



Article

Climate Change Denial among Radical Right-Wing Supporters

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Abstract: The linkage between political right-wing orientation and climate change denial is extensively studied. However, previous research has almost exclusively focused on the mainstream right, which differs from the far right (radical and extreme) in some important domains. Thus, we investigated correlates of climate change denial among supporters of a radical right-wing party (Sweden Democrats, N = 2216), a mainstream right-wing party (the Conservative Party, Moderaterna, N = 634), and a mainstream center-left party (Social Democrats, N = 548) in Sweden. Across the analyses, distrust of public service media (Swedish Television, SVT), socioeconomic right-wing attitudes, and antifeminist attitudes outperformed the effects of anti-immigration attitudes and political distrust in explaining climate change denial, perhaps because of a lesser distinguishing capability of the latter mentioned variables. For example, virtually all Sweden Democrat supporters oppose immigration. Furthermore, the effects of party support, conservative ideologies, and belief in conspiracies were relatively weak, and vanished or substantially weakened in the full models. Our results suggest that socioeconomic attitudes (characteristic for the mainstream right) and exclusionary sociocultural attitudes and institutional distrust (characteristic for the contemporary European radical right) are important predictors of climate change denial, and more important than party support per se.

Keywords: climate change; climate change denial; radical right; institutional distrust; ideology; political party support; sociopolitical attitudes

1. Introduction

Despite the extensive scientific evidence supporting human-induced climate change [1], climate change denial still exists and contributes to delaying mitigation efforts [2,3]. Being an issue that needs to be solved through wide-ranging political solutions and societal reforms, climate change has become politicized in several countries, with politically right-leaning individuals expressing more climate change denial and opposition to climate policies than individuals that lean toward the left [4–6]. Recent analyses suggest that politicians and voters of far-right (i.e., radical and extreme) parties are particularly inclined to dismiss climate change [7–9], but only a few studies have empirically investigated possible explanations for this. The far right differs from the mainstream right in some important domains (most importantly in their focus on sociocultural issues and antiestablishment rhetoric instead of the traditional socioeconomic issues), which makes it unclear if the extant research results can be applied when explaining their views on climate change.

In the present paper, we address the research gap by testing if radical right-wing supporters in Sweden are more prone to deny climate change and, if so, what factors could explain this. Our focus is on three main explanations that has been proposed [9] and supported by some empirical research:

Sustainability **2020**, *12*, 10226 2 of 15

socioeconomic right-wing attitudes [10], exclusionary sociocultural attitudes [11], and institutional distrust [12]. Notably, variables that index these explanations are intercorrelated [11,13,14] and we will, thus, investigate their unique and combined contributions in explaining climate change denial.

1.1. Political Issues and Conservative Ideology

Political right-wing identification and orientation correlate with anti-environmentalism in several Western countries [4–6,15–17]. It has been suggested that protection of the prevailing economic system is an important explanation for climate change denial, which could explain these correlations [18–20]. However, radical right-wing parties tend to take vague positions on socioeconomic issues, which enable them to attract voters from parties across the ideological spectrum [21]. In Sweden, a majority of the voters who support the Sweden Democrats (a radical right-wing party) have previously voted either for the Social Democratic party (a center-left party) or the Conservative Party (*Moderaterna*, a center-right party) [22]. In line with this, voters of the European radical right-wing parties tend to express more left-leaning socioeconomic preferences than voters of the mainstream right-wing parties [23–25]. Hence, views on socioeconomic issues seem to be insufficient in explaining why the radical right is more prone to dismissing climate change than the mainstream right. Indeed, a recent study found that the correlation between Trump support and climate change denial is only partly mediated by aversion to wealth distribution [10].

We argue that, in addition to socioeconomic views, explanations could consider the ideological views and sociocultural issues promoted by the radical right (see also [9,11]). The core issue of the radical right is to limit immigration and they express exclusionary sociocultural preferences in other domains as well, as illustrated in their opposition to multiculturalism and societal focus on minority groups and feminism [26–30]. In line with this, radical right-wing politicians and voters tend to hold authoritarian and socially conservative ideological views [26,31], which strongly predict a generalized tendency to hold negative attitudes toward multiple disadvantaged social groups [14,32,33].

