Pro-Environmental Attitudes and the Relation with Sexism, Conventionalism and Gender-Specific System Justification

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Abstract

As our planet faces unprecedented environmental challenges, understanding and influencing individual perspectives become paramount for fostering meaningful action and sustainable solutions. This correlational study investigates the intricate interplay among sexism, conventionalism, and gender-specific system justification, exploring their collective impact on pro-environmental attitudes. We hypothesize that elevated levels of sexism, conventionalism, and gender-specific system justification will each be independently associated with reduced pro-environmental attitudes, even after accounting for sociodemographic factors (H1, H2, H3). Additionally, we expect an intricate interrelation among sexism, conventionalism, and gender-specific system justification collectively influencing pro-environmental attitudes, even after controlling for sociodemographics (H4). Drawing on data from the 2016 pre-election nationally representative survey conducted by the Psychology Political Behavior Studies (PPBS), encompassing 1500 participants from the United States. Findings reveal a significant relation between sexism, conventionalism, and gender-specific system justification on pro-environmental attitudes, affirming the hypothesis that these factors individually and collectively mold individuals attitudes on environmental matters. The study provides valuable insights into the interplay of underlying social psychological factors, individual attitudes, and societal beliefs in shaping environmental concerns. Understanding the relations between social psychological factors and environmental attitudes is essential for developing effective strategies to promote pro-environmental attitudes and behaviors.

Keywords: pro-environmental attitudes, sexism, conventionalism, gender-specific system justification

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Gender-Specific System Justification

While the deterioration of the environment has been acknowledged for some time (Berrang-Ford et al., 2011; Houghton et al., 1992), only in recent years there has been an upsurge in research emphasizing the urgency of mitigating environmental damage. Over centuries, human activities have had detrimental impacts on the ecosystem, but the urgency of our current situation requires collective efforts to reverse this trend in the coming years. Research suggests that the temperature rise should not exceed 1.5 degrees Celsius above pre-industrial levels, which necessitates a 45% reduction in CO_2 emissions by 2030 (Hoegh-Guldberg et al., 2018). Failing to meet this target would result in widespread droughts, melting ice caps, coral reef destruction, ecosystem collapse, and food shortages (Hoegh-Guldberg et al., 2018).

Despite increased awareness regarding environmentally harmful behavior and subsequent improvements in recent years, achieving the necessary level of environmental conservation remains a challenge. Examining social psychological factors that underlie pro-environmental attitudes can be crucial in developing effective environmental strategies and promoting sustainable behaviors. In this study, we explore the complex interplay of individual beliefs, behaviors, and societal influences shaping pro-environmental attitudes. As we consider these factors, it becomes evident that behaviors and attitudes play an integral role in the ecosystem's functioning (Lu et al., 2021). Pro-environmental attitudes are essential as they promote sustainable living and help mitigate the effects of climate change (Miller et al., 2022). However, pro-environmental attitudes may vary among individuals (Wyss et al., 2021).

As studies increasingly focus on pro-environmental attitudes and behaviors, attention has shifted to examining individual differences and their impact on these attitudes.

Investigating traits that influence pro-environmental attitudes is imperative. For instance, previous research has demonstrated that high levels of self-control positively impact pro-environmental attitudes (Wyss et al., 2021; Li et al., 2020). Self-control mediates the relationship between ostracism and pro-environmental attitudes. Ostracism negatively influences sense of control, which, in turn, affects pro-environmental behavior (Li et al., 2020). Personality traits, such as openness to experience and honesty-humility, also positively predict pro-environmental behavior (Panno et al., 2021). Given the critical importance of individual traits for the environment and human existence, further research is warranted. This dissertation specifically aims to unravel the relationship between sexism, conventionalism, and gender justification with pro-environmental attitudes.

Pro-Environmental Attitudes and Sexism

First, we examine the relationship between pro-environmental attitudes and sexism. In general, sexism refers to discrimination and prejudiced attitudes directed towards a particular gender, often disproportionately affecting women (Agadullina et al., 2022). Early investigations into the correlation between sexism and environmentalism, such as Wang's seminal work in 1999, revealed a noteworthy association between attitudes towards women and pro-environmental behaviors in both males and females. Wang (1999) demonstrated that individuals with patriarchal views about women were less likely to engage in pro-environmental behaviors. Building upon this finding, subsequent research by Brough et al. (2016) identified a 'no-feminism' stereotype. This stereotype reflects traditional gender norms and expectations, where certain behaviors are categorized as either feminine or masculine. In this context, exhibiting environmentally friendly behavior is linked to traits or actions culturally attributed to femininity, a perception held by both men and women Traditionally, behaviors like nurturing, empathy, and care for the environment are associated with femininity, while traits like assertiveness, dominance, and a lack of concern for environmental

issues may be associated with masculinity. Consequently, men may be discouraged to adopt environmentally friendly behaviors due to societal perceptions and gender norms (Brough et al., 2016). Prejudiced beliefs about the role of men and women were also evident in the strong relationship found between sexism and climate change denial (Nicol et al., 2022). The socioeconomic subordination of women also results in disproportionate salience of climate change and its consequences across genders. Often holding lower social status and power, women recognize and experience greater impact of climate change. Those with little power and status are the first to experience the consequences of climate change (Jackson et al., 2013; Swim & Bloodhart, 2018). In contrast, men, who may not directly feel the negative effects of climate change, may feel less urgency to participate in pro-environmental behaviors. Thus, both societal norms and gendered power dynamics could induce men's reluctance to engage in climate-friendly behavior (Swim & Geiger, 2018; Brough et al., 2016).

Feminist expressions of strong environmental advocacy are sometimes perceived as a challenge to the established societal order, potentially triggering climate change denial as a defensive response (Nicol et al., 2022; Salmen & Dhont, 2020). This defensive reaction is particularly notable among men who view climate action as a threat to their societal dominance, potentially leading to resistance in acknowledging and addressing environmental issues (Dakin et al., 2023). The resistance stems from a perception that feminists aim to persuade individuals, including men, to adopt eco-friendly behavior. However, societal norms often dictate that eco-friendly behavior is not traditionally associated with masculinity. Men who engage in such behavior may face the risk of social devaluation, challenging established gender norms (Mackenzie, 2019).

Existing studies underscore the role of gender prejudice and stereotypes in influencing pro-environmental attitudes (Brough et al., 2016; Nicol et al., 2022). Moreover, research establishes a clear association between sexism and climate change denial (Nicol et al., 2022;

Salmen & Dhont, 2020). However, previous research has not identified a direct relation between sexism and pro-environmental attitudes. Our study aims to contribute to this gap. Consequently, based on prior research, we anticipate finding a negative relation wherein higher levels of sexism are associated with lower levels of pro-environmental attitudes.

Pro-Environmental Attitudes and Conventionalism

Another individual trait that is related to pro-environmental attitudes is conventionalism. Conventionalism refers to a person's adherence to societal norms and traditional values in their attitudes and thought processes (Funke, 2005). Conventionalism is a far less studied topic which is why we also looked at variables that are very close in meaning or relationship. A political ideology that is similar to conventionalism is conservatism. Conventionalism is a component of the conservative thought. Conservative political ideologies may, at times, deter acceptance of scientific findings, especially if those findings challenge traditional values or economic interests (Hayward, 2014). For instance, some conservatives may express skepticism toward climate change science, particularly if they perceive that addressing it would impose significant governmental intervention or regulation to existing socioeconomic structures. Research indicates that conservative individuals are less likely to view climate change and global warming as significant problems (Denicola & Subramaniam, 2014). This tendency is often observed among white men who, due to their demographic characteristics, may feel less directly impacted by environmental changes associated with climate change (Bjork-James & Barla, 2021). Consequently, they may be less motivated to alter their behavior to combat climate change (McCright & Dunlap, 2011).

