ERASMUS UNIVERSITY ROTTERDAM

“After us, the Deluge”

A quantitative analysis of the relationship between Christian denominations and climate change scepticism in the Netherlands

Sociology: Politics and Society MSc – Master Thesis

June 2020

Word count: 8565

Name: Jorick Mijnans

Student number: 389209

Supervisor: Gijs Custers MSc.

Second reader: Prof. Dr. G.B.M. Engbersen

Acknowledgements

I would like to take this moment to thank several people who directly contributed to the completion of this Master thesis. First and foremost, I would like to thank my first supervisor, Gijs Custers, who provided me with extensive, valuable and critical feedback throughout this trajectory. Furthermore, I would like to express gratitude to my second supervisor, Prof. Dr. Godfried Engbersen, who constructively provided me with new ideas and perspectives to implement and adapt in the final version of this thesis. In addition, I would like to thank Dr. J. Kregting (Radboud University), who provided me with access to his *God in Nederland* dataset, which is used for the final analyses. Last, but definitely not least, I would like to thank my group member Sem Oosse. With his perceptive questions, helpful feedback and sincere interest in my research-topic, he was of valuable importance during the last months.

Jorick Mijnans
19/06/2020

Abstract

Besides the fact that the role of religion in contemporary literature regarding climate change sceptic attitudes is contested, little research has focused on the association between levels of biblical literacy and these sceptic beliefs. Where most research treats religion as a one-dimensional dichotomous variable, this study expands on research conducted by Morrison et al. (2015) and Arbuckle and Konisky (2015) to examine whether levels of biblical literalness of Christian denominations account for variance in climate change sceptic viewpoints. In addition, the effect of moral traditionalism on these denominations is examined to review whether living in highly concentrated Christian environments reaffirms existing environmental beliefs. Using the dataset of the 2016 European Social Study, 406 Dutch adherers of three Christian affiliations (Roman-Catholics, Protestants and Reformed) were examined. The analyses showed that there were no substantial significant differences in climate change sceptic attitudes between the denominations. This absence could be due to the relatively small sample size or the general lack of strong conservative viewpoints among Christian affiliations in the Netherlands. Furthermore, no differences between groups were observed for the interactional effect of moral traditionalism, which indicates that higher levels of moral traditionalism do not account for more climate change sceptic attitudes. Hence, to better understand the connection between moral traditionalism and collective religiosity in certain regions, high-quality area-driven data is needed to provide conclusive evidence concerning this outcome.

Keywords: Climate change scepticism; Religion; Biblical literacy; Moral traditionalism

Table of Contents

1. Introduction

Climate change is one of the most salient issues the world is facing in the 21st century. In contemporary Western nations political and societal discourses about the possible threats of climate change are commonplace. Due to supranational agreements like the Kyoto-protocol (1997) and the Paris-agreement (2015), national governments are expected to treat climate change as an urgent matter. Radical changes in policymaking are thus needed to comply with the climate objectives agreed upon at these conventions (Poortinga, Spence, Whitmarsh, Capstick, & Pidgeon, 2011). These radical changes are, however, not supported by everyone.

Although most scholars (97%) conclude that mankind has a harmful influence on the global climate (Cook et al., 2016), the discussion is not entirely set in the public domain (Hamilton, Hartter, Lemcke-Stampone, Moore, & Stafford, 2015). Recent studies show that sceptical attitudes towards climate change are omnipresent. Especially 'old, white, conservative males' would have these viewpoints (Tranter & Booth, 2015; Poortinga et al., 2011; Whitmarsh, 2011). Other individual attitudes and characteristics that explain climate change sceptic viewpoints can be found in lower education levels (McCright, Dunlap, & Marquart-Pyatt, 2016; Hamilton et al., 2015; Kvaløy, Finseraas, & Listhaugen, 2012), right-wing political orientation (McCright et al., 2016; Hamilton et al., 2015; Tranter & Booth, 2015; Kvaløy et al., 2012; Clements, 2012) and materialistic value orientations (Kvaløy et al., 2012). However, in this well-established literature on climate change scepticism religious attitudes are often overlooked. Although some research shows that religion may not have a significant relationship with climate attitudes when controlling for cultural, social and political attitudes (Tranter & Booth, 2015; Kanagy & Nelsen, 1995; Greeley, 1993), Other studies (Morrison, Duncan, & Parton, 2015; Arbuckle & Koninksy, 2015) propose an alternative approach. These studies argue that, rather than using religion as a one-dimensional concept, religion must be differentiated into denominations to be able to study its association with climate change attitudes more accurately. This need for differentiation and loss of nuance when treating religion as a singular factor is also mentioned by Jenkins, Berry and Kreider (2018), or as Haluza-Delay (2014) notes: "An analysis cannot homogenize religion into a monolithic category" (p. 262).

Following theorizing by White (1967), Morrison et al. (2015) suggest that denominations must be classified in terms of biblical literacy derived from religious environmental attitudes. More literal Judeo-Christian denominations would have, according to White (1967), a preference for a 'dominion over nature' perspective, where humans rule over the world and must be able to treat it as they would. This view would subsequently lead to more climate sceptic attitudes among adherents

of these denominations. On the other hand, non- or less-literal denominations would rather prefer a 'stewardship over nature' perspective where nature and climate must be protected and taken care of, which consequently leads to less sceptic attitudes towards the climate change consensus.

This study focuses on Christian denominations in the Netherlands and their relationship with climate change scepticism. Although the Netherlands is highly secularized with 51% of its inhabitants not being part of a religious denomination (Schmeets, 2016), Christianity is still a factor of importance. In 2018, 36% of Dutch citizens stated that they were part of a certain Christian affiliation (De Hart & Van Houwelingen, 2018). Examining the role of religion in explaining various attitudes, including climate change attitudes, remains important because "religions are assumed to be important influences on adherents' attitudes and subsequent behaviour as well as being powerful social actors" (Haluza-Delay, 2014, p. 263). Especially conservative religious movements have, foremost in the United States, widespread media attention that influences citizens in climate sceptic attitudes beyond the reach of their constituency (Jenkins et al., 2018; Capstick, Whitmarsh, Poortinga, Pidgeon, & Upham, 2015; Haluza-Delay, 2014). Although this widespread media attention of religious movements is less prevalent in the Netherlands, the beliefs of literal denominations can still have a substantial influence on people's views and attitudes. On the other hand, the call for rapprochement between scientific and religious institutions has increased in the last couple of years, especially by less-conservative denominations. Science is in their eyes no longer the bearer of ungodly news, but rather an approach that can be incorporated in religious theodicies without losing its legitimacy (Haluza-Delay, 2014). These contradicting developments between conservative and more liberal denominations in their positions towards climate change thus call for further research. Based on research by Morrison et al. (2015) and Arbuckle and Konisky (2015), who both elaborate on these differences in the, respectively, Australian and American context, this study examines whether this effect is also apparent in the Dutch context.

Besides studying the relationship between various Christian denominations and climate change sceptic attitudes, a possible moderating effect of moral traditionalism in Christian regions is examined. Although the Netherlands is highly secularized, there are still areas where religion is more prevalent (e.g. the 'Bible-belt') than others (Schmeets, 2016). Living in such areas would account for higher levels of moral traditionalism because of the presence of so-called moral communities in these regions (Jaime-Castillo, Fernández, Valiente, & Mayrl, 2016; Stark, Järvinen, Timonen, & Utriainen, 1996). Religious, traditionalistic beliefs will be more affirmative in these areas because the environment is more collectively religious and these beliefs will thus be more easily exchanged and adopted among members of these communities (Jaime-Castillo et al., 2016). These higher levels of

moral traditionalism will consequently account for more conservative viewpoints (De Koster & Van der Waal, 2007), which are a proven indicator of climate change sceptic attitudes (e.g. McCright et al., 2016).

Hence, the main goal of this research is to examine the differences in biblical literacy between various Christian denominations in the Netherlands and their relationship with climate change sceptic attitudes. In addition, the moderating role of (moral) traditionalism in Christian areas is considered. This leads to the following research question:

"To what extent does biblical literacy affect climate change sceptic attitudes among adherents of different Christian denominations in the Netherlands? How can this relationship be explained and to what extent is this relationship influenced by levels of moral traditionalism in Christian areas?"

