Does concern about climate change and biodiversity loss reflect different environmental orientations?

Ketil Skogen[a, 1]

Håvard Helland[b]

Bjørn Kaltenborn[c]

Manuscript accepted for publication in Journal for Nature Conservation.

DOI: https://doi.org/10.1016/j.jnc.2018.06.001

[a] Norwegian Institute for Nature Research, Gaustadalléen 21, 0349 Oslo, Norway. ketil.skogen@nina.no Tel. +47 91181440

[b] Centre for the Study of Professions, OsloMet - Oslo Metropolitan University, P.B. 4, St. Olavs plass, 0130 Oslo, Norway. havhel@oslomet.no Tel. +47 67235000

[c] Norwegian Institute for Nature Research, Fakkelgården, 2624 Lillehammer, Norway. bjorn.kaltenborn@nina.no Tel. +47 93466707

[1] Corresponding author

Does concern about climate change and biodiversity loss reflect different environmental orientations?

Keywords

Climate change, biodiversity loss, habitat loss, environmental concern, profiles, confidence.

1 Introduction

Climate change and biodiversity loss are frequently presented as the two major environmental challenges of our era. In the scientific community, and frequently also in the media, biodiversity loss is claimed to be causally tied to climate change, although of course the drivers of biodiversity loss are manifold (c.f. Mace and Baillie 2007; Rands et al. 2010; Sachs et al. 2009). The seriousness of both issues, their prominence in the public discourse, and the potential connection between them, could lead us to believe that concern for these two aspects of environmental threats are part of one general, overarching understanding of current challenges. There are, however, indications that the picture may be more complex. For example, some of the efforts to stem climate change – e.g. wind farms, hydro power, solar plants, and bio-fuel production – are met with resistance on the grounds that they threaten biodiversity and many other qualities of nature (Aitken, McDonald and Strachan 2008; O'Keeffe and Haggett 2012; Warren et al. 2005).

In this article, we examine whether environmental concern may be measured as a single unidimensional construct, or whether there are different dimensions of environmental concern. Furthermore, we explore how environmental concerns vary between groups (e.g. men and women, different age groups, levels of education and social class). Finally, we examine the correlation between environmental concerns and people's confidence in different actors in the field of environmental politics and action. We address these questions by way of quantitative analyses of a general population sample from Norway.

1.1 Climate change

Climate change is regularly described as the largest and most complex global environmental problem currently facing humanity (Brechin 2010; IPPC 2014). The scientific consensus on the reality of climate change has grown and solidified in the past quarter century since James Hansen gave his famous testimony on global warming before the United States Congress urging society to take action in order to avoid disastrous future effects (Rogelj et al. 2011; Rogelj et al. 2010). The IPPC's fifth assessment report states that it is extremely likely that more than one-half of the global average surface temperature increase during the last sixty years was caused by anthropogenic greenhouse gas emissions (IPPC 2014).

Although several weather phenomena that are already occurring – droughts, floods, rising temperatures - may point to the reality of climate change today, this threat is still relatively abstract and can be perceived primarily through mediation of scientific research. Yet, and despite skepticism in segments of the public, studies have shown that majorities within countries like USA and Norway acknowledge that climate change is real and caused by human activity. This majority seems to be fluctuating, however, and may have declined recently in both Norway (Austgulen and Stø 2013) and the USA (Leiserowitz et al. 2014; Scruggs and Benegal 2012).

1.2 Biodiversity loss

There is broad scientific consensus that biodiversity loss is a global environmental challenge (Dawson et al. 2011). According to research, biodiversity is declining at a steady rate and the pressures on biodiversity are increasing, both at a global scale (Butchart et al. 2010) and in the Nordic countries (Normander et al. 2012). Biodiversity loss depletes large areas across the globe, which are vital for a

range of ecosystem functions such as climate regulation, soil and water supply, erosion control, pollination, food production, recreation, cultural heritage, sense of place and education. Ultimately, biodiversity loss threatens human well-being and possibly human existence (Cardinale et al. 2012)

Biodiversity is not merely a scientific concept, but also a mental construct that can carry multiple and quite different meanings depending on cultural, social and individual contexts (Buijs 2009; Fischer et al. 2011a; Fischer et al. 2011b; Valiverronen 1999). Scientists also take different approaches to biodiversity and may disagree on the relative importance of diversity within and between both species and environments. Experts can also disagree on what constitutes 'nature', i.e. to what extent one should incorporate humans, human practices and their relationships to the surroundings in the concept (Biermann and Mansfield 2014). Documentation of dramatic loss of biodiversity over the past years has gradually entered the public arena outside the scientific realm and intensified the public discourse on environmental threats. However, the diversity of meanings people attribute to the term is poorly understood (but see Fischer et al. 2011a; Fischer et al. 2011b). How biodiversity loss (however conceptualized) is seen as tied to other environmental issues such as climate change appears to have received even less research attention.

1.3 Climate change and biodiversity loss

In the scientific community, and frequently also in the media, biodiversity loss is claimed to be causally tied to climate change, although the drivers of biodiversity loss are manifold (c.f. Mace and Baillie 2007; Rands et al. 2010; Sachs et al. 2009). The seriousness of both issues, their prominence in the public discourse, and the potential connection between them, could lead us to believe that concern for these two aspects of environmental threats are part of one general, overarching understanding of current challenges. This impression is strengthened by the fact that several large environmental organizations (e.g. the Sierra Club in the USA and Friends of the Earth Norway) highlight both issues and not least the connection between them.

However, there are indications that the picture may be more complex. For example, some of the efforts to stem climate change, or undertakings that are promoted as such, are met with resistance on the grounds that they threaten biodiversity and many other qualities of nature (Aitken et al. 2008; O'Keeffe and Haggett 2012; Warren et al. 2005). This is most notably the case in connection with development of renewable energy production. Wind, hydro, large-scale solar and bio-fuel are all met with stiff opposition, partly based on reactions to local impacts, e.g. consequences for landscapes and outdoor recreation. However, the ecological effects are increasingly highlighted by those who oppose the development of new energy sources, and not only on a local scale. Wind farms are bad for birds and bats, the road systems and grids fragment habitat (and indeed landscapes) often in pristine areas¸ and noise is claimed to augment the negative effects on quality of life already caused by visual pollution. New hydro development is often carried out in smaller streams that were previously of no interest to energy production, but where current subsidies motivated as climate change mitigation have changed this. These streams may be ecologically both valuable and vulnerable, and the new development takes place on a scale that affects large areas in sum. Bio-fuel production may replace food production, and lead to intensified logging and industrialization of forests. Large solar plants take up space that was previously habitat and pristine landscapes. Land use change ("development" regardless of purpose) is often held up as a major cause – or even *the*

major cause – of biodiversity loss, not to mention the loss of other qualities of nature, such as beauty and sense of place (Aitken 2009; Aitken et al. 2008; Ellis, Barry and Robinson 2007).

