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The influence of dynamic norms on environmentally friendly
attitudes and behavior of authoritarians

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Abstract

The connection between authoritarianism, dynamic norms and environmentalism has not yet been thoroughly examined. Only Reese (2012) reported that authoritarians generally care less about the environment but can develop a sustainable attitude if relevant authorities support this point of view as well. Sparkman and Walton (2017) connected dynamic norms and environmentalism showing that these norms activate behavior that is counternormative but increasing. This thesis investigates authoritarianism, dynamic norms and environmentalism by connecting all three aspects. An anonymized online survey among 479 participants was conducted to investigate whether people with high levels of authoritarianism tend to develop a more sustainable attitude and show a more sustainable behavior if a dynamic norm statement was represented compared to a static or no norm. The obtained data only showed marginal agreement with the key assumptions of the hypothesis but replicated the results of Reese (2012). Data indicated that authoritarians are less concerned about the environment. Neither behavior nor attitude depended on the representation of norm statements. Moreover, all subdimensions of authoritarianism were negatively related to a sustainable attitude but examining authoritarian submission separately led to the conclusion that submissive people act less environmentally friendly if a dynamic norm is represented compared to a static norm. Furthermore, all participants behaved environmentally friendly regardless their level of authoritarianism.

1. Introduction

Almost all environmental problems we are facing today, such as pollution, climate change and a decreasing biodiversity, are caused by human behavior (Manning, Gaffrey & Andre, 2009), especially by human consumption (Thøgersen & Ölander, 2006). In Germany the per capita consumption of plastic increased to 38.5kg every year (Breitkopf, 2020). The production of plastic bags has expanded over the last decades, amounting to 350 million tons annually (Heidbreder, Bablok, Drews & Menzel, 2019) with largely relying on finite natural resources such as oil and setting free carbon dioxide. In landfills plastic bags are the most common kind of waste and they are the most commonly littered item in forests and on beaches (de Groot, Abrahamse & Jones, 2013). This waste leads to grave environmental consequences (Verbraucherzentrale, 2018) and risks to human health due to the exposure to harmful chemicals that are used as additives (Heidbreder et al., 2019). The plastic waste pollutes seas and oceans where it disintegrates but only very slowly fully decomposes (Verbraucherzentrale, 2018). It takes approximately 20 to 30 years for a plastic bag and 450 years for a PET-bottle to decompose completely in the ocean (Breitkopf, 2020). To protect the environment, humans need to reduce their consumption of plastic drastically. Therefore, the goal of this thesis is to examine if anti-environmentalists can be persuaded to change their unsustainable behavior and gain environmental concerns with the help of the representation of a dynamic norm. Sparkman and Walton (2017) previously conducted five different experiments about the connection of sustainable behavior and dynamic norms. They discovered the interplay of the representation of a dynamic norm and people's attitude and behavior. In their experiment, the dynamic norm led people to believe that others put more effort into changing their behavior and that this change is important. This perception led to participants' adaption to the dynamic norm.

In the present study, the focus will be put on people with high levels of authoritarianism as authoritarians hold very little to no pro-environmental attitudes (Stanley & Wilson, 2019) and tend to care less about the environment (Reese, 2012). McDermott (2007) stated that authoritarians even hold a hostile position towards environmentalism. On the other hand, due to authoritarian submission, authoritarians tend to adapt to norms more easily (Reese, 2012).

The connection between authoritarianism, dynamic norms and environmentalism has not been scientifically examined yet. Only the interrelation of authoritarianism and environmentalism (Reese, 2012) and dynamic norms and environmentalism (Sparkman & Walton, 2017) have been assessed so far. This thesis aims to assess all three aspects simultaneously.

In the following, the theoretical background is introduced (chapter 2). Social norms and the underlying theory are described before drawing connections to authoritarianism.

Furthermore, the Theory of Normative Conduct (Cialdini, Kallgren & Reno, 1991) and more specific kinds of norms such as personal and dynamic norms combined with former research are introduced. All of these findings lead to the hypotheses and research question. Chapter 3 lists the structure of the online survey and the used materials. The results of the study are presented in chapter 4. Lastly, the results are discussed, and a prospect of future research is given (chapter 5).

2. Theory

2.1 Social Norms

Norms in general are “customs, traditions, standards, rules, values, fashions and or other criteria of conduct which are standardized as a consequence of the contact of individuals” (Thomas, McGarty & Mayor, 2009, p. 3). Social norms are defined as behavioral standards that lead human interaction with others. They have a generally high influence on human behavior, especially when being related to sustainability (Loschelder, Siepelmeyer, Fischer & Rubel, 2019; Farrow, Grolleau & Ibanez, 2017). The stronger a social norm is, the more it is related to according behavior (de Groot et al., 2013). Social norms have an especially strong influence on authoritarian people (Passini, 2017).

2.2 Authoritarianism

Authoritarianism is an attitude as well as a character trait (Adorno, Frenkel-Brunswik, Levinson & Sanford, 1950). Both aspects play a moderating role in the individual perception of and behavioral reactions towards environmental problems (Arbuthnot, 1977). Three of the nine characteristics of authoritarian persons defined by Adorno et al. (1950) correlate high enough with each other to form a consistent dimension (Duckitt, 2015). These subdimensions are conservatism, authoritarian aggression and authoritarian submission. Conservatism is defined as the adherence to conventional values and norms. Authoritarian aggression, on the other hand, can be described as the general tendency to disapprove, expel and punish people who reject conventional values. Meanwhile, authoritarian submission is the uncritical attitude and obedience towards all kinds of authorities (Duckitt, 2015; Passini, 2017).

2.2.1 Authoritarians, Social Norms and Environmentalists

Authoritarians require order and control, especially in their social environment (Allport, 1954). That is why authoritarian behavior occurs more often when changes in the social environment emerge (Stellmacher & Petzel, 2005) that are naturally interpreted as threat (Duckitt, 2015; Passini, 2017) on a social and individual level (Jugert & Duckitt). There is a strong correlation between the authoritarian disposition and a conservative political orientation (Stellmacher & Petzel, 2005). The dimension conservatism lets authoritarians perceive their traditional values and established social and political authorities as being threatened by “green parties” (Stanley & Wilson, 2019). Because of the subdimension authoritarian aggression (Allport, 1954) authoritarians are intolerant of groups that are perceived as deviant from relevant conservative social norms (Fisher, Deason, Borgida & Oyamoto, 2011).

Authoritarians react in a hostile way to change and any kind of deviance from their conservative values (Allport, 1954). They especially tend to be intolerant towards outgroups when they are of the opinion that society opposes these groups as well (Fisher et al., 2011). Environmentalists are usually seen as deviants because authoritarians believe that society, economic leaders and politicians value economic growth more than environmental protection and obey this opinion (Reese, 2012). Authoritarians are not necessarily against environmentalism but rather pro-growth. Growth and protecting the environment often contradicts (Schultz & Stone, 1994). Therefore, environmentalists belong to an outgroup (Stanley & Wilson, 2019; Masson & Fritzsche, 2014). That results in authoritarians denying climate change and opposing environmentally friendly behavior (Stanley & Wilson, 2019) that is defined as “the set of actions aimed at protecting the socio-physical resources of this planet” (Tapia-Fonllem, Corral-Verdugo, Fraijo-Sing & Durón-Ramos, 2013, p. 3).

On the other hand, if the societal attitude is positive towards a certain outgroup, authoritarians are more likely to have similar affirmative beliefs as well (Fisher et al., 2011). A reason for them adapting to certain societal points of view is the subdimension authoritarian submission. Authoritarians are submissive to established authorities (Passini, 2017) and tend to accept and follow common socially represented norms because of their preference of conformity and order. Therefore, they are very responsive to normative cues and social norms in general. They favor to match their behavior to the perceived social norm (Oyamot, Fisher, Deason & Borgida, 2012). In addition, they match the opinion of authorities in order to be able to accurately respond to the social situation especially in times of uncertainty (Cialdini & Goldstein, 2004). This is an act of conformity. Conformity is defined as “the act of changing one’s behavior to match the responses of others” (Cialdini & Goldstein, 2004, p. 16).

2.3 The Focus Theory of Normative Conduct

Concerning the environment, unsustainable views and behaviors are normative. Well-established social norm in our society that people conform to are, for example, meat consumption (Sparkman & Walton, 2017) or the use of plastic bags (de Groot et al., 2013). Furthermore, Weir (2012) observed that people litter more in an already littered place perceiving the norm that it is socially accepted to litter.

That shows that it is important for the norm to be salient. That is to say, attention needs to be drawn to it. This is crucial in situations in which different norms are present. In this case the salient norm has the biggest influence (Weir, 2012). This corresponds with the Focus Theory of Normative Conduct by Cialdini and colleagues (1991) that proposes that human behavior

is only activated and led by salient norms. That theory sets apart injunctive and descriptive norms. The former states rules or believes. It expresses moral and approved behavior and thereby specifies what people should do. The latter specifies what most people actually do in a particular situation. It explains what is normal and typical (Cialdini et al., 1991). These two diverse kinds of norms drive human behavior differently but have in common that when being made salient are mobilizers of decision processes (de Groot et al., 2013).

2.3.1 Normative Cues

One way to create salience are normative cues (Harland, Staats & Wilke, 2007). For example, Goldstein, Cialdini and Griskevicius (2008) conducted an experiment about the influence of social norms concerning the reuse of bathroom towels in hotel rooms. They placed one of two different norm statements in hotel bathrooms easily visible for the hotel guests. Both statements emphasized the importance of environmental protection. The first one (Statement A) asked people to please reuse their towels. The second one (Statement B) requested the same behavior but included a descriptive social norm saying “75% of our hotel guests take part, please take part as well” (Goldstein et al., 2008, p. 3). Both statements led to the reuse of towels in 1058 room checks. Statement A convinced only 35% of the guests while Statement B encouraged 45%. These results indicated that a salient descriptive social norm is more influential than a non-norm-related request.

2.3.2 Descriptive Norms and Environmentalism

Opposing results were found by de Groot et al. (2013) which showed that it is not effective to rely on descriptive norms when environmentally friendly behavior is studied. That especially applies if the behavior is unwanted by the acting person. Concerning sustainable behavior, injunctive norms have shown to affect prosocial behavior in the anti-littering context (Weir, 2012). That does not apply to descriptive norms (Thomas et al., 2009). On the other hand, it is more likely for authoritarians to obey descriptive norms. They tend to adapt to a greater extent to actual behavior that the society or their relevant authorities show rather than to moral obligations of others due to their authoritarian submission (Fisher et al., 2011).

2.4 Personal Norms

Another relevant factor in this context are personal norms. They are defined as the individual belief about moral obligations to show a certain behavior. Personal norms and pro-environmental behavior are strongly related (Harland et al., 2007).

2.4.1 Sustainable Personal Norms

Sustainable personal norms and related behavior is not common (Weir, 2012) although a lot of knowledge about pollution, consequences of climate change and the important role of human behavior in degrading the environment exists (Manning et al., 2009; Weir, 2012). 88% of global consumers agree that environmentalism is important and that companies should establish programs to protect the environment (Gruber & Schlegelmilch, 2014) but the very least people behave accordingly (Manning et al., 2009). Although the occurrence of environmentally friendly behavior increases slightly (Maltseva, 2016), the majority does not adapt their habits in order to live more environmentally friendly and do not dem the harmful impact of their actions (Thøgersen & Ölander, 2006). A huge gap between knowledge and behavior exists (Weir, 2012). The awareness of environmental problems is high but relevant behavior is not shown automatically because of obstacles such as comfort and denial of responsibility (Heidbreder et al., 2019). Still, the stronger one's personal norm to act environmentally friendly is, the more likely it is that the according behavior will be shown (de Groot et al., 2013). Attitude is significantly related to sustainable behavior (McDermott, 2017). Furthermore, personal norms as well need to be made salient to induce behavior (de Groot et al., 2013). Personal injunctive norms have the strongest and most consistent impact on green consumer behavior. On the other hand, individuals who are little or not at all concerned about the environment have weak personal norms related to the environment and, therefore, show less green consumer behavior (Weir, 2012). That especially applies to authoritarians (Stanley & Wilson, 2019) due to the society mainly representing an unsustainable point of view (Reese, 2012). I derive two hypotheses from these findings:

H1: Authoritarians are less concerned about the environment than people with low levels of authoritarianism.

H2: Authoritarians act less environmentally friendly than people with low levels of authoritarianism.

2.5 Dynamic Norms

If attention is drawn to a norm that changes over time, a dynamic norm, instead of its current state, a static norm, people can be motivated to show behavior that opposes their original personal norms (Sparkman & Walton, 2017). Dynamic norms emphasize the increasing change of a behavior over time (Loschelder et al., 2019).

2.5.1 Related Research

Sparkman and Walton (2017) conducted five different experiments about the connection between dynamic norms and human behavior. They argued that “many sustainable behaviors are nonnormative but increasing in prevalence” (Sparkman & Walton, 2017, p. 1) and asked themselves if people violate their personal norms to conform to this change if the behavioral increase is salient. Unsustainable behavior was operationalized by meat consumption because meat eating is a current, salient and reinforced norm in society. They designed two norm statements, a static and a dynamic norm, both stating that people make an effort to limit their meat consumption. Furthermore, they checked their manipulation with the help of the three mediators pre conformity, effort and importance.

They predicted that “the increased salience of the dynamic norm would increase interest in reducing meat consumption” (Sparkman & Walton, 2017, p. 5) They were of the opinion that this salience would lead other people to believe that the related behavior gains more prevalence in the future and that other people make an effort to change. That as well signals the importance of that behavior to the acting person. Results indicated that in the dynamic norm condition participants were more interested in restricting their own meat consumption than in the static norm condition.

These findings proved that dynamic norms can shift behavior that is counternormative but increasing. All three of the mediators supported that both statements were perceived differently by the participants. In the dynamic norm condition, due to the increased salience of the norm, people had higher expectations of others limiting their meat consumption in the future ($p = .010$, $d = 0.37$), the effort to behave that way was estimated as more intense ($p = .017$, $d = 0.35$) and participants had stronger beliefs about the importance of the behavior compared to participants in the static norm condition ($p = .10$, $d = 0.24$). The increased salience of the dynamic norm caused people to be more interested in sustainable behavior and, therefore, to act more environmentally friendly. The salience led to the believe that the prevalence of the behavior increases in the future. This mediating role is as well supported by Loschelder et al. (2019). These findings show that dynamic norms can activate sustainable behavior regardless of the contradiction between social and personal norms and the resulting action. Furthermore, dynamic norms can promote environmentally friendly behavior if social norms do not align with the desirable result yet (Sparkman & Walton, 2017; Loschelder et al., 2019).

2.6 The Present Study

So far, little research has been conducted that connects authoritarianism, dynamic norms and environmentalism. But, drawing upon the current understanding of the theoretical findings of

the three different aspects, connections can be drawn especially between authoritarian submission and environmentally friendly attitude and behavior induced by norm statements. Authoritarians strongly obey social norms because of their submissive tendencies (Stanley & Wilson, 2019). Submission is also responsible for authoritarians' sustainable behavior that can be shown if the society and politicians support an environmentally friendly point of view. Authoritarians obey these authorities and might act sustainably (Reese, 2012). Conformity plays a role in matching one's behavior to the reaction of others (Cialdini & Goldstein, 2004). Therefore, I derive my moderator hypotheses:

E1: A high level of conformity supports the adaption to present norms and leads to according attitude and behavior.

To induce any kind of attitude or behavior, a social norm needs to be salient (Cialdini et al., 1991). Authoritarians mainly conform to salient descriptive norms and adapt their behavior accordingly (Weir, 2012). The main problem is that they do not have strong personal environmental norms (Reese, 2012) but salient dynamic norms can trigger behavior that opposes personal norms (Sparkman & Walton, 2017). Drawing on contemporary research, it is reasonable to conclude that authoritarians to whom a dynamic norm is presented will likely act environmentally friendly due to the authoritarian submission. People with low levels of authoritarianism in the dynamic norm condition will act sustainably but to a lesser degree than authoritarians due to the special influence of the dynamic norm. The same order can be expected for the static norm condition. Authoritarians still obey the norm more submissively than people with low levels of authoritarianism. For the norm being descriptive, this order is supported by the findings of de Groot et al. (2013) and Thomas et al. (2009). Both studies found that injunctive norms have a greater effect on behavior than descriptive norms. The contradicting findings of Fisher et al. (2001) that authoritarians rather obeyed descriptive norms further support this sequence. When no norm is presented, authoritarians can be expected to act far less sustainably and have a less environmentally friendly attitude than their counterparts due to their scarce personal norms related to environmentalism (Stanley & Wilson, 2019) (table 1). According to these results I derive four more hypotheses:

H3: If a dynamic norm is salient people tend to adopt a more sustainable attitude compared to a static or no norm being salient.

H4: If a dynamic norm is salient especially people with high levels of authoritarianism tend to adopt a more sustainable attitude compared to a static or no norm being salient.

H5: If a dynamic norm is salient people tend to act more environmentally

friendly compared to a static or no norm being salient.

H6: If a dynamic norm is salient especially people with high levels of authoritarianism tend to act exceptionally more environmentally friendly if a dynamic norm is salient compared to a static or no norm being salient.

These findings lead to the research goal of this thesis. This study aims to close a research gap by investigating the interplay of the individual level of authoritarianism, the representation of dynamic norms and sustainable attitude and behavior.

Table 1

Visualization of H4 and H6

Level of authoritarianism	Dynamic norm	Static norm	No norm
High	1	3	6
Low	2	4	5

Note. The higher the number the less likely it is that a person acts environmentally friendly or has an environmentally friendly attitude.

3. Method

3.1 Sample

3.1.1 Acquisition

708 participants took part in the experiment. These persons were acquired with the help of the e-mail-distributor of Chemnitz University of Technology, Facebook groups and further social media distribution. Furthermore, the questionnaire was spread by acquaintances of the researcher. Moreover, every participating person had the chance of winning one of ten Amazon vouchers (4x10€ and 6x5€) or of donating 1€ to Ocean Care, an organization trying to clean the oceans from plastic waste. Participants studying Psychology or Sensorics and Cognitive Psychology at Chemnitz University of Technology had the possibility of earning course credits.