This research question is answered by the means of quantitative data analysis. Using the European Social Survey (Round 8, 2016), levels of climate change scepticism among followers of different Christian denominations in the Netherlands are determined. This dataset is combined with the dataset of 'God in Nederland' (*God in the Netherlands*) (2015), which contains information on the levels of biblical literacy of various Christian denominations. The theoretical framework in the next chapter sets out the environmental attitudes the examined denominations adhere to as well as a further discussion of the concept of moral traditionalism. After discussing the main concepts, the methods used in this study are described in the methodological section. Next, the results of the analyses are presented in chapter 4. To conclude, the last section of this thesis outlines the main findings of this paper and discusses the implications and recommendations this study has for future research.

2. Theoretical Framework

The relationship between religion and climate (sceptic) attitudes has not been examined extensively since religion is not considered an important factor in explaining climate sceptic viewpoints (Tranter & Booth, 2015). However, building on the work of Morrison et al. (2015) and Arbuckle and Konisky (2015), who claim that religion must be categorized in literal and non-literal denominations to be able to accurately measure religion's impact, this theoretical framework discusses the main concepts and insights that are relevant in the context of the Netherlands. In the first part, the concepts of climate change scepticism and biblical literacy are explored. Biblical literacy will be examined by the means of White's (1967) thesis on religious environmental attitudes and discusses the various interpretations of different Christian denominations in the Netherlands. To complete the theoretical framework and its specific focus on the Netherlands, the concept of (moral) traditionalism is examined. Since some areas in the Netherlands have a higher share of Christian inhabitants (Schmeets, 2016), this might be a moderating variable of importance when studying the main relationship between being part of a Christian denomination and having climate sceptic attitudes in a Dutch context.

2.1 Climate Change Scepticism

Climate change scepticism (or *climate change sceptics* when referring to people who display these attitudes) is a widely used concept in contemporary research on climate change attitudes. The concept refers to attitudes "that dispute, deny or question the mainstream/orthodox thesis that the global climate is changing primarily due to human activities and that these changes will severely affect both ecosystems and human populations if left unarrested" (Van Rensburg, 2015, p. 1). Systematic research by Cook et al. (2016) established the scientific consensus that climate change is indeed attributable to anthropogenic activity. Claiming the opposite in contemporary times therefore automatically implies that someone questioning the mainstream consensus is a 'sceptic' of what is to be the irrefutable truth (Van Rensburg, 2015; Whitmarsh, 2011).

Scepticism is not the only concept used in today's literature when describing questioning or opposing attitudes towards anthropogenic climate change. For instance, McCright and Dunlap (2010) use the concept of *denial* when referring to absolute distrust in the current climate change consensus. After examining several publications on this matter, Poortinga et al. (2011) conclude that terms as 'scepticism' and 'denial' are often used interchangeable but should be treated carefully when researching these attitudes. Uncertainty and ambivalence among sceptics could imply that they have a more sensitive way of validating human-induced climate change than the ones displaying forthright

denial of this phenomenon. Although there is some ambiguity and overlap in the conceptualization of climate scepticism, this study will use the general concept of 'climate change scepticism' by Van Rensburg (2015).

Why denial is different from being sceptical is highlighted by the contemporary climate debate. Rather than a straightforward scientific discussion, it has become a multi-layered, complex debate which is interwoven with social and political facets. The implications of climate change in general and climate-mitigating policies in particular do often account for high levels of uncertainty among the public because consequences of climate change mitigation policies are different for certain social groups and individuals (Dunlap, 2013; Corner, Whitmarsh, & Xenias, 2012). This variation in uncertainty for different groups can consequently lead to different forms of climate change scepticism (Corner et al., 2012). Due to this reason and the complex nature of the climate debate, a more sensitive way of approaching the concept of climate change scepticism is sought-after (Poortinga et al., 2011).

Rahmstorf (2004) already addressed this conceptual issue before and distinguishes between three forms of climate change scepticism. *Trend scepticism* signifies that people deny, question or dispute the general existence of climate change. This type of scepticism shows the most similarities to the dimension of scepticism when treated as a one-dimensional concept, which is often used in contemporary literature on this topic. Recent research (e.g. Capstick et al., 2015) showed that this kind of scepticism is most common in The United States, Australia and the United Kingdom, where conservative think thanks are important actors in defining the public climate debate. The second distinction made is *attribute scepticism.* The group adhering to this concept may accept that the global climate is changing, but thinks this development is rather shaped by natural processes than to be human-induced. The last category of Rahmstorf's (2004) framework is *impact scepticism*. Sceptics who fit in this category think that climate change might be induced by mankind but simultaneously state that global warming will not have far-reaching harmful consequences. Moreover, this group even emphasizes the positive effects climate change could have for life on earth.

This paper focusses on all three forms of scepticism mentioned above. Existing literature does not yet connect certain Christian denominations to a specific form of climate change scepticism.

2.2 Biblical Literacy and Religious Environmental Attitudes

In 1967, White wrote a fundamental paper about the Judeo-Christian theodicy and that their desire for a so-called 'dominion over nature' perspective is one of the main reasons mankind is facing the current ecological crisis. This 'dominion over nature' perspective stems from Genesis 1:26, which reads: '*Then God said, "Let us make man in our image, after our likeness. And let them have dominion*

over the fish of the sea and over the birds of the heavens and over the livestock and over all the earth and over every creeping thing that creeps on the earth." Empirical research in the United States shows that this perspective is often propagated by Christians who have a more literal interpretation of the Bible (Arbuckle & Konisky, 2015). This higher level of biblical literacy leads to having fewer concerns about environmental issues and stronger convictions that humanity will be able to effectively control possible (negative) outcomes (Guth, Green, Kellstedt, & Smidt, 1995; Eckberg & Blocker, 1989). Although White (1967) does not distinguish between various denominations and foremostly focused on the 'dominion over nature' perspective, other studies claim that there are also Christian denominations with a competing perspective on climate and environment (e.g. Berry, 2006; Black, 1970). This perspective is called the 'stewardship over nature' perspective and stems from one of the Bible's most important messages, which reports that people must take care of all that God created, including the natural environment. These denominations would encourage their adherents to be protective of the earth and its environment (Arbuckle & Konisky, 2015; Wilkinson, 2012; Berry, 2006). This view is often propagated by less literal denominations.

Hence, there seems to be a connection between the biblical literalness of a Christian denomination and their environmental attitudes. These effects are, however, not often connected to specific denominations (Arbuckle & Konisky, 2015; Morrison et al, 2015). In the United States, research conducted by Hand and Van Liere (1984) demonstrates that more liberal Christian denominations as Episcopalians and Methodists are more inclined towards environmental-friendly attitudes compared with more conservative affiliations like Baptists (Arbuckle & Konisky, 2015). Wolkomir (1997), however, found no significant differences in environmental attitudes among literal and non-literal Christian denominations. More recent, similar research is conducted by Morrison et al. (2015). This study illustrates that in Australia literal denominations display more sceptic or even negative attitudes towards contemporary climate change when compared to less- or non-literal denominations.

While the effect of biblical literacy on environmental (climate) attitudes is established in the Australian (Morrison et al., 2015) and American context (Arbuckle & Konisky, 2015), the generalizability and applicability of these findings in other contexts is contested. For instance, Tjernström & Tietenberg (2008) claim that the effect of religion on climate change attitudes is influenced by several contextual factors such as the possible consequences of climate change for a specific country, openness of society and the general trustworthiness of the current administration.

In the Netherlands, the most prevalent Christian denominations are Roman Catholic, Protestant (PKN) and Reformed (Schmeets, 2016). According to De Hart and Van Houwelingen

(2018), there is still substantial variation in literacy within these denominations. Unfortunately, no research has yet been conducted on the exact level of literacy among sub-denominations and accordingly, this study will focus on the abovementioned umbrella-denominations.