Allusions to a rift between climate change concern as expressed through concrete mitigation efforts, and the conservation of landscapes and biodiversity are found in the literature that deals with conflicts between conservation and energy development specifically. Here, the focus is priorities related to specific projects and areas, where the two issues are pitted against each other (at least in terms of rhetoric) and where one has to lose. Mostly there is a focus on physical impacts, i.e. "conflicts" in terms of specific negative impacts from climate mitigation efforts on biodiversity, and not on more general and fundamental differences in understandings of climate change and other environmental challenges. Despite the localized origins of many efforts to stop renewable energy development, the NIMBY explanation has been generally refuted by research. NIMBY explanations assume that e.g. opponents of wind farms are in favor of wind power in general but oppose it when it is proposed in areas where it impacts on themselves (Wolsink 2000). Yet, the literature has found little evidence to support such explanations and instead illustrates that public responses are highly complex, nuanced and flexible (e.g. Aitken 2012; Wolsink 2000). Although most studies seem to have focused on people who actively oppose renewable energy projects, the findings indicate the existence of a discourse about renewable energy and nature that diverts from the hegemonic discourse about climate change and what has to be done to curtail it. Yet, the question of whether more widespread and general cleavages exist among the public and in the wider environmental movement, has not received much research attention so far.

2 Environmental concern and background factors

Various operationalizations of "environmental concern" have been shown to correlate with a number of background factors. However, correlations are strongly dependent on the definition of environmental concern, and not only which environmental issues are emphasized, but also whether the focus is on factual issues (e.g. "pollution", "recycling" or "species protection"), or on identification with the environmental movement, or on voting patterns.

Among the more straightforward background factors are gender and age. Despite some inconsistency (Fransson and Gärling 1999) there seems to be a tendency that women are more concerned about environmental problems than are men (c.f. Wesley Schultz 2001). In particular, this applies to aspects of environmental problems related to risk and health (Bord and O'Connor 1997) , and environmentally friendly behaviors (Yates et al. 2015). Women have been found to identify more strongly with "mainstream" environmental NGOs (McCright and Dunlap 2015), but are not generally more active in environmental NGOs (McFarlane and Boxall 2003; Tindall, Davies and Mauboulès 2003).

A relationship between age and environmental attitudes has not been consistently established. Some studies find that young people are less concerned about the environment than are older cohorts (European Commssion 2014; Grønhøj and Thøgersen 2009). The latest Eurobarometer report on climate change (European Commsion 2015) found no difference between age groups in concern about climate change (it was lower than concern for poverty, the economy and terrorism in all cohorts). A survey covering 119 countries did not identify an age effect on climate change awareness (Lee et al. 2015).

Living with children has been assumed to influence attitudes towards environmental problems because parents could be expected to worry about the future wellbeing of their children. Some studies have found this to be the case (c.f. Dupont 2004; Hoyos, Mariel and Fernández-Macho 2009) while others found no relationship (c.f. Schumacher 2014). However, these (and other) studies have employed different operationalizations of "concern".

Correlations with background factors depend on the operationalization of dependent variables, but also of the background factors themselves. This is perhaps most notably the case concerning the complex category "social class", where income and education often serve as proxies – either because more sophisticated models are not possible based on a given data set, or because authors are not interested in class as an analytical category.

Yet, building on the theoretical assumption that modern environmentalism has been predominantly a middle-class (or even *new* middle-class) phenomenon, several studies explored this connection and did indeed find a correlation between environmental concern and belonging to certain middle class segments (Cotgrove and Duff 1980; Eckersley 1989; Kriesi 1989; Skogen 1996, 1999). However, few – if any – survey studies have focused on class and environmental concern in recent years. There is no reason to abandon a class perspective in studies of environmental concern, especially since several of the older studies also struggled with deficient data and class models not well suited to singling out the theoretically interesting segments of the middle class.

Several authors have over the years reported a relationship between level of education and to some extent income. These correlations are generally not strong, and assumptions about more or less linear relationships between e.g. income and degree of concern seem to be based on rather simple notions about "post-materialism" a la Inglehart (Inglehart, Basañez and Menéndez Moreno 1998; Inglehart and Welzel 2005). However, for example McCright and Dunlap (2015) did find a modest positive relationship between level of education and identification with the environmental movement, and Lee and associates found educational attainment to be a consistent predictor of climate change awareness (Lee et al. 2015).

Attempts have also been made to delineate cultural aspects of the "new" middle class. Our own research has successfully employed a crude proxy for "cultural capital" in the form of (approximate) number of books in respondents' homes (Krange and Pedersen 2001; Pedersen 1996; Skogen 1996; Skogen and Thrane 2008)[1]. This measure has turned out to correlate with several dimensions of political orientation, including degree of concern for e.g. biodiversity protection generally (Fischer et al. 2011b) and large carnivore protection (Skogen and Thrane 2008).

3 Environmental concern and confidence in actors in the field of environmental politics and action

Another factor that has been shown to affect aspects of environmental concern is confidence in actors in the field of environmental politics and action, and in different information sources. Confidence in government institutions and mainstream environmental NGOs tend to predict an

[1] In educational research, this question is commonly used, e.g. in the OECD's Programme for International Student Assessment (PISA) (Q37 in 2000, Q19 in 2003, Q15 in 2006, Q22 in 2009, and Q27 in 2012). (http://www.oecd.org/pisa/pisaproducts/#d.en.192289, (visited 2016.02.02)).

adherence to the current “dominant paradigm” about environmental challenges, entailing for example concern about issues such as climate change (Hammar and Jagers 2006), or support for large carnivore conservation (Skogen and Thrane 2008). Confidence in informal information sources and actors that do not (necessarily) adhere to the dominant environmental paradigm, such as ordinary people, local politicians and “common sense” in general, tends to predict less support for e.g. large carnivore conservation (Skogen and Thrane 2008).

4 Research questions

Our objective is to investigate relationships between varieties of environmental concerns. We also probe how these concerns might be related to background factors and confidence in relevant actors. These factors have previously been shown (or anticipated) to affect environmental attitudes and we shall look for possible differences between them in that respect. We found no literature dealing with differences between concern about climate change and concern about biodiversity loss (or concern about transformations of nature that may lead to biodiversity loss), and what background factors might be associated with such differences, should they occur. However, given that all (potential) concern profiles are expressions of concern for the environment; we do not hypothesize very diverse relationships with relatively coarse background factors such as those mentioned above. We therefore aim mainly to establish if different profiles do indeed exist, and the degree of overlap between them, but we also conduct an open-ended, exploratory search for connections with independent variables. We anticipate that more - and more targeted - research is needed to establish connections between environmental concern profiles and other factors, most notably how environmental concern is embedded in value systems and political orientations, something we have not been able to do in this study.