3.1.2 Participants and Exclusions

For different reasons, I excluded 226 people from further examinations (table 2). Therefore, I included 482 valid participants (356 women, 124 men, no other, 2 people did not report their gender) (table 3) in further calculations. This number exceeded the a-priori sample calculation of 476 participants ($\eta^2 = .02$, $1-\beta = .80$, $\alpha = .05$ assumed small effect due to the lack of theoretical findings) conducted with the help of G*Power (appendix 1). On average, the participants were 25.39 years old ($SD = 8.64$, Range 18 to 75 years, table 4). Three people did not state their age. Table 5 shows the political orientation of the sample. 51.45% of all participants were rather left-wing oriented compared to only 3.13% in the right wing. 51 participants did not state their political orientation. Table 6 shows the participants' educational background. 94.3% of all participants had at least a High School Diploma. All valid participants reported their level of education. No further demographic variables were assessed.

3.1.3 Outliers

Data points having a z-value above 3.29 (3 standard deviations above the sample's average) were defined as outlier and were excluded from further analyses to minimize distortions which resulted in the exclusion of 3 participants. Ultimately, I took 479 participants into further consideration.

Table 2

Participants

Reason for exclusion	Number of excluded participants
Incomplete answers	149
Failed accuracy item	68
Failed check item	3
Failed accuracy and check item	4
Obviously lying	2
Younger than 18 years	/

Note. “Obviously lying” refers to a given age of 622 and 2222 (both female and have neither failed the accuracy nor the check item).

Table 3

Gender

Gender	Frequency	Percentage
Female	356	73.92
Male	124	25.67
Diverse	/	0
No answer	2	.41
Total	482	100.00

Table 4

Age

	<i>n</i>	Minimum	Maximum	Mean	<i>SD</i>
Age	482	18	75	25.39	8.64

Note. *n* = included results; *SD* = standard deviation.

Table 5

Political orientation

Political orientation	Frequency	Percentage
(1) Left wing	38	7.87
(2)	225	46.58
(3)	153	31.68
(4)	14	2.9
(5) Right wing	1	0.23
No answer	51	10.56
Total	482	100.00

Table 6

Highest level of education

Education	Frequency	Percentage
No graduation	1	0.21
Middle school	12	2.49
High school	283	58.71
Apprenticeship	44	9.13
University degree	142	29.46
No answer	/	0
Total	482	100.00

3.1.4 Power

Preacher, Rucker and Hayes (2007) stated that small to moderate effects ($\beta = .14$) can be found when analyzing a sample of about 500 participants with a high power of .912. Therefore, for the present study a sufficient power is expected.

3.2 Design

To examine the hypotheses, I used a questionnaire in an experimental design. The construct is a between-subject-design. The independent variable of the experiment was the represented

norm (static vs. dynamic vs. none). The participants were randomly assigned to one of the norm groups. The experiment was moderated by the participants' level of authoritarianism (continuous variable). The recorded dependent variables were the participants' attitude towards the reduction of plastic use and the related behavior. As factors mediating between independent and dependent variables, I recorded pre conformity, effort and importance for further analyses by the department (not further assessed in the present study). Furthermore, I assessed the moderating variable conformity.

I operationalized authoritarianism by scores on the three subdimensions conservatism, authoritarian aggression and authoritarian submission. I recorded environmental attitude with the help of items assessing the subdimension "Attitude" of the Theory of Planned Behavior (TPB) (Ajzen, 1991). The other subdimensions of the TPB, namely, subjective norm, perceived behavioral control and intention to act, were recorded for further analyses by the department (not further assessed in the present study). I assessed behavior with the help of a decision at the end of the experiment. Participants had to decide whether to participate in a raffle having the chance to win one of ten Amazon vouchers or to donate money to the environmentally friendly organization "Ocean Care". The raffle represented the anti-environmental egoistic behavior due to Amazon being a mail order online business whereas the donation operationalized sustainable altruistic behavior. The mediators were assessed by participants' estimation of how many other people make an effort to reduce plastic and how important that might be to them. I assessed the moderator conformity with items operationalizing the obedience towards social norms, laws and traditional values.

3.3 Implementation

I conducted the study online with the help of LimeSurvey. First, the aims of the study were explained. Participants were not told the genuine aims. The study was vaguely explained by stating that the general attitude towards plastic waste was to be assessed. Afterwards, all participants had to agree to the privacy policy, to the general terms and conditions and explanations of the study in order to take part in the experiment. It was stated that the complete online survey is anonymized. Furthermore, it was indicated that one accuracy item is included to assess whether participants read and answer the questions carefully and that, if this item is answered incorrectly, no course credits will be distributed (if applicable). It was pointed out that completing the survey may take approximately 15 minutes and participants have to be at least 18 years old in order to take part.

Following the introduction, general demographic variables used as control variables were assessed. Participants were asked to state their age by typing a whole number in a specified field. They were further asked to state their gender (male, female, diverse), political orientation (on a 5-point scale from left-wing to right-wing) and level of education by choosing one of the given single-choice options for each personal information. It was also possible to give no answer to each of the questions regarding demographic variables.

In the next section, the level of authoritarianism was recorded by asking the participants to decide to what extent they agree to different statements from (1) “I completely disagree” to (5) “I completely agree”. Conformity was assessed on a 11-point scale immediately after examining the level of authoritarianism. The participants were given the following instruction: “Here we briefly describe some people. Please read each description and think about how much each person is or is not like you” (Schwartz et al., 2012, p.27). A value of (1) indicated “this person is not at all like me” all the way up to (11) which meant “this person is completely like me”. The described persons were modeled to be of the same gender as the participant. Male participants read descriptions about male people, female about female people and for people identifying as non-binary the German gender-neutral pronoun “xier” was used indicating that a person is described without mentioning any gender (Heger, 2010). An explanation of the word “xier” was given above the statements to avoid confusion in case a person did not know that pronoun yet. This variant was also shown to people not stating their gender.

Following the initial questionnaire, the participants were randomly assigned to one of three norm groups (static, dynamic, none). If assigned to the static or dynamic norm group, participants were asked to read the represented norm stating the present or ongoing reduction of plastic use in Germany, respectively. If assigned to the no-norm group, participants were automatically forwarded to the next questions not reading any statement. After the representation, questions did not further differ between the groups. The only difference between the factions was the represented statement.

Next, the mediators pre conformity, effort and importance were recorded by letting participants rate three different statements, one referring to each mediator. They were asked to estimate to what extent they think that other people reduce their use of plastic on a 7-point scale ranging from (1) “not at all” to (7) “extremely”. Afterwards, the participants were requested to estimate the extent of which the following statements about plastic use apply to themselves. This was done by completing sentences on a scale from 1 to 5 with the continuum of good/bad and pleasant/unpleasant. Subsequently, all participants had to decide to what extent they agree to different statements about plastic use from (1) completely disagree to (5) completely agree.

One item, namely, “Please select ‘completely agree’.” was mixed with these statements to measure participants’ accuracy in reading the statements. Penultimately, everyone had to decide whether to take part in the raffle to win one of ten Amazon vouchers (4x10€ and 6x5€) or to donate 1€ to Ocean Care in order to help the organization. It was made clear that participants do not have to donate the money themselves, but the Department of Social Psychology of Chemnitz University of Technology provides the money.

After the decision, one last question was asked to check how seriously participants took the survey and how carefully they read the questions of the experiment. Participants were asked to answer this question honestly. They were assured that being honest would not disadvantage them and that they would still get the appointed reward (course credits, raffle, donation).

After completing every part of the experiment in this exact order, participants were thanked for their efforts and the real purpose of the study was explained. It was clarified that all represented norm statements were not scientifically proven. Furthermore, it was stated that their decision at the end was part of the experiment as well but that, nevertheless, the raffle and the donation will take place. After the explanation, participants were led to a different survey to generate their code to get course credits (if applicable). If participants decided to take part in the raffle, they were asked to provide their e-mail address. The participants were assured that this information would be used only for contacting them in case of winning and that the address is saved separately from the answers in the questionnaire so that no connections to the personal data could be drawn. Furthermore, it was assured that the addresses will be deleted after having determined the winners.

3.4 Material

All used materials were translated into or already given in German and adapted to the plastic waste context. The complete German questionnaire is shown in appendix 2.

3.4.1 Authoritarianism

I used the short-scale authoritarianism (KSA-3), a scale to assess the three subdimensions of authoritarianism (Beierlein, Asbrock, Kauff & Schmidt, 2014), for the investigation of the level of authoritarianism. This scale consists of nine items, three for each dimension. The KSA-3 represents a complete German translation of the 34 item “Right-Wing-Authoritarianism Scale” by Altemeyer (1981). The participants gave their answers on the following five-point scale: (1) I completely disagree (2) I agree a little (3) I partly agree (4) I agree a lot (5) I completely agree. I used the following items for the assessment of authoritarian aggression, authoritarian

submission and conservatism, respectively: “Strong force is necessary against threatening groups.” (A1), “Strong punishments are necessary in order to send a message.” (A2), “It is necessary to use force against people who are a threat to authority.” (A3), “We need strong leaders in order to live safely.” (U1), “People should entrust important decisions to our leaders.” (U2), “We should be thankful for leaders telling us exactly what to do.” (U3), “Traditions are the foundation of a healthy society and should be respected.” (K1), “Approved behavior should not be questioned.” (K2), “It is always best to solve problems the common way.” (K3).

3.4.2 Conformity

I assessed the moderator conformity with nine items from the subdimensions tradition, conformity-rules and conformity-interpersonal of the Refined Schwartz Value survey (Schwartz et al., 2012; 11-point Likert scale). I used the following items (male version): “It is important to him to maintain traditional values or beliefs.” (TR1), “Following his family’s customs or the customs of a religion is important to him.” (TR2), “He strongly values the traditional practices of his culture.” (TR3), “He believes he should always do what people in authority say.” (COR1), “It is important to him to follow rules even when no one is watching.” (COR2), “Obeying all the laws is important to him.” (COR3), “It is important to him to avoid upsetting other people.” (COI1), “He thinks it is important never to be annoying to anyone.” (COI2), “He always tries to be tactful and avoid irritating people.” (COI3). I mixed these items with the following three items measuring hedonism from the very same scale: “Having a good time is important to him.” (HE1), “Enjoying life’s pleasures is important to him.” (HE2), “He takes advantage of every opportunity to have fun.” (HE3). I added these items to distract participants by diverting attention from conformity.

3.4.3 Manipulation

I adapted the descriptive social norm statements used by Sparkman and Walton (2017) in their study about the influence of dynamic norms on meat consumption to the plastic waste context. Either the static norm “Recent research has shown that 30% of Germans make an effort to reduce their plastic waste. That means that 3 in 10 people use less plastic than they otherwise would.” or the dynamic norm “Recent research has shown that, in the last 5 years, 30% of Germans have now started to make an effort to reduce their plastic waste. That means that, in recent years, 3 in 10 people have changed their behavior and begun to use less plastic than they otherwise would.” was randomly shown to the participants.

Furthermore, Sparkman and Walton (2017) as well as Loschelder et al. (2019) used the mediators pre conformity, effort and importance to examine the impact of the manipulation. I used the following items “In the foreseeable future, to what extent do you think that many people will make an effort to reduce their plastic waste?” (pre conformity), “How much are people making an effort to reduce their plastic waste?” (effort) and “How important do people think it is to reduce their plastic waste?” (importance).

3.4.4 Attitude

To assess participants’ attitude towards the use of plastic, I used items by Bamberg and Schmidt (2003). They examined the attitude towards car use for short-distance routes with the help of items assessing the subdimensions of the TPB (Ajzen, 1991). Adapted to the context of the present study, I used the following items: attitude towards buying groceries wrapped in plastic was ascertained by “Next time I buy groceries it is good/bad; pleasant/unpleasant to buy them wrapped in plastic.” (Att1/ Att2) using a 5-point scale from (1) good/ pleasant to (5) bad/unpleasant. I as well assessed the other subdimensions of the TPB. I assessed subjective norm with “Next time I buy in plastic wrapped groceries, most people who are important to me would support this.” (SN1) and “Most of the people who are important to me do not pay attention to their plastic usage while buying groceries.” (SN2). I assessed perceived behavioral control with “For me it would be difficult to buy groceries that are not wrapped in plastic.” (PBC1) and “I have the opportunity to choose between a lot of different wrappings when buying groceries.” (PBC2). Lastly, I assessed intention to act with “Next time I buy groceries I am going to buy them wrapped in plastic.” (IA1) and “Next time I buy groceries I strongly intend to buy them wrapped in plastic.” (IA2). All these items used a five-point likert scale: (1) I completely disagree (2) I agree a little (3) I agree partly (4) I agree a lot (5) I agree completely.

To expand upon this scale by Bamberg and Schmidt (2003), I added the following to plastic use adapted items by Riemeier (2007), likewise concerning the TPB: “For me it is advantageous to buy groceries wrapped in plastic.” (Att3), “Most people who are important to me are of the opinion that I should buy less groceries wrapped in plastic.” (SN3), “If I want, it is easy for me to not buy groceries in the supermarket that are wrapped in plastic.” (PBC3), “I plan to avoid plastic wrappings when buying groceries.” (IA3), “I do not plan to buy food wrapped in plastic next time I am shopping groceries.” (IA4). The items were presented in random order.

3.5 Evaluation

I conducted the statistical analyses of the data by means of the German version of IBM® SPSS® Statistics Version 25 and the SPSS-Makro PROCESS (Version 3.4; Hayes, 2013) due to its broad possibilities to calculate moderator analyses. The level of significance for all following analyses is $\alpha = .05$.

4. Results

To answer the research question whether authoritarians act more environmentally friendly and get a more sustainability related attitude after the representation of a dynamic norm, I used the following results of the statistical analyses.

The first dependent variable (environmentally friendly behavior) is binary and, therefore, was evaluated with the help of a binary logistic regression model. This model showed the influence of the independent variable “Norm” and the moderating influence of authoritarianism on environmentally friendly behavior. I evaluated the second dependent variable (environmentally friendly attitude) with the help of a multiple regression model. I controlled gender, age, educational background and political orientation. Furthermore, I considered the moderator conformity in both models.

No mediator analyses were conducted. Perceived pre conformity, effort and importance of others reducing plastic waste were not analyzed. These variables as well as the items operationalizing the other subdimension of the TPB (subjective norm, perceived behavioral control, intention to act) were recorded for further analyses by the department.

4.1 Reliability

I analyzed the scales for authoritarianism (including all subdimensions), conformity and attitude regarding reliability and obtained the following Cronbach’s - α values (table 7). While values above .7 are satisfactory, values below .7 can still be used to conduct the analyses (Schecker, 2014).

Table 7

Reliability

Scale	Cronbach’s - α	Number of items
AUT	.77	9
AUT_U	.70	3
AUT_A	.66	3
AUT_K	.64	3
KONF	.78	9
ATT	.65	3

Note. AUT = authoritarianism; KONF = conformity; ATT = attitude; AUT_U = authoritarian submission; AUT_A = authoritarian aggression; AUT_K = conservatism.

For the value for attitude, authoritarian aggression and conservatism being slightly lower than .7 and no possibility to increase the value by excluding items (Schecker, 2014), I decided to use the given scales.

4.2 Preconditions

4.2.1 Logistic Regression

A binary logistic regression is a multiple regression with a dependent variable that is categorical having two possible values and predictors that are categorical and/or continuous (Field, 2009). This model is applicable if neither outliers, nor multicollinearity nor any linearity of the logit are present (Keller, 2016a).

Linearity did not need to be assessed for this model because of the dependent variable being categorical. It was replaced with the linearity of the logit meaning a linear relationship between any continuous predictor and the binary dependent variable needs to be assumed (Field, 2009). To test this precondition, I calculated logistic regression models assessing the relationship between each of the continuous independent and control variables (authoritarianism, authoritarian submission, authoritarian aggression, conservatism, conformity, political orientation and age) and its logarithm. These interactions were not significant. Therefore, linearity of the logit was guaranteed for all variables (Keller, 2016a) (table 8).

To minimize distortions of the regression coefficients and of the explained variation of the model, multicollinearity must not be given. Therefore, high correlations between different

Table 8

Linearity of the logit

Continuous Independent Variable	<i>p</i> -value
AUT	.06
AUT_U	.42
AUT_A	.47
AUT_K	.42
KONF	.13
POL	.06
Age	.17

Note. AUT = authoritarianism; KONF = conformity; POL = political orientation; ATT = attitude; AUT_U = authoritarian submission; AUT_A = authoritarian aggression; AUT_K = conservatism.

predictors should be avoided. I reviewed multicollinearity with the help of the Variance-Tolerance-Factors (VIF) and the predictor variables' Tolerance-Statistics. All VIF-values were below 10 and their mean was about 1 (1.02). All Tolerance-values were above .2 and as such the predictors did not exhibit multicollinearity (Field, 2009). I excluded outliers upon initial data acquisition (chapter 3.1.3).

4.2.2 Multiple Linear Regression

A linear connection between predictors and the criteria is crucial for the validity of the linear regression model but for the independent variable "Norm" being categorical, linearity was not required (Walther, 2020).

For the continuous predictors authoritarianism, conformity, authoritarian submission, authoritarian aggression and conservatism I examined linearity with the help of scatterplots (studentized residuals; unstandardized predicted values) (appendix 3-7). The examination showed that no systematic relation between the studentized residuals and the unstandardized predicted values existed. Consequently, I assumed a linear relation between the continuous predictors and the criteria attitude (Field, 2009).

An important requirement is that the dependent variable needs to be continuous (Field, 2009). That applied to the variable attitude. A condition that applies only to linear regression models with categorical predictors is that these predictors need to be dummy-coded (Walther, 2020). I used Indicator-Coding as it is currently the most commonly used method (Hayes, 2013). That condition was fulfilled (table 9). The No-Norm Group was coded as the reference category.

Homoscedasticity, the residuals' variance, should be given. Therefore, the statistical errors need to be homogenous. I conducted the graphical examination of the homoscedasticity via scatterplots (studentized residuals; unstandardized predicted values) (Field, 2009) (appendix 3-7). The scatterplots showed that the expectation of homoscedasticity was given for all scales due to no funnel-shaped distribution of data points (Walther, 2020).