When comparing these Dutch denominations in their biblical literacy, it is important to mention that the Netherlands experienced a strong secularization in the last decades, which resulted in a strong decline in religious orthodoxy among denominations in general (De Hart & Van Houwelingen, 2018). This decline in orthodoxy could imply that in the Netherlands the 'stewardship over nature' perspective will be more adhered to than in the United States, where orthodox, literal Christianity is still more prevalent (Arbuckle, 2016) and trust in climate-science is lower than in other western countries (Tjernström & Tietenberg, 2008). Both arguments are, according to Morrison et al. (2015), important predictors whether adherers of Christian denominations will be more or less sceptical towards environmental issues.

Despite the strong secularization in the Netherlands, there are still movements within the three Dutch denominations that endorse a stricter biblical interpretation than others. In the Roman-Catholic denomination, this literacy is least present and adherers foremostly adhere to the 'stewardship over nature' perspective (De Hart & Van Houwelingen, 2018). This could be explained by the idea of *ecological debt* that has been introduced by the leading Catholic administration in Rome. In the latest years, this concept is already incorporated and discussed in Catholic spheres and represents a standpoint that endorses the 'stewardship over nature' prospect and focusses on the possible negative, economic and social, implications climate change could have for the less fortunate in society (Jenkins, Berry & Kreider, 2018).

Within the Dutch Protestant denominations, variation in biblical literacy exists between sub-affiliations (De Hart & Van Houwelingen, 2018; Schmeets, 2016). Especially the PKN (Protestant Church in the Netherlands) is a mixture of various sub-affiliations where some movements tend to, due to their higher level of biblical literacy, support the 'dominion over nature' perspective, where others will support the 'stewardship over nature' perspective (Schmeets, 2016). This variation is present because the PKN is foremostly a practical collaboration in the pursuit of achieving a strong Protestant voice in the Dutch religious landscape (Hoeksta & Ipenburg, 2008). This merger of various beliefs and philosophies ensured that some of the more conservative, and thus more literal, denominations no longer supported the relative liberal view of the PKN and separated themselves as Reformed (De Hart & Van Houwelingen, 2018; Hoeksta & Ipenburg, 2008). Overall, it can be assumed that although there is strong variance within the PKN, the adherers of the PKN will be more biblically

literal than Roman Catholics, but less literal than the followers of Reformed denominations. This leads consequently to the following hypotheses:

H1a: The more biblically literal a denomination is, the more trend sceptic attitudes they will display.

H1b: The more biblically literal a denomination is, the more attribute sceptic attitudes they will display.

H1c: The more biblically literal a denomination is, the more impact sceptic attitudes they will display.

2.3 Moral Traditionalism in Christian Regions

Traditionalism is seen as one of the main characteristics of Christianity (Duckitt, Bizumic, Krauss, & Heled, 2010; De Koster & Van der Waal, 2007). De Koster and Van der Waal (2007) state that "Christians dominate the traditional part of society when it comes to moral issues such as gender relations, sexuality, life, and death" (p. 453). Since these issues are often of a moral entity, we will speak from now on of *moral traditionalism*. This moral traditionalistic stance on such issues is inspired by a more literal interpretation of the Bible and can thus be connected to the 'dominion over nature' perspective discussed earlier. Moral traditionalism is, in other words, an approach that favours a masculine order and respects God-given life which consequently "should be protected against man-induced changes" (De Koster & Van der Waal, 2007, p. 453).

Although moral traditionalism in contemporary literature is not yet directly connected with climate change sceptic attitudes, the concept of moral traditionalism is often used interchangeably with the concepts conservatism and authoritarianism to explain right-wing voting behaviour, which are proven to be explanatory variables for climate change scepticism (McCright et al., 2016; Tranter & Booth, 2015; Hamilton et al., 2015; Kvaløy et al., 2015; Clements, 2012). Duckitt et al. (2010) argue, however, that these concepts all explain different aspects of right-wing ideological stances and thus could have different interactional effects on the relationship between the denominations and the three forms of climate change sceptic attitudes. Moral traditionalism is seen as the only of the three concepts that connects with biblical literacy (De Koster & Van der Waal, 2007) and thus could be seen as a strengthening interaction in the relationship between various denominations and climate change sceptic attitudes when adherents, besides being more or less literal, also display higher levels of moral traditionalism.

Moral traditionalism is, as De Koster and Van der Waal (2007) state, a typical Christian trait. In the Netherlands, there are certain areas where the share of Christians is higher than in other areas (Schmeets, 2016). Together, these areas are referred to as the so-called 'Bible-belt'. It is likely that levels of moral traditionalism will be higher in these regions, where Christianity is more prevalent. As Jaime-Castillo et al. (2016) argue: religion does not solely operate on an individual level but also on a collective level. When a certain region or area inhabits more Christians, so-called moral

communities will rise. These communities entail a condition where religious beliefs and ideas are constantly reinforced and adopted (Jaime-Castillo et al., 2016), or as Stark et al. (1996) state: "what counts is not only whether a particular person is religious, but whether this religiousness is, or is not, ratified by the social environment" (p. 164).

The theory that underlies Jaime-Castillo et al. (2016) thesis is Allport's (1954) contact theory. This theorizing implies that people will reaffirm or reconsider their cultural values and dispositions dependent on the environment they live in and the connections they have within these environments. This means that if people reside in highly moral, homogeneous, traditionalistic areas like the Bible-belt, people will constantly be reinforced in their beliefs on moral traditionalistic stances and predispositions and therefore will have more conservative attitudes which consequently could lead to higher levels of climate change scepticism (cf. De Koster & Van der Waal, 2007). The opposite line of reasoning could be applied as well: when people live in non-traditionalistic, more secularistic areas (e.g. culturally diverse cities), they are likely to interact with culturally dissimilar others more often. Hence, if Christians live in more secular areas, they will have less moral traditionalistic values and predispositions compared to Christians living in moral traditionalistic areas like the Bible-belt.

Taking the abovementioned moral community thesis (Jaime-Castillo et al., 2016; Stark, 1996) and contact theorizing by Allport (1954) in consideration, this leads to the following hypotheses:

H2a: The positive effect of biblical literacy on trend sceptic attitudes becomes stronger when people display higher levels of moral traditionalism.

H2b: The positive effect of biblical literacy on attribute sceptic attitudes becomes stronger when people display higher levels of moral traditionalism.

H2c: The positive effect of biblical literacy on impact sceptic attitudes becomes stronger when people display higher levels of moral traditionalism.