5 Method and sample

In 2012, 4077 Norwegians aged 18 to 87 completed an online questionnaire with a wide range of questions on climate and the environment. Respondents were drawn from the large nationally representative TNS Gallup panel (GallupPanelet), which comprises approximately 50 000 individuals. Approximately 7000 respondents were contacted, leaving us with a response rate of 57 percent. However, as is customary when using this method, the website was closed when the target sample size was reached. Hence, the response rate would have been higher if everyone who wanted to answer had been given the opportunity.

The method has the advantage that sampling corrections can be made during the course of data collection, if disproportions are observed. National statistics on gender, age, education level and geography were used to calibrate the sample’s social composition. TNS Gallup, who conducted the data collection on our behalf, concluded that such adjustment was not necessary.

The questionnaire was self-administered through TNS Gallup’s website. This approach has advantages and disadvantages. While convenient and efficient seen from the viewpoint of the researchers, it may potentially increase non-response bias for some groups of respondents, particularly older people. In Norway, internet access is now close to universal. 93 % of households were connected in 2014, and 95 % of the population (age 16-75) were online during “last three months” (SSB 2015). Still, the technology may favor those groups that are most used to it (Lindhjem and Navrud 2011). In our case, the recruiting process for the panel itself was of course also subject to

attrition. However, considering the declining, and sometimes dramatically low, response rates in traditional mail surveys, and associated non-response bias, there is no reason to believe that web-based panel surveys produce results with a lower reliability.

TNS Gallup had previously stored background information about the panel, providing a data set containing more information than we collected through our own questionnaire. This is also an advantage compared other data collection methods.

6 Results

6.1 Profiling environmental concern

The respondents were presented with 16 different environmental issues, and were asked how concerned they were about them (Table 1). The response options ranged from "Very concerned" to "Not at all concerned" on a five-point Likert scale. There was also a "don't know" option, which was recoded to "neutral" (i.e. in the middle of the five-point scale).

We conducted an exploratory factor analysis (with principal component Varimax rotation), and found three factors with eigenvalues larger than one. Together the three factors accounted for 62,1% of the total variance. The results from this factor analysis and descriptives of the items are presented in Table 1. The first factor (which accounted for 45.5% of the variance) is related to climate change but also pollution and biodiversity loss. The second (which accounted for 10.1% of the variance) comprises primarily land use changes ("development"), habitat loss, fragmentation, etc., but also biodiversity loss. The third factor (which accounted for 6.5% of the variance) comprises radiation and toxins in food, i.e. directly health-related issues. While this latter "health" factor is interesting in its own right, we will not discuss it further here, as our purpose is to probe the relationship between concern about climate change and biodiversity loss – and, as it turns out, concern about habitat loss and transformations of nature with potential biodiversity impacts. We label the two first factors "Climate and pollution" (C&P) and "Habitat and landscape" (H&L) respectively.

[Table 1 here]

Biodiversity loss and habitat loss load on both these factors. Biodiversity loss actually loads more strongly on the C& P factor than on the H&L factor, whereas it is the other way round for the item "habitat loss". It appears reasonable to think that in a context where respondents are not required to prioritize, concern for biodiversity loss and habitat loss is reported by many in accordance with the hegemonic discourse on current environmental threats (where precisely these terms are prominent), as described above. However, most interesting here is that specific causes that *lead* to the loss of habitat and biodiversity, *except climate change*, load on a separate factor. Except for the two items that load on both factors, loadings for each item are quite different, also for major climate change items like "general climate change" (.840 vs .212) and "global warming" (.804 vs .256), and major biodiversity items like "habitat fragmentation" (.775 vs .238).

We retained factor scores as variables. We interpret the "climate" factor as encompassing primarily a concern aligned with what we have termed a "hegemonic discourse", and the expression "political correctness" comes to mind. This is not to say that concern for climate change and pollution is not genuine, but simply that this factor contains elements that *actually* align with the hegemonic discourse on environmental challenges, centered on climate change.

We will return to the specific issue of biodiversity loss later on, based on a different instrument where respondents are requested to *prioritize* different environmental issues, including "climate change" and "biodiversity loss".

6.2 How does environmental concern vary between groups?

Below we examine how background factors and the confidence dimensions are correlated with the two first environmental concern factors (the C&P and H&L factors, Table 1). We will then go on to results from linear regression models (OLS) with the environmental concern factors as dependent variables.

As noted above, research has shown that confidence in significant actors (such as politicians, government agencies, scientists and NGOs) is associated with views on core environmental issues (c.f. Hammar and Jagers 2006; Skogen and Thrane 2008). This is in line with our own previous work dealing with another topical environmental issue, namely large carnivore management (Krange and Skogen 2011a; Skogen and Thrane 2008). On this basis, we hypothesized that confidence in different actors in the field of environmental politics and governance would be related to views on climate change and biodiversity loss, as well as land use change and habitat destruction. The questionnaire contained an instrument designed to measure this. Respondents were asked to indicate how strong confidence they had in a number of actors regarding climate change and other environmental issues. This was scored on a four-point scale ranging from "no confidence" to "very strong confidence". There was also a "not heard of" option, which was coded as missing in a factor analysis. This analysis yielded three factors with eigenvalue >1, accounting for 59.6 % of the total variance. These were very much in line with what we have seen in previous surveys (Fischer et al. 2011b; Skogen and Thrane 2008). The results from this factor analysis and descriptives of the items are presented in Table 2 below. The first factor (which accounted for 40.8 % of the variance) indicated confidence in public bodies and organizations that we may term the "environmental establishment", including scientists. The second (which accounted for 12.4% of the variance) indicated confidence in economic actors and public bodies not associated with the environment, such as the EU, and we labelled it "political/economic establishment". The third factor (which accounted for 6.4% of the variance) had mostly weak factor loadings, but two items stood out: confidence in "ordinary people who use common sense" and "local politicians". We labeled it "common sense".

[Table 2]

The social class variable was constructed by categorizing occupations according to the ILO ISCO-88 standard (adapted by Statistics Norway, SSB 1998). Occupations were grouped into the following six categories: Economic and professional elite, technical/economic intermediate strata (TEIS), humanistic/social intermediate strata (HSIS), clerical and service workers, farmers and fishermen, and manual workers. Examples of occupations placed in the TEIS category are engineers, economists and researchers in technology, whereas occupations like physicians, teachers, social workers and artists were placed in the HSIS category.

