code families were complemented by associated codes. The codes were established inductively through the identification of recurring or salient themes. It was necessary to supplement the code families with inductively generated codes in order to examine the specific roles of the given determinants of the TPCB. The way in which the participants give meaning to the determinants could only be found out by employing an inductive approach. The context of this study posed a set of requirements. First, to answer the research question, it had to be found out what exactly the determinants comprise in the context of *environment-related behaviour*. For example, overseas travelling was described positively, i.e. as fun, in letter no. 5, while travelling by plane is, in fact, bad for the environment. Therefore, overseas travelling was coded as environmentally-

unfriendly, negative behaviour, even though the author evaluated it positively. Second, it was necessary to keep a rather high level of abstraction of the codes. For example, the code “technologisation” which belongs to the code family “context” appears both with a positive and a negative meaning for the environment in the letters: Some authors stress the benefits of technologisation such as environmentally-friendly transportation (letter 2); others see technologisation as a (past) threat to humanity, e.g., because people cannot or could not keep up with the fast technological developments (letter 9). Finally, in an iterative process of constant comparison, the codes were continually re-inventoried and re-structured in order to achieve a consistent, clear and concise set of codes.

- 5) The fact that the topic of climate change and related behaviours was ubiquitous in the letters, while the letters as such presented them in very different lights, was the starting point of this study. Therefore, after the detailed coding, the researcher took a broad perspective again and compared the letters as a whole to identify clusters or groups. Two questions guided this process: 1. Do the letters describe climate change and its negative consequences or is there no climate change? 2. Are the authors motivated to behave climate-friendly or not? The grouping of letters enabled a comparison of the patterns of the codes per letter type. If it appeared that whole letters were “off-topic” and did not provide information which could be used for answering the research question, these letters (n=3) were excluded from further analysis.

3 Results

This part of the results, presents two identified letter types. The types portray distinct ways of how participants envision their future with a UBI. First, there is the letter type „Green Future” (n=5) with the subtypes “Global Perspective” (n=3) and “Personal Perspective” (n=2). Within the “Green Future” letter it is described how the reversed processes of climate change and fast technological developments influenced the participants’ life or the world affairs in general. Second, there is the “Business as Usual Future” (n=5) letter comprising the subtypes “happy consumer” (n=4) and “Hopeless Citizen” (n=1). The “happy consumer” describes the life with the UBI as serving personal hedonism and individualism. In contrast, the “Hopeless Citizen” describes life as downward spiral of climate change, digitalisation and paralyzing fear of the future. Additionally, three letters were identified which could not be categorised under either type 1 or 2, and which did not provide data to answer the research question. These three letters were excluded from further analysis.

In general, results are based on different code distributions among letters, which resulted in the identification of letter types. In the following the coding scheme that was applied on the letters will be discussed in detail.

3.1 Coding Scheme

The coding scheme, pictured in Table 2, consists of five code families, derived from the TPCB. Each code family is in turn divided into four hierarchical levels (see Table 2). The five code families that together build the first level, are “attitude”, “subjective norm”, “perceived behavioural control”, “context”. and “behaviour”. The second level comprises definitions of the first level codes. The third level contains the inductively generated codes within the code families, the last level comprises definitions of the second level codes. Overall, Table 2 shows that “attitude”, next to “behaviour” are the most predominant codes, followed by the distal determinant “context”. “PBC”-factors were coded least frequently.

Three definitions of the table demand a further explanation. First, if a person considers himself as “healthy” (see PBC), this gives them freedom of choice, unrestricted by illness or other bodily or psychological limitations. Second, the code “non-existing PBC” was needed because not all authors of the letters found themselves capable, but instead reflected their powerlessness in the face of environmental and societal challenges. Third, only observable acts, independent of whether they were described as already exerted or not yet acted upon, were coded as “behaviour”. Yet, ruminative thinking about future scenarios, was considered as a form of “behavioural paralysis”, a non-behaviour in lieu of actual, observable behaviour. In consequence it was still coded under the behaviour-code family.

Table 2

Coding scheme

Code families	Definitions code families	Codes	Definitions codes	Quotations
Attitude (n=58)	Assessment of acts, e.g. voluntary, pleasurable and important or forced, incriminating, boring and threatening (combined coding with envisioned behaviours)	Positive (n=55) Negative (n=3)	Being in favour of a certain behaviour Being oppositional to a certain behaviour	"The trip is fantastic." (letter no. 5) "I'm rather dissatisfied." (letter no. 9)
Subjective norm (n=36)	Stance that is usual, typical, important or standard to an individual (often coded in appeals, or value judgements)	Altruism (n=6)	Valuing prosocial acts	"Care for each other." (letter no. 8)
		Humanism (n=4)	Valuing face to face communication, devaluing computerized communication	"The world of computers has burst, we are living for OURSELVES again." (letter no. 2)
		Minimalism (n=3)	Valuing a simple life, independents of money	"Money doesn't matter" (letter no. 7); "Simple accommodation, simple delicious food...." (letter no. 5)
		Hedonism (n=7)	Valuing individual enjoyment and fun times	"Live life to the full." (letter no. 12)
		Environmentalism (n=9)	Concern for and appreciating nature	"I would like to see work being done to make our planet clean." (letter no. 9)
Perceived behavioural control (n=23)	Facilitating or hindering factors to perform an envisioned behaviour; not restricted to	Value of paid work (n=7)	Valuing financial justice or wealth and fair working conditions	"I just ended up in this situation by working hard." (letter no. 13)
		Financial insecurity (n=1)	Having not enough money to exert a certain behaviour	"You need money and with 1000 EUR / month, that will certainly not work." (letter no. 9)

manifest goods but also intangible factors		Financial security (n=9)	Having enough means to exert a certain behaviour	"Money helps with that". (letter no. 6)
		Health (n=2)	Being physically healthy helps to exert or undergo a certain behaviour	"I am fit and healthy, look good". (letter no. 6)
		More time (n=3)	Having more leisure time makes it feasible to exert a new/liked behaviour	"In addition, I can spend more time on my vegetable garden to grow food myself." (letter no. 1)
		Non-existing PBC (n=3)	Experiencing no means to exert a desired behaviour	"In the meantime I no longer can follow". (letter no. 9); "Nothing has happened to me, I just suffer it". (letter no. 9)
		Technological progress (n=1)	Having new technological means to exert new behaviours	"(...) resources without fuel consumption, but with the use of the forces of nature that do not deplete the earth. It's all there, we use it now. (letter no. 2)
		Community (n=3)	Having a supporting surrounding helps to exert a certain behaviour	"Each family participates in the maintenance". (letter no. 8)
		Proximity (n=1)	Living central helps to exert certain behaviours	"The schools of the children are nearby and they go there by bike". (letter no. 8)
Context (n=27)	Socio-political contexts (e.g. contemporary ideologies, regulations, conditions, policies, laws, practices and traditions within a certain period of time) described as top-down	Climate recovery (n=5)	Climate change recognized and acted upon so that nature is recovering	"The insects are on the rise again. Which is a harbinger of greening". (letter no. 7)
		Climate crisis (n=3)	Ongoing experience of climate change recognized in extreme weather conditions, pollution and mass migration	"Rain, wind, cold, burning sun the climate has become wetter and hotter." (letter no. 2)