2.4 Conceptual Model

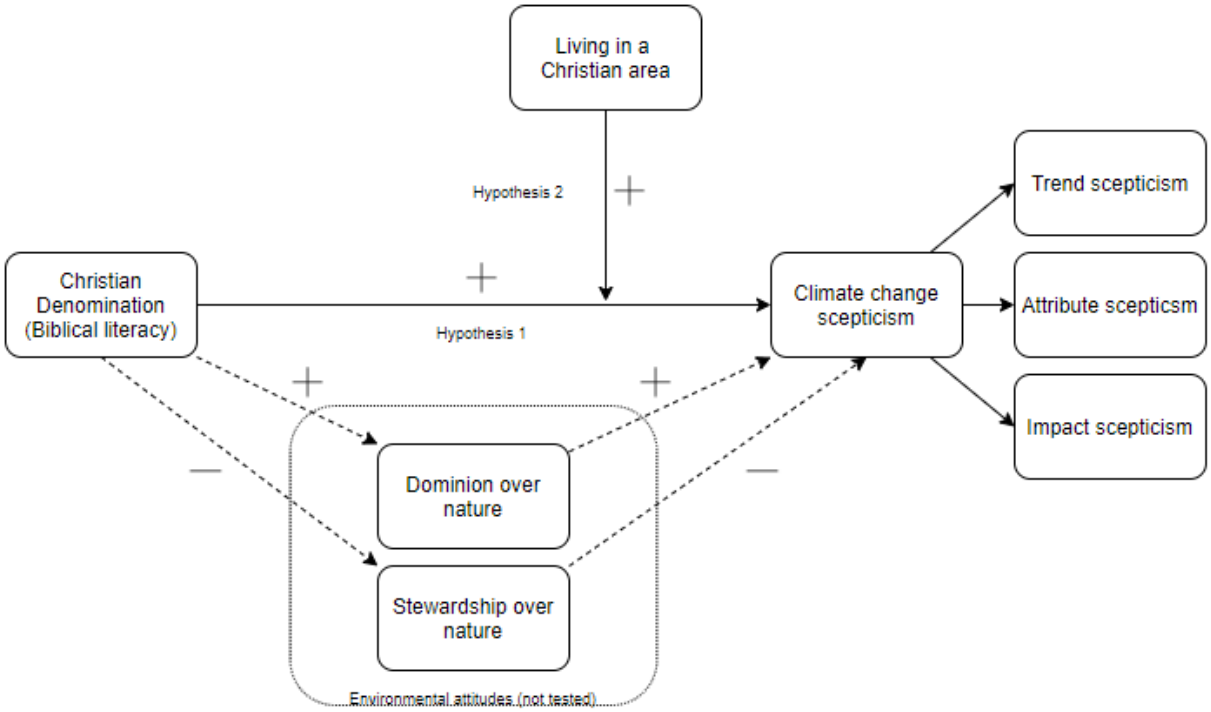


Figure 1: Conceptual model

3. Methodology

3.1 Dataset

For this study, the main analysis is conducted using the dataset of the European Social Survey (ESS, Round 8, 2016). In this round of the ESS inhabitants of 23 different European countries are questioned about various subjects concerning beliefs, behaviours and attitudes. Round 8 of the ESS (2016) introduced a set of questions regarding climate change attitudes. The selected respondents all resided in the Netherlands and the country response rate was 53% (ESS, 2016). In total 1.681 respondents participated in this survey and, after filtering, 406 were identified as belonging to one of the three denominations. In this sample 222 were identified as Roman Catholics, 139 as Protestants and 45 as Reformed.

Apart from the ESS (2016), the 'God in Nederland'-dataset (GiN, 2015) is used to verify the levels of biblical literacy of the three different denominations. This dataset contains respondents drawn from the LISS-panel and consists of 2197 respondents. In total, 557 people were identified as adherers of one of the three examined denominations (Roman Catholic: 286, Protestant: 211, Reformed: 60). Although this sub-analysis is not included in the explanatory analyses, it supports the theoretically based assumption that there is a difference in biblical literacy between the denominations and will be presented as such.

3.2 Operationalization

3.2.1 Climate Change Scepticism

The concept of climate change scepticism consists of three different forms, namely: 'trend scepticism', 'attribute scepticism' and 'impact scepticism' (Rahmstorf, 2004). Trend scepticism is a sceptic attitude that involves questioning or disputing the general existence of climate change. This attitude is tested by the question: *"Do you think the world's climate is changing?"*. This question is based on a 4-point Likert-scale with the possible answers: '1 = Definitely changing', '2 = Probably changing', '3 = Probably not changing' and '4 = Definitely not changing'. A higher score on this question corresponds with a more trend sceptic attitude.

Attribute scepticism involves sceptic attitudes towards the general scientific consensus that climate change is foremostly induced by mankind. This group of sceptics assumes that climate change is rather due to natural processes. This form of scepticism is tested by the question: "*Climate change caused by natural processes, human activity, or both"*. This question is based on a 5-point Likert-scale and is recoded since believing in a higher impact of natural processes is seen as more attribute

sceptic. The question consists of the following possible answers: '1 = Entirely by human activity', '2 = Mainly by human activity', '3 = About equally by natural processes as by human activity', '2 = Mainly by natural processes' and '5 = Entirely by natural processes. Although it is true that climate change is not entirely due to human activity (e.g. Cook et al, 2016) and existed already long before mankind, this question is based on contemporary climate change issues and therefore a higher score on this question implies that someone is more attribute sceptic.

The last form of climate change scepticism that is examined is impact scepticism. This notion of scepticism entails a belief that climate change is foremostly induced by humans and involves a conviction that climate change will not have far-reaching implications for life on earth. This concept of scepticism is measured by the question: "*How worried are you about climate change?*". This question is recoded, based on a 5-point Likert-scale and consists of the following answers: '1 = Extremely worried', '2 = Very worried', '3 = Somewhat worried', '4 = Not very worried' and '5 = Not at all worried.' A higher score on this question implies a higher level of impact scepticism.

3.2.2 Biblical Literacy

For testing the level of biblical literacy of the Roman Catholic, Protestant and Reformed denominations the GiN dataset (2015) is used. Since merging the ESS (2016) and GiN (2015) datasets is not possible, levels of biblical literacy are derived from this dataset to strengthen the theoretical position on the levels of biblical literacy these different denominations hold. The indicator of biblical literacy is tested by the question: *"Ziet u de Bijbel als het woord van God?"* ("*Do you think the Bible is the literal word of God?")*. This question is recoded and based on a 3-point Likert-scale and consists of the following possible answers: '1 = No, it is not the word of God', '2 = Is partly/in some sense the word of God' and '3 = Yes, it is the word of God'.

3.2.3 Moral Traditionalism in Christian Regions

The variable 'moral traditionalism' is measured by the following question: *"Important to follow traditions and customs"*. This question measures to what extent people adhere to traditionalistic ideas. This question is recoded to ensure that higher scores indicate a higher level of moral traditionalism and is based on a 6-point Likert-Scale which consists the following possible answers: '1 = Not like me at all', '2 = Not like me', '3 = A little like me'. '4 = Somewhat like me', '5 = Like me' and '6 = Very much like me.' For this specific operationalization, it is important to note that this question is used as a proxy for missing area-specific data needed to truly test for Jaime-Castillo et al.'s (2016) moral community thesis. The explanation and substantiation of this limitation will be discussed in chapter 5.

3.2.4 Sociodemographic Variables

To control for possible confounding influences a set of key-sociodemographic variables is added. These variables are regarded as important by contemporary literature on climate change attitudes (e.g. McCright et al., 2016; Morrison et al., 2015; Tranter & Booth, 2015). The first added control-variable is the placement on a political left-right scale. This is an important variable according to Tranter and Booth (2015) since they demonstrate that a more rightist placement is associated with higher levels of climate change scepticism. This attitude is measured by a self-placement on a political left-to-right scale where '0' means placement on the far left and a '10' placement on the far right of the political spectrum. Second, McCright et al. (2016) demonstrate that higher educated people are, in general, less climate sceptic than lower educated people. Taking this into consideration, an 18-point ordinal education scale is divided in 'Education level: Low' (No education up to MBO-2), 'Education level: Middle' (MBO 2 up to MBO 4) and 'Education level: High' (College (HBO) up to a doctorate) (CBS, 2016). Furthermore, often used sociodemographic variables that are added are: Gender (Male = 0), age (in years) and whether someone currently has paid employment (0 = No/1 = Yes).

3.3 Descriptive Statistics

Table 1: Descriptive statistics of all variables (N = 368)

	N	Mean	SD	Min.	Max.
Trend scepticism	403	1.37	0.573	1	4
Attribute scepticism	399	2.66	0.736	1	5
Impact scepticism	401	3.03	0.792	1	5
Moral traditionalism	403	4.72	0.995	1	6
Placement on political left-right scale	379	5.73	1.872	0	10
Education level: Low	406	0.41	0.493	0	1
Education level: Middle	406	0.62	0.928	0	2
Education level: High	406	0.82	1.338	0	3
Gender (Male = 0)	406	0.60	0.490	0	1
Age of respondent (in years)	406	58.38	18.318	16	97
Paid work (0 = No/1 = Yes)	406	0.40	0.491	0	1
Valid N	**368**				

European Social Survey Round 8 (2016)

3.4 Methods of Analysis

To test the hypotheses formulated in the theoretical framework, multivariate linear regression analyses are carried out using IBM SPSS Statistics 25. The first model analyses the main relationship between the three denominations and climate change scepticism. This process is repeated three times for every form of scepticism (trend, attribute, impact). For the following models 2 and 3, this

repetition is maintained. In model 2, the sociodemographic variables are included to control for confounding effects that can influence the base-line relationship. The third and last model includes the interactional effect of moral traditionalism, which reveals whether the base-line relationship becomes stronger when someone displays higher levels of moral traditionalism. In addition, prior to the main analysis, a simple descriptive model is presented to show the different levels of biblical literacy for the three denominations.