Indeed, climate change denial correlates with conservative ideologies (authoritarianism and support for group-based hierarchies) [34,35] and with negative attitudes toward immigration [36,37]. Moreover, environment and environmentalism are widely considered as stereotypically feminine, and anti-environmentalism could, thus, reflect promotion of masculine hegemony [38,39]. Moreover, a recent study found that an index capturing different exclusionary sociocultural preferences (opposition to, e.g., multiculturalism and feminism) mediates at least partly the effects of conservative ideologies on climate change denial [11]. Importantly, these sociocultural attitudes are interrelated and correlate also with socioeconomic attitudes [13,32,33] and it is currently unknown if they uniquely contribute in explaining variance in climate change denial.

1.2. Institutional Distrust

Institutional distrust correlates with anti-environmentalism [12,37,40]. Thus, in addition to the core issues that radical right-wing parties are promoting, some part of their tendency to dismiss climate change may come from distrust. These parties tend to accuse societal institutions for promoting internationalization and minority rights at the expense of the (native) people [26,29,41]. The most important targets of these accusations are the mainstream politicians, with whom the other societal institutions (e.g., media) are claimed to conspire. Because of this populist antiestablishment rhetoric, radical right-wing parties may both attract distrustful voters and increase political cynicism among their supporters [42].

Overlap between far-right voting, institutional distrust, and climate change denial could be due to a conspiratorial worldview, where politicians, scientists, and media are perceived as corrupt and malevolent [43–45]. Another explanation could be that both climate change denial and the antiestablishment views of the radical right reflect more specifically a distrustful stance toward the liberal and cosmopolitan parts of the establishment [11]. Institutional distrust is expressed both by right- and left-wing radical parties and it has been suggested that research should detangle the effects

Sustainability **2020**, *12*, 10226 3 of 15

of populist ideology (or rhetoric) and the "host ideology" (e.g., anti-immigration) of these parties to better explain their success and their voters' views [46–48]. Indeed, recent research has found that climate change denial correlates negatively with political distrust in several European countries [49] and only weakly with antipolitical establishment attitudes in Sweden, where this correlation also vanished when exclusionary sociocultural attitudes were controlled for [11].

1.3. Aims and Hypothesis

Only a few studies have empirically investigated climate change denial among far-right supporters. To address this gap in the literature, we conducted a series of regression analyses including sets of variables that have been suggested to explain why right-wing voters in general, and/or radical right-wing voters in particular, may deny climate change [9–11,20].

We included variables that capture views on the core issues of the mainstream right (socioeconomic attitudes) and the radical right (exclusionary sociocultural attitudes: negative attitudes toward immigration and feminism). European radical right tends to be more centrist (or vague) in their socioeconomic preferences when compared to the mainstream right, but more right-leaning than the left [23–25]. Thus, it seems plausible that socioeconomic attitudes contribute to explaining climate change denial among them. However, considering that the radical right is more prone to deny climate change than the mainstream right, we expected that climate change denial is not only predicted by socioeconomic attitudes but also by sociocultural attitudes (antifeminist and/or anti-immigration attitudes) (Hypothesis 1 [H1]).

Furthermore, we included two indexes for conservative ideologies, which have been consistently connected to climate change denial, exclusionary sociocultural attitudes, and right-wing support [11,14,31,34]: Right-Wing Authoritarianism (authoritarian submission and aggression, and conventionalism) [50] and Social Dominance Orientation (acceptance and promotion of group-based hierarchies) [51]. Previous research has shown that variables that capture attitudes that are more proximal to the outcome variable tend to outperform the effects of more distal and general psychological variables [32]. To exemplify these patterns in climate change psychology, it seems that the effects of personality traits are outperformed by conservative ideologies (e.g., Social Dominance Orientation), and the effects of conservative ideologies are outperformed by more specific socioeconomic or sociocultural attitudes [10,11]. Thus, we expected that conservative ideologies correlate with climate change denial, but that their effects are outperformed by the variables that capture more specific policy-relevant attitudes related to socioeconomic and/or sociocultural issues (H2).