events, that are factual and nationally-wide valid	Technologisation (n=4)	Technological progress perceived as offering benefits, or being a danger	“It is just frightening how fast that technological evolution goes.” (letter no. 9)
	Crash digitalisation (n=2)	Digitalization presented as conquered enemy	“We are completely fed up with the computer world, too much cyber misery has awakened us.” (letter no. 2)
	Introduction UBI (n=6)	Introduction of the UBI as new regulation	“I now live in 2030 and the basic income has been introduced.” (letter no. 1)
	Economic systems change (others) (n=7)	Crashed capitalism, Shared economy on individual level/on societal level	“Capitalism has crashed.” (letter no. 7); “These activities are not paid for but form part of a shared economy system.” (letter no. 8); “We all live in a co-housing project in the city.” (letter no. 8)
Behaviour (n=58)	Imagined behaviours (observable or cognitive acts in the past, present or future) independent of its exerting agent (I-form; He/She-form; We-form)	Environmental damaging behaviour (n=5)	“I’m traveling in Japan.” (letter no. 5); (...) we are still commuting back and forth for the time being.” (letter no. 12)
		Pro-environmental behaviour (n=11)	“We live in an energy-efficient part of the domain and share a large terrace with the 5 other families.” (letter no. 8); The menu is discussed in advance so that there is no waste. (letter no 8); “In addition, I can spend more time on my kitchen garden to grow food myself.” (letter no. 1)
	Micro social behaviour (n=9)	Being supportive, sharing goods with and having contact with family/friends	“I spend a lot of time with friends and family.” (letter n. 6)

Macro social behaviour (n=4)	Care taking and volunteering for strangers or distant acquaintances	"I do more voluntary work than in 2018." (letter no. 1)
Work-related behaviour (n=8)	Early retirement, having no need to work, working more as an option, working more as a necessity	"I quit my regular job in education." (letter no. 5). "I have a basic income, but I like to work next to it." (letter no. 1)
Living according to personal priorities (n=15)	Attention for important things, following ones passion, living from moment to moment, creative expression, relaxation	"I regularly read a book, play the piano and am creative in many ways." (letter no. 1); "After lunch, the day may expire as it occurs. I'm no longer so attached to the rituals of a little bit of work in and around the house, administration." (letter no. 6)
Spending time in nature (n=3)	Enjoying being in nature or living in nature	"I enjoy when I am in (clean) nature; that is by far the only thing that makes me happy" (letter no. 9); "I live in nature." (letter no. 2)
Behavioural paralysis (n=3)	Repetitive negative thinking about themes concerning the self, others or the world in general that lie in the future	"I don't think the future looks bright. I am afraid for my son and the obstacles he will have to face." (letter no. 9)

3.2 Letter Types

3.2.1 Letter type “Green Future”

This letter type stands for a future in which the climate catastrophe is being prevented. A prominent indicator for this letter type is that the context in which envisioned behaviour occurs is of importance. To illustrate, the contexts technologisation, climate crises and the reversed contexts of a crashed digitalisation and climate betterment were combined in one letter. In other “Green Future” letters either the introduction of the UBI or a shared economy system served as contextual basis for different behaviours. Additionally, this letter type is characterized by a multitude of envisioned pro-environmental, social and personally prioritized behaviours. Overall, the “Green Future” letters share an optimistic outlook towards the future.

This letter type comprises two identified subtypes the “Global-” and the “Personal Perspective” of an envisioned “Green Future”. The protagonist of the “Global Perspective” places himself on a meta-level from which he observes the predominantly top-down developments within the envisioned future. This observant-self manifests itself in a descriptive use of language. Hence, societal developments and behaviours are referring to mankind in general rather than the immediate writers’ family and friends. The “Personal Perspective” on the contrary writes in a proactive language, in which the self as well as the family and friends are depicted as active protagonists directly contributing to the envisioned societal changes.

Especially the “Personal Perspective” rarely mentions the concept of the UBI. If it does, rather in a factual form, without explicit information about the functionality of the UBI. It remains thus speculative in how far the introduction of the UBI is related to the described green behaviours. However, it might be a sign that participants imply a taken-for-granted association between a UBI and being green.

3.2.1.1 Letter subtype “Global Perspective”

In the following an example letter and its corresponding coding pattern will be analysed. Letter no. 2 was chosen as an example because it comprises central themes, typically occurring within the “Global Perspective” of the “Green Future” letter.

Letter no. 2

Author: Female, 68 years

Education: University

Job: Paid work

Where, when? Netherlands, in 20 years.

(1) Dear me,

(2) Twenty years ago, you left the time. Now, twenty years later, you're looking at the experience of your life

(3)from then to the present. With this difference: you now have a monthly fixed income of 1000 euros. The
 (4)question is what that amount is worth at this moment, but let's say, that you can pay the fixed costs :)
 (5)**What?** I live in the nature that we have preserved with all our might. There are all kinds of animals and
 (6)natural nature. We know exactly how to take care of this. We have reduced our gadgets to the essentials - a
 (7)roof over our heads - enough clothing to protect us from the natural elements: rain, wind, cold, burning
 (8)sun.....the climate has become wetter and hotter. Communication has been reduced to connections with
 (9)the people around you, at home and outdoors, we want to see again who we have in front of us, taking into
 (10)account the non-verbal scents and colours in our perception of the other. We are completely fed up with
 (11)the computer world, too much cyber misery has woken us up. We get food from food forests.
 (12)Long journeys: oops, just thinking, by foot, by bike, means of transport without using fuel, but using
 (13)the natural forces that do not deplete the earth. It's all there, we're using it now.
 (14)A profession: well, an education organized by someone else is not necessary now with a fixed income, I can
 (15)do where my passion lies, develop it myself and with others. Sometimes that costs money, often not,
 (16)manpower is readily available.
 (17)More people: yes, we have relearned how we as people need each other to mirror ourselves, we know
 (18)again how we can move in time, with and without each other.
 (19)It smells fresh, with itself constantly refreshing air, I smell flowers, trees, animals, ourselves And I hear:
 (20)sounds of nature, people, animals, work for the design and maintenance of a roof over our heads
 (21)**How did you end up in this situation?** The world of computers has snapped, we are living for OURSELVES
 (22) again. Floods, storms, climate refugees... woke us up, it took a lot.
 (23)**Conclusion of the letter. Message to the present:** Civilizations come, civilizations go, we experience that
 (24)too, it takes a long time before there is a reaction as a group. If everyone is aware of this, we can go back to
 (25)to the basis sooner, without disasters. And what is possible now: enjoy every day what crosses your way or
 (25) what you intuitively seek out yourself! Keep visiting each other and really do meet each other.