In order to avoid distortions of the regression coefficients and of the explained variation of the model, multicollinearity must not be given. Consequently, high correlations between different predictors have to be avoided. I reviewed multicollinearity with the help of the Variance-Tolerance-Factors (VIF) and the predictor variables' Tolerance-Statistics. All VIF-values were below 10 and their mean was 1.03. All Tolerance-values were above 0.2 and as such the predictors did not exhibit multicollinearity (Field, 2009).

Table 9

Dummy-Coding of the predictor “Norm” (Indicator-Coding)

Norm	Dummy_Static	Dummy_Dynamic
Static	1	0
Dynamic	0	1
None	0	0

The independence of the residuals is important for the reliability of significance tests and confidence intervals. Because neither time series nor multileveled samples have been used, there is no justified doubt in the residuals being independent. As such they did not correlate (Baltes-Götz, 2016).

Normal distributed residuals are necessary (Walther, 2020). Normal distribution was graphically assessed via histograms (appendix 8-12) and P-P-Plots (appendix 13-17). I observed negligible deviations from normal distribution. They could be disregarded due to a large sample size ($N = 479$) (central limit theorem). Furthermore, a regression is robust to non-normal errors in estimation (Hayes, 2013).

The last precondition is the exclusion of outliers (Walther, 2020). I excluded outliers upon initial data acquisition (chapter 3.1.3). Moreover, I identified one additional outlier. The studentized excluded residual for one case has been slightly above 3 (3.11). On the other hand, its leverage was close to 0 (.06) and its cook-distance was far below 1 (0.06). These values do not indicate outliers (Igo, 2010). Furthermore, the maximally permitted number of outliers in a regression analysis is 5% of the sample size (Keller, 2016b). For $N = 476$ one outlier is far below the limit. Therefore, I decided to not exclude this case from further analyses.

4.3 Examination of the Hypotheses

Table 10 shows descriptive characteristics of all relevant continuous constructs and their inter-correlations. I used Cohen’s (1988) conventions for correlations ($r \geq .1$ small correlation; $r \geq .3$ moderate correlation; $r \geq .5$ high correlation). Table 11 shows the interactions of the categorical variables. The interactions are given in Coefficients of Contingency for the variable Norm Statement being categorical but not binary (Engelhardt, 2017). Table 12 shows the interaction

Table 10

Correlations and descriptive statistics of all continuous variables (Pearson Coefficient)

	<i>M (SD)</i>	1.	2.	3.	4.	5.	6.	7.	8.
1. AUT	2.42 (0.64)	-	.77***	.82***	.75***	.55***	.45***	.13**	-.19***
2. AUT_U	2.66 (0.82)		-	.34***	.36***	.43***	.30***	.01	-.18***
3. AUT_A	2.35 (0.85)			-	.45***	.36***	.39***	.10*	-.15**
4. AUT_K	2.24 (0.75)				-	.51***	.37***	.21***	-.13**
5. KONF	6.26 (1.61)					-	.31***	.33**	-.10
6. POL	2.34 (0.69)						-	.16**	-.29***
7. Age	25.29 (8.37)							-	-.02
8. ATT	3.92 (0.78)								-

Note. *N* = 479. AUT = authoritarianism; KONF = conformity; POL= political orientation; ATT = attitude; AUT_U = authoritarian submission; AUT_A = authoritarian aggression; AUT_K = conservatism. **p* < .05. ***p* < .01. *** *p* < .001.

Table 11

Connections of all categorical variables (coefficient of contingency)

	1.	2.	3.
1. Norm	-	-	.09
2. Gender	-	-	.08
3. Decision	-	-	-
4. EDU	-	-	.13

Note. $N = 479$. Relations not assessed or not reasonable have been crossed out. EDU = level of education.

Table 12

Interaction between categorical and continuous variables (η)

	Age	POL	AUT_A	AUT_U	AUT_K	AUT	KONF	ATT
Norm	-	-	-	-	-	-	-	.09
Decision	.30	.12*	.15	.22	.22	.36	.42	-
Gender	-	.07	.09	.02	.04	.06	.14	.20***
EDU	-	.20	.17	.09	.24	.19	.07	.09

Note. $N = 479$. Relations not assessed or not reasonable have been crossed out. AUT = authoritarianism; KONF = conformity; POL= political orientation; ATT = attitude; AUT_U = authoritarian submission; AUT_A = authoritarian aggression; AUT_K = conservatism; EDU = level of education. * $p < .05$. *** $p < .001$.

between categorical and continuous variables.

The overall value of authoritarianism correlated highly with all its subdimensions (submission: $r = .77, p < .001$; aggression: $r = .82, p < .001$; conservatism: $r = .75, p < .001$). Furthermore, the subdimensions correlated with each other. Authoritarianism correlated highly with conformity ($r = .55, p < .001$) and moderately with political orientation ($r = .45, p < .001$). A small negative correlation between authoritarianism and attitude existed ($r = -.19, p < .001$). Moreover, all three subdimensions showed a small negative correlation with attitude (submission: $r = -.18, p < .001$; aggression: $r = -.15, p < .01$; conservatism: $r = -.13, p < .01$). Conformity did not significantly correlate with attitude ($r = -.10, p = .06$).

All highly correlating variables were used in separate models. All other variables showed small to moderate correlations. It can be concluded that no multicollinearity existed between the predictors (Field, 2009).

No significant relation was shown between the norm statements ($C = .09, p = .16$) or gender ($C = .08, p = .26$) and the decision. Examining relations between categorical and continuous variables, one significant result was found between political orientation and the decision ($\eta = .12, \eta^2 < .01, p = .03$). Moreover, the relation between gender and attitude showed a significant effect ($\eta = .20, \eta^2 = .04, p < .001$). Considering Cohen's (1988) conventions, both significant effects were small (small effect $\eta^2 < .06$). Of the total 479 participants, 421 donated money to Ocean Care and 58 took part in the raffle. Appendix 18 shows the frequency of all categorical variables in the different subcategories. Neither authoritarianism (including all single subdimension) nor conformity correlated significantly with the decision.

To examine the theoretical assumptions (H1, H3, H4, E1) I conducted a moderated multiple linear regression for the dependent variable attitude. I used Model 1 in PROCESS (Hayes, 2013) and mean-centered the moderators authoritarianism and conformity for being able to interpret main effects if interaction effects are not given (Walther, 2019).

To examine the theoretical assumptions (H2, H5, H6, E1) I conducted a moderated logistic regression for the dependent variable behavior. For that examination, I used Model 1 in PROCESS as well (Hayes, 2013) and mean-centered the moderators as previously explained. PROCESS coded the binary dependent variable behavior (Donation = 0; Raffle = 1).

To consider a moderation, a significant interaction between the predictor (norm) and the moderator (authoritarianism/ conformity) is required. That applies to all logistic and multiple linear regression models (Field, 2013).

4.3.1 Moderated Multiple Linear Regression Model (H1, H3, H4)

The model explained 10.44% ($p < .001$) of the variance. I did not observe any significant interaction between the norm statements and the moderator and as such no moderation took place (static*AUT: $b = 0.17, SE = 0.13, p = .19$; dynamic*AUT: $b = 0.11, SE = 0.14, p = .43$). The model showed significant effects between authoritarianism and environmentally friendly attitude ($b = -0.17, SE = 0.06, p < .01$). Political orientation and gender control the relation. Results are shown in table 13. This verified Hypotheses 1 but disproved Hypotheses 3 and 4.

Table 13

Results of the moderated multiple linear regression model (influence of norm statements on attitude moderated by authoritarianism)

Predictors	Attitude		
	Coeff.	SE	p
Constant	3.37	0.26	< .001
Static	0.12	0.06	.11
Dynamic	0.07	0.08	.39
AUT	-0.17	0.06	< .01
Static*AUT	0.17	0.13	.19
Dynamic*AUT	0.11	0.14	.43
Age	0.01	0.01	.65
Gender	0.34	0.08	< .001
POL	-0.09	0.03	< .01
EDU	0.03	0.04	.48
R^2	.10		

Note. $N = 479$. SE = standard error; AUT = authoritarianism; POL= political orientation; EDU = level of education.

4.3.2. Moderated Logistic Regression Modell (H2, H5, H6)

The model was not significant and, therefore, did not significantly explain any variance. I did not observe any significant interaction between the norm statements and the moderator and as such no moderation took place. The fit of the model was not appropriate. A good fit is indicated with a Log-Likelihood-Function deviance -2LL-value close to 0 (here -2LL = 338.25). Furthermore, the McFadden pseudo R^2 of .2 is acceptable and of .4 is good (Peter, 2019). In the current case, the McFadden pseudo $R^2 = .04$ and, therefore, was far below an acceptable value. In the given model apart from the control variable political orientation with the decision ($b = 0.22$, $SE = 0.10$, $p = .04$) I observed no significant relation. Complete results are shown in table 14. Hypotheses 2, 5 and 6 were disproved.

Table 14

Results of the moderated logistic regression model (influence of norm statements on behavior moderated by authoritarianism)

Predictors	Behavior		
	Coeff.	SE	p
Constant	-4.36	1.07	< .001
Static	-0.24	0.32	.44
Dynamic	0.62	0.39	.11
AUT	0.17	0.25	.49
Static*AUT	-0.72	0.47	.13
Dynamic*AUT	-0.27	0.60	.65
Age	-0.01	0.02	.76
Gender	0.26	0.32	.42
POL	0.22	0.10	.04
EDU	0.29	0.16	.08
-2LL	338.25		
McFadden R^2	.04		

Note. $N = 479$. SE = standard error; AUT = authoritarianism; POL = political orientation; EDU = level of education.

4.3.3 Conformity (E1)

4.3.3.1 Moderated Multiple Linear Regression Model (E1)

The model explained 8.69% ($p < .001$) of the variance. I did not observe any significant interaction between the norm statements and the moderator and as such no moderation took place (static*conformity: $b = -0.05$, $SE = 0.05$, $p = .39$; dynamic*conformity: $b = 0.02$, $SE = 0.06$, $p = .70$). Furthermore, the model did not show significant effects between conformity and environmentally friendly attitude ($b = -0.03$, $SE = 0.03$, $p = .19$). Nevertheless, political orientation and gender control the relation. Complete results are shown in table 15. Therefore, I disproved the first part of hypotheses E1.

Table 15

Results of the moderated multiple linear regression model (influence of norm statements on attitude moderated by conformity)

Predictors	Attitude		
	Coeff.	SE	p
Constant	3.35	0.27	< .001
Static	0.12	0.08	.10
Dynamic	0.07	0.09	.39
KONF	-0.03	0.03	.19
Static*KONF	-0.05	0.05	.39
Dynamic*KONF	0.02	0.06	.70
Age	0.01	0.01	.84
Gender	0.34	0.09	< .001
POL	-0.10	0.03	< .001
EDU	0.05	0.04	.28
R^2	.09		

Note. $N = 479$. SE = standard error; KONF = conformity; POL= political orientation; EDU = level of education.

4.3.3.2 Moderated Logistic Regression Modell (E1)

The overall model was not significant and, therefore, did not significantly explain any variance. I did not observe any significant interaction between the norm statements and the moderator and as such no moderation took place. The fit of the model was not appropriate. A good fit is indicated with a Log-Likelihood-Function deviance -2LL-value close to 0 (here -2LL = 339.07). Furthermore, the McFadden pseudo R^2 of .2 is acceptable and of .4 is good (Peter, 2019). The given McFadden pseudo $R^2 = .04$ and, therefore, was far below an acceptable value. In the given model I observed no significant relation apart from the control variable political orientation ($b = 0.25$, $SE = 0.10$, $p = .02$). Complete results are shown in appendix 19. Therefore, I disproved the second part of hypotheses E1.

4.4 Further Examinations

4.4.1 Moderated Multiple Linear Regression Model (Subdimensions)

I conducted a moderated multiple linear regression for the dependent variable attitude including the single subdimensions instead of the overall level of authoritarianism. I conducted these additional analyses to gain an understanding of whether the subdimensions of the authoritarian personality better moderate the relation between authoritarianism and an environmentally friendly attitude than the whole level of authoritarianism. I conducted one moderating analyses for each subdimension. I used Model 1 in PROCESS for each analysis (Hayes, 2013). I mean-centered the moderators for being able to interpret main effects if interaction effects are not given (Walther, 2019).

The first model included authoritarian submission and explained 11.04% ($p < .001$) of the variance. I did not observe any significant interaction between the norm statements and the moderator and as such no moderation took place (static*AUT_U: $b = 0.16$, $SE = 0.10$, $p = .10$; dynamic*AUT_U: $b = -0.08$, $SE = 0.11$, $p = .44$). However, the model showed significant effects between authoritarian submission and environmentally friendly attitude ($b = -0.17$, $SE = 0.07$, $p = .02$). Furthermore, political orientation and gender control the relation (table 16).

Table 16

Results of the moderated multiple linear regression model (influence of norm statements on attitude moderated by authoritarian submission)

Predictors	Attitude		
	Coeff.	SE	p
Constant	3.36	0.25	< .001
Static	-0.15	0.08	.06
Dynamic	-0.06	0.08	.51
AUT_U	-0.17	0.07	.02
Static*AUT_U	0.16	0.10	.10
Dynamic*AUT_U	-0.08	0.11	.44
Age	0.01	0.01	.85
Gender	0.34	0.08	< .001
POL	-0.10	0.03	< .001
EDU	0.04	0.04	.26
R^2	.11		

Note. $N = 479$. SE = standard error; AUT_U = authoritarian submission; POL= political orientation; EDU = level of education.

The second model included authoritarian aggression and explained 9.15% ($p < .001$) of the variance. I did not observe any significant interaction between the norm statements and the moderator and as such no moderation took place (static*AUT_A: $b = -0.08$, $SE = 0.09$, $p = .39$; dynamic*AUT_A: $b = 0.13$, $SE = 0.10$, $p = .19$). However, the model showed significant effects between authoritarian aggression and environmentally friendly attitude ($b = -0.16$, $SE = 0.04$, $p < .001$). Political orientation and gender control the relation (appendix 20).

The third model included conservatism and explained 8.98% ($p < .001$) of the variance. I did not observe any significant interaction between the norm statements and the moderator and as such no moderation took place (static*AUT_K: $b = -0.15$, $SE = 0.10$, $p = .13$; dynamic*AUT_K: $b = -0.01$, $SE = 0.12$, $p = .99$). However, the model showed significant effects between conservatism and environmentally friendly attitude ($b = -0.16$, $SE = 0.05$, $p < .001$). Political orientation and gender control the relation (appendix 21).

4.4.2 Moderated Logistic Regression Modell (Subdimensions)

I conducted another moderated logistic regression for the dependent variable behavior including the single subdimensions instead of the overall level of authoritarianisms. I conducted these additional analyses to gain an understanding of whether the subdimensions of the authoritarian personality better moderate the relation between authoritarianism and an environmentally friendly behavior than the whole level of authoritarianism. I used Model 1 in PROCESS (Hayes, 2013) and I mean-centered the moderators as previously explained. PROCESS coded the binary dependent variable Behavior (Donation = 0; Raffle = 1). I conducted one moderating analyses for each subdimension. No model showed any significance (submission: $p = .111$; aggression: $p = .11$; conservatism: $p = .15$) and, therefore, did not significantly explain any variance. I did not observe any significant interaction between the norm statements and the moderators and as such no moderation took place. Similar to the previously described logistic regression models, the fit of these three models was not appropriate. Political orientation showed the only significant relation (submission: $b = 0.22$, $SE = 0.10$, $p = .03$; aggression: $b = 0.23$, $SE = 0.10$, $p = .03$; conservatism: $b = 0.23$, $SE = 0.10$, $p = .02$). Complete results are shown in appendix 22-24.

4.5 Different Dummy-Coding

I repeated the analyses with a different dummy-coding system coding the static norm condition as reference group (table 17) in order to compare not only the static and the dynamic norm

Table 17

Dummy-Coding of the predictor “Norm” (Indicator-Coding) (static as reference)

Norm	Dummy_NoNorm	Dummy_Dynamic
Static	0	0
Dynamic	0	1
None	1	0

Table 18

Results of the moderated multiple linear regression model (influence of norm statements on attitude moderated by authoritarian submission) (static as reference)

Predictors	Attitude		
	Coeff.	SE	p
Constant	3.36	0.26	< .001
Dynamic	0.13	0.08	.09
No Norm	0.06	0.08	.51
AUT_U	-0.14	0.04	< .001
Dynamic*AUT_U	-0.20	0.09	.03
No Norm*AUT_U	0.08	0.11	.44
Age	0.01	0.01	.88
Gender	0.34	0.09	< .001
POL	-0.10	0.03	< .001
EDU	0.04	0.04	.29
R^2	.11		

Note. $N = 479$. SE = standard error; AUT_U = authoritarian submission; POL= political orientation; EDU = level of education.

condition to the no norm group but to one another. I used Indicator-Coding as previously explained (chapter 4.2.2).

Only the multiple linear regression model moderated by authoritarian submission (table 18) showed a significant difference between the static and the dynamic norm group moderated

by authoritarian submission (dynamic*AUT_U: $b = -0.20$, $SE = 0.09$, $p = .03$). To consider a moderation, a significant interaction between the predictor (norm) and the moderator (authoritarian submission) needs to be given (Field, 2013). Therefore, authoritarian submission moderated the relation. Furthermore, the model showed significant effects between authoritarian submission and attitude ($b = -0.14$, $SE = 0.04$, $p < .001$). Political orientation and gender control the relation.

5. Discussion

5.1 Answering the Research Question

This study aimed to investigate the interplay of the individual level of authoritarianism, the representation of dynamic norms and sustainable attitude and behavior. Furthermore, I assessed the alternative moderator conformity in the same context.

Hypotheses 1, stating that a high level of authoritarianism is attended by a weak environmentally friendly attitude, was verified. Thus, it appears that the higher one's level of authoritarianism is, the lower is their environmentally friendly attitude and vice versa. This finding aligns with the negative correlation between authoritarianism and attitude. Hypotheses 3 and 4 had to be discarded. The outcome is that a norm manipulation, the representation of a static, dynamic or no norm, has no influence on a sustainable attitude. This applies to both the norm statements and the moderation with authoritarianism. Hence, an environmentally friendly attitude does not depend on represented social norm statements. These findings align with the insignificant correlations between the variables.