As to a distrustful mindset, we included measures to capture institutional distrust and belief in conspiracies. Sweden is a relatively liberal and cosmopolitan country, and institutional distrust could, therefore, be more common among right-leaning and conservative individuals [24]. Thus, we expected to observe positive, rather than negative, correlations between climate change denial, institutional distrust, and belief in conspiracies (H3) ([11], but see [49]). As to the unique effects of these variables on climate change denial, the analyses were exploratory because different outcomes seemed possible. In some research, the effect of institutional distrust on climate change denial has remained statistically significant when views on immigration are controlled for [37], while some research has found it to vanish [11].

Finally, we investigated a previously understudied question, namely if party support per se is a more important factor explaining climate change denial than the attitudinal variables. In the analyses, we tested predictors of climate change denial among Sweden Democrat voters, and ran this same analysis including supporters of a radical and a mainstream right-wing party (Sweden Democrats vs. Conservative Party, *Moderaterna*), a radical right-wing and a mainstream center-left party (Sweden Democrats vs. Social Democrats), or a mainstream right-wing and a mainstream center-left party (Conservative Party, vs. Social Democrats). The included sets of variables cover the most important explanations for supporting radical and mainstream right-wing parties.

Sustainability **2020**, *12*, 10226 4 of 15

Thus, we expected that party support would explain only a small part, or zero, variance in climate change denial when the other included predictor variables are controlled for (H4).

2. Materials and Methods

2.1. Participants and Procedure

Participants were 2216 Sweden Democrat supporters, 634 Conservative Party supporters, and 548 Social Democratic Party supporters, as indicated by the question, 'How would you vote if there were an election for the parliament today?' Age ranged between 18 and 79 among Sweden Democrat voters (M = 55.8, SD = 15.3) between 18 and 79 among Conservative Party voters (M = 55.9, SD = 17.0), and between 19 and 79 among Social Democrat voters (M = 54.4, SD = 17.9). In all voter groups, most respondents were male (73/65/54%) and had more commonly university (37/50/43%) or high school education (50/42/47%) than elementary school education (13/8/10%).

The data were collected during spring 2018 by the independent research company Novus at the request of the authors. A selection of panelists was invited (N = 7711) from the Sweden Panel, a randomly recruited pool of approximately 40,000 volunteers. The target group was those who had indicated that they had, or could consider, voting for the Sweden Democrats, Conservative Party, or Social Democrats in a general election, and those who would not vote if there were a general election today (N = 119, excluded from the present analyses). Moreover, 239 of the participants were recruited by the market research company Norstat (only Sweden Democrat voters). Additionally, 129 respondents participated but were excluded from the analyses because they indicated having marked a wrong voting option or exhibited an untrustworthy response pattern. For full description of data collection, see [22].

2.2. Material

Full scales are presented in Appendix A and scale properties are presented in Table 1. Climate change denial was measured by item 'Global warming that is caused by humans is happening' (reversed) [52]. As to the policy issues related to mainstream and radical right-wing support, we included measures for socioeconomic attitudes (three items, $\alpha = 0.72$, example: 'Taxes should be reduced'), negative attitudes toward immigration (three items, $\alpha = 0.94$, example: 'Immigration to Sweden should be reduced'), and negative attitudes toward feminism and women (three items, $\alpha = 0.77$: 'Feminism has gone too far', and two items adapted from [53]). Exploratory factor analysis (Principal Axis Factoring, Direct Oblimin) supported these three distinct factors (see Supplementary Materials). To capture institutional distrust, we measured *political distrust* (two items, $\alpha = 0.83$, r = 0.71: 'To what degree do you trust that Riksdagen/courts of law manages its work?', reversed) and distrust of public service media ('To what degree do you trust news reporting from the following media': SVT [Swedish Television], reversed). Factor analyses suggested that these three items could form only one factor. However, further investigations into the coefficients supported our decision to keep them separate, as inclusion of distrust of SVT would have yielded a lower reliability estimate ($\alpha = 0.81$) and inter-item correlation (r = 0.60) despite adding one more item to the scale. To measure conservative ideologies, we included three items from a *Right-Wing Authoritarianism*-scale [54] ($\alpha = 0.53$, example: 'To stop the radical and immoral currents in the society today there is a need for a strong leader'), and three items from a Social Dominance Orientation-scale [55] ($\alpha = 0.60$, example: 'It's probably a good thing that certain groups are at the top and other groups are at the bottom'). Finally, we measured belief in conspiracies (five items, $\alpha = 0.78$, example: 'Experiments involving new drugs or technologies are conducted on the public without their knowledge or consent') [52]. Participants responded on these items on a scale ranging from 1 (disagree completely or definitely not true) to 5 (agree completely or definitely true), or 6 (don't know: handled as missing values). Moreover, three dummy codes were created for party support: mainstream center-left vs. right-wing (Social Democrats = 0; Conservative Party = 1), center-left vs. radical right-wing (Social Democrat = 0; Sweden Democrats = 1), and mainstream vs. radical right-wing