As noted by e.g. Crompton (1993), most reasonable models of social stratification produce relatively similar patterns when used as independent variables as we do here. Unless the aim is sophisticated and theory-driven class analysis, several models can work equally well. However, a particularly salient point in our context is the segmentation of the middle class. In our case, we revitalize a model we used with some success previously (Pedersen 1996; Skogen 1998, 1999), specifically to allow for

the distinction between the two middle-class strata. The HSIS resembles what in some studies has been termed the "new middle class", and which particularly predicted an "environmentalist" outlook and new social movement affiliation (Eder 1993, 1996a; Kriesi 1989; Skogen 1996, 1999). However, any single measure of class position – like occupation – must be expected to underplay actual class differences (Davies 1994).

Another aspect of social differentiation is what Bourdieu (1984) termed *cultural capital.* For example, Skogen and Thrane (2008) and Fischer and associates (2011b) found that environmental attitudes were related to amount of cultural capital. In these studies, cultural capital was understood as "familiarity with the complicated forms of expression of the dominant culture" (Pedersen 1996:261), and approximated simply through the number of books the respondent had at home. Skogen and Thrane (2008:21) postulated that sharing the "modern middle-class notion of nature, which expresses rejection of a utilitarian relationship with nature and the unaesthetic consequences of capitalism " could be seen as cultural capital in contemporary society, given the hegemonic environmental discourse. Indeed, they found that their proxy of cultural capital was negatively related to political traditionalism, and positively to ecocentrism. Similarly, Fischer et al. (2011b) found that number of books to some extent predicted attitudes towards European plants and animals, and was negatively correlated to the construct "conservation apathy".

[Table 3]

Our aim here is to determine the effects of the background variables and the confidence factor scores on each of the concern variables. If we look at C&P concern first, we observe that there are positive effects of having a mother with higher education, belonging to the HSIS (in block 2, we also observe an effect of belonging to farmers/fishermen), being a student, having many books at home, own higher education, being a woman and being over 45 years of age. Confidence in the "environmental establishment" predicts concern about climate change, as does – to a lesser extent – confidence in "political/economic establishment". Confidence in "common sense", on the other hand, predicts a lack of concern about climate change.

Moving on to H&L concern, we see positive effects of belonging to the HSIS and "clerical and service workers", being a student, and number of books at home. There is a negative effect of living with children (people who do, are somewhat less inclined to be concerned than people who do not). Again, we see that confidence in the "environmental establishment" positively affects concerns, whereas confidence in the "political/economic" establishment work in the opposite direction. There is no effect of confidence in "commons sense" on concern for threats to habitats and landscapes.

Which institutions and actors one places the greatest confidence in has considerable effect on coefficients, but do not eliminate significant effects of the background characteristics (except the effect of being a student on H&L concern, which is no longer significant).

Effects of background factors are generally not strong, but for C&P concern in particular, they do point in a direction that confirms earlier [older?] studies of environmental concern. For the C&P profile, we see that a family background where mother has higher education, as well as own higher education and belonging to a social segment (here labeled HSIS) that generally constitutes the core constituency of the environmental movement, are all factors that points to a higher concern for C&P. The effect of cultural capital (here number of books at home), although weak, pulls in the same

direction. Women also tend to be more concerned than men, in accordance with previous studies (as outlined above). More surprising perhaps is the age effect, where people above the age of 45 tend to be slightly more concerned than younger ones.

If we look at the H&L concern profile, we see contours of a similar pattern. Not all the same background factors play a role here, but if respondents themselves belong to HSIS (or Clerical & service), are students, or have many books at home, there is a tendency that they are more concerned about H&L. Educational level in background family (specifically mother's) does not play a role here, and neither does respondents' own level of education. We see no effect of gender, but interestingly – and somewhat surprisingly – living with children reduces the chance of a strong H&L concern.

Despite the (modest) differences between the two concern profiles in terms of the effect of background variables, the main impression is that both are associated with factors that have previously been shown to predict stronger environmental concern. The lack of effect of education (own as well as mother's) on H&L concern is interesting. The effect of social position is also somewhat different, in that belonging to the Clerical & service category (as well as HSIS) indicates stronger H&L concern. Taken together, strong H&L concern could seem to be slightly less "elitist" than strong C&P concern.

Living with children predicts lower H&L concern, whereas being a woman predicts stronger concern for C&P. This could indicate that the C&P profile is slightly more in line with previously identified "modern environmentalist" orientation (Beck 1992, 1995; Eder 1993, 1996a), compared to the H&L profile. Yet, the main impression is that the background variables explain a limited amount of the variation, as can also be seen from the modest R square.

When we introduce the confidence factor variables in model 2, we observe interesting effects, some of which are considerably stronger than the ones described above. For the C&P factor, we observe a strong positive effect of confidence in the "environmental establishment" (EE), and a weaker but significant positive effect of confidence in the "political/economic establishment" (PEE). There is a *negative* effect of confidence in "common sense" (CS).

For the H&L factor, there is also a positive effect of confidence in EE, although markedly weaker than the one we saw for C&P. There is a modest *negative* effect of confidence in PEE, and no significant effect of confidence in CS.

Introducing the confidence factors in the model, we observe that C&P and H&L [diverge] more markedly. Confidence in EE is associated with more pronounced concern for both clusters of environmental challenges, but clearly more so for C&P compared to H&L. While there is a modest positive effect on C&P concern of confidence in what we may perhaps term the "conventional" political/economic establishment, the effect on H&L concern is negative. Confidence in "common sense" is negatively correlated with C&P concern, whereas there is no relationship between such confidence and H&L concern.

This indicates that of the two, the C&P profile is more strongly attached to a perspective derived from hegemonic institutions and based in dominant scientific knowledge, and at the same time [denouncing] common sense as a source of knowledge about environmental issues. Concern for H&L

lacks the negative relationship with common sense, as well as the positive relationship with the PEE, and the positive effect of confidence in EE is weaker. It appears that this concern profile is more independent of the institutional perspective and dominant forms of knowledge that influence the C&P profile.

6.3 Difference between concern factors

In order to examine how people rate the two different aspects of environmental challenge (as expressed through the factor scores) *relative to each other*, we first constructed a new variable by subtracting the C&P factor from the H&L factor. For this new variable, positive values means that C&P concerns are stronger than H&L concerns. In table 4, we have regressed the same independent variables as in table 3 on this new «difference-in-concern» variable.

There are no significant differences between the segments in class model, but those who have a mother with higher education and who have completed higher education themselves, tend to be more concerned about C&P than about H&L. The same is the case for women compared to men, and for people who live together with children. Both the youngest and the oldest age group are more concerned about C&P relative to H&L, compared to those in between.

Again the confidence factors yield clear effect coefficients, and now the introduction of these variables weaken the effects of the background factors. For example, in table 4, model 2, there is no longer a significant gender difference. The confidence factors display an interesting pattern, in that confidence in the two 'establishment' factors (particularly the environmental establishment) points in the direction of more C&P concern, whereas confidence in 'common sense' does the opposite – the effect is negative.