Furthermore, I discarded hypotheses 2, 5 and 6. Therefore, there is no connection between the representation of different norm statements, the level of authoritarianism and environmentally friendly behavior. On account of this, environmentally friendly behavior does not depend on any of the given aspects. The findings align with the insignificant correlations between the variables.

Conformity does not moderate any connection between the representation of the norm statements and neither sustainable attitude nor sustainable behavior. Furthermore, it has no influence on environmentally friendly attitude or behavior without considering the norm statements. Therefore, I discarded hypotheses E1. It appears that conformity is of no importance when considering sustainable attitude and behavior. The findings align with the insignificant correlation between the variables.

The examination of the single subdimension of the authoritarianism scale moderating the relation between norm statements and attitude realized interesting results. The subdimensions authoritarian submission, authoritarian aggression and conservatism have a significant effect on attitude but not on behavior. These findings align with small negative correlations between each subdimension and attitude. The higher one's submissive, aggressive or conservative tendencies are the lower is the sustainable attitude.

Furthermore, authoritarian submission moderates the connection between the dynamic norm and attitude when being compared to the static norm group (not to the no norm group). The attitude in the dynamic norm condition is significantly lower compared to the static norm

condition if a high level of authoritarian submission is given. That means a submissive person tends to care less about the environment if a dynamic norm is shown compared to a static norm being shown. This is not the case for the no norm condition. For this condition no relation is observed. Hence, the representation of no norm does not play any role in connection with authoritarian submission and sustainable attitudes.

The examination of the single subdimension of the authoritarianism scale moderating the relation between norm statements and behavior provided no significant results. Hence, no subdimension of authoritarianism is moderating a relation between norm statements and sustainable behavior. These findings align with the insignificant correlations between the variables.

The control variables age and level of education are not significantly relevant in any construct. The insignificant correlations between those control variables and both attitude and behavior support these findings. As a consequence, neither environmentally friendly attitudes nor behavior differs in different age groups or with different academic backgrounds.

The control variable political orientation does have an impact on attitude and behavior in all models. The more left-wing-oriented persons are, the more environmentally friendly is their attitude. That applies to all models assessing attitude. Interestingly, the more right-wing-oriented persons are the more they behave environmentally friendly. That applies to all models assessing behavior. The correlations between political orientation and both attitude and behavior support these findings.

Furthermore, gender plays a role in all models assessing attitude. The significant correlation between these two variables supports these findings. Thus, it appears that women have a more sustainable attitude than men. On the other hand, behavior does not depend on gender.

Considering the research question, these results indicate that there is no interplay between authoritarianism, dynamic norms and environmentally friendly attitude and behavior. Authoritarianism has an influence on sustainable attitude but does not moderate the relationship between norm statements and attitude. Neither does conformity moderate the relationship. Political orientation and gender control the connections.

5.2 Theoretical Contemplations

The present study replicates the theoretical findings by Reese (2012) and McDermott (2007) that authoritarians oppose environmentalism and, therefore, the more authoritarian one is the less concern about the environment they show. Then again, Reese (2012) found that authoritarian submission is positively related to environmentalism, whereas authoritarian aggression showed a negative and conservatism no relation. In the present study, I replicated the negative

relation between authoritarian aggression and environmentally friendly attitude, but it should be noted that conservatism and authoritarian submission are negatively related to an environmentally friendly attitude as well. Hence, these results oppose the theoretical findings.

The actual social norm known by participants that Germans (Breitknopf, 2020), especially German authorities (Stengel, 2013), generally do not act environmentally friendly might be more salient than the given statement. According to the Focus Theory of Normative Conduct (Cialdini et al., 1991), attitudes and behavior only come along with salient norms. Hence, the more submissive participants are the more they obey the actual social norm and, therefore, report very little environmental concern. The less submissive persons are, the less they fit their opinion to social norms (Duckitt, 2015). For this reason, a sustainable attitude is more pronounced for a low level of submission.

The moderation of authoritarian submission between the dynamic norm condition and attitude compared to the static norm condition contradicts the assumption that dynamic norms induce attitudes that are counternormative but increasing (Sparkman & Walton, 2017). The findings show that the more submissive a person is, the less environmentally friendly is their attitude if a dynamic norm is shown compared to a static norm. These contradicting results might be explained by the natural fear of change which is based on the authoritarian personality (Allport, 1954). For a dynamic norm signaling a changing norm over time, this fear and, therefore, the authoritarian personality is activated. That change is interpreted as threat (Duckitt, 2015; Passini, 2017). This relation is only shown when examining the moderation of authoritarian submission and not the other dimensions and between the static and dynamic condition and not the no-norm group. That is caused by the combination of a high level of authoritarian submission and the fear of change. On the one hand, they prefer fitting the social norm (Oyamot et al., 2012). That applies to the static norm statement, especially compared to the no norm group. Contrarily, they fear changes in their social environment (Stellmacher & Petzel, 2005). That applies to the dynamic norm statement. Therefore, submissive authoritarians willingly obey the static norm and display a rather environmentally friendly attitude but oppose the dynamic statement due to their fear of change and their attitude becomes less sustainable.

Aggression is caused by perceived threat (Duckitt, 2015; Passini, 2017). Authoritarians perceive green parties and the attitude of environmentalists as threatening to their conservative values (Stanley & Wilson, 2019) and, therefore, oppose this group (Fisher et al., 2011). These findings explain the negative relation between authoritarian aggression and a sustainable attitude.

The negative relation between conservatism and attitude is based on the same explanation. Green political parties are liberal and left-wing-oriented whereas conservative political parties are rather right-wing-oriented (Hensche, 2019). Therefore, environmentalism opposes authoritarians' conservative values.

The theoretical findings by Sparkman and Walton (2017) stating that a dynamic norm led to counternormative attitudes and behavior are neither replicated nor connected to authoritarianism. This problem might be caused by deficits concerning the operationalization (chapter 5.3).

Findings by Stanley et al. (2019) which state that authoritarians opposed environmentally friendly behavior are not replicated. Neither is replicated that authoritarians matched their behavior to the perceived social norm (Oyamot et al., 2012). No matching to either the real social norm or the statements take place. 421 out of 479 participants donated money no matter their level of authoritarianism. The donation to an organization cleaning the oceans from plastic waste might have been chosen unfavorably. On the one hand, most people with low levels of authoritarianism generally see pollution and climate change as a global problem and, therefore, act environmentally friendly (McVey, 1973). On the other hand, authoritarians are not necessarily against environmentalism but rather pro-growth. Growth and protecting the environment often contradicts (Schultz & Stone, 1994). Therefore, environmentalists oppose authoritarian values and are perceived as outgroup (Stanley & Wilson, 2019) and as threat (Duckitt, 2015; Passini, 2017). This is not the case in the plastic waste context. Plastic waste in oceans hinders growth. The economic costs of the impact of plastic waste in the environment has been estimated at USD 13 billion per year because it negatively effects various sectors such as the tourism and the fishery industry (OECD, 2018). On that account, authoritarians might tend to act environmentally friendly in the plastic waste context if the subject is cleaning oceans. Therefore, no difference between low and high levels of authoritarianism (and all three of the subscales) concerning behavior in the plastic waste context occurs. In the present study attitude toward plastic waste was more broadly assessed with general questions toward the personal plastic use and not with questions toward plastic waste polluting oceans. For that reason, authoritarians' attitude still opposes environmentalism, but that kind of behavior (donating to Ocean Care) supports growth (OECD, 2018) and is, therefore, in agreement with authoritarian traits. Thus, both authoritarians and people with low levels of authoritarianism show the same behavior.

The reported attitude and the shown behavior do not depend on the individual level of conformity. Conformity and authoritarian submission correlate strongly positively and

submission and attitude correlate negatively but conformity and attitude do not correlate significantly. Therefore, submissive people do have a high level of conformity as stated by Cialdini and Goldstein (2004) but submission is the factor related to a negative attitude concerning the environment, not conformity. A reason for that might be that authoritarians obey our society's authorities (Duckitt, 2015). These authorities mainly act unsustainably and invest more in growth and economic problems than in environmental problems (Stengel, 2013). Therefore, authoritarian submission leads to unsustainable behavior. On the other hand, conformity is defined as matching one's behavior to the reaction of others (Cialdini & Goldstein, 2004). "Others" do not necessarily need to be authorities but whomever the concerning persons would like to please and what kind of social standards these people follow (Maier, 2018). Thus, submissive people obey authorities and have a high level of conformity but people who have low levels of submission can still conform to other opinions that lead to a broad variety of attitudes.

Attitude depends on the gender of the participant. Women tend to have a more environmentally friendly attitude than men. This finding aligns with results by Heidbreder et al. (2019). They concluded that women were more likely to accept alternatives for plastic bags. Furthermore, women were more interested in limiting their meat consumption compared to men (Sparkman & Walton, 2017). On the other hand, men tended to more likely deny climate change compared to women (Weir, 2012).

In the present study, the decision operationalizing environmentally friendly behavior does not depend on gender although former findings indicated that women prefer using alternatives for plastic bags (Heidbreder et al., 2019). Once again, a donation seems to be an unfavorable option to measure sustainable behavior. Adena and Dorn (2018) investigated the interplay of gender and donations. They concluded that there is no difference in the frequency of donations when comparing men and women.

The present study indicates that the more left-wing-oriented a person is the more environmentally friendly is their attitude. Moreover, "green parties" were considered as being located in the political left wing (Hersche, 2019). These results are supported by findings of Stellmacher and Petzel (2005) who showed that an authoritarian disposition was usually attended by a conservative political orientation. That is to say, authoritarians were right-wing-oriented and as previously mentioned, authoritarians have a less environmentally friendly attitude.

On the other hand, the present study indicates a significantly higher willingness to donate the more right-wing-oriented participants are. Contrary to the current findings, it is reported that left-wing-oriented people show environmentally friendly behavior such as the

limitation of meat consumption (Sparkman & Walton, 2017). Once again, the behavior being operationalized by a donation might have led to contradicting results. Such results have not been found before. Only Freeman, Aquino and McFerran (2009) reported tendencies in this direction. According to their results conservatives were more willing to donate money if having witnessed or read about morality and moral behavior. The moral excellence of others encouraged conservatives to draw closer to others no matter their status as ingroup or outgroup. The norm statements might have induced such morality beliefs and, therefore, led to according behavior. Another approach was made by FARN (2018). They stated that right-wing-oriented groups are fond of environmental protection because they consider it as protection of their homeland.

Furthermore, these results need to be viewed disconnected from authoritarianism. Authoritarians and people with a low level of authoritarianism behave similar concerning the donation, but politically conservative people do behave differently compared to politically liberal people although the political right-wing orientation was usually connected to authoritarians (Stellmacher & Petzel, 2005). This topic needs to be assessed further.

5.3 Methodical Strengths and Weaknesses

The given sample implicates quality because of its huge size of 479 and no missing values for all relevant constructs. However, participants mostly belong to the younger generation (age $M = 25.29$ years), are rather left-wing-oriented and possess an above average academic background. Furthermore, 355 women and 122 men took part in the experiment resulting in a biased representation of gender. These sample characteristics are not representative of the whole population. Therefore, results cannot be generalized. In case of replicating the present study, the questionnaire should be distributed further to get a broader and more diverse sample that is more representative of the average population.

The unexpected results concerning the political orientation (right-wing-oriented people behave significantly more environmentally friendly) can be related to the unequal distribution of political orientation in the sample as well. The view of politically conservatives who took part might not be representative of the behavior of the majority of this group in the population.

Apart from former research and theoretical findings deficits concerning the operationalization can explain the absence of significant effects. The manipulation of the present study had no influence on attitude or behavior. Even if authoritarianism does not moderate a connection, the results that Sparkman and Walton (2017) found are not replicated although the same statements were used. Therefore, I conclude that the manipulation itself did not work

accordingly due to the statements not being salient. An increased salience of the norm statements might improve the results of the manipulation. I do not consider the phrasing of the statements as problematic. I adopted the exact formulation Sparkman and Walton (2017) used in their experiments and adapted it to the plastic waste context. Moreover, the statements are descriptive not injunctive and, therefore, should activate according attitude and behavior of authoritarians (Fisher et al., 2011). The lack of salience applies to all statements hindering a successful manipulation for all conditions.

The lack of salience explains as well that no effect in relation to conformity is given. If the norm statement one is supposed to conform to is not salient, no confirmation takes place (Cialdini et al., 1991). That applies to measuring both attitude and behavior moderated by each variable (authoritarianism, conformity, authoritarian submission, authoritarian aggression, conservatism).

The present study was conducted online. Therefore, distortion can be caused because it cannot be controlled in which environment participants take part, if they are concentrated and if they read the survey carefully. I tried to avoid distortion with the help of the accuracy- and the check-item. Still, distortion can never be fully eliminated outside the laboratory (Thielsch & Weltzin, 2009).

Moreover, the Cronbach's - α values providing information about the scales' reliability were below .7 for the attitude, authoritarian aggression and conservatism (the value for the whole KSA-3 scale was sufficient). According to Schecker (2014) values above .7 are satisfactory. A reason for the lower value might be the small number of items (3 each) although this is intended in favor of test efficiency (Beierlein et al., 2014).

In addition, most participants took part in the donation to Ocean Care. Therefore, the donation is an impractical way to operationalize behavior as explained previously (chapter 5.2).

5.4 Future Research

The connection between authoritarianism, dynamic norms and environmentally friendly attitude and behavior needs to be assessed further in the future. This study does not fully replicate the results of former research (Reese, 2012; Sparkman & Walton, 2017) and is not able to draw new connections between all three aspects. If and how authoritarians can be convinced to gain a more sustainable attitude and behave more environmentally friendly is yet to be discovered. To further assess this topic, I recommend changes concerning the operationalization. The norm statements must gain more salience in order for the manipulation to work. Sparkman and Walton (2017) included the question "Why do you think this is?" directly after the representation

of the norm statement. This question incites participants to further think about the statements. Therefore, their salience increases. I recommend including a similar item in questionnaires assessing the topic in the future. Especially the negative relation between authoritarian submission and an environmentally friendly attitude if a dynamic norm is shown provides a possible starting point for future research.

Moreover, I suggest operationalizing behavior differently. As previously described, donation behavior spreads equally across all groups of the study (Adena & Dorn, 2018; Schultz & Stone, 1994). Actual personal environmentally friendly behavior that is shown daily (such as actual grocery shopping behavior) that can be observed in a field study might lead to more concise results.

Aside from that, future research needs to assess a broader and more representative sample that includes more age groups and levels of education as well as an equal distribution of genders and political orientations in order to being able to generalize results.

Future research may also focus on why political liberals have a more environmentally friendly attitude while political conservatives behave more environmentally friendly. As previously mentioned, the donation context might play a crucial role but even there this phenomenon has not been explained and assessed before. Future research has to assess this connection, especially based on a bigger sample with more equally distributed political views.

5.5 Conclusion

Even though I discarded most of the hypotheses, this study replicates that authoritarians have a generally lower environmentally friendly attitude compared to people with low levels of authoritarianism. All three subdimensions of authoritarianism are negatively related to a sustainable attitude. No relation between the individual level of authoritarianism and sustainable behavior can be drawn. The present study does not answer the question if dynamic norms have an influence on authoritarians in a way that they gain a more sustainable attitude and behave more environmentally friendly but if viewing authoritarian submission separately, a more anti-environmental attitude is shown if a dynamic norm is represented.

Still, humanity needs to counteract the environmental problems caused by human consumption such as pollution and climate change, that we are facing today (Manning, 2009; Thøgersen & Ölander, 2006). Therefore, it is important to convince the least environmentally friendly groups of society to behave sustainably. As shown, authoritarians belong to that group having little concern about the environment. Against this background, it is important to conduct further research that connects authoritarianism and environmentalism to analyze and

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understand these connections as well as to discover ways to convince authoritarians to gain more environmental concerns and to behave environmentally friendly.

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Appendix 1

*G*Power sample calculation*

File Edit View Tests Calculator Help

Central and noncentral distributions Protocol of power analyses

critical F = 3.01491

Test family: F tests

Statistical test: ANOVA: Fixed effects, special, main effects and interactions

Type of power analysis: A priori: Compute required sample size - given α , power, and effect size

Input Parameters			Output Parameters		
Determine =>	Effect size f	0.1428571	Noncentrality parameter λ	9.7142799	
	α err prob	0.05	Critical F	3.0149082	
	Power ($1 - \beta$ err prob)	0.8	Denominator df	470	
	Numerator df	2	Total sample size	476	
	Number of groups	6	Actual power	0.8007755	

From variances

Variance explained by special effect: 1

Error variance: 1

Direct

Partial η^2 : 0.02

Calculate Effect size f: 0.1428571

Calculate and transfer to main window

Close

X-Y plot for a range of values Calculate

Notizen

Appendix 2

Complete online questionnaire (German)



Sehr geehrte Damen und Herren,

im Rahmen meiner Bachelorarbeit an der Professur für Sozialpsychologie möchte ich die allgemeine Einstellung zum Plastikverbrauch mit Hilfe dieses Onlinefragebogens untersuchen.

Im Folgenden bitten wir Sie zuerst, einigen demographische Angaben zu machen. Danach werden wir Sie bitten, zu bewerten, inwieweit einige Aussagen auf Sie zutreffen. Danach folgen noch einige Fragen bezüglich Ihrer Einstellung.

Die Beantwortung des Onlinefragebogens wird ca. 15 min Ihrer Zeit in Anspruch nehmen.

Bei Teilnahme in dieser Studie können sich Studierende der Psychologie oder Sensorik und kognitiver Psychologie der TU Chemnitz eine halbe Versuchspersonenstunde anrechnen lassen. In der Studie befindet sich ein Check-Item, welches prüfen soll, ob die Fragen sorgfältig gelesen werden. Die Anrechnung von VP-Stunden erfolgt nur, wenn besagtes Item korrekt beantwortet wurde.

Zusätzlich kann zwischen Teilnahme an einer Verlosung von 10 Amazon Gutscheinen im Gesamtwert von 70€ (4x10€ und 6x5€) oder einer garantierten Spende in Höhe von 1€ an die Organisation „Ocean Care“ entschieden werden. Die Spende wird von der Professur für Sozialpsychologie übernommen.