Sustainability **2020**, 12, 10226 5 of 15

(Conservative Party = 0; Sweden Democrat = 1). We also measured age, gender (female = 0; male = 1), and education level (0 = elementary school or high school; 1 = university education).

Table 1. Mean	Values (Standard	Deviations)	and :	Effect	Sizes	of Mean	Value	Differences	between
Voter Groups.										

	Social Democrats	Conservative Party	Sweden Democrats	η^2
	M (SD)	M (SD)	M (SD)	- 1
Climate change denial	1.53 (0.7)	1.82 (0.9)	2.25 (1.1)	0.07
Socioeconomic attitudes	2.14 (0.8)	3.82 (0.8)	3.58 (0.9)	0.28
Anti-feminism	2.28 (1.1)	2.94 (1.0)	3.55 (0.9)	0.19
Anti-immigration	2.87 (1.3)	4.07 (1.0)	4.82 (0.4)	0.47
Distrust, political	2.41 (0.8)	3.04 (1.0)	3.94 (0.9)	0.30
Distrust, media	1.79 (0.7)	2.39 (1.1)	3.37 (1.3)	0.22
Social Dominance Orientation	1.57 (0.7)	2.20 (0.8)	2.32 (0.8)	0.10
Right-wing Authoritarianism	2.53 (0.8)	2.97 (0.9)	3.58 (0.8)	0.21
Belief in conspiracies	2.42 [†] (0.8)	2.42 [†] (0.8)	2.76 (0.9)	0.04 †

Note. Response options for all scales ranged from 1 to 5. † Nonsignificant difference between Social Democrat and Conservative Party supporters. All other group differences statistically significant (ps < 0.01) (multivariate ANOVA, Bonferroni post hoc test).

3. Results

3.1. Initial Analyses

The majority of respondents agreed that the statement "Global warming that is caused by humans is happening" is *probably true* or *definitely true* (65–93%) (see Figure 1). It was more common to find this statement to be *definitely* or *probably not true* among Sweden Democrat voters (4/10%) than among Conservative Party voters (1/4%) or Social Democratic Voters (0.6/0.7%). This statement was reverse coded to capture climate change denial.

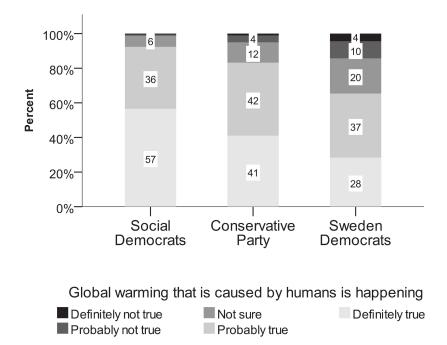


Figure 1. Prevalence of agreeing that human-induced global warming is happening, among Social Democrat, Conservative Party, and Sweden Democrat supporters.

Sustainability **2020**, *12*, 10226 6 of 15

Mean values in each voter group are shown in Table 1. We observed that the mean values differ across the voter groups, and investigated as a first step in our analyses if these mean-value differences are statistically significant. Results of a multivariate ANOVA revealed that Sweden Democrat supporters scored highest in the variables (antifeminist and anti-immigration attitudes, distrust of public service media, political distrust, Social Dominance Orientation, Right-Wing Authoritarianism), followed by Conservative Party supporters and Social Democrat supporters, with two exceptions: (1) Sweden Democrat supporters scored highest in believing in conspiracies, but Social Democrat and Conservative Party supporters did not differ from each other, and (2) Conservative Party supporters scored highest, and Social Democratic supporters scored lowest, in socioeconomic right-wing attitudes. These initial descriptive results, thus, confirm that the voter groups differ from each other as expected in our sample.