4. Results

4.1 Biblical Literacy

Since variables about biblical literacy are missing in ESS Round 8 (2016), assumptions on biblical literacy are tested using the 'God in Nederland' dataset (2015). The results in table 2 support the theoretical assumptions that Roman Catholics (1.81) in the Netherlands are less biblically literal than adherers of Protestant (2.35) and Reformed (2.79) denominations. These findings are consistent with previous findings of De Hart and Van Houwelingen (2018).

Table 2: Differences in biblical literacy between the various denominations

		Roman Catholics	Protestants	Reformed	Total
Is the Bible the word of God?	No (1)	76	17	1	94
	Partly (2)	128	98	10	236
	Yes (3)	34	87	47	168
	Total	238	202	58	**498**
Average level of literacy		**1.82**	**2.35**	**2.79**	

God in Nederland (2015); The range of the level of biblical literacy is between 1 and 3.

4.2 The Effect of Biblical Literacy and Moral Traditionalism on Climate Sceptic Attitudes

Table 3, 4 and 5 present the results of three sets of multiple regression analyses that show the effects of religious affiliation, socio-demographics and interactions addressing whether moral traditionalistic values account for a higher level of climate change scepticism. Since the concept of climate change scepticism in this paper is divided into *trend scepticism*, *attribute scepticism* and *impact scepticism*, each form is presented in distinct tables.

Table 3 presents three regression analyses for trend scepticism. This form of scepticism determines whether someone questions or disputes the general existence of climate change. In model 1 only religious variables are included, with sociodemographic variables added in model 2 and interaction variables added in model 3. Model 1 shows that Protestants display a small but significantly higher level (b = 0.066; $p < 0.05$) of trend scepticism than Roman Catholics (reference category). Despite the theoretical assumption that adherers of the Reformed denomination would display even higher levels of scepticism, the coefficient (b = 0.033), although positive, shows no significant effect. However, the first model has low explained variance (1.2%), which indicates that levels of literacy solely explain little variance for this specific form of scepticism. Model 2 has a slightly higher explained variance (2.3%), but none of the sociodemographic variables displays a

significant effect on the dependent variable. When these variables are included, the Protestant variable still shows a significant effect (b = 0.069; $p < 0.05$). This observation thus partly supports hypothesis 1a, which stated that protestants (significant) and reformed adherers (not significant) in general will be more climate sceptic due to higher levels of biblical literacy.

Table 3: Multiple linear regression analyses showing the effect of various religious variables, socio-demographics and interaction variables on the level of 'Trend scepticism' (N = 368)

	Model 1: Religious variables only	**Model 2: Religious variables + Socio-demographics**	**Model 3: Religious variables + Socio-demographics + Interactions**
Constant	1.328 (0.040)***	1.169 (0.183)***	1.180 (0.184)***
Religious variables			
Protestants [a]	0.066 (0.032)**	0.069 (0.032)**	0.069 (0.033)**
Reformed [a]	0.033 (0.032)	0.032 (0.033)	0.034 (0.033)
Socio-demographic variables			
Placement on political left-right scale (1 = Extreme left/10 = Extreme right)		0.006 (0.016)	0.004 (0.016)
Education level: Low [b]		0.102 (0.077)	0.101 (0.77)
Education level: Middle [b]		0.054 (0.038)	0.057 (0.038)
Gender (Male = 0)		-0.034 (0.062)	-0.041 (0.062)
Age of respondent		0.001 (0.002)	0.001 (0.002)
Paid work (0 = No/1 = Yes)		0.031 (0.076)	0.028 (0.076)
Moral traditionalism		-0.032 (0.031)	-0.043 (0.040)
Interaction variables			
Protestants * Moral traditionalism			0.003 (0.033)
Reformed * Moral traditionalism			0.041 (0.041)
R^2	**0.012**	**0.023**	**0.026**

*The reference category for [a] is Roman Catholics and the reference category for [b] is Education level: High; Standard errors are in brackets; Unstandardized coefficients; *** = p < 0.01 / ** = p < 0.05 / * = p < 0.1*

The third model tests whether the effect of moral traditionalistic values on climate change sceptic attitudes will be stronger for more biblically literal adherers (Protestant and Reformed denominations) compared with less or non-literal believers, in this paper represented by Catholics. Although the interaction-effect of the Reformed coefficient (b = 0.041) points towards a possible interaction-effect for trend scepticism (with Roman Catholics as reference category), this effect is not significant. The assumption of a possible interaction-effect between biblical literacy and moral traditionalism is thus not supported and hypothesis 2a is therefore rejected.

Table 4: Multiple linear regression analyses showing the effect of various religious variables, socio-demographics and interaction variables on the level of 'Attribute scepticism' (N = 368)

	Model 1: Religious variables only	**Model 2: Religious variables + Socio-demographics**	**Model 3: Religious variables + Socio-demographics + Interactions**
Constant	2.701 (0.050)***	1.999 (0.227)***	2.003 (0.228)***
Religious variables			
Protestants [a]	-0.057 (0.041)	-0.062 (0.040)	-0.062 (0.040)
Reformed [a]	-0.011 (0.040)	0.000 (0.041)	-0.002 (0.041)
Socio-demographic variables			
Placement on political left-right scale (0 = Extreme left/10 = Extreme right)		0.058 (0.020)***	0.058 (0.020)***
Education level: Low [b]		0.042 (0.095)	0.048 (0.096)
Education level: Middle [b]		-0.018 (0.047)	-0.017 (0.047)
Gender (Male = 0)		0.112 (0.077)	0.126 (0.077)
Age of respondent		0.005 (0.003)*	0.005 (0.003)*
Paid work (0 = No/1 = Yes)		0.008 (0.094)	0.006 (0.094)
Moral traditionalism		-0.035 (0.039)	-0.055 (0.050)
Interaction variables			
Protestants * Moral traditionalism			0.037 (0.037)
Reformed * Moral traditionalism			-0.017 (0.051)
R^2	**0.005**	**0.051**	**0.054**

*The reference category for [a] is Roman Catholics and the reference category for [b] is Education level: High; Standard errors are in brackets; Unstandardized coefficients; *** = p < 0.01 / ** = p < 0.05 / * = p < 0.1*

Table 4 presents the regression analyses for attribute scepticism. This form of scepticism involves sceptic attitudes towards the general scientific consensus that climate change is foremostly induced by mankind. Different from the analysis of trend scepticism, the first regression for attribute scepticism shows that, contrary to previous research, the Protestant (*b* = -0.057) and Reformed (*b* = -0.011) variables both point towards a negative effect for this specific form of scepticism. These effects are, however, not statistically significant. When the control variables are added in model 2, the religious effects remain small and insignificant, which results in rejecting hypothesis 1b. This model furthermore suggests that a more rightist placement on the political left-right scale contributes significantly (*b* = 0.058; p < 0.01) to someone's attribute scepticism. This supports the theoretical assumption that people's climate change attitudes are affected by their political orientation (cf. McCright et al., 2016). Besides a small effect for age (*b* = 0.005; p < 0.10), other sociodemographic variables showed no significant effects. This model had an explained variance of

5.1%. Results of the analyses for the interaction-effects are reported in model 3. For both Protestant and Reformed adherers, there is no indication that stronger moral traditionalistic values will lead to higher levels of attribute scepticism when compared with the Catholic reference group. Hence, since no significant results are observed, hypothesis 2b will be rejected.