Die Teilnahme ist freiwillig. Die Studie kann jederzeit und ohne entstehende Nachteile abgebrochen werden. In diesem Falle ist jedoch weder die Anrechnung von Versuchspersonenstunden noch Teilnahme an der Verlosung oder eine Spende möglich.

Teilnehmer müssen mindestens 18 Jahre alt sein. Weitere Voraussetzungen müssen nicht erfüllt werden.

Die Teilnahme ist anonym. Die anonymisierten Daten werden für statistische Analysen verwendet und können einer wissenschaftlichen Öffentlichkeit zugänglich gemacht werden.

Bei Fragen oder Schwierigkeiten kann jederzeit Kontakt mit den Projektbeteiligten aufgenommen werden:

Anna-Lena Grimm: anna-lena.grimm@s2018.tu-chemnitz.de

Claas Pollmanns: claas.pollmanns@psychologie.tu-chemnitz.de



Teil A: Randomisierung

A1. 2





Teil B: Datenschutzrechtliche Einwilligung

Teilnahmeinformation In der Ihnen vorliegenden Studie wird die allgemeine Einstellung zum Plastikverbrauch erhoben.

Im Folgenden bitten wir Sie zuerst, einigen demographische Angaben zu machen. Danach werden wir Sie bitten, zu bewerten, inwieweit einige Aussagen auf Sie zutreffen. Danach folgen noch einige Fragen bezüglich Ihrer Einstellung. Die Beantwortung des Onlinefragebogens wird ca. 15min Ihrer Zeit in Anspruch nehmen.

Risiken, Vor- und Nachteile Vorteile: Mit Ihrer Teilnahme an der Studie leisten Sie einen Beitrag zur humanwissenschaftlichen Forschung. Mit Ihrer Hilfe kann der Zusammenhang zwischen menschlicher Einstellung und dem Plastikverbrauch in Deutschland in Zukunft besser verstanden werden. Ein unmittelbarer Vorteil entsteht Ihnen nicht.

Nachteile: Die Untersuchung nimmt etwa 15 Minuten Ihrer Zeit in Anspruch. Mit der Messung sind keine erkennbaren Risiken verbunden.

Ein- und Ausschlusskriterien für die Teilnahme Für die Teilnahme müssen Sie mindestens 18 Jahre alt sein. Weitere Bedingungen müssen nicht erfüllt werden. Art und Ausmaß der Aufwandsentschädigung Sie erhalten nach der Teilnahme wahlweise Versuchspersonenstunden (anrechenbar in den Studiengängen Psychologie oder Sensorik und Kognitive Psychologie). Zusätzlich können Sie wahlweise an der Verlosung von 10 Amazon-Gutscheinen im Gesamtwert von 70€ (4x10€ und 6x5€) teilnehmen oder es können 1€ an die gemeinnützige Organisation "Ocean Care" gespendet werden. Die Kosten werden von der Professur für Sozialpsychologie getragen. Eine weitere Vergütung findet nicht statt. Hinweis auf Rücktrittsrecht Ihre Teilnahme ist freiwillig. Sie können die Untersuchung jederzeit ohne Angaben von Gründen und ohne, dass ein Nachteil für Sie entsteht, abbrechen. Versuchspersonenstunden können in diesem Fall leider nicht vergeben werden. Auch die Teilnahme an der Verlosung oder die Spende sind dann leider nicht möglich.

Datenschutz

Im Rahmen der Studie mit o.g. Bezeichnung werden personenbezogene Daten erhoben, ausgewertet und gespeichert. Die Projektbeteiligten verpflichten sich zur Einhaltung datenschutzrechtlicher Vorschriften. Arten von Daten Es wird zwischen folgenden Daten unterschieden: a. Daten, die eine Identifikation Ihrer Person ermöglichen könnten (z.B. Name, Geburtsdatum, usw. - "werden in der vorliegenden Studie nicht erhoben"), b. während der Untersuchung erhobene Daten (z.B. Antworten usw.) wie in der Teilnahmeinformation dargestellt, c. Daten, die zur Auszahlung Ihrer Aufwandsentschädigung bzw. zur Verbuchung Ihrer Versuchspersonenstunden erforderlich sind. Art der Speicherung

Alle Daten werden auf elektronischen Medien gespeichert.

Löschung / Vernichtung der Daten

Wenn Sie während der Untersuchung die Teilnahme auf eigenen Wunsch vorzeitig beenden, können Sie die Löschung der bis dahin erhobenen Daten verlangen. Diesem Antrag wird unverzüglich durch unwiderrufliche Löschung bzw. Vernichtung nachgekommen. Der Vorgang der Löschung wird dokumentiert. Nach der Untersuchung ist eine Löschung nicht mehr möglich, da aufgrund der Anonymisierung die Daten weder durch Sie noch durch die Projektbeteiligten Ihrer Person zugeordnet werden können. Informationspflicht Die Informationspflichten gemäß Artikel 13 DSGVO finden Sie in unter diesem Link.

Bei Fragen oder Schwierigkeiten können Sie jederzeit Kontakt mit den Projektbeteiligten aufnehmen:

Anna-Lena Grimm: anna-lena.grimm@s2018.tu-chemnitz.de

Claas Pollmanns: claus.pollmanns@psychologie.tu-chemnitz.de

B1.

Ich wurde über die Ziele, den Ablauf samt Dürer und den Nutzen der Studie aufgeklärt. Die Teilnahmeinformation habe ich gelesen und verstanden. Ich hatte genügend Zeit, um meine Entscheidung zur Studienteilnahme zu überdenken und frei zu treffen. Mir ist bekannt, dass ich die Befragung jederzeit und ohne Angabe von Gründen abbrechen kann, ohne dass mir daraus Nachteile entstehen. Hiermit versichere ich, dass ich die oben beschriebenen Teilnehmerinformationen sowie die Informationen gemäß Artikel 13 DSGVO verstanden habe und mit den genannten Teilnahmebedingungen einverstanden bin. Meine Teilnahme an der Umfrage erfolgt freiwillig und ich bin mit der Nutzung meiner Daten für wissenschaftliche Zwecke einverstanden.





Teil C: Persönliche Angaben

Bitte machen Sie zuerst einige allgemeine Angaben zu Ihrer Person.

C1. Bitte geben Sie Ihr Alter in Jahren an.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

C2. Bitte geben Sie das Geschlecht an, zu dem Sie sich zugehörig fühlen.

Männlich

Weiblich

Divers

Keine Angabe

C3. Bitte geben Sie an, wo Sie sich im politischen Spektrum wiederfinden.

1 Links 2 3 4 5 rechts Keine Angabe
 Wo sehen Sie sich im politischen Spektrum?

C4. Bitte geben Sie Ihren höchsten Bildungsabschluss an.

Kein Schulabschluss

Hauptschulabschluss bzw. Volksschulabschluss bzw. 8. oder 9. Klasse der Polytechnischen Oberschule

Realschulabschluss (Mittlere Reife) bzw. 10. Klasse der Polytechnischen Oberschule

Abitur, allgemeine oder fachgebundene Hochschulreife

Abgeschlossene Berufsausbildung

Hochschul- oder Fachhochschulabschluss

Keine Angabe

Teil D: Fragen zu gesellschaftlichen Themen

Es folgen nun einige einfache Aussagen. Entscheiden Sie bitte, inwieweit Ihre persönliche Meinung mit diesen Aussagen übereinstimmt.

(1) stimme ganz und gar nicht zu

(5) stimme voll und ganz zu.

D1.

1 stimme ganz und gar nicht zu 2 3 4 5 stimme voll und ganz zu
 Wir brauchen starke Führungspersonen, damit wir in der Gesellschaft sicher leben können.

Bewährte Verhaltensweisen sollten nicht in Frage gestellt werden.



	1	2	3	4	5	6	7	8	9	10
Es ist ihm wichtig, die Annehmlichkeiten des Lebens zu genießen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Er nutzt jede Gelegenheit, um Spaß zu haben.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

E2.

	1	2	3	4	5	6	7	8	9	10
Es ist ihr wichtig, traditionelle Werte und Überzeugungen zu bewahren.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sie denkt, dass es wichtig ist, niemals andere Personen zu nerven.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihr wichtig, Regeln zu befolgen, auch wenn niemand zuschaut.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sie versucht, immer taktvoll zu sein und es zu vermeiden, andere Menschen zu reizen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sie glaubt, dass er immer tun sollte, was Menschen in Machtpositionen verlangen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihr wichtig, die Bräuche ihrer Familie oder die Bräuche einer Religion zu befolgen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihr wichtig, alle Gesetze zu befolgen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sie wertschätzt die Werte und traditionellen Sitten ihrer Kultur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihr wichtig, zu vermeiden, andere Menschen zu verärgern.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihr wichtig, eine schöne Zeit zu haben.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihr wichtig, die Annehmlichkeiten des Lebens zu genießen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sie nutzt jede Gelegenheit, um Spaß zu haben.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

E3. Bei allen Aussagen wird das geschlechtsneutrale Pronomen "xier" verwendet, um eine Person unabhängig von ihrem Geschlecht zu beschreiben.

	1	2	3	4	5	6	7	8	9	10
Es ist xier wichtig, traditionelle Werte und Überzeugungen zu bewahren.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Xier denkt, dass es wichtig ist, niemals andere Personen zu nerven.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist xier wichtig, Regeln zu befolgen, auch wenn niemand zuschaut.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Xier versucht, immer taktvoll zu sein und es zu vermeiden, andere Menschen zu reizen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Xier glaubt, dass er immer tun sollte, was Menschen in Machtpositionen verlangen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



	1 stimme ganz und gar nicht zu	2	3	4	5 stimme voll und ganz zu
Es ist immer das Beste, Dinge in ihrer üblichen Art und Weise zu regeln.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gegen Außenseiter und Nichtstuer sollte in der Gesellschaft mit aller Härte vorgegangen werden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Menschen sollen wichtige Entscheidungen in der Gesellschaft Führungspersonen überlassen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unruhestifter sollten deutlich zu spüren bekommen, dass sie in der Gesellschaft unerwünscht sind.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Traditionen sollten unbedingt gepflegt und aufrechterhalten werden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wir sollten dankbar sein für führende Köpfe, die uns genau sagen, was wir tun können.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gesellschaftliche Regeln sollten ohne Mitleid durchgesetzt werden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Teil E:

Im Folgenden werden Ihnen kurz verschiedene Personen beschrieben. Bitte lesen Sie die Beschreibungen und geben Sie an, wie sehr diese Personen Ihnen ähneln.

(I) Diese Person und ich sind uns **völlig unähnlich**

(II) Diese Person und ich sind uns **außerordentlich ähnlich**.

E1.

	1 völlig unähn- lich	2	3	4	5	6	7	8	9	10	11 außer- ordent- lich ähnlich
Es ist ihm wichtig, traditionelle Werte und Überzeugungen zu bewahren.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Er denkt, dass es wichtig ist, niemals andere Personen zu nerven.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihm wichtig, Regeln zu befolgen, auch wenn niemand zuschaut.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Er versucht, immer taktvoll zu sein und es zu vermeiden, andere Menschen zu reizen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Er glaubt, dass er immer tun sollte, was Menschen in Machtpositionen verlangen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihm wichtig, die Bräuche seiner Familie oder die Bräuche einer Religion zu befolgen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihm wichtig, alle Gesetze zu befolgen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Er wertschätzt die Werte und traditionellen Sitten seiner Kultur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihm wichtig, zu vermeiden, andere Menschen zu verärgern.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihm wichtig, eine schöne Zeit zu haben.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



	1	2	3	4	5	6	7	8	9	10
Es ist ihm wichtig, die Annehmlichkeiten des Lebens zu genießen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Er nutzt jede Gelegenheit, um Spaß zu haben.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

E2.

	1	2	3	4	5	6	7	8	9	10
Es ist ihr wichtig, traditionelle Werte und Überzeugungen zu bewahren.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sie denkt, dass es wichtig ist, niemals andere Personen zu nerven.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihr wichtig, Regeln zu befolgen, auch wenn niemand zuschaut.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sie versucht, immer taktvoll zu sein und es zu vermeiden, andere Menschen zu reizen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sie glaubt, dass er immer tun sollte, was Menschen in Machtpositionen verlangen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihr wichtig, die Bräuche ihrer Familie oder die Bräuche einer Religion zu befolgen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihr wichtig, alle Gesetze zu befolgen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sie wertschätzt die Werte und traditionellen Sitten ihrer Kultur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihr wichtig, zu vermeiden, andere Menschen zu verärgern.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihr wichtig, eine schöne Zeit zu haben.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist ihr wichtig, die Annehmlichkeiten des Lebens zu genießen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sie nutzt jede Gelegenheit, um Spaß zu haben.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

E3. Bei allen Aussagen wird das geschlechtsneutrale Pronomen "xier" verwendet, um eine Person unabhängig von ihrem Geschlecht zu beschreiben.

	1	2	3	4	5	6	7	8	9	10
Es ist xier wichtig, traditionelle Werte und Überzeugungen zu bewahren.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Xier denkt, dass es wichtig ist, niemals andere Personen zu nerven.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist xier wichtig, Regeln zu befolgen, auch wenn niemand zuschaut.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Xier versucht, immer taktvoll zu sein und es zu vermeiden, andere Menschen zu reizen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Xier glaubt, dass er immer tun sollte, was Menschen in Machtpositionen verlangen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



	1	2	3	4	5	6	7	8	9	10	
1 völlig unähnlich											11 außerordentlich ähnlich
Es ist xier wichtig, die Bräuche xierer Familie oder die Bräuche einer Religion zu befolgen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist xier wichtig, alle Gesetze zu befolgen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Xier wertschätzt die Werte und traditionellen Sitten xierer Kultur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist xier wichtig, zu vermeiden, andere Menschen zu verärgern.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist xier wichtig, eine schöne Zeit zu haben.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es ist xier wichtig, die Annehmlichkeiten des Lebens zu genießen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Xier nutzt jede Gelegenheit, um Spaß zu haben.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Teil F: Aktuelle Forschungsergebnisse

Aktuelle Forschung hat gezeigt, 30% der Deutschen sich anstrengen, auf in Plastik verpackte Lebensmittel zu verzichten. Das heißt, 3 von 10 Menschen nutzen weniger Plastik als sie es normalerweise tun würden (Sparkman & Walton, 2017).

F1.

Ok

Teil G: Aktuelle Forschungsergebnisse

Aktuelle Forschung hat gezeigt, dass in den letzten 5 Jahren 30% der Deutschen angefangen haben, sich anzustrengen, auf in Plastik verpackte Lebensmittel zu verzichten. Das heißt, dass in den letzten Jahren 3 von 10 Menschen ihr Verhalten geändert und begonnen haben, ihren Plastikverbrauch zu reduzieren (Sparkman & Walton, 2017).

G1. ...

Ok





Teil H:

Bitte geben Sie Ihre Schätzungen auf folgende Fragen an.

- (1) gar nicht
- (7) extrem

H1.

	1 gar nicht	2	3	4 etwas	5	6	7 extrem
In welchem Ausmaß werden sich Deutsche Ihrer Meinung nach in naher Zukunft anstrengen, auf Plastikverpackungen beim Einkauf von Lebensmitteln zu verzichten?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wie viel Mühe geben sich Deutsche, auf Plastikverpackungen beim Einkauf von Lebensmitteln zu verzichten?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wie wichtig ist es für Deutsche, auf Plastikverpackungen beim Einkauf von Lebensmitteln zu verzichten?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Teil I:

Bitte schätzen Sie im Folgenden ein, inwieweit die Aussagen zum Thema Plastikverbrauch auf Sie zutreffen.

Bitte geben Sie auf einer Skala von 1 (gut) bis 5 (schlecht) an als auch auf einer Skala von 1 (angenehm) bis 5 (unangenehm), wie Sie folgende Aussage vervollständigen würden.

I1.

	1 gut	2	3	4	5 schlecht
Das nächste Mal, wenn ich Lebensmittel einkaufe, finde ich es ... diese in Plastik verpackt zu kaufen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I2.

	1 angenehm	2	3	4	5 unangenehm
Das nächste Mal, wenn ich Lebensmittel einkaufe, finde ich es ... diese in Plastik verpackt zu kaufen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





Teil J: Weitere Persönliche Angaben

Bitte schätzen Sie im Folgenden ein, inwieweit die Aussagen zum Thema Plastikverbrauch auf Sie zutreffen.

J1. Entscheiden Sie bitte, inwieweit folgende Aussagen auf Sie zutreffen

(1) stimme ganz und gar nicht zu

(5) stimme voll und ganz zu.

	1 stimme ganz und gar nicht zu	2	3	4	5 stimme voll und ganz zu
Meine Auswahlmöglichkeiten verschiedener Verpackungsmaterialien meiner Lebensmittel im Supermarkt sind groß.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Meine Absicht, nächstes Mal im Supermarkt in Plastik verpackte Lebensmittel einzukaufen, ist hoch.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nächstes Mal, wenn ich im Supermarkt einkaufen gehe, werde ich in Plastik verpackte Lebensmittel kaufen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wenn ich das nächste Mal im Supermarkt in Plastik verpackte Lebensmittel kaufe, würden die meisten Menschen, die mir wichtig sind, nichts dagegen haben.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich empfinde es als schwierig, Lebensmittel zu kaufen, welche nicht in Plastik verpackt sind.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Die meisten Menschen, die mir wichtig sind, achten beim Einkaufen nicht auf ihren Plastikverbrauch.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bitte geben Sie bei diesem Item "stimme voll und ganz zu" an.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wenn ich wollte, wäre es einfach für mich, beim Einkauf von Lebensmitteln auf Plastikverpackungen zu verzichten.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Die meisten Menschen, die mir wichtig sind, denken, dass ich weniger in Plastik verpackte Lebensmittel kaufen sollte.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In Plastik verpackte Lebensmittel zu kaufen, ist für mich sehr vorteilhaft.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich habe mir vorgenommen, beim Einkauf von Lebensmitteln auf Plastikverpackungen zu verzichten.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich habe nicht vor, nächstes Mal beim Einkauf von Lebensmitteln im Supermarkt in Plastik eingepackte Lebensmittel zu kaufen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Teil K: Entscheidung

Bitte geben Sie im Folgenden an, ob Sie lieber an der Verlosung 10 Amazon-Gutscheinen (4x10€ und 6x5€) teilnehmen wollen **oder** möchten, dass 1€ an die Organisation Ocean Care, welche versucht, die Weltmeere von Plastik zu reinigen, gespendet werden. Wenn Sie sich für die Spende entscheiden, Zahlt die Professur für Sozialpsychologie 1€ an die Organisation. Sie müssen NICHT selbst für das Geld aufkommen.