3.2. Correlations and Regression Analyses

Climate change denial correlated positively with all three dummies for party support, as well as with all predictor variables and the control variables age, gender, and education (see Table 2). This confirms that these variables are relevant and can be included in the main analyses.

We then ran a series of regression analyses. In each analysis, we included only those participants' data that supported the parties in comparison (see Table 3). Climate change denial was placed as a dependent variable. The first model included only party support. The other models included party support, and as well as conservative ideologies (model 2), socioeconomic attitudes (model 3), sociocultural attitudes (model 4), institutional distrust and belief in conspiracies (model 5), or all predictors (model 6). The aim of these six models was to investigate the unique and combined contributions of each set of variables in explaining climate change denial, as well as to test if the effect of party support remains statistically significant in the models.

Across all voter groups, all included sets of psychological variables explained variance in climate change denial (see Table 3). Party support explained 7% of variance in climate change denial when comparing radical right-wing and mainstream center-left supporters, and 3% of variance when comparing radical and mainstream right-wing supporters or mainstream right-wing and mainstream center-left supporters. Conservative ideologies explained 3–5% (model 2), socioeconomic attitudes explained 5-6% (model 3), sociocultural attitudes explained 5-7% (model 4), and institutional distrust and belief in conspiracies explained 8–9% (model 5) of additional variance in climate change denial. Models 4 and 5 reveled that antifeminist attitudes outperformed the effect of anti-immigration attitudes, and distrust of media outperformed the effect of political distrust and belief in conspiracies in explaining climate change denial (To test our decision to keep distrust of media apart from political distrust, we ran Model 5 by including only party support, political trust [of national parliament], and belief in conspiracies. The results revealed that when compared to the model including distrust of media $[R^2s = 0.08-0.15, \beta s = 0.26-0.27]$, less variance was explained [2–9%] and the effect of political distrust was somewhat weaker [β s = 0.13–0.16]). The full model that included all predictors explained 13% of variance in climate change denial among Sweden Democrat supporters, and 16–19% of variance in the three models that also included the variable capturing different party support comparisons. Across the four full models, distrust of media (β s = 0.17–0.21), socioeconomic attitudes (β s = 0.15–0.19), and antifeminist attitudes (β s = 0.13–0.15) had the strongest effects on climate change denial (ps < 0.001). Social Dominance Orientation had a statistically significant, yet weak (β s = 0.05, ps < 0.05), effect in all other analyses except in the one including only the mainstream supporters (right-wing and center-left). Belief in conspiracies had a statistically significant and weak effect in the analysis including the right-wing (radical and mainstream) supporters (β s = 0.04, ps < 0.05).

Table 2. Bivariate Correlations between the Variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Party support														
1. Mainstream vs. Radical Right														
2. Center-Left vs. Radical Right														
3. Center-Left vs. Mainstream Right														
Dependent variable														
4. Climate change denial	0.17	0.27	0.18											
Predictor variables														
5. Socioeconomic attitudes	-0.11	0.53	0.70	0.30										
6. Anti-feminism	0.26	0.46	0.30	0.31	0.33									
7. Anti-immigration	0.45	0.75	0.46	0.25	0.42	0.51								
8. Distrust, political	0.38	0.56	0.32	0.28	0.33	0.40	0.52							
9. Distrust, media	0.31	0.47	0.30	0.36	0.40	0.38	0.41	0.58						
10. Social Dominance Orientation	0.06	0.35	0.38	0.21	0.32	0.32	0.32	0.23	0.27					
11. Right-wing Authoritarianism	0.31	0.47	0.25	0.25	0.30	0.49	0.55	0.43	0.37	0.34				
12. Belief in conspiracies	0.17	0.16	-0.00 [†]	0.13	0.07	0.27	0.19	0.27	0.13	0.12	0.27			
13. Gender (male)	0.07	0.16	0.11	0.10	0.13	0.20	0.14	0.10	0.16	0.09	0.12	-0.08		
14. Age	-0.00 [†]	0.04^{+}	0.04 †	0.14	0.13	0.06	0.11	0.02 †	-0.02 †	-0.08	0.09	0.07	0.06	
15. University education	-0.11	-0.04	0.08	-0.05	0.03 †	-0.11	-0.10	-0.10	0.02 †	0.01 †	-0.16	-0.19	-0.04	-0.05

 $^{^\}dagger$ Nonsignificant. All other correlations statistically significant (ps < 0.05).