Moreover, conventionalism is related to the level of authoritarianism. Adherence to conventional, middle-class values can predict the level of right-wing authoritarianism (Dunwoody & Funke, 2016). Conservatism and authoritarianism are positively related, which in turn are negatively related to pro-environmental attitudes and belief in climate change

(Dunwoody & Funke, 2016; Stanley & Wilson, 2019). Individuals with authoritarian tendencies are more likely to deny climate change and oppose actions promoting environmental conservation, and consequently less likely to adopt environmentally friendly behaviors (Stanley & Wilson, 2019).

Political ideology plays a crucial role in shaping pro-environmental attitudes and opinions about climate change (Orchinik et al., 2023). Studies consistently show that conservatives and authoritarians, often resistant to change and affiliated with positions of power and status, are less open to environmental concerns (Dunwoody & Funke, 2016; Stanley & Wilson, 2019). We have not discovered a direct association between conventionalism and pro-environmental attitudes in past research. However, conservatism or authoritarianism is frequently linked with environmentalism. Our study aims to contribute to this gap in the literature. In our research, we explore the relationship between conventionalism and pro-environmental attitudes. Based on prior research, we expect higher levels of conventionalism to be associated with diminished pro-environmental attitudes.

Pro-Environmental Attitudes and Gender-Specific System Justification

Our research further investigates individuals' broader gender-related perceptions with regards to pro-environmental attitudes, by examining gender-specific system justification within the broader framework of system justification theory. System justification theory posits that perception of the existing social, economic, and political order as fair and legitimate, fosters resistance against potential changes (Jost, 2018). This inclination to defend the status quo intensifies when there is a perceived threat to the established social system (Van Der Toorn & Jost, 2014).

Applying this framework to our research, individuals with higher system justification attitudes may view environmental action as a potential threat to the prevailing social system. This resistance is particularly relevant when considering gender-specific aspects of system

justification, where societal gender roles are justified through gender stereotypes (Kray et al., 2017; Jost, 2018). The motivation to justify the system is strongly related to an individual's societal status, in that those occupying privileged positions are more inclined to maintain and defend existing systems (Goldsmith et al., 2012). Research consistently reveals that men tend to score higher than women in measures of system justification, indicating a greater propensity among men to support and defend established structures. This gender disparity in system justification is posited to contribute to the observed gender gap in environmental attitudes, with men displaying a higher tendency to deny environmental problems (Feygina et al., 2010; Jost and Kay, 2005; Goldsmith et al., 2012; Kray et al., 2017).

Prior research has examined the relationship between gender disparities and environmentalism, but the impact of gender-specific system justification on pro-environmental attitudes has not been thoroughly investigated. Our study aims to contribute to this gap in the literature. Building on prior studies, we expect gender-specific system justifications to negatively influence pro-environmental attitudes.

Intersection and Pro-Environmental Attitudes

Based on prior research we expect a connection between sexism, conventionalism, and gender-specific system justification with pro-environmental attitudes. A review of the existing scholarly literature reveals a degree of alignment among these constructs. Notably, sexism, conventionalism and gender-specific system justification all revolve around unequal power dynamics upheld by larger societal structures.

For instance, when considering sexism, it is observed that men are less inclined to engage in behaviors that support environmental causes compared to women. This could be because women are more likely to notice changes in the environment, as they are often stereotyped as being more connected to the natural world, due to their role in natural reproduction. In contrast, men are frequently viewed as separate from the natural world,

leading to the perpetuation of sexist beliefs (Salmen & Dhont, 2020; Milfont et al., 2021). Simultaneously, there exists a 'no-feminism' stereotype. This stereotype links "green behavior" to traits culturally associated with femininity, reinforcing traditional gender norms where caring for the environment is seen as a feminine trait (Brough et al., 2016). These stereotypes contribute to gendered expectations and may influence individuals' attitudes and actions toward pro-environmental behaviors (Dakin et al., 2023).

Similarly, conventionalism, often embraced by men following conservative and authoritarian ideologies, reflects a desire to maintain the status quo. These individuals, often less affected by environmental changes, resist engagement in climate change actions (Stanley & Wilson, 2019). In both sexism and conventionalism, a stereotype is active—men hold power, and there is a fear that pro-environmental attitudes threaten this power. The climate scientist Katherine Hayhoe highlights in an interview that climate denial is often intersectionality related to sexism. She notes that climate change deniers are frequently white older men whose behavior aligns with conventionalist beliefs (Bjork-James & Barla, 2021). This demonstrates that climate denial is not impacted by a singular construct, but rather by multiple factors working in conjunction.

Taking into consideration gender-specific system justification, there are shared attitudes and stereotypes within this context, exhibiting similarities to conventionalism. Both involve individuals motivated to uphold the existing system and resist change (Jost, 2018). A common thread among all three constructs is the appeal to individuals holding power or occupying elevated positions in the hierarchical structure, who are presumably reluctant to relinquish it. Research indicates the intersectionality of the three traits - sexism, conventionalism and gender-specific system justification -. Namely, men who express a preference for system justification tend to exhibit higher levels of sexism (Russo et al., 2014).

Additionally, individuals with conservative leanings consistently display elevated levels of chronic system justification (Jost et al., 2008).

The alignment is apparent not only in attitudes toward the environment, but also in the pervasive and systematic gender inequality in policy representation. The underrepresentation of women in policy positions reflects the power dynamics summarized by sexism, conventionalism and gender-specific system justification (Persson et al., 2023). This in turn hinders the impact of women who observe and draw attention to the impact of environmental change, men prioritize maintaining their own status and are often unwilling to listen to women's opinions (Persson et al., 2023).

These shared psychological characteristics among the three traits demonstrate an interconnected web of influences. However, little research has delved into how these three factors interact and collectively contribute to pro-environmental attitudes. Understanding these constructs individually and their interaction is crucial for elucidating why individuals may differ in their support for environmental changes. Thus, this study examines the interrelationship between pro-environmental attitudes and sexism, conventionalism, and gender-specific system justification.

The Present Study

The current study will examine the relations between sexism, conventionalism, gender-specific system justification, and pro-environmental attitudes. The study will analyze results from a nationally representative sample of American adults in 2016, considering all components of pro-environmental attitudes: economic, social, and political. The research will further investigate the relationship between sexism, conventionalism, and gender-specific system justification in predicting pro-environmental attitudes. We expect that higher levels of sexism will be associated with decreased pro-environmental attitudes, even after controlling for sociodemographics (H1). Additionally, we anticipate that higher levels of conventionalism

will be linked to decreased pro-environmental attitudes, even after controlling for sociodemographics (H2). We also expect that higher levels of gender-specific system justification will be associated with decreased pro-environmental attitudes, even after controlling for sociodemographics (H3). The fourth hypothesis posits that sexism, conventionalism, and gender-specific system justification will be interrelated, explaining unique variance in the omnibus model. This indicates a complex network of beliefs and values collectively influencing pro-environmental attitudes, even after controlling for sociodemographics (H4).