To sum up at this point, the emergence of separate factors and the relationships between these factors and some potentially meaningful independent variables (particularly confidence) indicates that concern about climate change (and pollution) and concern about detrimental transformation of nature are, to some extent, part of different 'packages' or 'profiles' of environmental orientation.

6.4 Priorities

The respondents were also asked to prioritize different environmental challenges and rank the three they saw as most serious. Among these were *climate change* and *biodiversity loss*. Although the factor analysis of answers where people were not forced to prioritize concern for these particular issues indicated some overlap, and indeed showed "biodiversity loss" to load on both factors, we use them here in a different framework: Respondents *must* rank them.

We have sorted the respondents into six groups according to their ranking of the two items relative to each other: The first group ranks climate change on top, but do not rank biodiversity loss among the top three. The second group ranks climate change second or third, and do not rank biodiversity loss among the top three. The third category did not include any of them among their three top priorities. The fourth category ranks biodiversity loss on top, and do not rank climate change among the top three, whereas the fifth category ranks biodiversity loss second or third, but do not include climate change among the top three. The last category comprises those who have included both climate change and biodiversity loss. In table 5 we can see how the respondents were distributed across these categories.

[Table 5]

Interestingly, less than 15 % mentioned both issues among the top three priorities, going against the notion that they are widely seen as the two most serious environmental challenges of our time[2]. In the same vein, almost 35 % mentioned none of them. 32 % mentioned climate change (as 1,2 or 3) without mentioning biodiversity loss, whereas more than 18 % mentioned biodiversity loss without mentioning climate change. As we can see, a more polarized picture emerges when people are required to prioritize, and "biodiversity loss" as a concept departs from "climate change".

7 Discussion

Our main finding is simple: Different profiles of environmental concern exist, and climate change is a prominent factor in only one of them. When people rank environmental challenges according to gravity, concern about climate change and biodiversity loss show little overlap. When respondents are not forced to prioritize, both biodiversity loss and climate change load on one factor that quite neatly confirms to a "politically correct" or hegemonic environmental discourse. However, major factors that drive biodiversity loss and that generally have a more direct and probably more dramatic impact, such as habitat destruction in various forms, constitute a factor of their own.

These findings are intriguing as well as important, but - not surprisingly - our attempts to explain them in terms of relatively crude background variables yield limited insights. However, the findings point towards interesting patterns that should guide future research. By way of extreme simplification, we might say that the H&L profile emerges as somewhat less elitist compared to the C&P profile, and less in line with the conceptualization of the social basis of modern environmentalism developed in earlier scholarship.

Moving on to another level, we see that confidence clearly does have different impact on the two profiles. We do not see confidence as a true background variable, but understand it as representing a level of interpretation and values. When we introduce the confidence factor variables in model 2 (tables 3 and 4), we observe some effects that are considerably stronger than the ones derived from background variables. For the C&P factor, we observe a strong positive effect of confidence in the "environmental establishment" (EE), and a weaker but significant positive effect of confidence in the "political/economic establishment" (PEE). There is a *negative* effect of confidence in "common sense" (CS).

For the H&L factor, there is also a positive effect of confidence in EE, although markedly weaker than the one we saw for C&P. There is a modest *negative* effect of confidence in PEE, and no significant effect of confidence in CS. Altogether, the introduction of the confidence factor scores in our models considerably strengthen the vaguer impression from the background variable effects. We now have clearer indications that H&L concern – unlike C&P concern – represents a perspective on environmental challenges that to some extent departs from the current hegemonic discourse, and which relates differently to information from certified expert sources (be they government, NGOs or science).

[2] The most common top priority was "toxins in food" (26,9 %), followed by "climate change" (22,0 %).

It is well established that different levels of confidence in significant actors (particularly institutional ones), not least as information providers, are related to "environmental attitudes". This touches upon the matter of valuation of scientific or expert knowledge in different social groups, which has been the topic of numerous studies, perhaps particularly qualitative ones. A critical stance towards conservation (and the power relations in contemporary land management) is often accompanied by a lack of trust in scientific knowledge, and a feeling that practical lay knowledge is generally devalued (von Essen 2015; Wynne 1996). This has also been a leitmotif in our previous work on conflicts over large carnivore conservation, and has surfaced in quantitative (Skogen and Thrane 2008) as well as in qualitative studies (Krange and Skogen 2011b; Skogen 2003).

While background factors do influence both profiles, they have a limited impact on the difference between them (table 4). Given that both profiles express environmental concern, this is not surprising. However, the confidence variables retain their effect also on the difference, indicating that they are indeed important elements in an explanation of the pattern we see. Here we seem to be touching a level of interpretation that point to the two profiles as parts of more general attitude packages and (political) value orientations.

Furthermore, we may speculate that the difference between our profiles could mask a diversity particularly among those who are most concerned about land use change and habitat loss. The H&L factor's weaker connection to the variables higher education (own and mother's), and confidence in the environmental establishment, could cover diversity where many are as highly educated and in general have a similar background as the typical climate concern constituency, but where there may also be a significant number who have arrived at their stance from a different starting point, entailing skepticism toward science (e.g. dominant climate science) and modern-day climate-oriented, elitist environmentalism. Not least, it is probable that many people with strong convictions concerning land use change, development and landscape modification, have developed these convictions based on experience with specific development issues. This may or may not be subsumed under a more comprehensive ideological umbrella, or a comprehensive perspective may be adopted or developed as a consequence of engagement with specific development projects that threaten landscapes or habitats one way or the other. This is in accordance with research, as well as anecdotal evidence (e.g. media reports), from battles over energy development, such as wind farms, but underlines the need for more research – particularly qualitative case studies, as pinpointing the causes behind this (anticipated) diversity is quite demanding (if possible) by means of quantitative methods.

Also at a very general level the mechanisms that drive development of divergent profiles of environmental concern can only be determined through further research. Since this research needs to be exploratory in nature, a qualitative approach is called for. This would be important in its own right in order to identify and explain interpretations of environmental threats; their magnitude and interrelatedness, but also in order to pave the ground for targeted survey studies, equipped with more accurate measures of relevant aspects of different dimensions of environmental concern.

Literature

Achterberg, P. 2006. "Class voting in the new political culture economic, cultural and environmental voting in 20 western countries." *International Sociology* 21(2):237-261.

Aitken, M. 2009. "Wind Power Planning Controversies and the Construction of 'Expert' and 'Lay' Knowledges." *Science as Culture* 18(1):47-64.

—. 2012. "Changing climate, changing democracy: a cautionary tale." *Environmental Politics* 21(2):211-229.

Aitken, M., S. McDonald, and P. Strachan. 2008. "Locating 'power' in wind power planning processes: the (not so) influential role of local objectors." *Journal of Environmental Planning and Management* 51(6):777-799.