Analysis of the letter

The author describes a future, in which life is simple and focused on nature and renunciation of technology and cultural attainments is evaluated as progress (e.g. lines 6-7;12-13). Humanity has abandoned allegedly progressive developments like the technologisation of communication of the postmodern era to focus on basic needs again for the own good (lines 10-11). A remarkable difference of this letter is the collective agent (We) used. The author does not depict concrete behaviours or thoughts in the I-form. She rather describes a future scenario, a status quo that is generally-valid for humanity in the third-person perspective. This characteristic seems to be in line with the finding that third-person letters are typically written with more abstraction, emphasizing “their larger meaning” for in this case humanity in general (Vasquez & Buehler, 2007). One exemption to this finding is covered in lines 19-20, in which imagined sensory experiences are listed from the authors’ perspective. This highly vivid, detailed description of an idiosyncratic felt-experience stays in contrast to the rather general narrative style of the rest of the letter with a mere focus on contextual information. Generally, the letter presents a rather long time horizon (+20 years), but in the context of substantial social and political change, 20 years are, in fact, quite a short time.

Behaviour

In total, six behaviours were identified within this letter. Among the code “pro-environmental behaviours” fall green acts such as self-supply (line 11), emission free traveling (line 12) and basic need fulfilment: “We have reduced our gadgets to the essentials” (line 6). The non-environmental related behaviours “living according to personal priorities” and stopping to work were each coded once (lines 14-15). In general, it is typical for the “Global Perspective” letter that behaviour is described in an abstract We-form and not in the form of personal acts. See for an example: “We get food from food forests” (line 11). Yet, in this letter three exceptions can be found in which the participant describes behaviour in the I-form (lines 5, 14-15, 19-20). Within the two other “Global Perspective” letters participants do not describe themselves as self-acting agent.

Context

Indicative for the “Global Perspective” is the extensive description of the societal context in which behaviours are imbedded. The context “climate crisis” was coded one time: “(...) to protect us from the natural elements: rain, wind, cold, burning sun.....the climate has become wetter and hotter (lines 7-8). In this example the writer describes immediate felt consequences of climate change. On the contrary “climate recovery” was coded two times (lines 19-22): “Floods, storms, climate refugees... woke us up, it took a lot” (line 22). The example represents that within the envisioned future the danger of climate change was recognized on time and acted upon. Improved environmental circumstances served as a context for pro-environmental behaviours such as self-supply and emission-free traveling: Additionally, the behaviour “spending time in nature:” (line 5) was depicted as rendered possible through the context of reversed climate change: “I live in nature that we have preserved with all our might.”. The context code “crash digitalisation” (lines 9-11) as well as its counterpart “technologisation” were coded one time (line 13). Both contexts did not serve as direct antecedents for mentioned behaviours.

A, for this letter type, characterizing sequential coding pattern is that complementing context codes follow each other. So, was the context of e.g. “climate crisis” followed by the complementing code “climate recovery” and vice versa. Generally, within the “Global Perspective” the future is envisioned as developing in a right direction, although consequences of the past, negatively judged developments are still present.

Subjective Norm

In this letter the determinant “subjective norm” is coded five times. Thereof three times with “humanism” (line 9, 10-11, 21). “environmentalism” (line 5) and “minimalism” were each coded once (line 6). The frequent coding of “humanism” is typical for the global letter type although not described as determinant initiating any behaviour. The conviction that face-to-face communication is more worthy than cyber communication results in the mere depiction of a computer free future: “We are completely fed up with the computer world, too much cyber misery has woken us up.” (line 10-11). The conviction that the environment matters and must be protected (e.g. “environmentalism” and “minimalism”) was within the letter related to environmental-friendly behaviours such as emission-free commuting, self- supply and basic need fulfilment.

Perceived Behavioural Control

Although six behaviours were coded, the determinant PBC was coded only three times. Two times as “financial security” (lines 4; 14) and once as “new environmentally-friendly technology” (line 13). Financial security served as a facilitator for the behaviours to stop working and to live according to personal priorities: “A profession: well, an education organized by someone else is not necessary now with a fixed income, I can do where my passion lies, develop it myself and with others.” (lines 14-15). Thus, within this letter the UBI was not directly presented as a facilitator of pro-environmental behaviours. However, the case of emission-free traveling, technological progress served as a direct enabling factor of environmental-friendly behaviour (lines 12-13).

Predominant Codes

Letters of type 1a typically contain the following array of determinants. Envisioned “behaviours” are mainly imbedded in the “context” of thriving nature after intervening in climate change (“climate recovery”). The predominant norm is represented by “environmentalism”, closely followed by “humanism”. Thus, the “Personal Perspective”-author shows enhanced concern for the environment, while at the same time valuing contact to other people. Showing environmental concern might offer an explanation, why the prevailing context is represented by “climate recovery”. “Financial security” appears to be the main facilitating factor. However, it remains open, which behaviours it supports concretely. Next to green acts are several behaviours described that comprise to live according to one's own personal priorities. In the following the predominant code pattern for all type-1a letters is

displayed.

Table 3

Dominant code frequency pattern in letter type 1a

Attitude	Subjective Norm	PBC	Behaviour	Context
positive	environmentalis m (n=5); humanism (n=4)	financial security (n=3)	living according to personal priorities (5); pro- environmental behaviour (n=4)	climate recovery (n=3); climate crisis (n=2); technologisation (n=2); crash digitalisation (n=2)

3.2.1.2 Letter subtype “Personal Perspective”

Compared to the “Global Perspective” the main distinctive feature of the “Personal Perspective” is that although the context of climate change is not mentioned at all, a multitude of pro-environmental behaviours are described in which the writer describes himself and the surrounding people as immediate self-acting agents towards more sustainability.

Letter no 8

Author: Female, 45, living with children

Education: University

Job: Paid work

(1)**Where, when?** In the city, within 3 years

(2)**To whom?** To my children

(3)**What?** We're all living in a co-housing project in the city. Emiel is 19 years old and is studying at the

(4)university. Paulien is 16 years old and is in fifth grade. The other families in the co-housing project all have

(5)children in the same age class. After all, in order to divide tasks, it is easier to classify families by 'life phase',

(6)because then the needs and requirements are more similar. We live in an energy-efficient part of the

(7)domain and share a large terrace with the other 5 families. On the terrace we grow vegetables and herbs

(8)and there are also flowers. Each family participates in the maintenance. For the food we can choose

(9)whether we eat with our family or join another family. 1x per week there is a joint meal where everyone

(10)brings something. The menu is discussed in advance so that there is no waste. The schools of the children

(11)are nearby and they go there by bike. I teach at the university and get my income from it. In addition, I give

(12)marketing advice, I am on the board of a network for women where I give training and cooking workshops.

(13)These activities are not paid for but are part of a shared-economy system. My services allow me to use a

(14)car, or other devices and services. The exchange value of my assignments is determined in advance, but the
 (15)approach is always the same: to inspire other people, to teach them certain skills and knowledge. The
 (16)exchange for me is usually very practical in nature but can also be education, sport or relaxation.
 (17)The children also have jobs that work according to the same exchange principle.
 (18)**How did you end up in this situation?** I moved to the city. My jobs remain the same but I no longer do it
 (19)for money but for the use of other products or services and knowledge.
 (20)**Closure of the letter: Message to the present:** Children, get the most out of life. Live and learn now, don't
 (21)worry about money. On the contrary, take care of each other and the planet.