Table 5: Multiple linear regression analyses showing the effect of various religious variables, socio-demographics and interaction variables on the level of 'Impact scepticism' (N = 368)

	Model 1: Religious variables only	**Model 2: Religious variables + Socio-demographics**	**Model 3: Religious variables + Socio-demographics + Interactions**
Constant	3.015 (0.055)***	2.491 (0.247)***	2.509 (0.248)***
Religious variables			
Protestants [a]	-0.011 (0.044)	-0.004 (0.044)	-0.003 (0.044)
Reformed [a]	0.019 (0.044)	0.003 (0.044)	0.003 (0.044)
Socio-demographic variables			
Placement on political left-right scale (1 = Extreme left/10 = Extreme right)		0.058 (0.022)***	0.055 (0.022)**
Education: Low [b]		0.294 (0.104)***	0.303 (0.104)***
Education: Middle [b]		0.117 (0.051)**	0.122 (0.051)**
Gender (Male = 0)		-0.070 (0.083)	-0.073 (0.084)
Age of respondent		0.000 (0.003)	0.000 (0.003)
Paid work (0 = No/1 = Yes)		0.083 (0.102)	0.077 (0.103)
Moral traditionalism		-0.069 (0.042)	-0.113 (0.054)**
Interaction variables			
Protestants * Moral traditionalism			0.058 (0.045)
Reformed * Moral traditionalism			0.029 (0.055)
R^2	**0.001**	**0.052**	**0.056**

*The reference category for [a] is Roman Catholics and the reference category for [b] is Education level: High; Standard errors are in brackets; Unstandardized coefficients; *** = p < 0.01 / ** = p < 0.05 / * = p < 0.1*

The last set of regression analyses is carried out for impact scepticism as dependent variable and presented in table 5. This last form of climate change scepticism entails a belief that climate change will not have far-reaching implications for life on earth. Just like with attribute scepticism, model 1 shows that there is no statistical difference between the three examined denominations. With the added control variables, model 2 shows no difference for both the Protestant and Reformed variables compared to the base model. Therefore, hypothesis 1c will be rejected. Moreover, model 2 (with an explained variance of 5.2%) shows that a rightist placement on a political left-right scale significantly

(*b* = 0.058; p < 0.01) accounts for higher levels of impact scepticism. Different from trend scepticism and attribute scepticism, the second model indicates that someone's education level contributes significantly to the level of impact scepticism. Lower educated respondents seem to be more sceptical (*b* = 0.294; p < 0.01) than middle (*b* = 0.117; p < 0.05) and higher educated adherers (reference category). This observation support previous findings (cf. McCright et al, 2016; Hamilton et al., 2015) and are thus applicable to the Dutch context considering Christians. The remaining control variables gender, age and working condition display no significant effects. The final model of table 5 illustrates that the effect of moral traditionalism becomes significant when the interaction variables are included. Since Catholics are included as reference category, this effect (*b* = -0.113; p < 0.05) implies that Catholics are less impact sceptic when their level of moral traditionalism is higher. This finding could support the moral community thesis by Jaime-Castillo et al. (2016) which implies that, in this case, Catholics could reinforce each other in their 'stewardship over nature' perspective. When examining the Protestant (*b* = 0.058) and Reformed (*b* = 0.028) interaction coefficients, there seems to be no indication that higher levels of moral traditionalism influences these denominations' levels of impact scepticism. Although there thus seems to be an indication that moral traditionalism plays a role for Catholic adherers regarding their level of impact scepticism, no significant difference is observed between the denominations. Hypothesis 2c will therefore be rejected.

5. Conclusion & Discussion

Climate change has increasingly become an important issue in scientific literature as well as in public and political discourses. In academics, consensus has been reached that climate change has irreversible and negative consequences for the world and its inhabitants, yet not everyone is convinced global warming will have these far-reaching implications. One of the possible explanations for these climate change sceptic attitudes is the role of religion. Previous research that examined climate change scepticism often used religion as a one-dimensional dichotomous variable, ignoring the possible variance between denominations in their environmental attitudes. Expanding on studies conducted in Australia (Morrison et al., 2015) and the United States (Arbuckle & Konisky, 2015), this research aimed to examine whether the level of biblical literacy of religious denominations has its effect on adherers' climate change sceptic attitudes in the Netherlands. Different than prior research, this study used three forms of climate change scepticism (trend scepticism, attribute scepticism and impact scepticism) based on the framework of Rahmstorf (2004). This approach made it possible to address the complex nature of the concept of climate change scepticism in a more nuanced manner.

Based on three sets of linear regression analyses using the dataset of the 2016 European Social Study, the results of this study could not provide conclusive evidence that findings from previous research, stating that there is a difference between literal and non-literal denominations in climate change sceptic attitudes, can be applied to the Dutch context. Other than a small effect showing that Protestant adherers are more trend sceptic than Catholics, no differences between denominations were found.

An explanation for this finding can be found in the general absence of a 'dominion over nature' perspective among Christian adherers in the Netherlands. Where White (1967) argued that more biblically literal adherers would be in favour of this particular perspective, the results of this study indicate that this rationale does not apply for the Dutch context. As discussed, the presence and widespread influence of ultra-conservative religious movements as seen in the United States (Arbuckle & Konisky, 2015) is less present in a relatively secular, progressive country that is the Netherlands (De Hart & Van Houwelingen, 2018). For these reasons, the adherers of both the literal and non-literal denominations in the Netherlands possibly prefer a 'stewardship over nature' perspective over a 'dominion over nature perspective', which would explain the discrepancy between this study and the results of Arbuckle and Konisky (2015) in the United States and Morrison et al. (2015) in Australia.

The second hypothesis addressed the interaction-effect of moral traditionalism on the level of biblical literacy. The analyses showed that no differences were observed in levels of moral traditionalism between the examined denominations. Roman Catholics showed a significantly lower level of impact scepticism with higher levels of moral traditionalism, but since the interactional effects of Protestants and Reformed adherers showed no significant effect, there was no conclusive evidence that the examined groups differed in their impact sceptic viewpoints. Although not conclusive, this finding suggests that Roman-Catholics might reinforce each other in their 'stewardship over nature' perspective following the moral-community thesis of Jaime-Castillo et al. (2016). This research suggested that religious adherers could be reinforced or reaffirmed in their cultural and ecological dispositions when living in homogeneous Christian environments. Furthermore, since Roman-Catholics have more progressive ecological dispositions inspired by the current leading religious administration in Vatican City, this might explain why the effect of moral traditionalism was only present for this group.

Although the main findings were not in line with the hypotheses, there were some remarkable differences observed between the various examined forms of scepticism when considering other characteristics than religion. First, although often presented as an important explanatory factor, the level of trend scepticism seemed not to be conditioned by political orientation (cf. e.g. McCright et al., 2016) as it was for attribute- and impact scepticism. This can be explained by the fact that trend scepticism could be considered the most general and uncontroversial of the three because this form of scepticism tests whether respondents believe climate change exists at all. Since most people (and thus not only religious adherers) of Western European countries appear to value the scientific climate consensus by Cook et al. (2016) (Tjernström & Tietenberg, 2008), this seems like a logical explanation for the absence of political-ideological effects for this variable.

A second notable observation is that impact scepticism is the only form partly predicted by someone's level of education. Higher educated people appeared to be less impact sceptic than middle- and lower-educated people. This might be due to the fact that this form of scepticism mainly addresses the worry someone displays for the possible implications of climate change. Recent research (e.g. McCright et al., 2016; Kvaløy et al., 2012) already demonstrated that higher educated are more engaged and concerned about the consequences climate change may cause, which is, in this paper, foremostly addressed by impact scepticism. That the other forms of scepticism showed no education-effect could thus be due to the fact that the level of impact scepticism shows whether people have the (educational) ability to value potential harmful implications of climate change

correctly. This is less applicable to trend scepticism and attribute scepticism because these forms are less prone to interpretation.

This study has a number of limitations as well as possible recommendations for future research. First, this research is carried out using the dataset of the ESS (2016), which, after data selection, only included 406 respondents. Apart from this relatively low number, the respondents were not evenly distributed across the examined denominations with only 45 Reformed participants included. As this group was theoretically assumed the most biblically literal, future research should aim for a bigger sample size to ensure more variance between the groups to provide for more reliable outcomes.

Second, in line with the recommendation of Poortinga et al. (2011), this research aimed to widen the methodological concept of climate change scepticism. Since the climate change debate is often complex, three forms of scepticism (based on Rahmstorf, 2004) are discussed rather than the one-dimensional concept of climate change scepticism that is often used in contemporary literature. Since this approach has demonstrated to be fruitful during this study, future research could consider this scope as well, as it can provide valuable nuance.

Furthermore, this research is foremostly based on the study of White (1967) regarding the two religious, ecological perspectives; 'dominion over nature' and 'stewardship over nature'. Although applicable to the American (Arbuckle & Konisky, 2015) and Australian (Morrison et al., 2015) context, the Dutch context showed no corresponding results. More research is thus needed to establish a clear understanding which factors determine conservative or progressive attitudes towards climate change among religious adherers in different countries.