Austgulen, M.H.and E. Stø. 2013. "Norsk skepsis og usikkerhet om klimaendringer." *Tidsskrift for Samfunnsforskning* 54(02).

Beck, U. 1992. *Risk society : towards a new modernity*. London, England :: Sage.

—. 1995. *Ecological politics in an age of risk*. Cambridge :: Polity Press.

Biermann, C.and B. Mansfield. 2014. "Biodiversity, purity, and death: conservation biology as biopolitics." *Environment and Planning D: Society and Space* 32(2):257-273.

Bord, R.J.and R.E. O'Connor. 1997. "The Gender Gap in Environmental Attitudes: The Case of Perceived Vulnerability to Risk." *Social Science Quarterly* 78(4):830-840.

Bourdieu, P. 1984. *Distinction : a social critique of the judgement of taste*. London: Routledge & Kegan Paul.

Brechin, S.R. 2010. "Public opinion: a cross-national view. ." in *Routledge handbook of climate change and society*, edited by C. Lever-Tracy.

Buijs, A.E. 2009. "Lay People's Images of Nature: Comprehensive Frameworks of Values, Beliefs, and Value Orientations." *Society & Natural Resources* 22(5):417-432.

Butchart, S.H., M. Walpole, B. Collen, A. Van Strien, J.P. Scharlemann, R.E. Almond, J.E. Baillie, B. Bomhard, C. Brown, and J. Bruno. 2010. "Global biodiversity: indicators of recent declines." *Science* 328(5982):1164-1168.

Cardinale, B.J., J.E. Duffy, A. Gonzalez, D.U. Hooper, C. Perrings, P. Venail, A. Narwani, G.M. Mace, D. Tilman, and D.A. Wardle. 2012. "Biodiversity loss and its impact on humanity." *Nature* 486(7401):59-67.

Cotgrove, S.and A. Duff. 1980. "Environmentalism, Middle-class Radicalism and Politics." *Sociological Review* 28(2):333-351.

Crompton, R. 1993. *Class and stratification : an introduction to current debates*. Cambridge :: Polity Press.

Davies, S. 1994. "In Search of Resistance and Rebellion among High School Dropouts." *Canadian Journal of Sociology* 19(3):331-350.

Dawson, T.P., S.T. Jackson, J.I. House, I.C. Prentice, and G.M. Mace. 2011. "Beyond predictions: biodiversity conservation in a changing climate." *Science* 332(6025):53-58.

Dupont, D.P. 2004. "Do children matter? An examination of gender differences in environmental valuation." *Ecological Economics* 49(3):273-286.

Eckersley, R. 1989. "Green Politics and the New Class: Selfishness or Virtue." *Political Studies*(XXXVII):205-223.

Eder, K. 1993. *The new politics of class : social movements and cultural dynamics in advanced societies*. London: Sage Publications.

—. 1996a. *The Social Construction of Nature: A Sociology of Ecological Enlightenment*. London: Sage Publications.

—. 1996b. *The social construction of nature: a sociology of ecological enlightenment*. London: Sage Publications.

Ellis, G., J. Barry, and C. Robinson. 2007. "Many ways to say 'no', different ways to say 'yes': applying Q-methodology to understand public acceptance of wind farm proposals." *Journal of Environmental Planning and Management* 50(4):517-551.

European Commsion. 2015. "Climate change." in *Special Eurobarometer*: European Commsion,.
European Commssion. 2014. "Attitudes of European citizens towards the environment." in *Special Eurobarometer*: European Commission, Directorate-General for Environment.
Fischer, A., B. Bednar-Friedl, F. Langers, M. Dobrovodska, N. Geamana, K. Skogen, and M. Dumortier. 2011a. "Universal criteria for species conservation priorities? Findings from a survey of public views across Europe." *Biological Conservation* 144(3):998-1007.
Fischer, A., F. Langers, B. Bednar-Friedl, N. Geamana, and K. Skogen. 2011b. "Mental representations of animal and plant species in their social contexts: Results from a survey across Europe." *Journal of Environmental Psychology* 31(2):118-128.
Fransson, N.and T. Gärling. 1999. "ENVIRONMENTAL CONCERN: CONCEPTUAL DEFINITIONS, MEASUREMENT METHODS, AND RESEARCH FINDINGS." *Journal of Environmental Psychology* 19(4):369-382.
Grønhøj, A.and J. Thøgersen. 2009. "Like father, like son? Intergenerational transmission of values, attitudes, and behaviours in the environmental domain." *Journal of Environmental Psychology* 29(4):414-421.
Hammar, H.and S.C. Jagers. 2006. "Can trust in politicians explain individuals' support for climate policy? The case of CO2 tax." *Climate Policy* 5(6):613-625.
Hoyos, D., P. Mariel, and J. Fernández-Macho. 2009. "The influence of cultural identity on the WTP to protect natural resources: Some empirical evidence." *Ecological Economics* 68(8–9):2372-2381.
Inglehart, R., M. Basañez, and A. Menéndez Moreno. 1998. *Human values and beliefs : a cross-cultural sourcebook : political, religious, sexual, and economic norms in 43 societies : findings from the 1990-1993 World values survey*. Ann Arbor, Mich.: University of Michigan Press.
Inglehart, R.and C. Welzel. 2005. *Modernization, cultural change, and democracy : the human development sequence*. New York NY: Cambridge University Press.
IPPC. 2014. "Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.". Geneva: IPCC.
Krange, O.and W. Pedersen. 2001. "Return of the Marlboro Man? Recreational Smoking among Young Norwegian Adults." Pp. 155-174 in *Journal of Youth Studies*.
Krange, O.and K. Skogen. 2011a. "The Hammertown mechanism. Cultural resistance and political marginalization." in *Reaction, resistance and reinvention: How resource-based regions are responding to the information age*, edited by T. Dunk. Thunder Bay: Lakehead University Centre for Northern Studies.
—. 2011b. "When the lads go hunting: The 'Hammertown mechanism' and the conflict over wolves in Norway." *Ethnography* 12(4):466-489.
Kriesi, H. 1989. "New Social Movements and the New Class in the Netherlands." *American Journal of Sociology* 94(5):1078-1116.
Lee, T.M., E.M. Markowitz, P.D. Howe, C.Y. Ko, and A.A. Leiserowitz. 2015. "Predictors of public climate change awareness and risk perception around the world." *Nature Climate Change* 5(11):1014-+.
Leiserowitz, A., E. Maibach, C. Roser-Renouf, G. Feinberg, S. Rosenthal, and J. Marlon. 2014. "Climate change in the American mind: Americans' global warming beliefs and attitudes in November, 2013." *Yale Project on Climate Change Communication: Yale University and George Mason University. New Haven, CT*.
Lindhjem, H.and S. Navrud. 2011. "Are Internet surveys an alternative to face-to-face interviews in contingent valuation?" *Ecological Economics* 70(9):1628-1637.
Mace, G.M.and J.E. Baillie. 2007. "The 2010 biodiversity indicators: challenges for science and policy." *Conservation Biology* 21(6):1406-1413.
Macnaghten, P.and J. Urry. 1998. *Contested Natures*. London: Sage Publications.
McCright, A.M.and R.E. Dunlap. 2015. "Comparing Two Measures of Social Movement Identity: The Environmental Movement as an Example." *Social Science Quarterly*.