Analysis of the letter

This envisioned future scenario takes place in post work times, in which the human-made concept of money has been abandoned (lines 13-16). In fact, the socio-cultural context has shifted from meritocratic capitalism to a sustainable shared economy. The letter contains a factual description of an envisioned and hoped for scenario, without vividly narrating envisioned experiences like emotion or thought. Still, the author has imagined a future very different from our present. This finding might explain why no complaint or concern about current world affairs is disclosed. However, envisioning a future with little overlap to our current way of life might reveal that the author potentially has concerns about the status quo.

Overall, the author makes the impression of a proactive person, that does not want to waste time in the fight against climate change. This is also represented in active grammar used thus the description of self-acting agents, either in the I- or We-form (e.g. lines 6-7; 12-13). Potentially, the author regards herself as active and accountable part in the awaited sustainable revolution. Like in the “Global Perspective”, the concept of the UBI was not mentioned explicitly in the letter, which is striking but cannot be explained with the available information.

Behaviour

Overall seven behaviours were coded within this example letter. Mostly “pro-environmental behaviours” (n=4) were identified consisting of waste reduction (line 9-10), sharing goods (line 6-7), energy savings (line 6), cultivation farming (line 7) and emission-free commuting (lines 10-11). Two different “micro social behaviours” were coded, namely sharing goods (lines 6-7) and tasks: “Each family participates in the maintenance” (line 8). A somewhat different accentuation can be found in the other “Personal Perspective”-letter, which is not analysed in detail. Here, more “macro social behaviours” (e.g. volunteering) and less “pro-environmental behaviours” were coded.

Context

The single identified context is represented by the code “economic systems change”. On a societal level the transformation into a shared economy system enabled the writer to “live according to personal priorities”: “I give marketing advice, I am on the board of a network for women and I give training and cooking workshops. These activities are not paid for but are part of a sub-economy system.” (lines 11-13). On a more individual level it was the co-housing context in which all environmental-friendly, as well as altruistic behaviours were embedded: “Once a week there is a joint meal where everyone brings something. The menu is discussed in advance so that there is no waste.” (lines 9-10).

Subjective Norm

In total four times a “subjective norm” was coded. Compared to the “Global Perspective” where “humanism” played an important role, the “Personal Perspective” puts more emphasis on the norm “altruism”. Both norms consider contact between humans as important. However, the code “altruism” represents altruistic behaviour, while “humanism” is the conviction that face-to-face contact is generally desirable. Therefore, the subjective norm “altruism” can be specified as a more behaviouristic form of “humanism”.

In total, “altruism” was coded two times. As an example: “care for each other” (line 21). The conviction that altruism is important was translated into micro-social behaviours such as sharing goods, and food in particular. The importance of “environmentalism” (n=1): “Take care (...) of the planet.” (line 21), initiated several environmental-friendly behaviours such as minimizing waste, sharing goods, energy savings, cultivation farming and emission-free commuting. Notably, compared to the “Global Perspective” in the “Personal Perspective” norms were highlighted in much less detail. Hence, the focus rather lies on the action itself not the why behind actions.

PBC

Two different factors were coded as PBC, that facilitated different behaviours. Firstly, the code “community” was identified three times. The writer describes many people surrounding her. This network has been identified as enabling factor for at least four of the six coded behaviours. One example is represented by a shared garden. Having a shared garden means having shared tasks and therefore less effort, which makes the endeavour feasible. Therefore, communal support elicits pro-environmental behaviour: “On the terrace we grow vegetables and herbs and there are also flowers. Each family participates in the maintenance. For the food we can choose

whether we eat with our family or join another family. Once a week there is a joint meal where everyone brings something. The menu is discussed in advance so that there is no waste.” (lines 7-19). The supporting factor “proximity” (n=1) was solely detected in this letter. In lines 10 and 11, living central was described as crucial factor for emission-free commuting: “The schools of the children are nearby and they go there by bike.”. Just as in the “Global Perspective” the UBI was not mentioned as a direct facilitator for any of the coded pro-environmental behaviours. However, at this point it is important to mention that the other example letter of the “Personal Perspective” emphasizes the UBI as supporting factor, via reducing workforce, for different behaviours like, self-sustaining, creative expression and volunteering.

Predominant codes

Letter type 1b is characterized by the contexts of a thriving nature (“climate recovery”) and “economic systems change” i.e. shared economy (see table 5). Mainly behaviours that entail “living according to personal priorities” and green acts are envisioned. Carrying out these behaviours is typically presented as made feasible via the “community” network or by having “more time” at one's disposal through reducing working time. Prevailing norms within the “Personal Perspective” are concern and awareness for nature (“environmentalism”) next to valuing helping others (“altruism”).

Table 4

Dominant code frequency pattern in letter type 1b

Attitude	Subjective Norm	PBC	Behaviour	Context
positive	environmentalism (n=3); altruism (n=3)	community (n=3); more time (n=2)	pro-environmental behaviour (n=5); living according to personal priorities (n=5)	economic systems change (n=3); climate recovery (n=2)

3.2.2 Letter type “Business as Usual Future”

The two subtypes identified as “Business as Usual” letters share a life in the same future, however, they do not share how the respective future is experienced. While the “Happy Consumer” pursues a life of personal hedonism and consumerism, the “Hopeless Citizen” has complaints about this ignorant behaviour. The “Hopeless Citizen”, well aware of the processes of climate change and digitalization, lives a life filled with paralyzing fear. On the contrary, the “Happy Consumer” seems to successfully ignore alarming developments and pursues a happy

life. Living the good life, in turn contributes to climate change in particular, which is feared by the “Hopeless Citizen”.

3.2.2.1 Letter subtype “Happy Consumer”

Characteristic for the “Happy Consumer” letter is the emphasis on “hedonism” and “value of paid work”. Pleasure in life enjoys high priority for the “Happy Consumer”. Additionally, money plays an important role, since it serves as a direct means to satisfy, well-deserved, material wishes. Well-deserved in the sense, that the “Happy Consumer” protagonists view themselves as diligent and hard working. “Financial security”, mentioned in each letter, often times supported by the UBI, ensures material wish fulfilment. Typical for this letter type is moreover that a multitude of “micro social behaviours” (n=5) are mentioned. Having contact and supporting friends and family seems to be important. However, “macro social behaviours” such as volunteering for strangers did not play a role. The last two, frequently coded behaviours of this letter type are “work-related behaviour” (especially stopping to work) and “living according to personal priorities”. Both behaviours were typically facilitated by financial security.

Letter no. 12

Author: Female, 61 years, living with partner and children

Education: Basic vocational training

Job: Care

(1)**Where, when?** France, 2028

(2)**To whom?** To our family.