K1.

Spende an Ocean Care

Teilnahme an der Verlosung der Amazon-Gutscheine



K2. <https://phil-web.phil.tu-chemnitz.de/soz/ls/index.php?r=survey/index&sid=595754&newtest=Y&lang=de>

K3. <https://phil-web.phil.tu-chemnitz.de/soz/ls/index.php?r=survey/index&sid=538452&newtest=Y&lang=de>

Teil L: Abschließende Frage

L1. Bitte geben Sie nun zum Ende der Studie noch an, wie ernst Sie die Bearbeitung der Fragen genommen haben. Bitte antworten Sie hier ehrlich. Ihre Antwort hat keinerlei Auswirkungen auf die Spende, die Verlosung oder die Vergabe von VP-Stunden. Sie bekommen auf jeden Fall Ihre vereinbarte Entlohnung.

Ich habe meine Angaben ehrlich und gewissenhaft gemacht.

Ich habe das alles nicht ernst genommen und mich nur durchgeklickt, ohne auf die Inhalte der Aussagen zu achten.





Vielen Dank für Ihre Teilnahme an dieser Studie und dem damit verbundenen wichtigen Beitrag zu meiner Forschung!

Ich möchte Ihnen noch die wahren Beweggründe dieser Studie offenlegen:

Sie haben an einem Experiment Teilgenommen. Hierbei ging es um die Auswirkung der Repräsentation verschiedener Normstatements auf Umwelteinstellung und -verhalten autoritärer Personen. Wenn sie kein Normstatement über das Verhalten anderer erhalten haben, waren Sie in der Kontrollgruppe.

Die hierfür verwendeten Aussagen beruhen nicht auf aktueller Forschung, sondern sind im Zuge des Experiments frei erfunden worden.

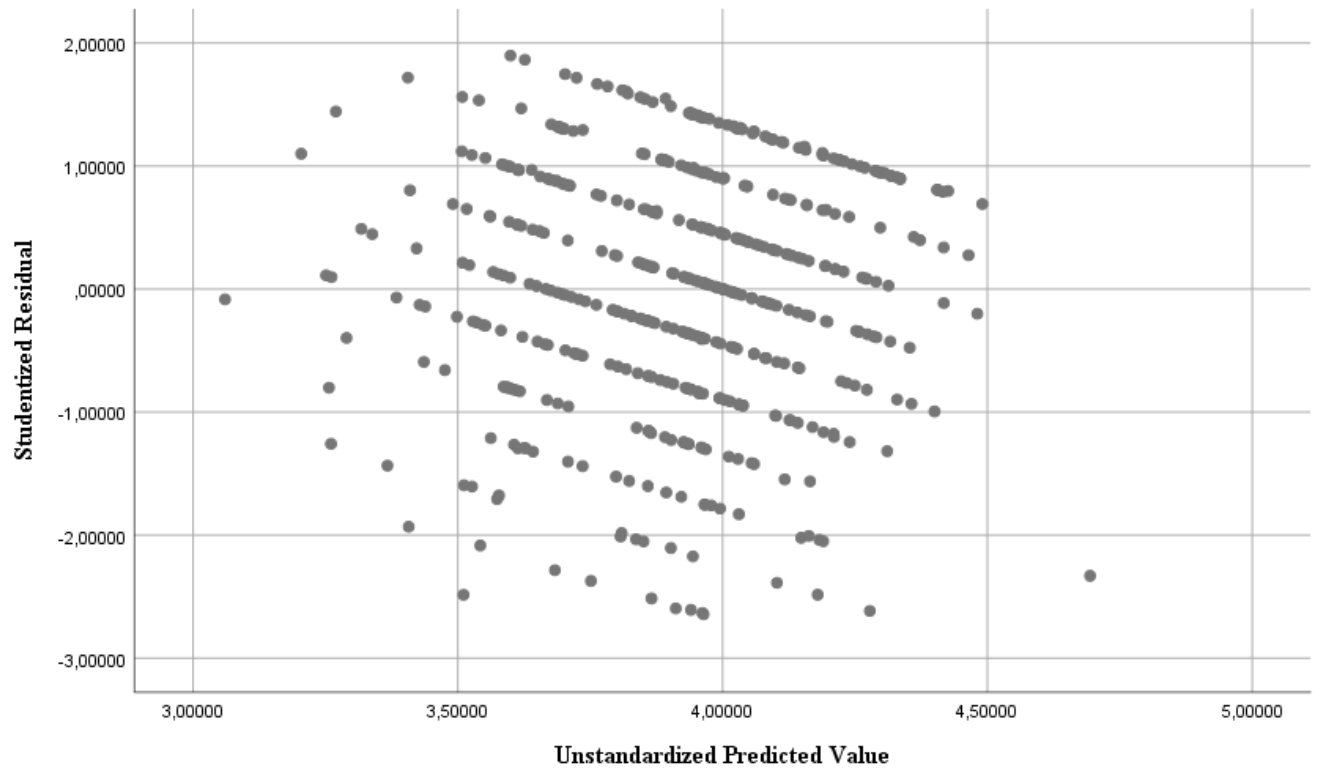
Ihre Entscheidung bezüglich der Verlosung oder der Spende zum Abschluss ist Teil des Experiments. Damit soll erfasst werden, ob abhängig von dem Statement und autoritären Tendenzen, sich für oder gegen umweltfreundliches Verhalten entschieden wird.

Natürlich nehmen Sie abhängig von Ihrer Entscheidung trotzdem an der Verlosung teil bzw. tragen zu der Geldspende (finanziert von der Professur für Sozialpsychologie) bei. Dafür nutzen Sie bitte den folgenden Link.

Für die zusätzliche Vergabe von Versuchspersonenstunden (Studierende der Psychologie oder Sensorik und Kognitiven Psychologie der TU Chemnitz) nutzen Sie bitte ebenfalls den Link.

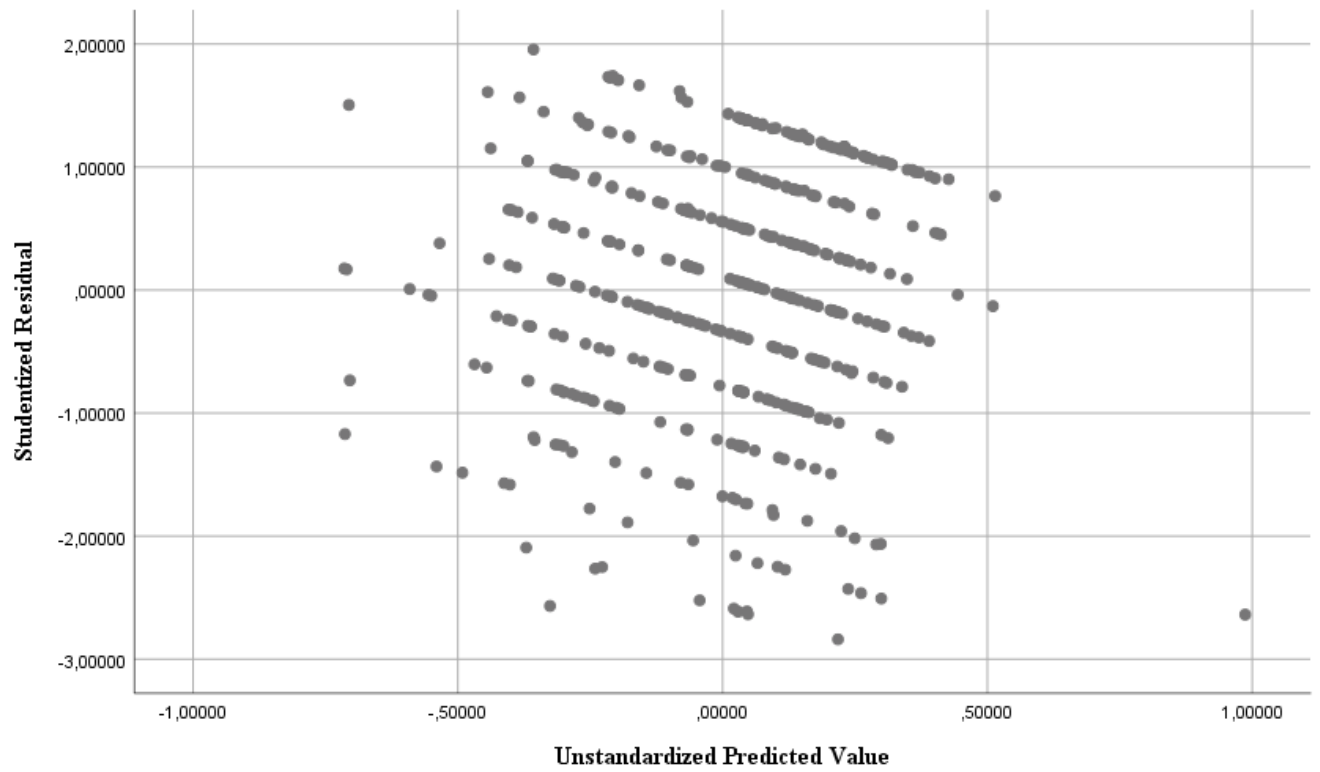
Appendix 3

Scatterplot to examine residual's homoscedasticity (authoritarianism)



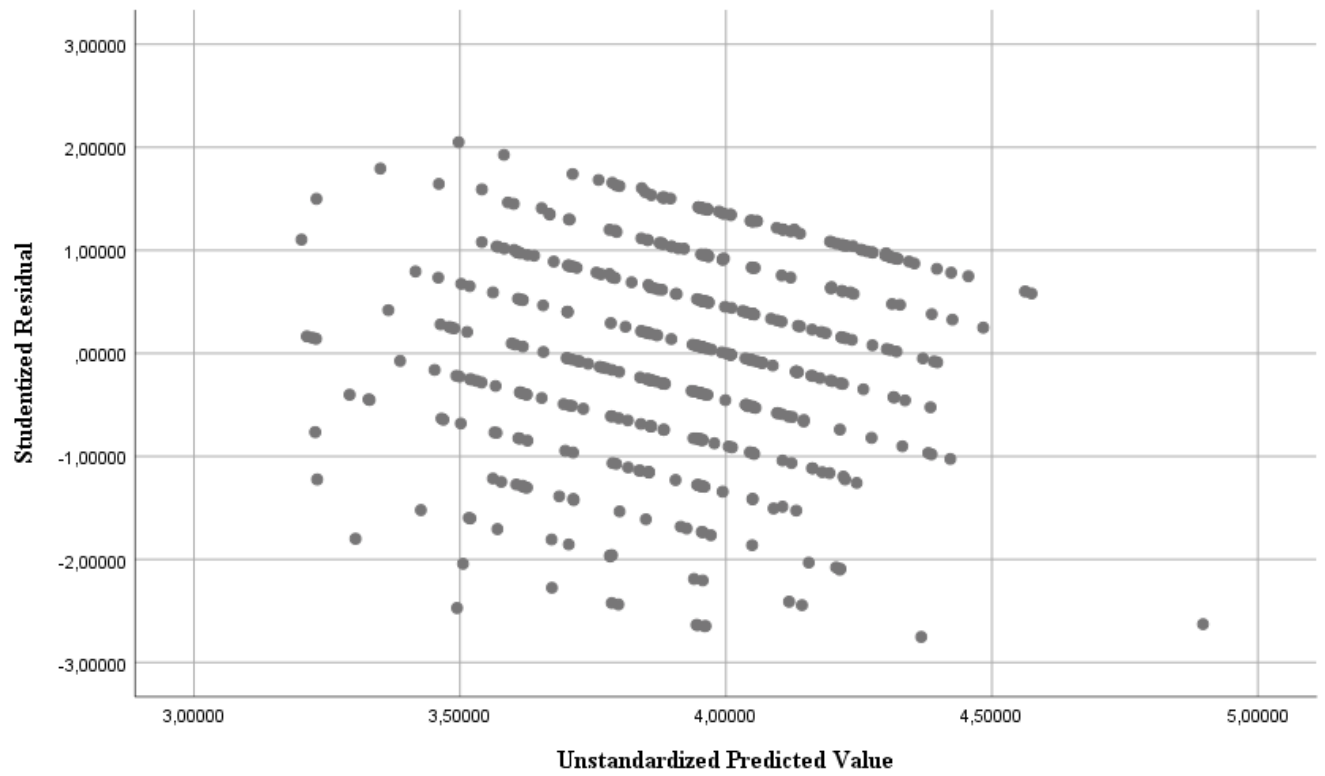
Appendix 4

Scatterplot to examine residual's homoscedasticity (conformity)



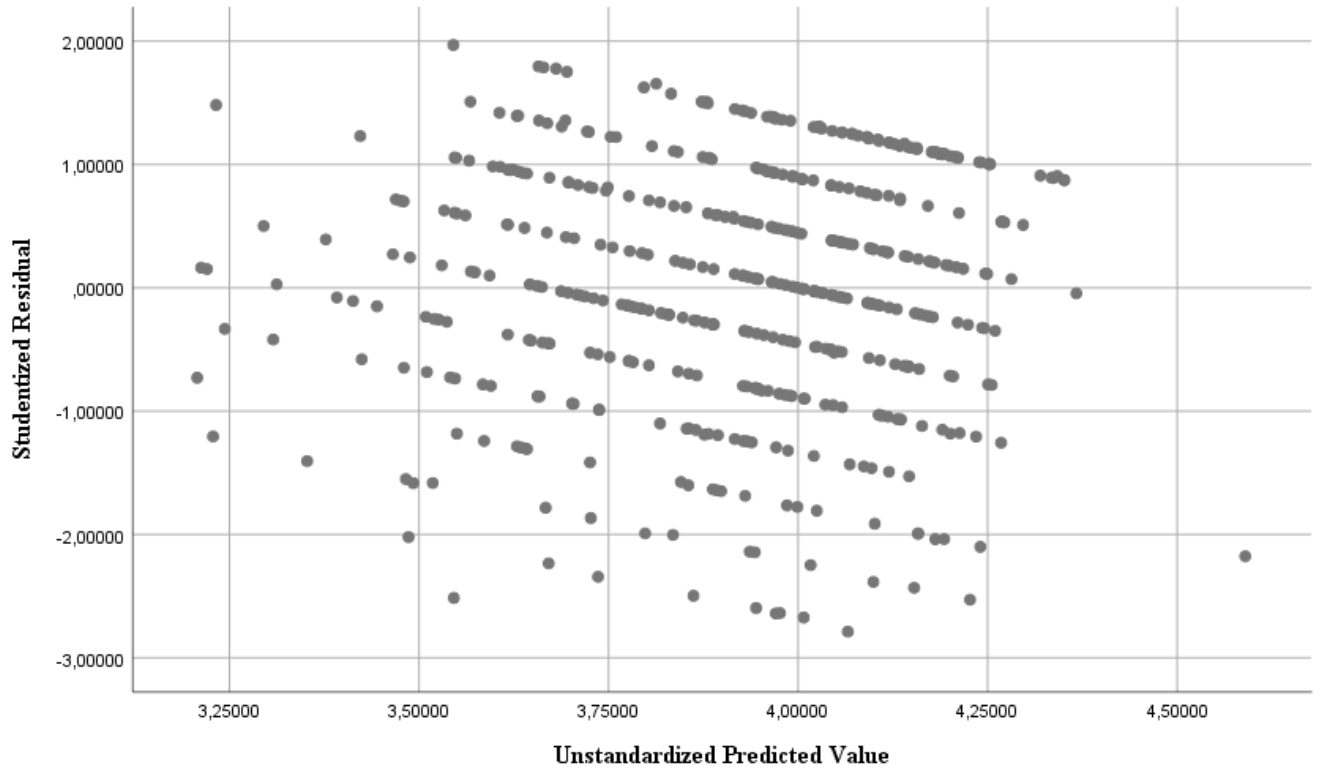
Appendix 5

Scatterplot to examine residual's homoscedasticity (authoritarian submission)



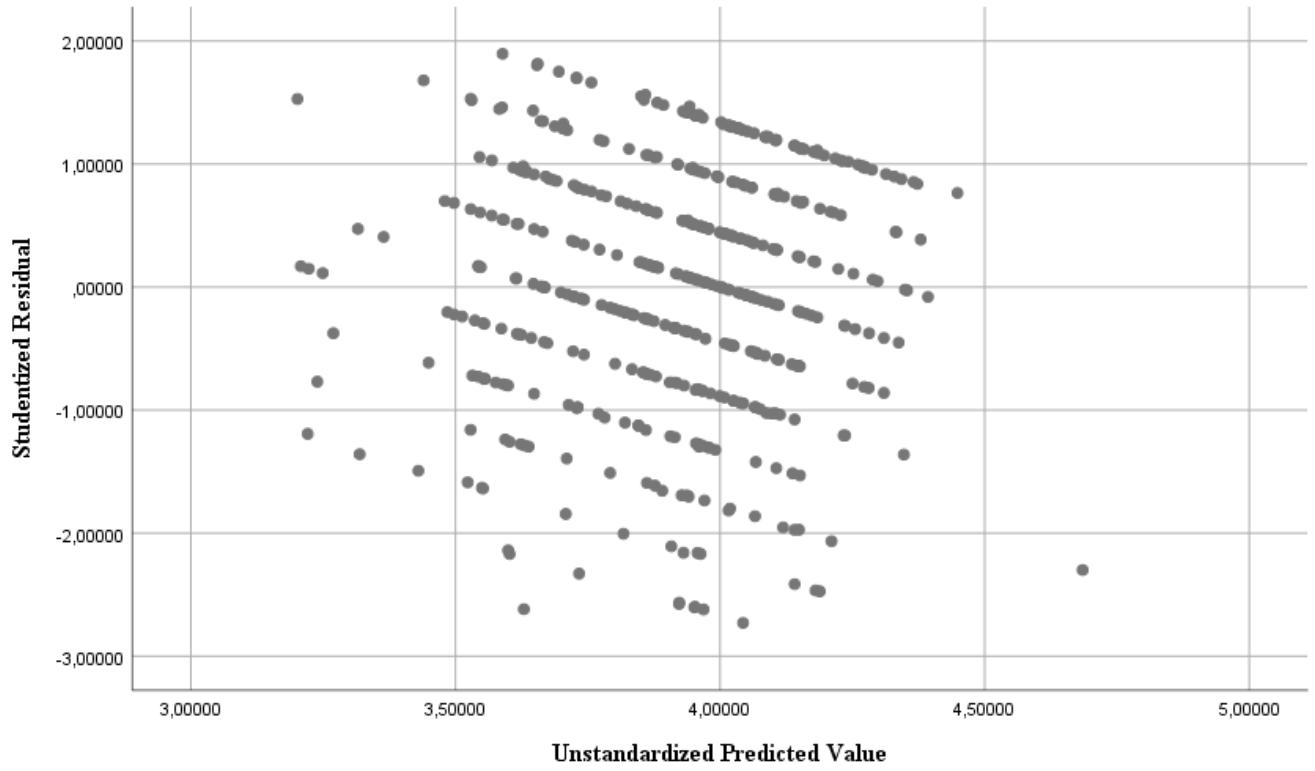
Appendix 6

Scatterplot to examine residual's homoscedasticity (authoritarian aggression)