Method

Participants and Design

The present study utilized data from the 2016 pre-election study of the Psychology Political Behavior Studies (PPBS). A total of 2,424 participants from the United States were recruited to take part in the study. The participants were obtained through Survey Sampling Incorporated (SSI), an online panel, and received financial compensation of $3.50 for their participation. SSI was explicitly instructed to ensure the recruitment of a representative sample of Americans, and the quotas were designed to align with the demographic distributions of age, income, education, and gender from the 2014 US Census Bureau American Community Survey (ACS). The recruitment period occured from August 16, 2016, to September 16, 2016. Out of the total participants, 1,885 completed the entire survey. Excluding participants who answered an attention check incorrectly twice within 22 minutes (N = 385), the final sample size was reduced to N = 1,500.

Among the participants, 50.67% were women. The age distribution was as follows: 8-24 (12.87%), 25-34 (17.6%), 35-44 (17.53%), 45-54 (19.47%), 55-65 (15.6%), and over 65 (16.93%). The ethnic composition of the population was as follows: Whites accounted for 82.47%, Blacks/African-Americans constituted 7.67%, Latinos comprised 5.87%,

Asian/Pacific Islanders represented 1.93%, Native Americans accounted for 0.87%, and Middle Easterners constituted 1.2%. In terms of religious affiliation, 67.6% identified as Christian, 0.6% as Muslim, 3.47% as Jewish, 15.33% as atheist or agnostic, and 13% either provided an uncertain response, did not state their religion, or declined to answer. Regarding educational attainment, 3.4% reported completing less than high school, 31.67% completed high school (including equivalency), 31.4% attended college or had a college degree (including those with no higher education degree), 20.67% held a bachelor's degree, and finally, 12.87% possessed a college or professional degree. The median income for the participants fell within the range of $35,000 to $49,999. The income distribution was as follows: 11.87% had an income below $15,000, 12% fell within the range of $15,000 to $24,999, 11.73% had an income between $25,000 and $34,999, 15.13% fell within the range of $35,000 to $49,999, 19.47% had an income between $50,000 and $74,999, 12.8% fell within the range of $75,000 to $99,999, 10.67% fell within the range of $100,000 to $149,999, and 6.33% had an income of $150,000 or more.

The current study focuses on a subset of constructs extracted from the questionnaire and employs a correlational research design. Pro-environmental attitudes serve as the predictor construct, while sexism, conventionalism, and gender justification are the dependent constructs. Ethical approval for this research was obtained from the psychology ethics committee at the University of Groningen.

Procedure

To ensure a representative sample, Survey Sampling Incorporated (SSI) was engaged to recruit participants from their extensive database. SSI was tasked with selecting participants who would accurately reflect the demographics of society. Participants were invited to complete a comprehensive questionnaire covering a wide range of psychological

and political topics. Prior to beginning the questionnaire, participants were provided with detailed information about the study and its objectives.

The questionnaire began with inquiries regarding participants' demographic information. Subsequently, participants responded to a series of questions on political and psychological subjects. To ensure data quality, the questionnaire included 11 attention checks, following advice from experts in the field. Additionally, the questionnaire incorporated measures to track page-time, survey-total, and click count controls.

If a participant failed to answer two attention checks correctly within a span of 22 minutes, their data were excluded from the analysis. After completing the survey, participants were thanked for their participation and provided with further information about the study's purpose.

Measures

Within the larger project, various measures were employed, and the relevant measures are outlined below.

Pro-environmental attitudes were assessed using a 15-item scale. These items captured attitudes related to the economic, social, and political aspects of the environment. The scale included questions derived from Laméris' (2015) PhD dissertation, as well as previous research by Dunlap et al. (2000), ISSP Research group (2010), The Pew Research Center (2009), and seven original items. For instance, participants responded to statements such as "Environmentalists' goals are to attack industries and globalization rather than legitimate environmental concerns." Responses to the scale items were provided on a 9-point scale, ranging from 1 (strongly agree) to 9 (strongly disagree). The internal consistency analyses of this 15-item scale resulted in a reliability coefficient of $\alpha = .92$ ($M = 5.72$, $SD = 1.54$) and an inter item correlation of 0.43.

Sexism was measured using a single question based on research by Feldman and Johnston (2013). Participants were asked to position themselves on a 9-point scale in response to the statement: "Recently, there has been a lot of talk about women's rights. Where would you place yourself on this scale? Some people feel that women should have an equal role with men in running business, industry, and government (right) - Others feel that a woman's place is in the home (left)." The participants' opinions were recorded based on their placement along the scale.

Conventionalism was assessed using a 4-item scale adapted from Funke's (2005) research. Participants rated their agreement with statements using a 9-point scale, ranging from 1 (very strongly disagree) to 9 (very strongly agree). An example item from this scale is "People should develop their own personal standards about good and evil and pay less attention to the Bible and other old, traditional forms of religious guidance." The internal consistency of this 4-item scale was evaluated, resulting in a reliability coefficient of $\alpha = .76$ ($M = 5.30$, $SD = 2.04$) and an inter item correlation of 0.44.

Gender-specific system justification was measured using an 8-item scale based on the research of Jost and Kay (2005). Participants indicated their agreement with statements on a 9-point scale, ranging from 1 (strongly agree) to 9 (strongly disagree). An example item from the questionnaire is "Society is set up so that men and women usually get what they deserve." The internal consistency of this 8-item scale was assessed, resulting in a reliability coefficient of $\alpha = .80$ ($M = 5.44$, $SD = 1.37$) and an inter item correlation of 0.33.

Table 1

Reliability Table for the different measures

Measures	Cronbach's α	Average interitem correlation	mean	sd
Pro-environmental attitudes	0.919 [.913-.924]	0.434 [.411-.456]	5.719	1.539
Conventionalism	0.757 [.736-.776]	0.443 [.411-.473]	5.301	2.035
Gender system Justification	.793 [.776-.808]	0.328 [.305-.352]	5.436	1.366

Note: Sexism is excluded from this table because it has one construct.

Results

In this section, we will explore the relationship between sexism, conventionalism, and pro-environmental attitudes using linear regression. Additionally, sociodemographic variables, such as age, education level, income, and gender, will be incorporated into the model to enhance accuracy and reliability. The inclusion of sociodemographics in the study is pivotal for refining the precision of the findings. This ensures that observed findings are not solely attributed to demographic differences, facilitating a more accurate understanding of the relationships under investigation.

We will first present an analysis of the demographic results, followed by an examination of the correlations, and finally the results of the hypotheses.