(3)**What?** July 17, 2028,

(4)Dear family,

(5)How are you doing? It's lovely here! In the meantime we have been here for more than 3 months and it is so

(6)good. Fortunately the temperature is still fine and it is not too hot for Seb. However, the expectations are

(7)that it will be warmer in a few weeks, and then we will go to Eibergen. What a luxury that we have relieved

(8)our house early and can hold on to it. It looks like we will come to the Netherlands on August 3rd. If one of

(9)you will go on holiday to France, our house is ready for you. Because we keep commuting for the time being,

(10)we have not yet bought any animals, that will come in its time. That is indeed a big wish of mine to have

(11)some chickens, goats and a dog, and that although the neighbours have enough goats and delicious cheese.

(12)The basic income is a godsend for us. Jw was able to quit his job earlier and we now have more money than

(13)we ever had. I hope to see you again soon, here or in the Netherlands. I will walk to the village to do some

(14)shopping and then I will immediately post this letter.

(15)Lots of love and oh ja, we bought a small tractor, 2nd hand, Seb enjoys it very much. Finally a vehicle he

(16)can ride on/with. thick kissssss

(17)**How did you end up in this situation?** we are already building a house in France.

(18)**Closure of the letter: Message to the present:** live life to the full

Analysis of the letter

The letter encompasses a vivid imagination of a future moment, as if it is happening in the here and now. It contains several detailed descriptions of imagined thoughts, actions and emotions (lines 7-8; lines 13-14; line 5), and therefore creates the impression of a realistic lived experience. Overall, the letter seems like a proper postcard, both regarding content and style (“thick kissssss” [sic!]). This letter type presents an unrestricted utopian outlook towards the future. Not a single concern, doubt or limitation has been written down. Everything is presented pleasant and feasible.

Compared to other letters, this richly imagined short-term scenario entails a more concrete reference to the point of time in which the future scenario takes place (July 17, 2028). Overall, proximate future events have typically been shown to contain concrete plans as motivator for a desired end (Cook, 2016; Nilsen 1999). This finding is in accordance with the content of this letter since the writer describes several concrete imagined behaviours, like buying animals (line 10-11), a tractor (line 15) or quitting work.

Behaviour

Within the whole letter six behaviours were coded. The main characteristic behaviours of the “Happy Consumer” were detected. Two times the author described “micro social behaviours” such as sharing the holiday house with family: “If one of you goes on holiday to France, our house is ready for you.” (line 8-9). Moreover, three “environmental-damaging behaviours” were identified, namely commuting back home (lines 9-10), and material wish fulfilment represented by the expected purchase of the holiday house (line 7-8) and an agrarian machine (line 15). As an exception for the “Happy Consumer” this letter contained one environmental-friendly behaviour, namely the purchase of a second hand product. At the same time the second hand purchase was coded as “environmental-damaging behaviour”, since it remains a purchase to satisfy material desires: “we bought a small tractor, 2nd hand, Seb enjoys it very much.” (line 15). Additionally, a “work-related behaviour” (n=1) that is typically found within the “Happy Consumer” and was also found within this example is to stop work: “Jw was able to quit his job earlier and we now have more money than we ever had.” (lines 12-13).

Context

The “introduction of the UBI” (n=1) represents the single prevailing context which embeds the described hedonistic behaviour: “The basic income is a godsend for us.” (line 12). Yet, it is questionable in how far the UBI is a direct stimulating factor for this non-green behaviour since the writer reports to already being busy with building a house in France (line 17). This gives the impression that the writer lived a hedonistic and financially secure life anyways, also without the UBI.

Subjective Norm

A prominent indicator for the “Happy Consumer” is “hedonism” representing the main subjective norm, which guides behaviour. This pattern can be found within this letter as well (“hedonism” n= 3): “Live life to the full” (line 18). The second most prevailing norm is “value of paid work”. Again, the author emphasizes that to her money indeed does matter: “we now have more money than we ever had” (lines 12-13).

PBC

The main facilitating factor for serving a lifestyle of personal hedonism is in this letter represented by “financial security” (n=1). Money enables the author to own two houses, one of them as holiday home in France, to commute back and forth and to fulfil material wish fulfilments: “We bought a small tractor”. Additionally, financial means enabled one protagonist of the envisioned future to retire early (line 12). Overall, the UBI seems to be a main contributor for the envisioned financial safety: “That basic income is a godsend for us. (...) we now have more money than we ever had” (lines 12-13). T

Predominant codes

Typically, letters of type 2a explicitly mention the “introduction of the UBI” as the main behavioural context. Appreciated imagined behaviours, typically facilitated by money, mainly comprise environmental damaging acts, spending time and sharing things with friends and family (“micro social behaviour”), acts that serve personal priority fulfilment (“living according to personal priorities”) and stopping to work (“work-related behaviour”). The predominant norms are represented by “hedonism” and valuing well-deserved wealth (“value of paid work”) which seem to directly translate into the envisioned behaviours (see table 6).

Table 5

Dominant code frequency pattern in letter type 2a

Attitude	Subjective Norm	PBC	Behaviour	Context
positive	hedonism (n=5); value of paid work (n=4)	financial security (n=4)	environmental damaging behaviour (n=5); micro social behaviour (n=5)	introduction UBI (n=2)

3.2.2.2 Letter subtype “Hopeless Citizen”

Letter no. 3 was the only letter identified as “Hopeless Citizen” type. The determining feature is a pessimistic outlook towards the future in which the self is envisioned as non-acting agent. The protagonist lives in a world destroyed by others, and sees no possibility for intervention. On-going digitalisation and climate change are depicted as irreversible and harmful developments. Moreover, behaviours enacted by the protagonist are mostly unwanted. Thus the protagonist has negative attitudes towards own behaviours, which usually are endured not enacted.

Letter no. 9

Author: Female, 48 years, living with partner and child

Education: University

Job: Paid work

(1)**Where, when?** Europe, 2030

(2)**To whom?** My father was always in favour of "wage for work". He was a hard worker, a self-employed person and

(3)literally worked his way down. He retired at the age of 75 and had a “pension” from a self-employed person, and

(4)everyone knows how much that amount is. Next to this, he worked in a period called “the golden years”, where black

(5)labour was normal. Logically also knowing that as a self-employed person you receive a ridiculous amount of pension.

(6)That too: my father almost never made time for his family or for some kind of hobby. He just did NOT have any time.

(7)However, I don't know if a basic income will be the solution. To spend more time on what you like to do, you need

(8)money and with 1000 EUR/month that will certainly not work out. Earning extra will become the norm. Maybe black?

(10)I have to think a lot about my son; what his future will look like (and I often compare this with the life of my father).

(11) I am really curious how my son will (have to) live and work in that future but at the same time enjoy it?

(12) And I don't know if a basic income will be enough...

(13)**What?** I don't think the future looks bright. I am afraid for my son and the obstacles he will have to face. I experienced

(14)the first computer and it's just frightening how fast this technological evolution is proceeding. In the meantime, I can't

(15)follow anymore. My son was born with a tablet in the cradle. A lot of people can't take it anymore and I'm afraid that

(16)this way a lot of people will fall out of the boat. More specialized knowledge will be needed, reserved for a few "nerds"

(17)or smart guys. How will other people get a job without this specialized knowledge? My profession will soon be lost;

(18)education may be left over to robots or via remote learning everything can be turned into technology.

(19)We, the teachers, will become superfluous.