Table 3. Summary of Regression Analyses Predicting Climate Change Denial in Analyses Including (1) Radical Right-Wing Supporters, (2) Right-Wing Supporters (3) Radical Right-Wing and Mainstream Center-Left Supporters, and (4) Mainstream Supporters.

	1. Sweden Democrat			Democrat & tive Party		Democrat & Democrat	4. Conservative Party & Social Democrat		
	R^2	β	R^2	β	R^2	β	R^2	β	
Model 1	-		0.03 ***		0.07 ***		0.03 ***		
Party support		-		0.17 ***		0.27 ***		0.18 ***	
Model 2	0.03 ***		0.06 ***		0.10 ***		0.08 ***		
Party support		-		0.12 ***		0.17 ***		0.09 ***	
Social Dominance Orientation		0.12 ***		0.12 ***		0.12 ***		0.14 ***	
Right-Wing Authoritarianism		0.10 ***		0.12 **		0.12 ***		0.16 ***	
Model 3	0.06 ***		0.09 ***		0.12 ***		0.09 ***		
Party support		-		0.20 ***		0.13 ***		-0.06	
Socioeconomic Attitudes		0.24 ***		0.24 ***		0.27 ***		0.34 ***	
Model 4	0.05 ***		0.08 ***		0.12 ***		0.10 ***		
Party support		-		0.10 ***		0.13 ***		0.07 *	
Antifeminism		0.22 ***		0.22 ***		0.24 ***		0.21 ***	
Anti-immigration		0.02		0.03		0.03		0.10 **	
Model 5	0.08 ***		0.11 ***		0.15 ***		0.12 ***		
Party support		-		0.06 **		0.11 ***		0.07 *	
Distrust, Political		0.02		0.03		0.04		0.07 *	
Distrust, Media		0.26 ***		0.27 ***		0.27 ***		0.27 ***	
Belief in conspiracies		0.07 **		0.07 **		0.06 **		0.04	
Model 6	0.13 ***		0.16 ***		0.19 ***		0.18 ***		
Party support		-		0.08 ***		0.00		-0.11 **	
Social Dominance Orientation		0.05 **		0.05 **		0.05 **		0.05	
Right-Wing Authoritarianism		0.02		0.03		0.02		0.06 [†]	
Socioeconomic Attitudes		0.15 ***		0.15 ***		0.17 ***		0.19 ***	
Antifeminism		0.14 ***		0.13 ***		0.15 ***		0.13 ***	
Anti-immigration		-0.03		-0.02		-0.04		0.00	
Distrust, Political		0.02		0.02		0.02		0.04	
Distrust, Media		0.17 ***		0.18 ***		0.19 ***		0.21 ***	
Belief in conspiracies		0.04 †		0.04 *		0.03		-0.02	
N	2113		2732		2631		1137		

^{***} *p* < 0.001, ** *p* < 0.01, * *p* < 0.05, † *p* < 0.10.

Sustainability **2020**, *12*, 10226 9 of 15

Party support did not have a unique effect on climate change denial in the full model that included radical right-wing and mainstream center-left supporters (β = 0.004, p = 0.88), but did have a weak effect in the full model that included right-wing (radical and mainstream) supporters (β = 0.08, p < 0.001). When including mainstream (right-wing and center-left) supporters, the effect of party support was reversed (β = -0.11, p < 0.01). This happened when socioeconomic attitudes were controlled for, which is likely reflecting some suppression effect. No serious concerns were detected regarding multicollinearity assumptions in analyses including the attitudinal variables (Tolerances > 0.48) (see Supplementary Materials for Tolerances and confidence intervals of the regression coefficients in model 6).