Demographics

The study revealed patterns within various demographic groups regarding pro-environmental attitudes. The lower a score, the fewer pro-environmental attitudes are expressed. The means and standard deviations for the variables can be found in Table 2. Among the different age groups, the 65+ age group had the lowest average score on pro-environmental attitudes ($M = 5.0$, $SD = 1.62$), while the 25-34 age group had the highest score ($M = 6.1$, $SD = 1.30$). In addition, participants with a graduate or professional degree had the lowest average pro-environmental attitude score ($M = 5.6$, $SD = 1.73$), while those with less

than a high school education had the highest average score ($M = 5.9$, $SD = 1.61$). When examining income levels, it was found that the highest income group of $150,000 or more had the lowest average score of pro-environmental attitudes ($M = 5.2$, $SD = 1.75$), while the income group of $25,000 to $34,999 had the highest score ($M = 5.9$, $SD = 1.55$). In addition, male participants had lower average pro-environmental attitudes ($M = 5.4$, $SD = 1.63$) than female participants ($M = 6.0$, $SD = 1.38$). In terms of political affiliation, Republicans scored lower on pro-environmental attitudes ($M = 5.0$, $SD = 1.46$) compared to Democrats ($M = 6.5$, $SD = 1.21$). In terms of ethnicity, individuals of Caucasian/European origin had the lowest average score ($M = 5.6$, $SD = 1.58$), while Asian/Pacific Islanders had the highest average score ($M = 6.2$, $SD = 1.18$) on pro-environmental attitudes. In terms of occupation, retirees scored the lowest ($M = 5.2$, $SD = 1.61$), while full-time caregivers scored the highest ($M = 6.2$, $SD = 1.18$) on pro-environmental attitudes. Christian individuals had the lowest mean score ($M = 5.5$, $SD = 1.50$) among different beliefs, while atheist/agnostic participants had the highest ($M = 6.4$, $SD = 1.49$) on pro-environmental attitudes. Finally, participants living in rural areas scored lowest on average ($M = 5.4$, $SD = 1.55$) in terms of pro-environmental attitudes compared to participants living in urban areas ($M = 5.9$, $SD = 1.52$).

These findings provide valuable insights into the variation in pro-environmental attitudes across demographic groups and highlight potential factors that influence individuals' perspectives on environmental issues.

Table 2

Descriptive Statistics

	Mean	Standard Deviation
Pro-environmental attitudes	5.719	1.539
Sexism	2.651	2.084
Conventionalism	5.301	2.035
Gender system justification	5.436	1.366

Correlations Between Variables

We first examined the relationships between pro-environmental attitudes, sexism, conventionalism, and gender-specific system justification. The inter-item correlations can be found in Appendix A. The correlations between these variables are summarized in Table 3. The results are consistent with our expectations and provide insightful findings. Specifically, we observed a negative but weak correlation between sexism and pro-environmental attitudes ($r = -.20$, $p < .001$). This suggests that individuals who endorse sexist beliefs stronger, tend to have weaker pro-environmental attitudes. We also found a significant negative correlation between pro-environmental attitudes and conventionalism ($r = -.44$, $p < .001$). This suggests that individuals with stronger conventional values also have weaker pro-environmental attitudes. In addition, there was a significant negative correlation between pro-environmental attitudes and gender-specific system justification ($r = -.43$, $p < .001$). This suggests that more support for the traditional gender system, tends to decrease pro-environmental attitudes.

Table 3

Correlations between Pro-environmental Attitudes, Sexism, Conventionalism, Gender System Justification and Sociodemographic

Model		Pro-environmental attitudes	Sexism	Conventionalism	Gender System Justification	Age	Education	Income	Gender
Pro-environmental attitudes	*r*	-	-	-	-	-	-	-	-
	p								
Sexism	*r*	-.201	-	-	-	-	-	-	-
		<.001							
	p								
Conventionalism	*r*	-.441	.278	-	-	-	-	-	-
	p	<.001	<.001						
Gender System Justification	*r*	-.433	.178	.395	-	-	-	-	-
	p	<.001	<.001	<.001					
Age	*r*	-.193	-.075	.277	.186	-	-	-	-
	p	<.001	.003	<.001	<.001				
Education	*r*	-.049	-.081	-.064	.045	.211	-	-	-
	p	.059	.003	.013	.083	<.001			
Income	*r*	-.082	-.043	.007	.168	.229	.485	-	-
	p	.001	.099	.779	<.001	<.001	<.001		
Gender	*r*	-.199	.065	.098	.291	.198	.088	.095	-
	p	<.001	.011	<.001	<.001	<.001	<.001	<.001	

Inferential Statistics

We now conduct linear regression analyses to test each hypothesis, followed by a multiple linear regression analysis for the final hypothesis that incorporates all the variables. Additionally, we will assess the magnitude of effect sizes, categorizing correlation coefficients between 0.10 - 0.30 as small, 0.30 - 0.50 as medium and 0.50 or greater as large, following Pearson's R guidelines (Freedman et al., 2007). These analyses are conducted using the JASP software. Prior to this, a series of variable recoding procedures are performed to combine these variables into unified constructs.

Sexism and Pro-environmental Attitudes

 The first hypothesis, which proposes that high levels of sexism are associated with less pro-environmental attitudes, was supported to some extent F (1, 1498) = 63.088, R^2= .04, p = <. 001. The linear regression results show that while there is a relationship, sexism alone accounts for only 4% of the variation in pro-environmental attitudes. The results revealed a small significant relationship between sexism and pro-environmental attitudes. The beta coefficient (β = -.148, 95% CI [-.185, -.112], p < .001) confirms the negative association between pro-environmental attitudes and sexism. This means that high levels of sexism are correlated with lower levels of pro-environmental attitudes. However, it is important to note that the effect size of the correlation (r = -.201) of this relationship is relatively small (Freedman et al., 2007).

The sociodemographics were then added to the model F (5, 1494) = 35.840, R^2= .11, p = <. 001. This indicates that the constructs with the demographic variables explain 11% of the variance in pro-environmental attitudes. Based on the observed 7 % increase in explained variance, it is reasonable to infer that a portion of the variations in pro-environmental attitudes among individuals can be ascribed to the sociodemographic factors age (β = -.160, 95% CI [-.207, -.113], t(1494) = -6.627, p < .001) and gender (β = -.458, 95% CI [-.609, -.306], t(1494)

= -5.933, $p < .001$), because these sociodemographics were significant. In this model, the sociodemographic factors of education level (β = .004, 95% CI [-.075, .082], $t(1494) = 0.091$, $p = .928$) and income (β = -.029, 95% CI [-.071, .012], $t(1494) = -1.383$, $p = .167$) did not exhibit statistical significance. The negative beta coefficient for age (β = -.160) suggests that as age increases, pro-environmental attitudes tend to decrease. The negative beta coefficient for gender (β = -.458) suggests that men tend to have lower pro-environmental attitudes compared to women.

Conventionalism and Pro-environmental Attitudes

Based on the results, the second hypothesis, which states that high levels of conventionalism are associated with weaker pro-environmental attitudes, was supported F (1, 1498) = 362.195, $R^2 = .195$, $p = <. 001$. Conventionalism accounts for 19.5% of the variation in pro-environmental attitudes. The results revealed a significant relationship between conventionalism and pro-environmental attitudes. The beta coefficient (β = -.334, 95% CI [-.368, -.299], $p < .001$) suggests a negative association between pro-environmental attitudes and conventionalism. This means that high levels of conventionalism are related with lower levels of pro-environmental attitudes. The effect size of the correlation ($r = -.441$) indicates a moderate level of conventionalism's impact on pro-environmental attitudes (Freedman et al., 2007).