McFarlane, B.L.and P.C. Boxall. 2003. "The role of social psychological and social structural variables in environmental activism: an example of the forest sector." *Journal of Environmental Psychology* 23(1):79-87.
Normander, B., G. Levin, A.-P. Auvinen, H. Bratli, O. Stabbetorp, M. Hedblom, A. Glimskär, and G.A. Gudmundsson. 2012. "Indicator framework for measuring quantity and quality of biodiversity—Exemplified in the Nordic countries." *Ecological Indicators* 13(1):104-116.
O'Keeffe, A.and C. Haggett. 2012. "An investigation into the potential barriers facing the development of offshore wind energy in Scotland: Case study - Firth of Forth offshore wind farm." *Renewable & Sustainable Energy Reviews* 16(6):3711-3721.
Pedersen, W. 1996. "Working-class boys at the margins: Ethnic prejudice, cultural capital, and gender." *Acta Sociologica* 39(3):257-279.
Rands, M.R., W.M. Adams, L. Bennun, S.H. Butchart, A. Clements, D. Coomes, A. Entwistle, I. Hodge, V. Kapos, and J.P. Scharlemann. 2010. "Biodiversity conservation: challenges beyond 2010." *Science* 329(5997):1298-1303.
Rogelj, J., W. Hare, J. Lowe, D.P. van Vuuren, K. Riahi, B. Matthews, T. Hanaoka, K.J. Jiang, and M. Meinshausen. 2011. "Emission pathways consistent with a 2 degrees C global temperature limit." *Nature Climate Change* 1(8):413-418.
Rogelj, J., J. Nabel, C. Chen, W. Hare, K. Markmann, M. Meinshausen, M. Schaeffer, K. Macey, and N. Hohne. 2010. "Copenhagen Accord pledges are paltry." *Nature* 464(7292):1126-1128.
Sachs, J.D., J.E. Baillie, W.J. Sutherland, P.R. Armsworth, N. Ash, J. Beddington, T.M. Blackburn, B. Collen, B. Gardiner, and K.J. Gaston. 2009. "Biodiversity conservation and the millennium development goals." *Science* 325(5947):1502-1503.
Schumacher, I. 2014. "An Empirical Study of the Determinants of Green Party Voting." *Ecological Economics* 105:306-318.
Scruggs, L.and S. Benegal. 2012. "Declining public concern about climate change: Can we blame the great recession?" *Global Environmental Change* 22(2):505-515.
Skogen, K. 1996. "Young Environmentalists: Post-modern identities or middle-class culture?" *The Sociological Review* 44(3):452-473.
—. 1998. "A touch of Class: The Persistence of Class Cultures among Norwegian Youth." *The Nordic Journal of Youth Research YOUNG* 6(2):17-37.
—. 1999. "Another look at culture and nature: How culture patterns influence environmental orientation among norwegian youth." *Acta Sociologica* 42(3):223-239.
Skogen, K. 2003. "Adapting adaptive management to a cultural understanding of land use conflicts." *Society & Natural Resources* 16(5):435-450.
Skogen, K.and C. Thrane. 2008. "Wolves in context. Using survey data to situate attitudes within a wider cultural framework." *Society and Natural Resources* 21(1):17-33.
SSB. 1998. "Standard yrkesklassifisering." in *Norges offisielle staitistikk*. Oslo: Statistsk sentralbyrå.
—. 2015. "Bruk av IKT i husholdningene, 2015, 2. kvartal."
Tindall, D.B., S. Davies, and C. Mauboulès. 2003. "Activism and conservation behavior in an environmental movement: The contradictory effects of gender." *Society & Natural Resources* 16(10):909-932.
Valiverronen, E. 1999. *Science, Technology, & Human Values* 24(3):404-407.
von Essen, E. 2015. "Whose Discourse Is It Anyway? Understanding Resistance through the Rise of "Barstool Biology" in Nature Conservation." *Environmental Communication*:1-20.
Warren, C.R., C. Lumsden, S. O'Dowd, and R.V. Birnie. 2005. "'Green on green': public perceptions of wind power in Scotland and Ireland." *Journal of Environmental Planning and Management* 48(6):853-875.
Wesley Schultz, P. 2001. "THE STRUCTURE OF ENVIRONMENTAL CONCERN: CONCERN FOR SELF, OTHER PEOPLE, AND THE BIOSPHERE." *Journal of Environmental Psychology* 21(4):327-339.
Wolsink, M. 2000. "Wind power and the NIMBY-myth: institutional capacity and the limited significance of public support." *Renewable energy* 21(1):49-64.

Wynne, B. 1996. "May the Sheep Safely Graze? A Reflexive View of the Expert-Lay Knowledge Divide." Pp. IX, 294 s. in *Risk, environment and modernity: towards a new ecology*, edited by S. Lash, B. Szerszynski, and B. Wynne. London: Sage.
Yates, A., Y. Luo, C. Mobley, and E. Shealy. 2015. "Changes in Public and Private Environmentally Responsible Behaviors by Gender: Findings from the 1994 and 2010 General Social Survey." *Sociological Inquiry* 85(4):503-531.