(20)I am quite dissatisfied with our situation here on earth. I have the feeling that we are destroying our own earth. Soon

(21)we may have to pay to be able to gasp for pure air. Sometimes I feel miserable about the fact that superpowers decide

(22)about our lives on this planet. Politics is doing very badly. Nor do I feel that we live in a democracy. This often makes me

(23)feel pessimistic.

(24)Things are decided very quickly without thinking about it and I doubt the qualities of our politicians very much.

(25)I enjoy being in (clean) nature; that is by far the only thing that makes me happy (unless I encounter pollution, waste

(26)and illegal dumping). I'm not alone that much, but I often feel alone. Alone in a world destroyed by others. This makes

(27)me doubt whether the future will be better... I don't think so. And that is a pity for my son who still has

(28) to make everything, do it, experience it,....

(29)**How did you end up in this situation?** Nothing happened to me, I just went through it. The bad economic conditions,

(30)the European cleft, the world powers that are making things worse and worse...

(31)**Conclusion of the letter: Message to the present:** I think your last quote is something that applies to me.

(32)I would like to see work done to clean up our planet. If we continue to pollute in this way, our future generation(s) will

(33)have to wear gas masks and even special "suits" that protect our bodies. Or there will be a tax in order to breathe in

(34)fresh air. Or people will have to give breathe to each other. Or they will have to be on respirators. My brother is a lung

(35)patient and there will be a lot more of them if we use up our earth in this way.

(36)Because I am concerned about my son's future, I plead for a healthier life towards the future, many work opportunities

(37)within new areas but feasible for everyone and for a fair wage.

Analysis of the letter

The letter exists out of four different parts, each with its own logic and (dis)connected by temporal jumps. The first section contains a sum of retrospectively narrated intergenerational concerns (lines 2-13). Secondly, the author states her anxieties concerning anticipated post-work times and how she fears that her work will be discredited (lines 14-19). Thirdly, she describes her powerlessness concerning world affairs in the present (lines 20-28). Overall, her worries are not experience-based but represent anticipated concerns. Lastly, she pleads for a healthier and more philanthropic future (lines 31-37), which is in conflict with the several attached examples of pessimistic outlooks (e.g. lines 32-35). One could argue that the writer doubts her own wish and plead for the future. She seems to have resigned already, which might explain behavioural paralysis. This rather long-term future scenario (+10 years) shows no evidence of a feeling of mastery, represented grammatically by using the passive voice and a non-acting author-agent. The author expresses a longing for undamaged nature, but describes that it is difficult to find. Overall, the letter presents a pressing concern of the present as if it was lying in the future. This gives the impression of a perceived acquainted and proximate future scenario, yet actually wanted to be a rather distant reality by the writer.

Behaviour

The most prominent behaviour within the “Hopeless Citizen” letter is “behavioural paralysis” (n=3). Instead of acting out the author ruminates about occupying fears: “My profession will soon be lost; education may be left over to robots or remote learning may turn everything into technology. We, the teachers, will become superfluous. I am quite dissatisfied with our situation here on earth. I have the feeling that we are destroying our own earth. Soon we may have to pay to be able to grasp for pure air (...)” (lines 17-21). Ruminative thoughts circle around topics as climate change, unemployment, poverty and political idleness. Compared to other letters, the “Hopeless Citizen”-type is by far the lengthiest one. One could argue that the quantity of words is a manifestation of the inexorable nature of ruminative thinking.

The second behaviour identified is “spending time in nature”: “I enjoy being in (clean) nature; that is by far the only thing that makes me happy (unless I encounter pollution, waste and illegal dumping).” (lines 25-26). While reading this quote it becomes apparent that also this behaviour has a pessimistic connotation. The writer describes how her behaviour, being in nature, is negatively influenced by the surrounding context of on-going “climate crisis” (n=1).

Context

The author envisions herself as being caught in on-going processes of “technologisation” (n=1) and “climate crisis” (n=1). She describes how the detrimental consequences of climate change and workforce destroying technological progress impact her, without seeing any chance to intervene. Therefore, the unwanted socio-political context directly stimulates ruminative thinking. See the following quote for an example: “I don't think the future looks bright. I am afraid for my son and the obstacles he will have to face. I experienced the first computer and it's just frightening how fast this technological evolution is going. In the meantime, I can't follow anymore. My son was born with a tablet in the cradle. A lot of people can't take it anymore and I'm afraid that this way a lot of people will fall by the wayside.” (lines 13-16).

Subjective Norm

The two norms mentioned are “environmentalism” and “value of paid work”. Both were coded once: “Alone in a world destroyed by others.” (line 26); “I plead for a healthier life towards the future, many work opportunities in new areas but feasible for everyone and at a fair price” (lines 36-37). Strikingly, within this letter personal norms are described as being frustrated, meaning that society is striving for opposed norms. Frustrated norms seem to be translated into unwanted rumination and ultimately into “behavioural paralysis”.

PBC

Here, no concept could be identified as facilitating factor for any behaviour. On the contrary, quotes like: “Nothing happened to me, I just went through it” (line 29) and “In the meantime, I can't follow anymore” (lines 14-15) were coded as “non-existing-PBC” (n=2). Apparently, the claimed powerlessness directly contributes “behavioural paralysis”.

Predominant codes

Letter type 2b, occurs to take place in the context of ongoing “technologisation” combined with “climate crisis”, both of which appear to frighten the author. As single incriminating behaviour “behavioural paralysis”, represented in repetitive negative thinking was identified. This non-act seems to be supported by a feeling of powerlessness, a non-existing perceived behavioural control. Prevailing subjective norms, that are represented as not being fulfilled, are “value of paid work”, and “environmentalism” (see table 7).

Table 6

Dominant code frequency pattern in letter type 2b

Attitude	Subjective Norm	PBC	Behaviour	Context
negative	value of paid work (n=1); environmentalism (n=1)	non-existing PBC (n=3)	behavioural paralysis (n=3)	climate crisis (n=1); technologisation (n=1)

4 Discussion

This study answers the research question: *How do people envision their environment-related behaviour in a society with a UBI under particular consideration of attitude, subjective norm, perceived behavioural control and context (i.e. TPCB determinants)?* The application of the adapted TPCB on the *Letters from the Future* revealed different clusters of determinants within the distinct letters, which eventually resulted in two letter types: 1) the “Green future”, 2) the “Business as usual future”. Overall, the different types show that the envisioned introduction of a UBI might nurture both, consumerism as well as sustainability.

4.1 Findings regarding the determinants of the TPCB

It appears that the UBI affects the respective determinants of the TPCB differently. Throughout both letter types and all subtypes, it appears as if, of all three distal determinants of the TPCB,

the UBI impacts the PBC and not attitude and subjective norm. In letter no. 1, the basic income, via reducing work, is described as enabling factor for more sustainable behaviours such as self-supply. The writer envisioned herself to reduce work, since she would not be too depended on money earned. Reducing workload in turn provided her with more time to e.g. grow vegetables, and to strike clothes. Apparently, the writer values these pro-environmental behaviours; however only since the UBI she was able to enact them. Also, having more time enabled her to enact her altruistic vein in volunteering. Improvements in the work life via using the basic income for taking up personally meaningful activities, is one typically envisioned benefit of the concept (Van Parijs, 1992). Taken together, this letter describes how a person expecting a green future is not able to enact environmental-friendly and social behaviours while working full-time. It seems as if the UBI helps to initiate wished for changes in lifestyle (Kenny & Meadowcroft, 2002). The findings are in agreement with results of Lockie et al. (2002) that propose that environmental-friendly behaviours are perceived as time-consuming and expensive.