The sociodemographics were then added to the model F (5, 1494) = 87.089, $R^2 = .23$, $p = <. 001$. This indicates that the constructs with the demographic variables and the constructs together explain 23% of the variation in pro-environmental attitudes. Based on the observed increase of 3.5% in explained variance, some of the variations in pro-environmental attitudes among individuals can be attributed to sociodemographic factor; gender ($β = -.447$, 95% CI [-.588, -306], $t(1494) = -6.234$, $p < .001$), because of the significant relation. In this model, the demographic factors of age ($β = -.029$, 95% CI [-.075, .017], $t(1494) = -1.243$, $p =$

.214) , education level (β = -.052, 95% CI [-.126, .021], $t(1494)$ = -1.396, p = .163) and

income (β = -.030, 95% CI [-.069, .008], $t(1494)$ = -1.541, p = .124) did not exhibit statistical

significance. The beta coefficient for gender (β = -.447) implies that men tend to have lower

pro-environmental attitudes compared to women.

Gender-Specific System Justification and Pro-environmental Attitudes

The results provide support for hypothesis three, which states that higher levels of

gender-specific system justification are associated with lower pro-environmental attitudes F

(1, 1498) = 345.694, R^2= .188, p = <. 001. The results show that gender-specific system

justification accounts for 18.8% of the variation for pro-environmental attitudes. The beta

coefficient (β = -.488, 95% CI [-.540, -.437], p < .001) indicates a significant negative relation

between gender-specific system justification and pro-environmental attitudes. In other words,

as gender justification increases (indicating stronger adherence to traditional gender roles or

beliefs), pro-environmental attitudes tend to decrease. The effect size of the correlation (r = -

.433) is moderate, suggesting a relatively strong impact of gender-specific system justification

in explaining the variance in pro-environmental attitudes (Freedman et al., 2007).

The demographics were then added to the model F (5, 1494) = 76.838, R^2= .21, p = <.

001. The results reveal that the demographic variables and the constructs together explain

21% of the pro-environmental attitudes variance. This implies that the significant

sociodemographic factors age (β = -.102, 95% CI [-.147, -.057], $t(1494)$ = -4.456, p < .001)

and gender (β = -.194, 95% CI [-.342, -.047], $t(1494)$ = -2.584, p =.010) play a role in

determining individual attitudes towards the environment. However, it is worth noting that

these variables only account for a 2.2% increase in the explained variance. In this model, the

demographic factors of education level (β = -.019, 95% CI [-.093, .056], $t(1494)$ = -0.491, p

= .623) and income (β = .016, 95% CI [-.023, .056], $t(1494)$ = 0.806, p =.420) did not exhibit

statistical significance. The negative beta coefficient for age (β = -0.102) suggests that as age

increases, pro-environmental attitudes tend to decrease. The negative beta coefficient for gender (β = -0.194) suggests that men tend to have lower pro-environmental attitudes compared to women.

Intersection and Pro-environmental Attitudes

The results provide support for hypothesis four, which suggests that sexism, conventionalism, and gender-specific system justification together explain unique variance in the omnibus model, indicating a complex network of beliefs and values that influence pro-environmental attitudes $F (3, 1496) = 191.552$, $R^2 = .278$, $p = <. 001$. This analysis shows that 27.8% of the variation in pro-environmental attitudes can be explained with these constructs. The multiple linear regression shows a significant overall relationship between sexism (β = -.046, 95% CI [-.079, -.013], $t(1499) = -2.725$, $p = .007$), conventionalism (β = -.230, 95% CI [-.267, -.194], $t(1499) = -12.395$, $p < .001$), and gender-specific system justification (β = -.340, 95% CI [-.393, -.287], $t(1499) = -12.559$, $p < .001$) in relation to pro-environmental attitudes. The regression coefficients of the constructs indicate a positive relationship, meaning that as levels of sexism, conventionalism, and gender-specific system justification increase, pro-environmental attitudes tend to be weaker.

The demographics were then added to the model $F (7, 1492) = 86.419$, $R^2 = .288$, $p = <. 001$. This showed that 28.8% of the variation in pro-environmental attitudes is explained by the constructs and demographics. Based on the 1 % increase in explained variance, we can draw the conclusion that demographic factors do not play a large part in the variation of pro-environmental attitudes among individuals as gender was the only significant sociodemographic ($\beta = -.230$, 95% CI [-.370, -.090], $t(1492) = -3.220$, $p = .001$). Whereas age ($\beta = -.039$, 95% CI [-.083, .006], $t(1492) = -1.696$, $p = .090$), level of education ($\beta = -.067$, 95% CI [-.138, .003], $t(1492) = -1.865$, $p = .062$) and income ($\beta = .001$, 95% CI [-.036, .039],

$t(1492) = 0.068$, $p = .946$) were not significant. Gender had a beta coefficient of ($\beta = -.230$) suggesting that men tend to have lower pro-environmental attitudes compared to women.

The findings of this research, together with the correlations discussed earlier, support the consistency between our hypotheses and the observed results. The data supported the hypotheses, underscoring the validity of our initial predictions. Evidence showed that individuals with higher levels of sexism, conventionalism, and justification of the gender-specific system had lower pro-environmental attitudes. These findings support our hypothesis that these factors are indeed associated with less favorable environmental attitudes. Furthermore, the results support the idea that the combined effects of all variables shape pro-environmental attitudes. This confirms our expectation that the complex interplay of these variables ultimately influences individuals' attitudes toward environmental issues.

Table 4

Coefficients All Factor Model

	Unstandardised	Standard Error	Standardised	t	p
Sexism	-.053 [-.087, -.019]	.017	-.072	-3.088*	.002
Conventionalism	-.226 [-.264, -.188]	.019	-.299	-11.668*	<.001
Gender system justification	-.305 [-.361, -.250]	.028	-.271	-10.771*	<.001
Age	-.039 [-.083, .006]	.023	-.041	-1.696	.090
Education	-.067 [-.138, .003]	.036	-.047	-1.865	.062
Income	.001 [-.036, .039]	.019	.002	0.068	.946
Gender	-.230 [-.370, -.090]	.071	-.075	-3.220*	.001

*Note: The results marked by an * were significant at p<.05.*

Discussion

This study examined the impact of sexism, conventionalism, and gender-specific system justification on pro-environmental attitudes, while controlling for sociodemographic variables. Additionally, we explored the interrelationships among sexism, conventionalism, and gender-specific system justification in relation to pro-environmental attitudes while still considering sociodemographics. Our hypotheses stated that individuals with higher levels of sexism would display fewer pro-environmental attitudes compared to those with lower scores of sexism. We also hypothesized that individuals with higher conventionalism scores would show weaker pro-environmental attitudes than those with lower scores. Furthermore, we predicted that individuals with higher scores in gender-specific system justification would exhibit lower pro-environmental attitudes than individuals with lower gender-specific system justification scores. Finally, we posited that sexism, conventionalism, and the justification of gender-specific systems were interconnected constructs that collectively influence the association with pro-environmental attitudes.

The findings align with our expectations. Our first hypothesis revealed a statistically significant negative relationship between sexism and pro-environmental attitudes, indicating that individuals with higher sexist attitudes display less favorable environmental attitudes. Similarly, our second hypothesis found support in our results, showing a significant negative relationship between conventionalism and pro-environmental attitudes. This suggests that individuals adhering to traditional values, as indicated by higher conventionalism scores, are likely to have lower pro-environmental attitudes. Additionally, our third hypothesis identified a significant negative relationship between gender-specific system justification and pro-environmental attitudes, highlighting that individuals with higher scores in gender-specific system justification and who conform to traditional gender roles are more likely to score lower on pro-environmental attitudes. Ultimately, our findings support that sexism,

conventionalism, and gender-specific system justification are intertwined and can collectively explain unique variations in pro-environmental attitudes (Hypothesis 4). The results emphasize these constructs' interrelated nature, underscoring their collective influence on shaping pro-environmental attitudes. Importantly, all four hypotheses held even after controlling for sociodemographics, suggesting that only a minor portion of the observed relationships can be attributed to demographic factors.