Table 1: Environmental concerns

Rotated Factor loadings from Varimax rotation

	Rotated Component Matrix Component:					
	1	2	3	Mean	S.d.	N
Climate change in general	**,840**	,212	,018	2,66	1,27	4064
Biodiversity loss	**,634**	**,494**	-,024	3,04	1,35	4054
Extreme weather	**,751**	,013	,389	2,97	1,32	4060
Pollution of air and water	**,645**	,296	,334	3,37	1,31	4063
Destruction of nature due to construction, roads, logging, etc.	,439	**,591**	,166	3,01	1,39	4065
Increased precipitation	**,616**	,064	**,503**	2,75	1,32	4063
Raditation from e.g. mobile towers and high voltage grid	,136	,220	**,769**	2,42	1,33	4063
Global warming	**,804**	,256	,156	2,82	1,35	4064
Toxins in food	,210	,353	**,648**	3,27	1,41	4059
Second home devlopment	,099	**,727**	,200	2,25	1,31	4055
Milder winters due to climate change	**,582**	,370	,124	2,31	1,28	4055
Loss of habitats for animals and plants	,484	**,657**	,082	3,12	1,37	4045
Hydroelectric development (i.e new dams & infrastructure)	,158	**,703**	,208	2,23	1,29	4055
Modern forestry (clear-cuts and heavy machinery)	,183	**,749**	,167	2,46	1,35	4048
Invasive species	,133	**,478**	,398	3,10	1,39	4055
Fragmenting of pristine areas	,238	**,775**	,175	2,65	1,31	4055
Eigenvalue	7,28	1,61	1,04			
% of variance	45,5	10,1	6,5			

Table 2:
Confidence in different actors related to environmental issues
Rotated Factor loadings from Varimax rotation

	Rotated Component Matrix Component:					
	1	2	3	N	Mean	S.D.
Ministry of environmental protection	**,563**	,457	-,119	3937	2,41	0,76
WWF	**,742**	,063	-,044	3853	2,76	0,82
Ordinary people with common sense	-,122	,035	**,864**	3966	2,57	0,83
Climate scientists	**,694**	,245	-,138	3958	2,63	0,79
Parliamentarians	,321	**,721**	,112	3970	1,70	0,69
Biologists	**,676**	,147	-,057	3930	2,87	0,73
The UN's Climate Panel (IPPC)	**,662**	,384	-,226	3862	2,48	0,90
Friends of the Earth Norway	**,826**	,105	,042	3918	2,60	0,89
Local politicians	,133	**,585**	**,522**	3936	1,75	0,72
Sellers of carbon offsets	,265	**,703**	,099	3718	1,46	0,63
Bellona (Norwegian environmental NGO)	**,746**	,080	,152	3825	2,41	0,90
The directorate for nature management[3]	**,715**	,304	,029	3749	2,55	0,82
EU	,237	**,692**	-,149	3893	1,80	0,75
Authorities in countries receiving Norwegian environmental aid	,248	**,727**	-,013	3708	1,49	0,62
Economists	-,042	**,697**	,099	3822	1,56	0,69
The climate and pollution agency[4]	**,632**	,463	-,086	3637	2,31	0,79
Eigenvalue	6,53	1,98	1,02			
% of variance	40,8	12,4	6,4			

[3] Merged with the Climate and pollution agency in 2014, forming the Environment Agency.
[4] Merged with the Directorate for nature management in 2014, forming the Environment Agency.

Table 3:
Linear regression (ordinary least squares) with environmental concern profiles as dependent variables

	Climate & pollution factor 1				Habitat & landscape factor 2			
	Model 1		Model 2		Model 1		Model 2	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Mother higher education	**0,144**	0,053	**0,094**	0,047	-0,008	0,055	-0,028	0,054
Social class (ref. Elite)								
TEIS	0,124	0,091	0,047	0,081	0,094	0,094	0,065	0,092
HSIS	**0,278**	0,097	0,110	0,086	**0,314**	0,100	**0,242**	0,098
Clerical & service	0,124	0,097	0,059	0,086	**0,333**	0,100	**0,310**	0,098
FarmFish	0,273	0,191	**0,355**	0,169	0,058	0,197	0,079	0,192
Manual workers	0,050	0,097	0,071	0,086	0,196	0,100	0,174	0,098
Students	**0,565**	0,123	**0,330**	0,109	**0,298**	0,127	0,219	0,124
Retired	0,063	0,101	0,126	0,090	0,053	0,104	0,095	0,102
Others outside labor force	0,096	0,118	0,151	0,105	0,200	0,122	0,217	0,120
Number of books	**0,035**	0,014	0,006	0,013	**0,052**	0,015	**0,040**	0,015
Yearly income > 400 000	-0,001	0,001	-0,001	0,001	0,001	0,001	0,001	0,001
Higher education	**0,266**	0,047	**0,139**	0,042	0,039	0,048	0,028	0,048
Gender (men=1, Women=2)	**0,159**	0,040	**0,075**	0,035	0,016	0,041	-0,020	0,040
Living with children	0,061	0,044	0,006	0,039	**-0,134**	0,045	**-0,151**	0,044
Age (ref. 25-45)								
15-24	0,103	0,085	0,111	0,075	-0,068	0,087	0,000	0,086
46+	**0,111**	0,046	**0,184**	0,041	-0,066	0,047	-0,045	0,047
Conf. environmental establishment			**0,446**	0,017			**0,191**	0,019
Conf. political/econ. establishment			**0,070**	0,017			**-0,119**	0,019
Conf. common sense			**-0,154**	0,017			0,017	0,019
Constant	**-0,794**	0,118	**-0,443**	0,106	**-0,399**	0,122	**-0,268**	0,120
N	2803		2803		2803		2803	
Adj. R2	0,066		0,265		0,016		0,061	

Bold: significant at p<0.05

Table 4:

Ols, C&P concern score minus H&L concern. Difference factor 1 (C&P) and factor 2 (H&L)

	Model 1		Model 2	
C&P minus H&L	B	S.E.	B	S.E.
Mother higher education	**0,152**	0,077	0,122	0,075
Social class (ref. Elite)				
TEIS	0,031	0,132	-0,018	0,128
HSIS	-0,037	0,140	-0,131	0,136
Clerical & service	-0,209	0,141	-0,251	0,137
FarmFish	0,214	0,277	0,275	0,269
Manual workers	-0,146	0,141	-0,103	0,137
Students	0,267	0,178	0,111	0,173
Retired	0,010	0,147	0,031	0,142
Others outside labor force	-0,104	0,172	-0,066	0,167
Number of books	-0,017	0,021	-0,033	0,020
Yearly income > 400 000	-0,002	0,001	-0,002	0,001
Higher education	**0,227**	0,068	0,111	0,067
Gender (men=1, Women=2)	**0,144**	0,058	0,095	0,056
Living with children	**0,194**	0,063	**0,157**	0,062
Age (ref. 25-45)				
15-24	0,171	0,123	0,111	0,120
46+	**0,176**	0,067	**0,229**	0,066
Conf. environmental establishment			**0,256**	0,027
Conf. political/econ. establishment			**0,188**	0,026
Conf. common sense			**-0,172**	0,027
Constant	**-0,395**	0,172	-0,175	0,168
N	2803		2803	
Adj. R2	0,020		0,077	

Bold: significant at p<0.05

Table 5:

Environmental challenges: Top three priorities

	Freq.	Percent
Climate top priority, biodiversity not mentioned	568	13.93
Climate a priority (not top), biodiversity not mentioned	740	18.15
Mentioned none of the two	1414	34.68
Biodiversity a priority (not top), climate not mentioned	541	13.27
Biodiversity top priority, climate not mentioned	214	5.25
Mentioned both	600	14.72
Total	4077	100