In addition, it is important to assess and value statements regarding the second hypothesis correctly. Since the ESS (2016) lacked the area-specific data needed to accurately test for the moral community thesis (Jaime-Castillo et al., 2016), moral traditionalism on the individual level has been used as a proxy to fill in this data-gap. Although theoretically valid, based on research of De Koster and Van der Waal (2007), the main limitation of this approach is that a moral community (Jaime-Castillo et al., 2016) not solely consists of the sum of individual moral traditionalism-scores but rather is a complex construct which needs the incorporation of other attitude-variables as well.
Further research is thus required to address this data-deficiency to be able to determine to what extent area-specific characteristics play a role in religious adherers' climate change sceptic attitudes.

Apart from methodological recommendations, it remains important for future research to keep investigating into the role that religion plays as a possible explanatory factor regarding climate change sceptic attitudes. Although often portrayed as marginalized in a modern, secularized world,

religion has proven to be an influential factor for a substantial part of the world's population. Research focused on these regions, especially when climate change could be an imminent threat, could therefore be a fruitful addition to contemporary literature.

Bibliography

Allport, G. W. (1954). *The nature of prejudice*. Cambridge, MS: Addison-Wesley Pub. Co.

Arbuckle, M. B. (2016). The Interaction of Religion, Political Ideology, and Concern About Climate Change in the United States. *Society & Natural Resources*, *30*(2), 177–194. https://doi.org/10.1080/08941920.2016.1209267

Arbuckle, M. B., & Konisky, D. M. (2015). The Role of Religion in Environmental Attitudes. *Social Science Quarterly*, *96*(5), 1244–1263. https://doi.org/10.1111/ssqu.12213

Berry, R. J. (2006). *Environmental Stewardship*. London, England: Bloomsbury Academic.

Black, J. N. (1970). *The Dominion of Man*. Edinburgh: Edinburgh University Press.

CBS (2016). *Standaard Onderwijsindeling 2016*. Retrieved from https://www.cbs.nl/nl-nl/onze-diensten/methoden/classificaties/onderwijs-en-beroepen/standaard-onderwijsindeling--soi--/standaard-onderwijsindeling-2016

Clements, B. (2012). Exploring public opinion on the issue of climate change in Britain. *British Politics*, *7*(2), 183–202. https://doi.org/10.1057/bp.2012.1

Cook, J., Oreskes, N., Doran, P. T., Anderegg, W. R. L., Verheggen, B., Maibach, E. W., … Rice, K. (2016). Consensus on consensus: a synthesis of consensus estimates on human-caused global warming. *Environmental Research Letters*, *11*(4), 048002. https://doi.org/10.1088/1748-9326/11/4/048002

Corner, A., Whitmarsh, L., & Xenias, D. (2012). Uncertainty, scepticism and attitudes towards climate change: biased assimilation and attitude polarisation. *Climatic Change*, *114*(3–4), 463–478. https://doi.org/10.1007/s10584-012-0424-6

De Hart, J., & Van Houwelingen, P. (2018). *SCP-publicatie 2018-32 - Christenen in Nederland* (1st ed.). The Hague, Netherlands: Sociaal en Cultureel Planbureau.

De Koster, W., & Van Der Waal, J. (2007). Cultural Value Orientations and Christian Religiosity: On Moral Traditionalism, Authoritarianism, and their Implications for Voting Behavior. *International Political Science Review*, *28*(4), 451–467. https://doi.org/10.1177/0192512107079636

Duckitt, J., Bizumic, B., Krauss, S. W., & Heled, E. (2010). A Tripartite Approach to Right-Wing Authoritarianism: The Authoritarianism-Conservatism-Traditionalism Model. *Political Psychology*, *31*(5), 685–715. https://doi.org/10.1111/j.1467-9221.2010.00781.x

Dunlap, R. E. (2013). Climate Change Skepticism and Denial. *American Behavioral Scientist*, *57*(6), 691–698. https://doi.org/10.1177/0002764213477097

Eckberg, D. L., & Blocker, T. J. (1989). Varieties of Religious Involvement and Environmental Concerns: Testing the Lynn White Thesis. *Journal for the Scientific Study of Religion*, *28*(4), 509. https://doi.org/10.2307/1386580

ESS Round 8: European Social Survey Round 8 Data (2016). Data file edition 2.1. NSD - Norwegian Centre for Research Data, Norway – Data Archive and distributor of ESS data for ESS ERIC. doi:10.21338/NSD-ESS8-2016.

Greeley, A. (1993). Religion and Attitudes toward the Environment. *Journal for the Scientific Study of Religion*, *32*(1), 19. https://doi.org/10.2307/1386911

Guth, J. L., Green, J. C., Kellstedt, L. A., & Smidt, C. E. (1995). Faith and the Environment: Religious Beliefs and Attitudes on Environmental Policy. *American Journal of Political Science*, *39*(2), 364. https://doi.org/10.2307/2111617

Haluza-DeLay, R. (2014). Religion and climate change: varieties in viewpoints and practices. *Wiley Interdisciplinary Reviews: Climate Change*, *5*(2), 261–279. https://doi.org/10.1002/wcc.268

Hamilton, L. C., Hartter, J., Lemcke-Stampone, M., Moore, D. W., & Safford, T. G. (2015). Tracking Public Beliefs About Anthropogenic Climate Change. *PLOS ONE*, *10*(9), e0138208. https://doi.org/10.1371/journal.pone.0138208

Hand, C. M., & Liere, K. D. V. (1984). Religion, Mastery-Over-Nature, and Environmental Concern. *Social Forces*, *63*(2), 555. https://doi.org/10.2307/2579062

Hoekstra, E. G., & Ipenburg, M. H. (2008). *Handboek christelijk Nederland*. Kampen: Kok.

Jaime-Castillo, A. M., Fernández, J. J., Valiente, C., & Mayrl, D. (2016). Collective religiosity and the gender gap in attitudes towards economic redistribution in 86 countries, 1990–2008. *Social Science Research*, *57*, 17–30. https://doi.org/10.1016/j.ssresearch.2016.01.009

Jenkins, W., Berry, E., & Kreider, L. B. (2018). Religion and Climate Change. *Annual Review of Environment and Resources*, *43*(1), 85–108. https://doi.org/10.1146/annurev-environ-102017-025855

Kanagy, C. L., & Nelsen, H. M. (1995). Religion and Environmental Concern: Challenging the Dominant Assumptions. *Review of Religious Research*, *37*(1), 33. https://doi.org/10.2307/3512069

Kregting, drs. J. (Kaski (Radboud Universiteit)) (2016): *God in Nederland 2015*. DANS. https://doi.org/10.17026/dans-x9s-wc6h

Kvaløy, B., Finseraas, H., & Listhaug, O. (2012). The publics' concern for global warming: A cross-national study of 47 countries. *Journal of Peace Research*, *49*(1), 11–22. https://doi.org/10.1177/0022343311425841

McCright, A. M., & Dunlap, R. E. (2010). Anti-reflexivity. *Theory, Culture & Society*, *27*(2–3), 100–133. https://doi.org/10.1177/0263276409356001

McCright, A. M., Dunlap, R. E., & Marquart-Pyatt, S. T. (2016). Political ideology and views about climate change in the European Union. *Environmental Politics*, *25*(2), 338–358. https://doi.org/10.1080/09644016.2015.1090371

Morrison, M., Duncan, R., & Parton, K. (2015). Religion Does Matter for Climate Change Attitudes and Behavior. *PLOS ONE*, *10*(8), e0134868. https://doi.org/10.1371/journal.pone.0134868

Poortinga, W., Spence, A., Whitmarsh, L., Capstick, S., & Pidgeon, N. F. (2011). Uncertain climate: An investigation into public scepticism about anthropogenic climate change. *Global Environmental Change*, *21*(3), 1015–1024. https://doi.org/10.1016/j.gloenvcha.2011.03.001