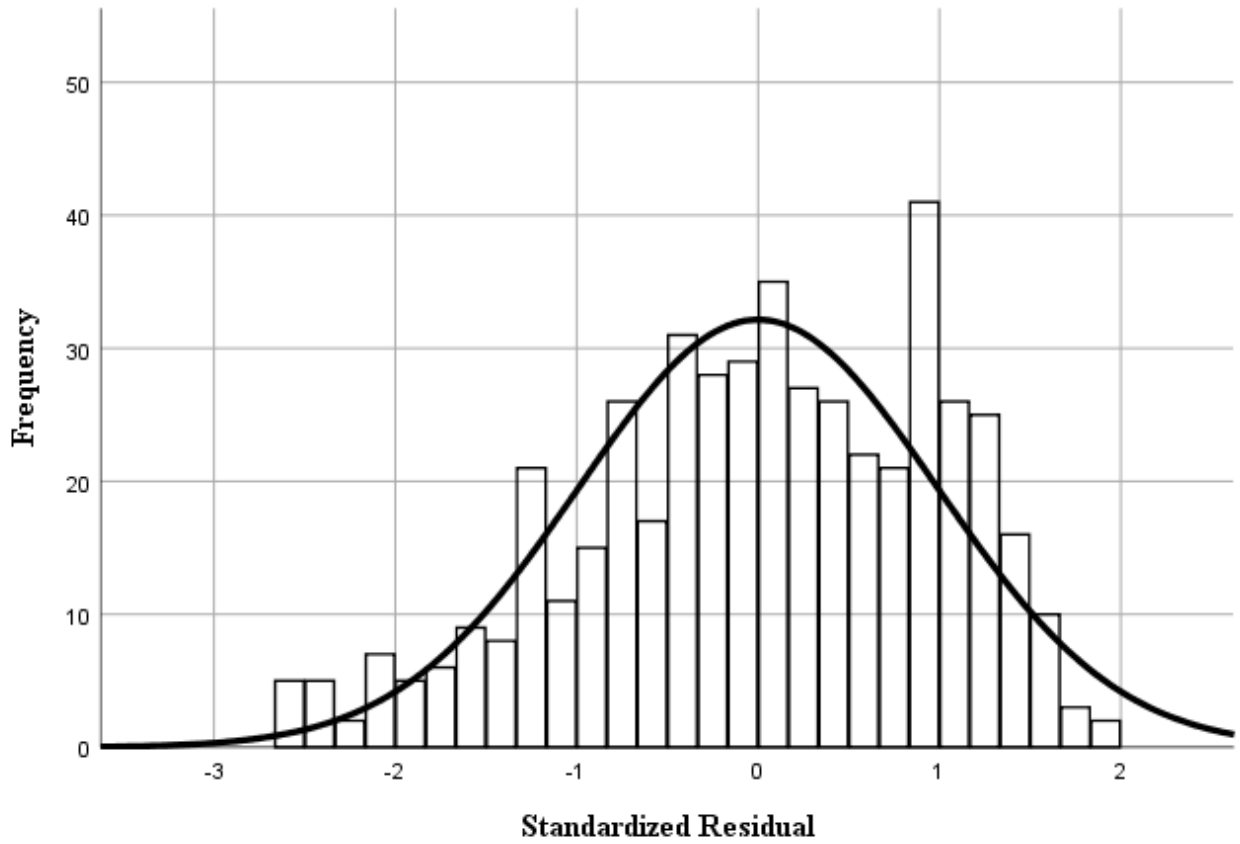
Appendix 7

Scatterplot to examine residual's homoscedasticity (conservatism)



Appendix 8

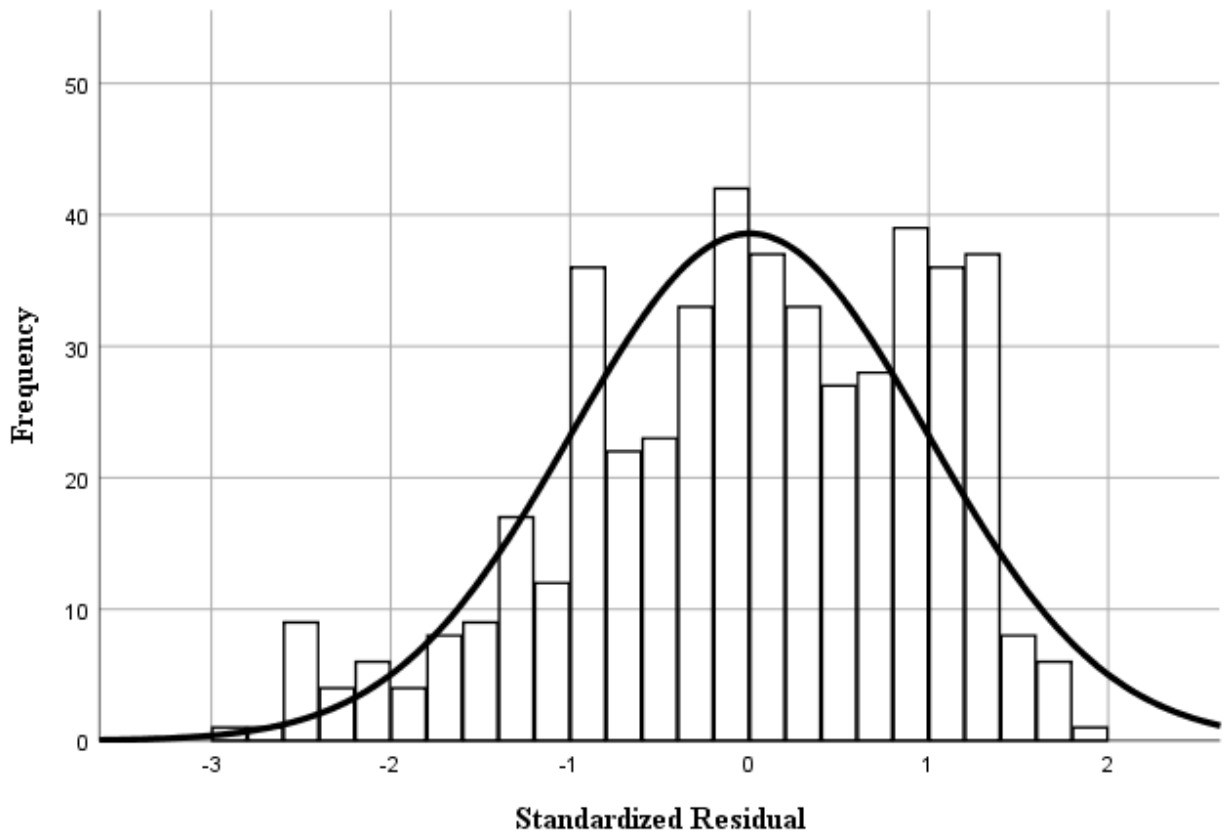
Histogram to examine residual's normal distribution (authoritarianism)



Note. $N = 479$, $M = -2.38 \cdot 10^{-16}$, $SD = .99$

Appendix 9

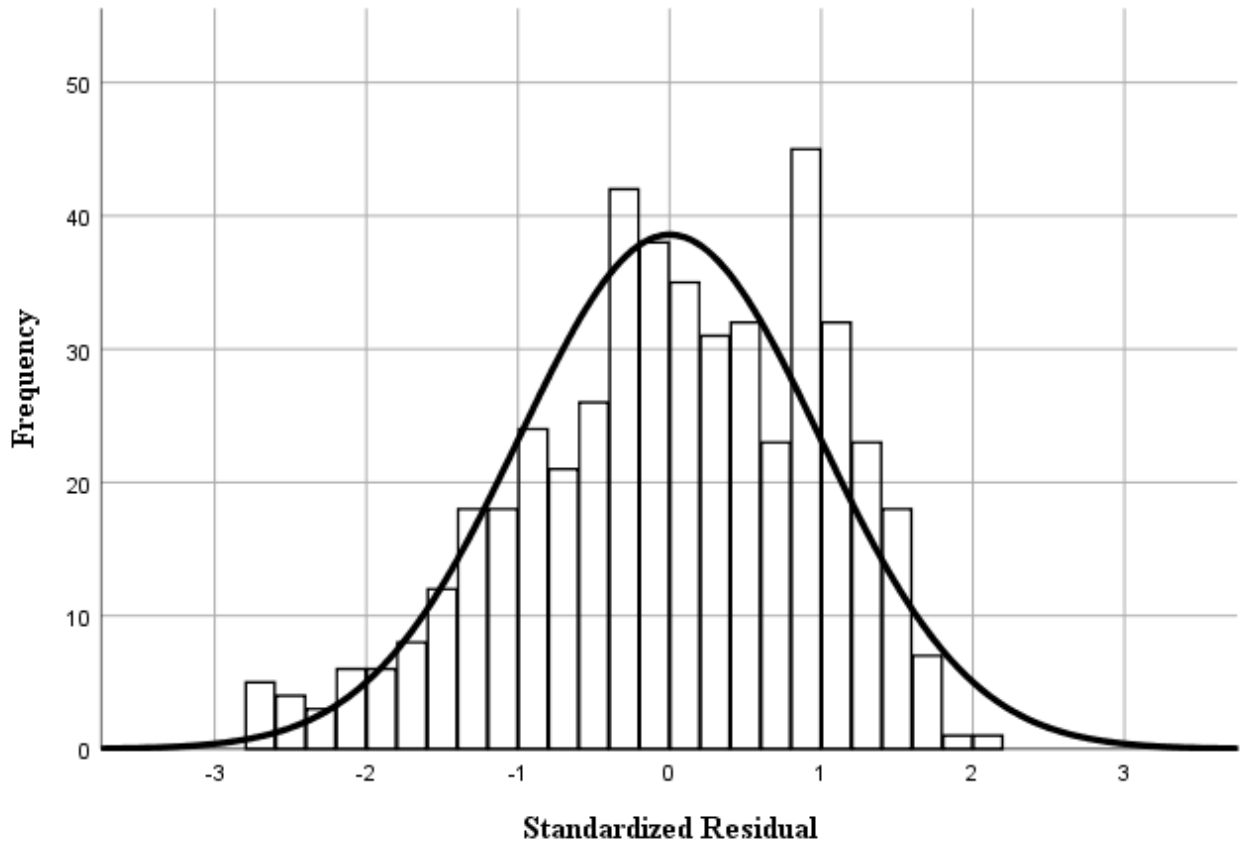
Histogram to examine residual's normal distribution (conformity)



Note. $N = 479$, $M = -1.17 \times 10^{-15}$, $SD = .99$

Appendix 10

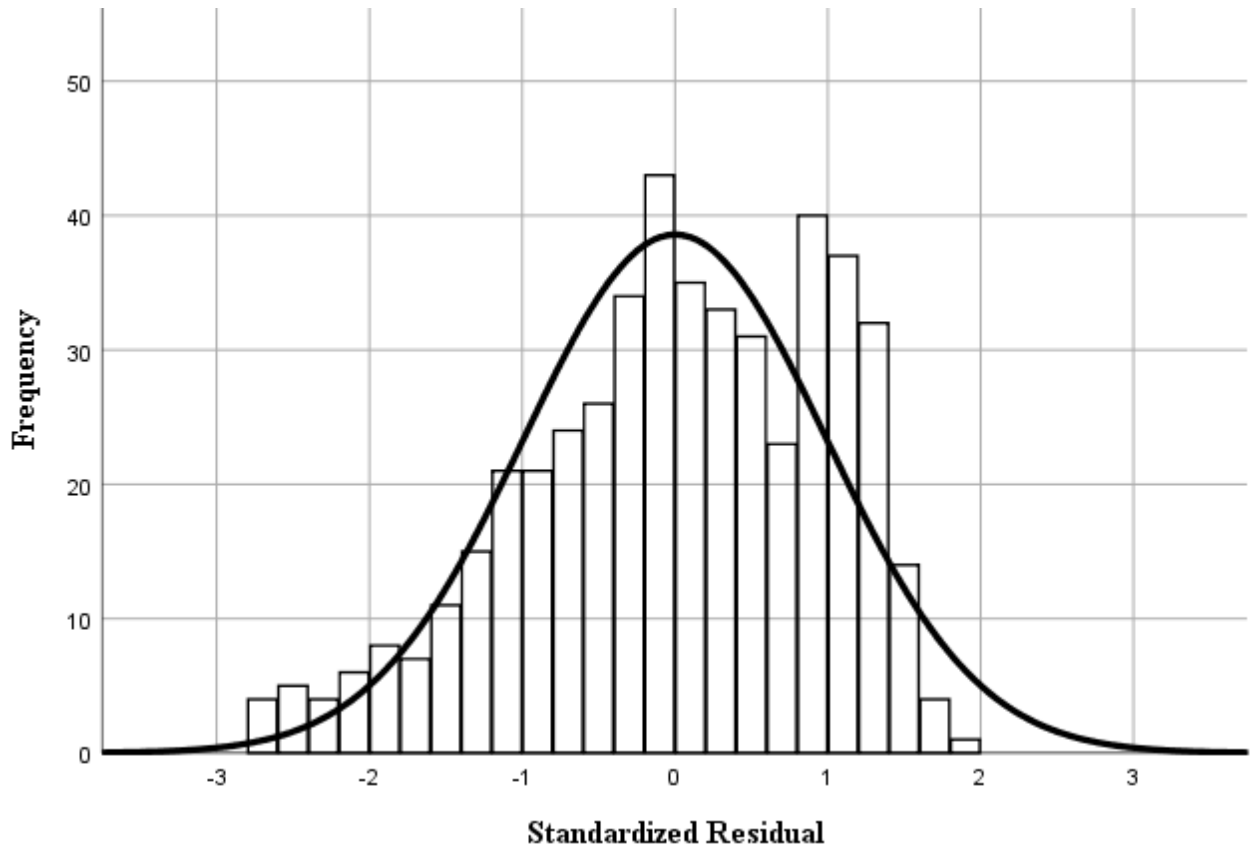
Histogram to examine residual's normal distribution (authoritarian submission)



Note. $N = 479$, $M = 6.96 \cdot e^{-17}$, $SD = .99$

Appendix 11

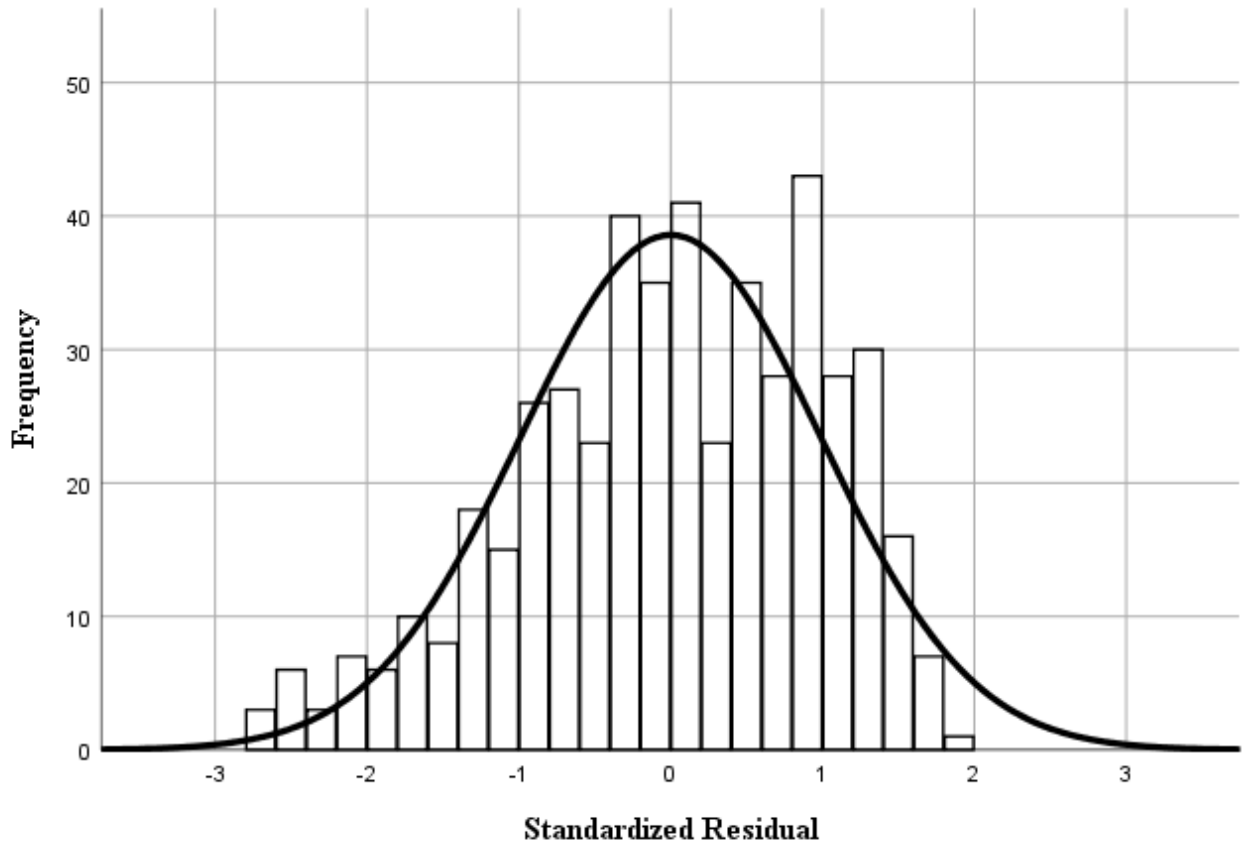
Histogram to examine residual's normal distribution (authoritarian aggression)