Theoretical Implications

This study provided new insights into how sexism, conventionalism, and gender-specific system justification interact with pro-environmental attitudes. Previous literature informed our expectations and hypotheses, and our results aligned with established research. In addition, our study also has important implications for understanding the social psychological factors underlying pro-environmental attitudes.

The research confirmed the critical role of sexism in shaping pro-environmental attitudes. Individuals with higher levels of sexism are associated with lower levels of pro-environmental attitudes, consistent with prior studies. These studies revealed that gender stereotypes and gendered social norms can impact individuals' concern about climate issues, with men often feeling less inclined to worry about the environment (Wang, 1999; Brough et al., 2016; Swim & Geiger, 2018). Furthermore, literature consistently indicated that societal views frequently associate environmental awareness with femininity, discouraging men from adopting pro-environmental behaviors, as it may not be perceived as masculine (Brough et al., 2016). Previous research also suggested that individuals might interpret efforts to combat climate change as threats to their established societal power dynamics, particularly considering the hierarchical scale where men are positioned higher than women (Nicol et al., 2022).

Our research findings supported previous studies and underscored the significance of considering sexism in future research or interventions. They contributed by demonstrating a clear correlation between the level of sexism and pro-environmental attitudes, offering insight into why individuals hold certain attitudes towards the environment. While our study did not explicitly examine gender disparities, it did highlight the considerable impact of gender and gender stereotypes on pro-environmental attitudes.

While limited studies have investigated the relationship between conventionalism and pro-environmental attitudes, our literature review utilized relevant research on conservatism and authoritarianism. This extensive investigation provided valuable insights, including the finding that individuals who identify as conservative often express doubt about the significance of climate change and global warming (Denicola & Subramaniam, 2014). Previous research indicates that individuals with more authoritarian or hierarchical attitudes generally exhibit lower pro-environmental attitudes (Stanley & Wilson, 2019). Our study drew on these findings by proposing that increased levels of conventionalism were associated with decreased pro-environmental attitudes. Our research confirmed these associations, and the alignment between our findings and the existing literature strengthens the idea that social psychological aspects, specifically conventionalism, carry significant influence over the development of environmental attitudes and beliefs. Conventionalism should be considered in further studies and potential interventions for improving people's pro-environmental attitudes.

Our research confirmed a negative relation between the effects of gender-specific system justification and pro-environmental attitudes. While there is a lack of literature directly examining the link between the two, we have discovered valuable insights within the wider literature. Studies suggest that men are more likely to use gender-specific system justification, relying on stereotypes to support traditional gender roles (Kray et al., 2017). Moreover, men have a higher tendency to deny environmental problems. The variance in gender-specific

system justification between men and women may impact the extent of pro-environmental attitudes (Jost and Kay, 2005; Goldsmith et al., 2012; Kray et al., 2017). Based on our contextual findings, our research provides evidence that gender-specific system justification has a notable impact on pro-environmental attitudes. Despite the limited direct literature on this correlation, our study highlights the significance of gender-related beliefs in shaping environmental attitudes.

Our study adds to the current understanding of pro-environmental attitudes by investigating the impact of sexism, conventionalism, and gender-specific system justification. An elevated level of sexism, adherence to conventionalism, and gender-specific system justification are associated with lower levels of pro-environmental attitudes. Although our research results do not precisely align with existing literature due to the complexity of this interrelationship, it is essential to note that our expectations, drawn from relevant literature, were confirmed. Prior research found that gendered stereotypes and social norms are prevalent in all three variables and influence the level of care for the environment (Brough et al., 2016; Stanley & Wilson, 2019; Kray et al., 2017; Jost, 2018). Through this, it is evident that social psychological factors play a significant role in explaining pro-environmental attitudes.

Practical Implications

These findings carry significant practical implications, suggesting that interventions or strategies aimed at promoting pro-environmental attitudes and behaviors should carefully consider the complex interplay between these beliefs and values. Crafting interventions based on gender identity maintenance could potentially challenge the stereotype that being environmentally friendly is feminine (Brough et al., 2016). Positioning environmentalism as a patriotic obligation has the potential to mitigate the negative impact of system justification. This presents a viable campaign opportunity to highlight the compatibility of environmental

caretaking with national pride and socioeconomic values (Feygina et al., 2010). It may not be as effective to address any of these factors in isolation as it is to address them collectively in a comprehensive approach. Above all, an intervention that promotes pro-environmental attitudes should be developed with a keen awareness of the intersection of social psychology factors.

Limitations and Suggestions for Future Research

This research is subject to certain limitations. Initially, concerns were raised about the data collection method employed through a company's database. The accuracy of generalizations about the broader society being studied remains uncertain, raising questions about the method's representativeness. Given the uniqueness of political and social beliefs in different countries and regions, achieving generalizability becomes inherently challenging. Future research could benefit from more extensive and diverse sampling to enhance external validity.

Moreover, the reliance on self-reports in this study posed a potential issue, as participants may have provided socially desirable responses, complicating the determination of their genuine attitudes and beliefs (Adams et al., 1999). To address this limitation, future research should consider incorporating observational data. Additionally, our research is constrained by a lack of prior investigations into various constructs related to pro-environmental attitudes, leading to limited contextual and background information. This limitation hindered the establishment of a comprehensive understanding of the subject matter.

Longitudinal studies are crucial for understanding the changing dynamics in relationships between constructs over time. This research can evaluate whether shifts in attitudes, values, or beliefs provide valuable insights into the long-lasting impact of initiatives aimed at cultivating pro-environmental attitudes. Furthermore, it is crucial to examine how the relationship between pro-environmental attitudes and traditional values affects support for

environmental policies and advocacy campaigns. Understanding how individuals with different value systems engage in environmental activism and policymaking can yield valuable insights into these complex interactions. Additionally, investigating the potential moderating effects of gender on pro-environmental attitudes is essential. Gender has been identified as a potential influencing variable in previous studies, and its exclusion as a moderator in our research necessitates an assessment of its impact. This examination allows for the customization of interventions based on an individual's gender.

Conclusion

The research uncovers the complex relationship between sexism, conventionalism, and gender-specific system justification in shaping pro-environmental attitudes. Our findings verify the significance of these social psychological factors as determinants of environmental attitudes, aligning with existing literature. Additionally, this study advances current knowledge by shedding light on their combined influence and interconnections. These findings have significant implications for both theory and practice, highlighting the need to fully understand how values and beliefs shape environmental attitudes. Additionally, our study emphasizes the importance of addressing these factors when developing interventions that encourage pro-environmental behavior and challenge longstanding values. Further research should explore how these relationships evolve over time, how they impact support for environmental policies, and the link between attitudes and gender. By examining these intricacies, we can improve our understanding of the complex social psychological factors that underlie pro-environmental attitudes and identify effective strategies for promoting environmental sustainability.