Rahmstorf, S. (2004, January). The Climate Sceptics. *The Potsdam Institute for Climate Impact Research: The State of Science*. Retrieved from http://www.pik-potsdam.de

Rayford, S., & Getty Images. (n.d.). [Frontpage Image: Religion and Climate Change]. Retrieved from https://grist.files.wordpress.com/2019/10/gettyimages-1041032738-e1570750839669.jpg?w=640

Schmeets, H. (2016). *De Religieuze Kaart van Nederland*. Retrieved from https://www.cbs.nl/nl-nl/publicatie/2016/51/de-religieuze-kaart-van-nederland-2010-2015

Stark, L., Järvinen, I.-R., Timonen, S., & Utriainen, T. (1996). Constructing the Moral Community: Women's Use of Dream Narratives in a Russian-Orthodox Karelian Village. *The Literature of Nationalism*, 247–274. https://doi.org/10.1007/978-1-349-24685-4_12

Tjernström, E., & Tietenberg, T. (2008). Do differences in attitudes explain differences in national climate change policies? *Ecological Economics*, *65*(2), 315–324. https://doi.org/10.1016/j.ecolecon.2007.06.019

Tranter, B., & Booth, K. (2015). Scepticism in a changing climate: A cross-national study. *Global Environmental Change*, *33*, 154–164. https://doi.org/10.1016/j.gloenvcha.2015.05.003

Van Rensburg, W. (2015). Climate Change Scepticism. *SAGE Open*, *5*(2), 215824401557972. https://doi.org/10.1177/2158244015579723

White, L. (1967). The Historical Roots of Our Ecologic Crisis. *Science*, *155*(3767), 1203–1207. https://doi.org/10.1126/science.155.3767.1203

Whitmarsh, L. (2011). Scepticism and uncertainty about climate change: Dimensions, determinants and change over time. *Global Environmental Change*, *21*(2), 690–700. https://doi.org/10.1016/j.gloenvcha.2011.01.016

Wilkinson, K. K. (2012). *Between God & Green: How Evangelicals Are Cultivating a Middle Ground on Climate Change* (1st ed.). Oxford, United Kingdom: Oxford University Press.

Wolkomir, M. (1997). Substantive religious belief and environmentalism. *Social Science Quarterly*, *78*, 96–108.

Appendix: Ethics and Privacy Checklist

CHECKLIST ETHICAL AND PRIVACY ASPECTS OF RESEARCH

INSTRUCTION

This checklist should be completed for every research study that is conducted at the Department of Public Administration and Sociology (DPAS). This checklist should be completed *before* commencing with data collection or approaching participants. Students can complete this checklist with help of their supervisor.

This checklist is a mandatory part of the empirical master's thesis and has to be uploaded along with the research proposal.

The guideline for ethical aspects of research of the Dutch Sociological Association (NSV) can be found on their website (http://www.nsv-sociologie.nl/?page_id=17). If you have doubts about ethical or privacy aspects of your research study, discuss and resolve the matter with your EUR supervisor. If needed and if advised to do so by your supervisor, you can also consult Dr. Jennifer A. Holland, coordinator of the Sociology Master's Thesis program.

PART I: GENERAL INFORMATION

Project title: "After us, the deluge" -*A quantitative analysis of the relationship between Christian denominations and climate change scepticism in the Netherlands*

Name, email of student: Jorick Mijnans – 389209jm@eur.nl

Name, email of supervisor: Gijs Custers MSc. – custers@essb.eur.nl

Start date and duration: February 1st – June 21st

Is the research study conducted within DPAS YES - NO

If 'NO': at or for what institute or organization will the study be conducted?

(e.g. internship organization)

PART II: TYPE OF RESEARCH STUDY

Please indicate the type of research study by circling the appropriate answer:

1. Research involving human participants. YES - NO

   If 'YES': does the study involve medical or physical research? YES - NO

   Research that falls under the Medical Research Involving Human Subjects Act (WMO) must first be submitted to an accredited medical research ethics committee or the Central Committee on Research Involving Human Subjects (CCMO).

2. Field observations without manipulations that will not involve identification of participants. YES - NO

3. Research involving completely anonymous data files (secondary data that has been anonymized by someone else). YES - NO

PART III: PARTICIPANTS

(Complete this section only if your study involves human participants)

Where will you collect your data?

N.A._____
_____

Note: indicate for separate data sources.

What is the (anticipated) size of your sample?

N.A._____
_____

Note: indicate for separate data sources.

What is the size of the population from which you will sample?

N.A._____
_____

Note: indicate for separate data sources.

1. Will information about the nature of the study and about what participants can expect during the study be withheld from them? YES - NO

2. Will any of the participants not be asked for verbal or written 'informed consent,' whereby they agree to participate in the study? YES - NO

3. Will information about the possibility to discontinue the participation at any time be withheld from participants? YES - NO

4. Will the study involve actively deceiving the participants? YES - NO
   Note: almost all research studies involve some kind of deception of participants. Try to think about what types of deception are ethical or non-ethical (e.g. purpose of the study is not told, coercion is exerted on participants, giving participants the feeling that they harm other people by making certain decisions, etc.).

5. Does the study involve the risk of causing psychological stress or negative emotions beyond those normally encountered by participants? YES - NO

6. Will information be collected about special categories of data, as defined by the GDPR (e.g. racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership, genetic data, biometric data for the purpose of uniquely identifying a person, data concerning mental or physical health, data concerning a person's sex life or sexual orientation)? YES - NO
7. Will the study involve the participation of minors (<18 years old) or other groups that cannot give consent? YES - NO
8. Is the health and/or safety of participants at risk during the study? YES - NO
9. Can participants be identified by the study results or can the confidentiality of the participants' identity not be ensured? YES - NO
10. Are there any other possible ethical issues with regard to this study? YES - NO

If you have answered 'YES' to any of the previous questions, please indicate below why this issue is unavoidable in this study.

N.A._____
_____
_____
_____

What safeguards are taken to relieve possible adverse consequences of these issues (e.g., informing participants about the study afterwards, extra safety regulations, etc.).

N.A._____
_____
_____
_____

Are there any unintended circumstances in the study that can cause harm or have negative (emotional) consequences to the participants? Indicate what possible circumstances this could be.

N.A._____
_____
_____
_____

Please attach your informed consent form in Appendix I, if applicable.

Part IV: Data storage and backup

Where and when will you store your data in the short term, after acquisition?

I will store my data on my own device and also in my secured cloud environment.

Note: indicate for separate data sources, for instance for paper-and pencil test data, and for digital data files.

Who is responsible for the immediate day-to-day management, storage and backup of the data arising from your research?

Me, Jorick Mijnans

How (frequently) will you back-up your research data for short-term data security?

Secondary data from the European Social Study (Round 8, 2016) and God in Nederland (2015). This data is always online available so back-ups of datasets is not necessary. During the process of analysing I will constantly save my progress on my own device and in my (secured) cloud environment.

In case of collecting personal data how will you anonymize the data?

Not applicable

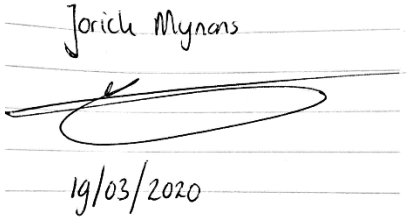
Note: It is advisable to keep directly identifying personal details separated from the rest of the data. Personal details are then replaced by a key/ code. Only the code is part of the database with data and the list of respondents/research subjects is kept separate.

PART VI: SIGNATURE

Please note that it is your responsibility to follow the ethical guidelines in the conduct of your study. This includes providing information to participants about the study and ensuring confidentiality in storage and use of personal data. Treat participants respectfully, be on time at appointments, call participants when they have signed up for your study and fulfil promises made to participants.

Furthermore, it is your responsibility that data are authentic, of high quality and properly stored. The principle is always that the supervisor (or strictly speaking the Erasmus University Rotterdam) remains owner of the data, and that the student should therefore hand over all data to the supervisor.

Hereby I declare that the study will be conducted in accordance with the ethical guidelines of the Department of Public Administration and Sociology at Erasmus University Rotterdam. I have answered the questions truthfully.



Name (EUR) supervisor: Gijs Custers

Date: 20-03-2020