However, as assumed in the introduction, the letters suggest that a UBI would not be enough to inspire citizens to become environmentally-concerned, since a UBI might also enable the “Happy Consumer” to live their hedonistic lifestyle. That suggests that the two other distal determinants of attitude and subjective norm determine which side is chosen. In all letter types, behaviours are presented towards which the writers have a positive attitude. Concerning the subjective norm, in the letters of the “Happy Consumer” this norm mainly includes hedonism and value of paid work. In contrast, from a “Green Future” perspective, social norm is envisioned as environmentalism, altruism and humanism. Apparently, environmentally-conscious behaviour polarizes, and the crucial factor is the determinant subjective norm (Lockie et al., 2002).

It appears that this study is limited in providing much in-depth information about the determinant attitude, since the attitude is always mostly positive. This might be because the method of *Letters from the Future* as such might inspire writers to concentrate on behaviours which they value and not write about a future which they dread (Oettingen & Mayer, 2002). However, there is one exception in this study, namely the one letter of the subtype “Hopeless Citizen”. In this case, the writer has a completely negative attitude towards the dystopia in which she lives and ruminates instead of taking action. Sustainability is important for this writer, but she regards it as futile. This reminds one of the symptoms of depression, since research has shown that depressed writers envision their future as in this example (Lavender & Watkins, 2004; Melges, 1982; Sools et al., 2015). This letter is one example of an attitude-

behaviour gap (e.g. Csutora, 2012). In spite of the positive attitude towards sustainability, the writer considers it futile because she perceives no behavioural control.

However, it can be fruitful to consider ways in which the determinants attitude and especially subjective norm might be targeted so that a UBI will be made use of in an environmentally-friendly way. One method which has been shown to have a positive impact on attitude and subjective norm is the “Work that reconnects” approach (Macy, 2012; Russel et., 2013). In this approach, the participants experience directly their connection with nature. Participants get in touch with planting and harvesting or gathering food in the wild. By providing this direct experience, participants are also emotionally engaged in contrast to being merely cognitively educated. Participants develop a personal connection to nature and are, therefore, inclined to act more sustainably in the future. Research has shown that promoting a positive subjective norm has more impact than just criticising a negative subjective norm, which might only result in more resistance (Shove, 2003). They might simply look away since facing climate change and social division in all its facets would mean that they would have to change their way of life, for remaining happy and satisfied (Shove, 2003). The downside of “Work that reconnects” is that a workshop costs approximately 400 USD (www.workthatreconnects.org) and is only attainable for the better-off. Besides, the workshops are booked by individuals. Thus, mainly already environmentally-concerned people would attend, since environmentally-unconscious people are probably not willing to pay for a personally rather irrelevant workshop. A UBI could solve the financial part of this problem. Still, politics might consider to promote this or a comparable educational approach even without installing a UBI, perhaps by making attendance mandatory. Programs might be developed which can be applied in kindergartens, schools or at the workplace. For example, a national “Green Future Day” might be established, in which everybody is encouraged to spend time in nature and can participate in sustainable behaviour.

Another conclusion concerning recommendations is that a positive approach to behavioural change might lead to better outcomes compared to methods as fear appeal. As described above, optimism has been shown to foster positive outcomes (Oettingen & Mayer, 2002). It might be beneficial to promote a “realistically optimistic” perspective of the future in which a positive outcome is assumed, challenges are recognised and suitable means of dealing with them are developed. Fear appeal might only reduce PBC and lead to pessimism and non-action, like in the “Hopeless Citizen”. Possible resulting feelings of powerlessness, i.e. no PBC, have shown to be the most common reaction when being confronted with planetary crisis (Searle & Gow, 2010). The letter of the “Hopeless Citizen” illustrates the crucial role of PBC.

Therefore, it seems beneficial to support PBC, both with a UBI and by not destroying it with fear.

4.2 Links to existing research

The study findings validate the experience-based work of sustainability activist Joana Macy. Macy (2012) established the so-called *three stories of our time*, which represent different versions of how people interpret current world affairs. In short, the three stories emphasize, that although we all live in the same reality, how we make sense of that reality determines our personal thoughts, feelings and behaviours. Overall, huge similarities could be found between Macy's three stories (the Great Turning; Business as Usual; the Great Unravelling) and the four letter subtypes identified in this study. However, Macy does not assume a UBI.

According to Macy, refuse people that look at life through the lens of the "Great Turning" to give up on the world. Well aware of environmental and social disasters, protagonists in this story take an active role in the betterment of the environment. Additionally, those people appear more interested in contact with other people, since fortune is not found in possessions but in reciprocal relationships. People enacting the "Business as Usual" story are convinced that nothing needs to be changed. Economic growth is desired and seen as serving personal hedonism, while environmental and social problems are treated as far away and personally irrelevant. Protagonists show rather selfish acts to improve ones' wellbeing while highly valuing financial security to satisfy personal needs. The "Great Unravelling" evolves around the problems the "Business as Usual" lifestyle is taking us to. Here, central topics that occupy individuals are climate change, economic inequality, war, habitat destruction and resource overshoot. Consequently, the future is envisioned as an unavoidable disaster scenario. Intervening is typically seen as decrepit resulting in behavioural paralysis.

Contentwise, both subtypes of the "Green Future" resemble the story of the "Great Turning". However, with its self-acting agent for climate protection the "Personal Perspective" is a more accurate reproduction of Macy's version. The rather observant, top-down outlook towards the envisioned greener future within the "Global Perspective" is not covered in the "Great Turning". Hence, one could argue that the "Global Perspective" found in this study represents a new nuance. While the protagonist of the "Personal Perspective" actively contributes to the climate betterment, thus is the "person of action", the "Global Perspective" protagonist rather is the "observer of action".

Macy's concept of "Business as Usual" ("Business as usual- MC") and the "Happy Consumer" type apparent in this study resemble each other a lot. Both stress the value of

personal advancement, hedonism and financial security. Yet, the subtype “Happy Consumer” additionally emphasises the importance of positive relationships with close others, which does not play a role in Macy’s “Business as Usual” story. Macy regards social relationships exclusively in her “Great Turning” story. However, the positive relationships in the “Happy Consumer” type function again as means of achieving personal advancement and hedonism. “Happy Consumer” have relationships with a rather close, familial circle and do not feel related and committed to the extended society. Furthermore, in this letter type it appears that social relationships are maintained so that the writer profits from them or at least finds pleasure in them.

In contrast, this study has found an additional, different kind of social relationship in the “Green Future” letter types. From the “Green Future” perspective, people are altruistic even towards strangers and maintain their relationships in order to promote sustainability, e.g. by sharing resources.