Note. $N = 479$, $M = -1.25 \cdot e^{-15}$, $SD = .99$

Appendix 12

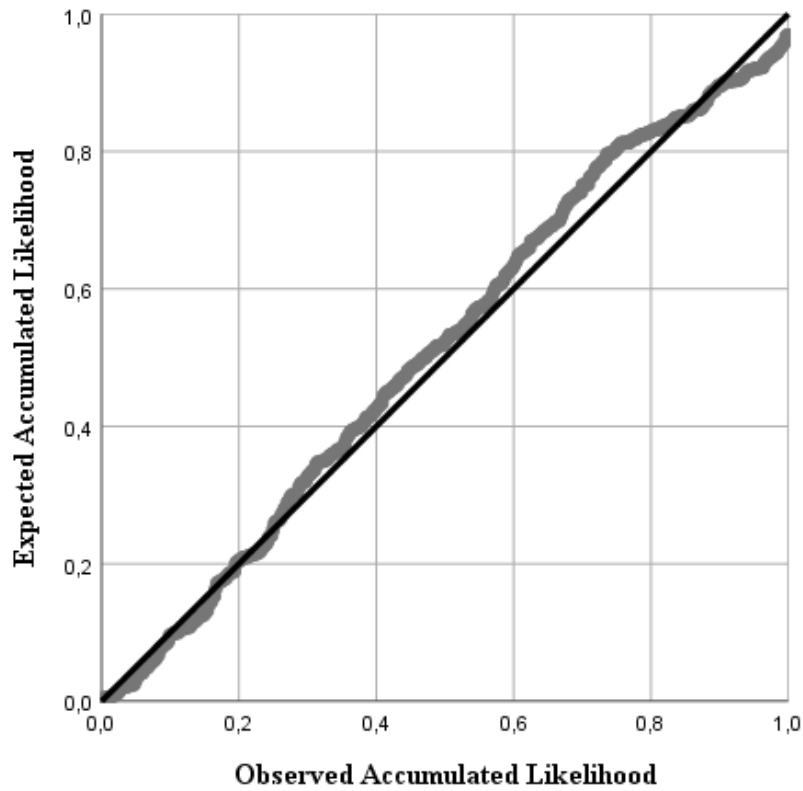
Histogram to examine residual's normal distribution (conservatism)



Note. $N = 479$, $M = -3.59 \cdot e^{-16}$, $SD = .99$

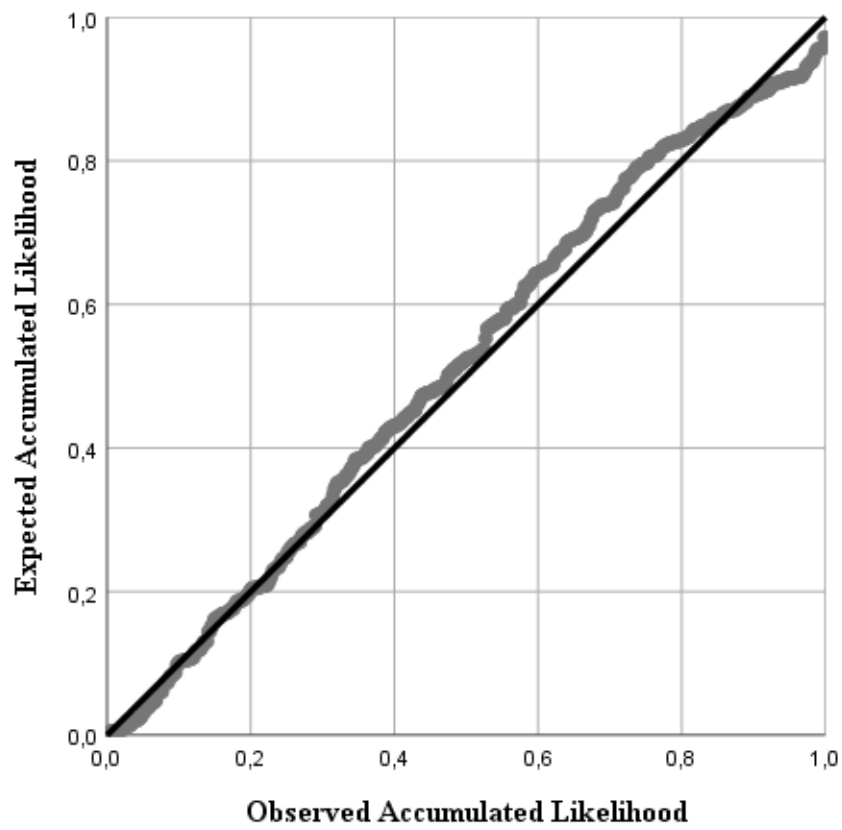
Appendix 13

P-P-Plot to examine residual's normal distribution (authoritarianism)



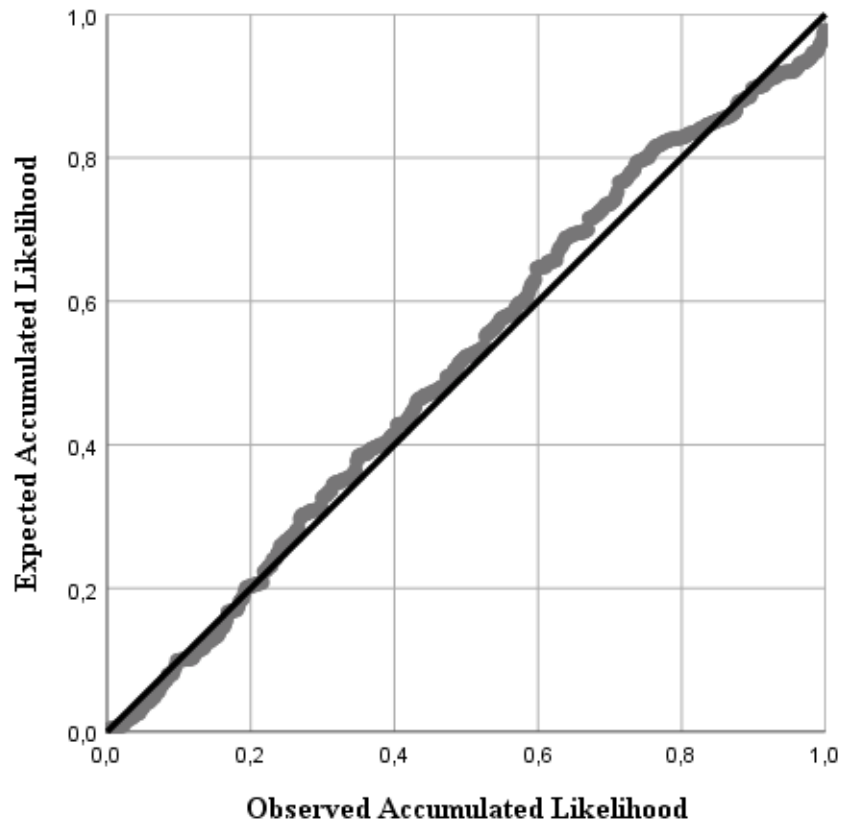
Appendix 14

P-P-Plot to examine residual's normal distribution (conformity)



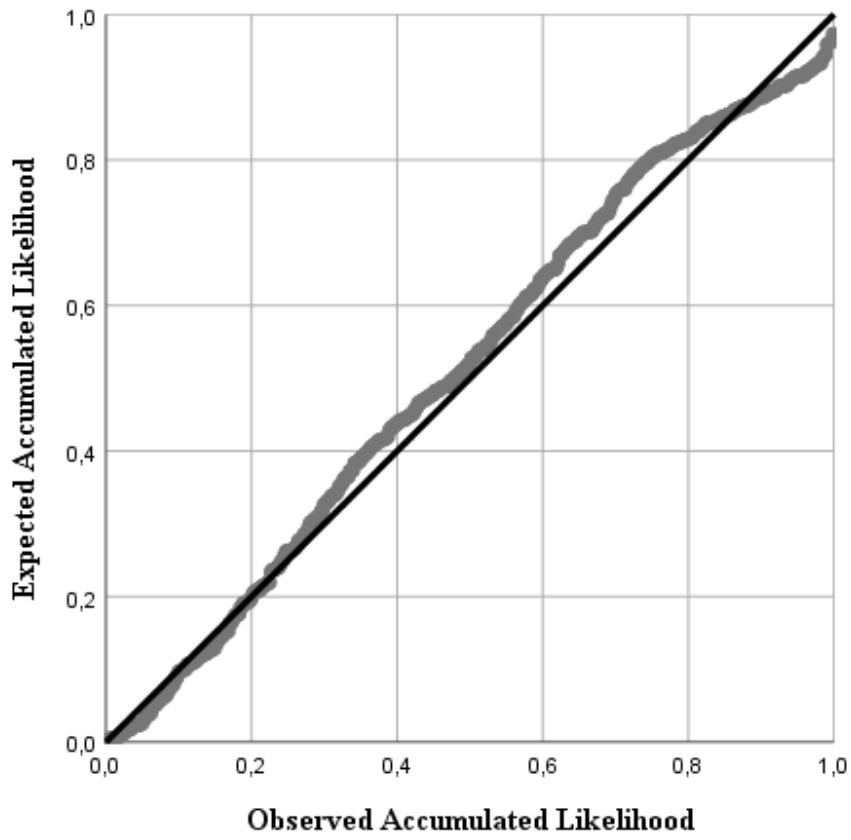
Appendix 15

P-P-Plot to examine residual's normal distribution (authoritarian submission)



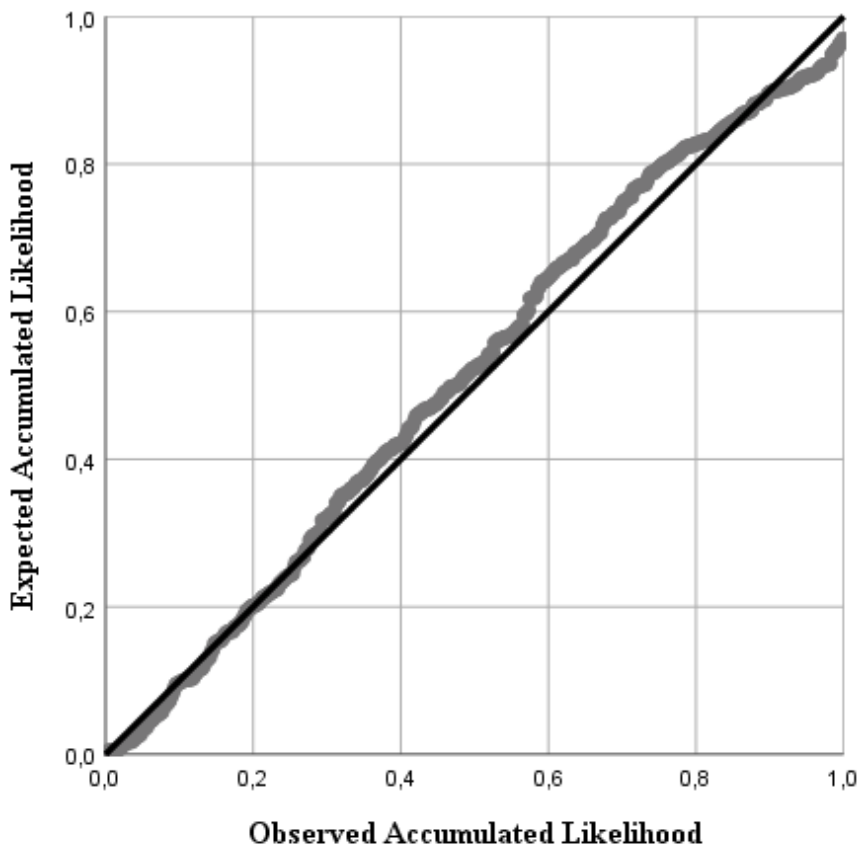
Appendix 16

P-P-Plot to examine residual's normal distribution (authoritarian aggression)



Appendix 17

P-P-Plot to examine residual's normal distribution (conservatism)



Running head: AUTHORITARIANISM AND DYNAMIC NORMS

Appendix 18

Frequency of all categorial variables

		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	Total
Norm	1. Static	-	-	-	45	114	0	0	6	88	13	52	137	22	159
	2. Dynamic		-	-	34	107	1	0	2	93	13	34	131	11	142
	3. No Norm			-	43	134	1	1	4	101	18	54	153	25	178
Gender	4. Male				-	-	-	1	4	59	11	47	107	15	122
	5. Female					-	-	0	7	222	33	93	313	42	355
	6. Other						-	0	1	1	0	0	1	1	2
EDU	7. No Graduation							-	-	-	-	-	1	0	1
	8. Middle School								-	-	-	-	10	2	12
	9. High School									-	-	-	256	26	282
	10. Apprenticeship										-	-	34	10	44
	11. University											-	120	20	140
Decision	12. Donation												-	-	421
	13. Raffle													-	58

Note. $N = 479$. "Total" refers to the total number of people in the condition in the first column, not the sum of the numbers in the row. EDU = level of education.

Appendix 19

Results of the moderated logistic regression model (influence of norm statements on behavior moderated by conformity)

Predictors	Behavior		
	Coeff.	SE	<i>p</i>
Constant	-4.36	1.07	< .001
Static	-0.28	0.31	.36
Dynamic	0.59	0.39	.13
KONF	-0.05	0.10	.61
Static*KONF	-0.31	0.19	.11
Dynamic*KONF	0.03	0.24	.91
Age	-0.01	0.02	.89
Gender	0.21	0.31	.50
POL	0.25	0.10	.02
EDU	0.27	0.16	.09
-2LL	339.07		
McFadden R^2	.04		

Note. $N = 479$. *SE* = standard error; AUT = authoritarianism; POL= political orientation; EDU = level of education.

Appendix 20

Results of the moderated multiple linear regression model (influence of norm statements on attitude moderated by authoritarian aggression)

Predictors	Attitude		
	Coeff.	SE	p
Constant	3.40	0.26	< .001
Static	0.12	0.08	.10
Dynamic	0.08	0.09	.35
AUT_A	-0.16	0.04	< .001
Static*AUT_A	-0.08	0.09	.39
Dynamic*AUT_A	0.13	0.10	.19
Age	0.01	0.01	.80
Gender	0.33	0.08	< .001
POL	-0.10	0.03	< .001
EDU	0.04	0.04	.38
<i>R</i> ²	.09		

Note. *N* = 479. *SE* = standard error; AUT_A = authoritarian aggression; POL= political orientation; EDU = level of education.

Appendix 21

Results of the moderated multiple linear regression model (influence of norm statements on attitude moderated by conservatism)

Predictors	Attitude		
	Coeff.	SE	p
Constant	3.40	0.26	< .001
Static	.12	0.08	.11
Dynamic	.09	0.09	.31
AUT_K	-.16	0.05	< .001
Static*AUT_K	-.15	0.10	.13
Dynamic*AUT_K	-.01	0.12	.99
Age	.01	0.01	.71
Gender	.33	0.09	< .001
POL	-.10	0.03	< .001
EDU	.04	0.04	.41
<i>R</i> ²	.09		

Note. *N* = 479. *SE* = standard error; AUT_K = conservatism; POL= political orientation; EDU = level of education.

Appendix 22

Results of the moderated logistic regression model (influence of norm statements on behavior moderated by authoritarian submission)

Predictors	Behavior		
	Coeff.	SE	p
Constant	-4.32	1.073	< .001
Static	-0.30	0.32	.34
Dynamic	0.66	0.40	.10
AUT_U	0.17	0.19	.36
Static*AUT_U	-0.34	0.36	.35
Dynamic*AUT_U	-0.35	0.48	.47
Age	-0.01	0.02	.83
Gender	0.24	0.32	.45
POL	0.22	0.10	.03
EDU	0.28	0.16	.08
-2LL	339.14		
McFadden R^2	.04		

Note. $N = 479$. SE = standard error; AUT_U = authoritarian submission; POL= political orientation; EDU = level of education.

Appendix 23

Results of the moderated logistic regression model (influence of norm statements on behavior moderated by authoritarian aggression)

Predictors	Behavior		
	Coeff.	SE	p
Constant	-4.35	1.07	< .001
Static	-0.27	0.31	.38
Dynamic	0.62	0.39	.11
AUT_A	0.12	0.18	.51
Static*AUT_A	-0.47	0.35	.19
Dynamic*AUT_A	-0.14	0.45	.45
Age	-0.01	0.02	.89
Gender	0.26	0.32	.42
POL	0.23	0.10	.03
EDU	0.27	0.16	.10
-2LL	339.14		
McFadden R^2	.04		

Note. $N = 479$. SE = standard error; AUT_A = authoritarian aggression; POL= political orientation; EDU = level of education.

Appendix 24

Results of the moderated logistic regression model (influence of norm statements on behavior moderated by conservatism)

Predictors	Behavior		
	Coeff.	SE	p
Constant	-4 .19	1.05	< .001
Static	-0.28	0.31	.36
Dynamic	0.63	0.39	.10
AUT_K	-0.02	0.21	.91
Static*AUT_K	-0.47	0.38	.22
Dynamic*AUT_K	-0.01	0.52	.99
Age	-0.01	0.02	.81
Gender	0.20	0.32	.53
POL	0.23	0.10	.02
EDU	0.26	0.16	.10
-2LL	340.23		
McFadden R^2	.04		

Note. $N = 479$. SE = standard error; AUT_K = conservatism; POL= political orientation; EDU = level of education.

Appendix 25

Declaration of authorship



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