Finally, we ran Model 6 with the control variables age, gender, and education level. This did not alter any of the main results, except that the effect of Social Dominance Orientation became statistically significant (but weak) also in the analysis including the mainstream (right-wing and center-left) supporters ($\beta = 0.07$, p < 0.05), and the effect of believing in conspiracies vanished in analysis including radical and mainstream right-wing supporters ($\beta = 0.03$, p = 0.19). Age, but not gender or education ($\beta = -0.03$ –0.02, $\beta = 0.11$ –0.74), explained some additional variance in climate change (1–2%, $\beta = 0.03$) among supporters of Sweden Democrats ($\beta = 0.13$), Conservative Party and Sweden Democrats ($\beta = 0.13$) Social Democrats and Conservative Party ($\beta = 0.15$).

4. Discussion

The results showed that a majority of participants believe that human-induced climate change is happening. Climate change denial was more common among supporters of the radical right-wing party Sweden Democrats than among mainstream right-wing (Conservative Party) supporters, and very uncommon among center-left (Social Democrat) supporters. As expected, socioeconomic right-wing attitudes predicted climate change denial (see [10,20]). Furthermore—supporting H1—we found that also sociocultural attitudes predict climate change denial. More specifically, antifeminism had a unique effect on climate change denial. The effect of anti-immigration attitudes was weaker, possibly because these attitudes distinguish between participants less: almost all radical right-wing supporters oppose immigration (see also [24,25]). The correlation between antifeminism and climate change denial could indicate a link between anti-environmentalism and a motivation to protect the traditional gender norms and masculine hegemony (see [38,39]). However, antifeminist and anti-immigration attitudes are strongly correlated, and both these indexes correlated with conservative ideologies (Table 2; see also [32,33]). It could, thus, be investigated further if these attitudes can be fully separated in explanations. Dismissal of climate change could be a part of a more general conservative and anti-egalitarian worldview where also the uneven distributions of risks and benefits of climate change are more readily accepted [16,56–59]. This explanation is further supported by our findings showing that the effects of conservative ideologies on climate change denial vanish or are substantially weakened when the more specific policy relevant attitudes (antifeminism and socioeconomic attitudes) were controlled for—which also support our *H2* (see also [11]).

Distrust of public service media was among the strongest predictors of climate change denial, which could reflect a doubtful stance toward a media outlet that communicates messages that some voters perceive as undesirable [60]. Another plausible explanation for this result could be that people who do not trust the media are receiving less fact-based climate information. Distrust of the Parliament and courts did not predict a unique part of variance in denial. Perhaps this variable does not only capture for example cynical perceptions regarding politicians, but also overlaps with the ideological worldviews that a certain sociopolitical system is not representing. Indeed, as expected by us based on the relatively liberal and cosmopolitan status quo of the contemporary Sweden (*H3*) distrust of the Parliament and courts correlated strongly with authoritarian attitudes and negative views on feminism and immigration. The more deeply rooted cynicism regarding politicians' character may not be inherently correlated with climate change denial, as is supported by the relatively weak correlation between belief in conspiracies and denial (Table 2: see also [61]) and a recently found weak

correlation between antipolitical establishment attitudes and denial ([11], but see [12]). Future studies could investigate more systematically to what degree climate change denial reflects political cynicism and/or distrust.

Interestingly, we found that party support explained less variance in climate change denial as compared to the combined effects of the attitudinal variables, and the effect of party support weakened substantially, became nonsignificant, or changed direction when the attitudinal variables were controlled for. These results support our final hypothesis (*H4*) and suggest that party support may be a less relevant explanation for climate change denial as compared to the attitudinal variables that tend to predict party support. However, this conclusion could be investigated further, for example by testing if certain political rhetoric influence processing of climate-related messages, thereby altering its relevance for one's social identity and political identification.