In sum, whereas Macy (2012) only regards the altruistic kind of social relationships and only in the context of the “Great Turning”, in this story two different kinds of social relationships emerge. The “Happy Consumer” consumes relationships with a closely related circle, whereas the authors of “Green Future” letters feel connected to society as a whole and envision a broad kind of altruism and mutual striving towards the greater good for all.

The “Hopeless Citizen”, caught in the “Business as Usual” future, describes the surrounding context as a downward spiral of climate change, failed economies and dehumanizing digitalization. This appears identical with Macy’s (2012) “Great Unravelling” story. All measures to achieve sustainability have failed. In the context of this study, the writers of the letters especially envision the failing of the UBI and the negative consequences of digitalisation, which both do not play a designated role in Macy’s stories (2012).

To conclude, in the juxtaposition between Macys work (2012) and the results of this study the resemblance is striking, even considering the nuanced differences concerning social relationships.

A limitation of these findings is that both experience-based storytelling and narrative futuring remain hypothetical and are conceptually different from, for example, statistical models in the so-called “hard sciences”. Narratives and stories are influenced through the writers’ past experiences and are naturally subjective (Sools et al., 2015; Oettingen & Mayer, 2002). The letters are relatively short which might go together with a reduction of complexity: the presented future visions tend to be either optimistic or pessimistic, whereas the “truth” might be more complex and somewhere in the middle.

So, a recommendation for further research would be to instruct writers to describe not just a future, but also how it came to being, i.e. which steps have been taken in the time leading to the envisioned future (e.g. actions, decisions, circumstances that can lie in the past, present, future or imagined past, present or future). In this way, the letters might be more reflective of the complicated connections between technological, political and social factors.

4.3 General study limitations and recommendations

Some questions remain which this study could not answer. In the following, these general limitations and resulting recommendations for future research will be discussed.

The data which was used in this study was originally collected for an entirely different survey study with different research questions. This led to a number of limiting consequences. One limitation is that the participants were not explicitly asked about their vision of the connection between a UBI and environmentally relevant behaviour. Instead, it was the participants' task to imagine how they would envision their life with a UBI. It was never asked to envision the influence of the UBI on consumption behaviours. This has a number of consequences. First, the research question in this study was developed superimposed on the data after data collection. While reading the letters, the researcher discovered that the topic of climate change played a substantial role. Since sustainability is of personal interest to the researcher, a bias cannot be ruled out. It is the researchers' conviction that sustainability and equality are naturally connected with each other, and that one concept cannot exist without the other. In addition, the researcher assesses a basic income as suitable means to nurture both tendencies. Moreover, the introduction of a basic income is judged as long overdue. Therefore, there is the possibility that the analysis of the data is distorted through a researcher bias. Possibly, interpretations and connections have been made that a less environmentally-concerned citizen would not have drawn.

Second, it needs to be considered why the topic of climate change is so prominent in the letters, even without asking about it explicitly during data collection. One obvious explanation might be the increased public interest in environmental matters. At least since Greta Thunberg, one cannot watch the news without being confronted with the consequences of global change. Moreover, environment attitudes have become socially acceptable while greener consumption reached common practice (Autio & Wilska, 2003; 2005). Another explanation might indeed be that participants regard a future with a UBI as connected to sustainability (Bregman, 2016; Kenny & Meadowcroft, 2002). This would be in support of the underlying assumption of this study that a UBI indeed initiates sustainable lifestyle changes. However, even though and since

this seemingly random result is in accordance with outcome the researcher hoped for, it must be regarded with caution, because the participants have never been asked directly to express their view of this matter.

Third, unfortunately, only one letter explicitly talks about the relationship between a UBI and sustainable behaviour. In all other letters, the relationship is rather implicit. On the one hand, the fact that the UBI was only mentioned once as initiating factor for a greener lifestyle, poses the question whether the introduction of a basic income would indeed support the needed sustainable revolution. Moreover, especially the “Happy Consumer” presented the UBI as direct facilitator to consumerism. The UBI was envisioned as promoting personal hedonism in the form of consuming ever more. This indicates that the assumption that a UBI provides greater freedom of choice, which may enable experimentation with different, more sustainable lifestyles (Kenny & Meadowcroft, 2002) is incorrect. This finding is in line with the common sense belief that having more money at ones’ disposal generally promotes consumption (Csutora, 2012). On the other hand, it is possible that the conviction of the author of letter no. 1 is much more frequent than depicted in the results of this study, which might have become apparent if the study has asked about this explicitly.

One recommendation for future research which would mend the latter two above mentioned limitations would be to set up a narrative futuring study which explicitly addresses the connection between a UBI and environmentally relevant behaviour from the beginning. This might generate more targeted and explicit visions than can be found in the letters used in this study.

Another limitation which results from the fact that the data was collected with a different aim is that the sample is not ideal for the present research question. The sample of this study consisted exclusively of well-educated, financially secure participants, who statistically are more interested in sustainability in the first place (Lawrence et al., 2001). It is thus possible that the identified interest in climate change and social division is slightly overrepresented due to a sampling bias and thus do not represent the average view of the population. Furthermore, the sample is rather homogenous and mainly consisting of well-educated women from 40-70 years. Women have consistently shown to be more interested in environmental protection than men (Konisky, Hughes, & Kaylor, 2016). According to Lawrence et al. (2001) women consume more organic foods and show more concern about genetically modified organisms.

Future research on this topic should aim for a more diverse sample comprising young as well as older participants from varying ages, ethnicities and SES. Involving these populations

might lead to surprising perspectives. These might have different implications for suitable political measures, since they affect the whole population, and not just the well-educated.

Lastly, the study provides little information about the question whether a UBI closes the green attitude-behaviour gap (Harland et al., 1999) by strengthening the PBC. This is due to the fact that this aspect was not covered in the data collection, and the existing data happens to not address this question. The letters rather described green behaviour in the sense of growing their own vegetables and developing a shared community, and not so much green purchases.

In future research, the participants could be explicitly asked to write about their purchase choices in their letters to gather more information about the attitude-behaviour gap. However, it should be taken into account that participants could then present socially desirable purchase choices (i.e. “of course, I would only buy organic vegetables”) and might present themselves in a too positive light.

4.4 Conclusion

Clearly, more research is needed to advance understanding of the potential influence of a UBI on environmentally relevant behaviours and its long-term consequences on the individual, economy, environment and society in general. However, it is assumed that this study, despite its limitations, provided first insights into how the debated introduction of the UBI might be related to consumer behaviours. The study unveiled four different letter subtypes about how people envision their future with a UBI. Findings indicate that the UBI might either nurture consumerism, through financial enrichment, or more sustainable behaviours by inducing a change in prioritization in lifestyle. The letter types help researchers and policy makers to identify parameters, which may motivate the individual to participate in pro-environmental behaviour by addressing, discussed determinants. For several theorists such a greener future must go in hand with the introduction of the UBI, or in slightly different words of Green Jobs Specialist Moustapha Gueye: “We can’t have climate action without social justice”.

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