References

Adams, A. S., Soumerai, S. B., Lomas, J., & Ross-Degnan, D. (1999). Evidence of self-report

bias in assessing adherence to guidelines. *International Journal for Quality in Health

Care*, *11*(3), 187–192. https://doi.org/10.1093/intqhc/11.3.187

Agadullina, E., Lovakov, A., Balezina, M., & Gulevich, O. (2022). Ambivalent sexism and

violence toward women: A meta-analysis. *European Journal of Social Psychology*,

52(5–6), 819–859. https://doi.org/10.1002/ejsp.2855

Berrang-Ford, L., Ford, J. D., & Paterson, J. (2011). Are we adapting to climate change?

Global Environmental Change-human and Policy Dimensions, *21*(1), 25–33.

https://doi.org/10.1016/j.gloenvcha.2010.09.012

Bjork-James, S., & Barla, J. (2021). A Climate of Misogyny: gender, politics of ignorance,

and climate change denial – an interview with Katharine Hayhoe. *Australian Feminist

Studies*, *36*(110), 388–395. https://doi.org/10.1080/08164649.2022.2056873

Brough, A. R., Wilkie, J. W., Ma, J., Isaac, M. S., & Gal, D. (2016). Is Eco-Friendly

Unmanly? The Green-Feminine Stereotype and Its Effect on Sustainable

Consumption. *Journal of Consumer Research*, *43*(4), 567–582.

https://doi.org/10.1093/jcr/ucw044

Dakin, N. M., Azevedo, F., & Jost, J. T. (2023). A Critical feminist system justification

analysis of climate obstructionism on the part of conservative white men. *Social and

Personality Psychology Compass*. https://doi.org/10.1111/spc3.12913

Denicola, L. E., & Subramaniam, P. (2014). Environmental attitudes and political

partisanship. *Public Health*, *128*(5), 404–409.

https://doi.org/10.1016/j.puhe.2014.03.005

Dunlap, R. E., Van Liere, K. D., Mertig, A. G., & Jones, R. (2000). New Trends in Measuring

Environmental Attitudes: Measuring Endorsement of the New Ecological Paradigm: A

Revised NEP Scale. *Journal of Social Issues*, *56*(3), 425–442.

https://doi.org/10.1111/0022-4537.00176

Dunwoody, P. T., & Funke, F. (2016). The Aggression-Submission-Conventionalism Scale:

Testing a New Three Factor Measure of Authoritarianism. *Journal of Social and*

Political Psychology. https://doi.org/10.5964/jspp.v4i2.168

Feldman, S., & Johnston, C. O. (2013). Understanding the Determinants of Political Ideology:

Implications of Structural Complexity. *Political Psychology*, *35*(3), 337–358.

https://doi.org/10.1111/pops.12055

Feygina, I., Jost, J. T., & Goldsmith, R. E. (2010). System Justification, the Denial of Global

Warming, and the Possibility of "System-Sanctioned Change". *Personality and Social*

Psychology Bulletin, *36*(3), 326–338. https://doi.org/10.1177/0146167209351435

Freedman, D., Pisani, R., & Purves, R. (2007). Statistics (4th ed.). WW Norton & Company.

Funke, F. (2005). The Dimensionality of Right-Wing Authoritarianism: Lessons from the

Dilemma between Theory and Measurement. *Political Psychology*, *26*(2), 195–218.

https://doi.org/10.1111/j.1467-9221.2005.00415.x

Goldsmith, R. E., Feygina, I., & Jost, J. T. (2012). The Gender Gap in Environmental

Attitudes: A system Justification perspective. In *Springer eBooks* (pp. 159–171).

https://doi.org/10.1007/978-94-007-5518-5_12

Hayward, S. F. (2014). Conservatism and Climate Science. *Issues in Science and Technology,*

30(3), 52–57. http://www.jstor.org/stable/43315867.

Hoegh-Guldberg, O., Jacob, D., Taylor, M., Bindi, M., Brown, S., Camilloni, I., Diedhiou, A.,

Djalante, R., Ebi, K.L., Engelbrecht, F., Guiot, J., Hijioka, Y., Mehrotra, S., Payne, A.,

Seneviratne, S.I., Thomas, A., Warren, R., Zhou, G. (2018). Impacts of 1.5°C of

Global Warming on Natural and Human Systems. *In Global Warming of 1.5°C. An*

IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial

Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of

Strengthening the Global Response to the Threat of Climate Change, sustainable

development, and efforts to eradicate poverty

Houghton, J. T., Callander, B., & Varney, S. (1992). Climate Change 1992 : The

supplementary Report to the IPCC Scientific Assessment. In *Cambridge University*

Press eBooks. http://ci.nii.ac.jp/ncid/BA18328608

ISSP Research Group. (2019). International Social Survey Programme: Environment III -

ISSP 2010 [Dataset]. https://doi.org/10.4232/1.13271

Jackson, L. M., Bitacola, L. M., Janes, L. M., & Esses, V. M. (2013). Intergroup ideology and

environmental inequality. *Analyses of Social Issues and Public Policy*, *13*(1), 327–

346. https://doi.org/10.1111/asap.12035

Jost, J. T. (2018). A quarter century of System Justification Theory: questions, answers,

criticisms, and societal applications. *British Journal of Social Psychology*, *58*(2), 263–

314. https://doi.org/10.1111/bjso.12297

Jost, J. T., & Kay, A. C. (2005). Exposure to Benevolent Sexism and Complementary Gender

Stereotypes: Consequences for Specific and Diffuse Forms of System Justification.

Journal of Personality and Social Psychology, *88*(3), 498–509.

https://doi.org/10.1037/0022-3514.88.3.498

Jost, J. T., Nosek, B. A., & Gosling, S. D. (2008). Ideology: Its Resurgence in Social,

Personality, and Political Psychology. *Perspectives on Psychological Science*, *3*(2),

126–136. https://doi.org/10.1111/j.1745-6916.2008.00070.x

Kray, L. J., Howland, L., Russell, A. C., & Jackman, L. M. (2017). The effects of implicit

gender role theories on gender system justification: Fixed beliefs strengthen

masculinity to preserve the status quo. *Journal of Personality and Social Psychology*,

112(1), 98–115. https://doi.org/10.1037/pspp0000124

Laméris, M. (2015). *On the Measurement and Validation of Political Ideology* [PhD dissertation]. University of Groningen.

Li, S., Zhao, F., & Yu, G. (2020). Ostracism and pro-environmental behavior: Roles of self-control and materialism. *Children and Youth Services Review*, *108*, 104662. https://doi.org/10.1016/j.childyouth.2019.104662

Lu, H., Zhang, W., Diao, B., Liu, Y., Chen, H., Long, R., & Cai, S. (2021). The progress and trend of pro-environmental behavior research: a bibliometrics-based visualization analysis. *Current Psychology*, *42*(8), 6912–6932. https://doi.org/10.1007/s12144-021-01809-1

Mackenzie, M. (2019). Is fragile masculinity the biggest obstacle to climate action? *ABC News*. https://www.abc.net.au/news/2019-12-15/is-fragile-masculinity-the-biggest-obstacle-to-climate-action/11797210

McCright, A. M., & Dunlap, R. E. (2011). Cool dudes: The denial of climate change among conservative white males in the United States. *Global Environmental Change-human and Policy Dimensions*, *21*(4), 1163–1172. https://doi.org/10.1016/j.gloenvcha.2011.06.003

Milfont, T. L., Abrahamse, W., & MacDonald, E. A. (2021). Scepticism of anthropogenic climate change: Additional evidence for the role of system-justifying ideologies. *Personality and Individual Differences*, *168*, 110237. https://doi.org/10.1016/j.paid.2020.110237