Our study was cross-sectional and limited to only one cultural context. While the data provided a rich material to investigate underpinnings of climate change denial, it seems likely that some of the results are distinct for the European—or even more specifically for the Swedish—context. For example, the correlations between Social Dominance Orientation, political orientation, and environmentalism vary across the cultural contexts, and, therefore, no universal conclusions can be drawn from any specific study [17,62,63]. Moreover, future research could employ a wider set of variables that capture different forms of denial and environmentalism. It has been suggested that differing ideological variables may explain supporting different environmental policies [64] and denying different aspects of climate change (e.g., trend, attribution, impact [18]). A need for such research is further highlighted by the fact that our indexes for Right-Wing Authoritarianism and Social Dominance Orientation included only three items each. Thus, we could not test if the subfactors of these variables [18,50,55] are differentially correlated with climate change denial. Moreover, using short measures to capture multifaceted variables tend to entail quite poor Cronbach's alphas, which has likely introduced error variance in our results. Finally, the correlations between ideological views, sociocultural attitudes, socioeconomic attitudes, and institutional trust differ across the cultural context [17,49,65]. Consequently, interplay between these variables and the cultural context could produce different patterns in environmental discourses and behaviors. We encourage researchers to aim to replicate our findings in different populations and by using different measures and designs.

5. Conclusions

Results of this well-powered questionnaire study showed that, even though mainstream and radical right-wing parties differ in their emphasis on different sociopolitical issues and antiestablishment messages [21,26,29], the same variables seem to explain why these voter groups differ from each other and from center-left voters in climate change denial. These results support our theorizing that when explaining why the radical right dismisses climate change, the core issues of these parties (exclusionary sociocultural issues and institutional distrust) could be considered in addition to the socioeconomic attitudes that are more distinctive for the mainstream right (see also [10,11]. Importantly, our results suggest that climate change denial is more consistently linked to the included attitudinal variables than to party support per se. Finally, it is worth highlighting that most participants acknowledged the human-induced climate change in all voter groups. Thus, although Sweden Democrat voters deny climate change more commonly than voters of the other included parties, denial is not a defining character of these voters as they are clearly more united in their opposition to immigration.

Supplementary Materials: The following are available online, Table S1: Factor analysis including items measuring socioeconomic and sociocultural attitudes, Table S2: Summary of regression analysis predicting climate change denial among Sweden Democrat supporters, Table S3: Summary of regression analysis predicting climate change denial among Sweden Democrat and Conservative Party supporters, Table S4: Summary of regression analysis predicting climate change denial among Sweden Democrat and Social Democrat supporters, Table S4: Summary of regression analysis predicting climate change denial among Conservative Party and Social Democrat supporters.

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Appendix A

Full Scales Used in the Analyses

Climate change denial

• Global warming that is caused by humans is happening. (R)

Socioeconomic right-wing attitudes

- Taxes should be reduced.
- The public sector is too large.
- It is good to have private profit-driven alternatives in the care sector.

Attitudes toward immigration

- Immigration to Sweden should be reduced.
- Immigration costs too many public resources.
- Immigration leads to increased criminality in Sweden.

Attitudes toward feminism and women

- Feminism has gone too far.
- Women often seek to gain power by controlling men.
- Women tend to interpret harmless remarks or actions as sexist.

Right-Wing Authoritarianism

- To stop the radical and immoral currents in the society today there is a need for a strong leader.
- Our society would be best off if we showed tolerance and understanding for nontraditional values and views. (R)
- The best way to live is in accordance with the old-fashioned values.

Social Dominance Orientation

- It is probably a good thing that certain groups are at the top and other groups are at the bottom.
- We should strive for increased social equality. (R)
- No one group should dominate in society. (R)

Distrust, Parliament and courts

- To what degree do you trust that the Parliament (Riksdagen) manages its work? (R)
- To what degree do you trust that the courts of law manage their work? (R)

Distrust, the public service media

 To what degree do you trust news reporting the following media?: Swedish national public TV (SVT) (R)

Belief in conspiracies

- There is a small, unknown group that really governs world politics and has more power than the elected leaders in different countries.
- There are groups of researchers who manipulate, fabricate, or withhold evidence in order to mislead the public.
- The pharmaceutical industry works to keep people sick, rather than healthy, in order to make greater profits.
- Experiments involving new drugs or technologies are conducted on the public without their knowledge or consent.
- Chemtrails, i.e., deliberate discharges of substances from aeroplanes that are used to manipulate people or the weather.

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Sustainability **2020**, 12, 10226 15 of 15

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