Miller, L. B., Rice, R. E., Gustafson, A., & Goldberg, M. H. (2022). Relationships among environmental attitudes, environmental efficacy, and Pro-Environmental behaviors across and within 11 countries. *Environment and Behavior*, *54*(7–8), 1063–1096. https://doi.org/10.1177/00139165221131002

Nicol, A. A. M., De France, K., & Nicol. (2022). The relation of climate change denial with benevolent and hostile sexism. *Journal of Applied Social Psychology*. https://doi.org/10.1111/jasp.12880

Orchinik, R., Dubey, R., Gershman, S. J., Powell, D., & Bhui, R. (2023). Learning from and about climate scientists. https://doi.org/10.31234/osf.io/ezua5

Panno, A., De Cristofaro, V., Oliveti, C., Carrus, G., & Donati, M. B. (2021). Personality and environmental outcomes: The role of moral anger in channeling climate change action and pro-environmental behavior. *Analyses of Social Issues and Public Policy*. https://doi.org/10.1111/asap.12254

Persson, M., Schakel, W., & Sundell, A. (2023). A Man's World? The policy representation of women and men in a comparative perspective. *Perspectives on Politics,* 1–17. https://doi.org/10.1017/s1537592723002049

PPBS 2016. (z.d.). https://ppbs.flavioazevedo.com/ppbs2016

Russo, S., Rutto, F. Z. C., & Mosso, C. O. (2014). Benevolent sexism toward men: Its social legitimation and preference for male candidates. *Group Processes & Intergroup Relations*, *17*(4), 465–473. https://doi.org/10.1177/1368430213510571

Salmen, A., & Dhont, K. (2020). Hostile and benevolent sexism: the differential roles of human supremacy beliefs, women's connection to nature, and the dehumanization of women. *Group Processes & Intergroup Relations*, *24*(7), 1053–1076. https://doi.org/10.1177/1368430220920713

Stanley, S. K., & Wilson, M. S. (2019). Meta-analysing the association between social dominance orientation, authoritarianism, and attitudes on the environment and climate change. *Journal of Environmental Psychology*, *61*, 46–56. https://doi.org/10.1016/j.jenvp.2018.12.002

Swim, J. K., & Bloodhart, B. (2018). The intergroup Foundations of Climate Change Justice. *Group Processes & Intergroup Relations*, *21*(3), 472–496. https://doi.org/10.1177/1368430217745366

Swim, J. K., & Geiger, N. (2018). The gendered nature of stereotypes about climate change opinion groups. *Group Processes & Intergroup Relations*, *21*(3), 438–456. https://doi.org/10.1177/1368430217747406

The Pew Research Center. (2009). Section 9: The Environment and the Economy. In *Independents take center stage in Obama era: Trends in political values and core attitudes: 1987-2009*. https://www.pewresearch.org/politics/2009/05/21/section-9-the-environment-and-the-economy/

Van Der Toorn, J., & Jost, J. T. (2014). Twenty years of system justification theory: Introduction to the special issue on "Ideology and system justification processes". *Group Processes & Intergroup Relations*, *17*(4), 413–419. https://doi.org/10.1177/1368430214531509

Wang, A. Y. (1999). Gender and nature: A psychological analysis of ecofeminist theory. Journal of Applied Social Psychology, 29(11), 2410–2424.

Wyss, A., Knoch, D., & Berger, S. (2021). When and how pro-environmental attitudes turn into behavior: The role of costs, benefits, and self-control. *Journal of Environmental Psychology*, *79*, 101748. https://doi.org/10.1016/j.jenvp.2021.101748

Appendix A

Tabel A1

Item-rest correlation Pro-environmental attitudes

	Item-rest correlations
Environmental attitudes 1	.647
Environmental attitudes 2	.502
Environmental attitudes 3	.665
Environmental attitudes 4	.627
Environmental attitudes 5	.739
Environmental attitudes 6	.398
Environmental attitudes 7	.717
Environmental attitudes 8	.744
Environmental attitudes 9	.699
Environmental attitudes 10	.790
Environmental attitudes 11	.633
Environmental attitudes 12	.419
Environmental attitudes 13	.540
Environmental attitudes 14	.610
Environmental attitudes 15	.732

Tabel A2

Item-rest correlation Conventionalism

	Item-rest correlations
Conventionalism 1	.644
Conventionalism 2	.501
Conventionalism 3	.568
Conventionalism 4	.522

Tabel A3

Item-rest correlation Gender system justification

	Item-rest correlations
Gender system justification 1	.657
Gender system justification 2	.643
Gender system justification 3	.370
Gender system justification 4	.474
Gender system justification 5	.385
Gender system justification 6	.568
Gender system justification 7	.296
Gender system justification 8	.658

Appendix B

Tables for the Linear Regression of Sexism, Pro-Environmental Attitudes and

Demographics

Model Summary

Model	R	R²	Adjusted R²	RMSE
1	0.327	0.107	0.104	1.457

ANOVA

Model		Sum of Squares	df	Mean Square	F	p
H_1	Regression	380.264	5	76.053	35.840	< .001
	Residual	3170.264	1494	2.122		
	Total	3550.528	1499			

Note. The intercept model is omitted, as no meaningful information can be shown.

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	p
1	(Intercept)	7.493	0.169		44.388	< .001
	Sexism	-0.152	0.018	-0.206	-8.339	< .001
	Age	-0.160	0.024	-0.171	-6.627	< .001
	Education	0.004	0.040	0.003	0.091	0.928
	Income	-0.029	0.021	-0.039	-1.383	0.167
	Gender	-0.458	0.077	-0.149	-5.933	< .001

Appendix C

Tables for the Linear Regression of Conventionalism, Pro-Environmental Attitudes and Demographics

Model Summary

Model	R	R²	Adjusted R²	RMSE
1	0.475	0.226	0.223	1.357

ANOVA

Model		Sum of Squares	df	Mean Square	F	p
H₁	Regression	801.301	5	160.260	87.089	< .001
	Residual	2749.228	1494	1.840		
	Total	3550.528	1499			

Note. The intercept model is omitted, as no meaningful information can be shown.

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	p
1	(Intercept)	8.469	0.170		49.915	< .001
	Conventionalism	-0.318	0.018	-0.421	-17.578	< .001
	Age	-0.029	0.023	-0.031	-1.243	0.214
	Education	-0.052	0.038	-0.037	-1.396	0.163
	Income	-0.030	0.020	-0.041	-1.541	0.124
	Gender	-0.447	0.072	-0.145	-6.234	< .001

Appendix D

Tables for the Linear Regression of Gender System Justification, Pro-Environmental Attitudes and Demographics

Model Summary

Model	R	R²	Adjusted R²	RMSE
1	0.452	0.205	0.202	1.375

ANOVA

Model		Sum of Squares	df	Mean Square	F	p
H₁	Regression	726.274	5	145.255	76.838	< .001
	Residual	2824.254	1494	1.890		
	Total	3550.528	1499			

Note. The intercept model is omitted, as no meaningful information can be shown.

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	p
H₁	(Intercept)	8.797	0.186		47.327	< .001
	Gender system justifcation	-0.448	0.028	-0.397	-16.158	< .001
	Age	-0.102	0.023	-0.109	-4.456	< .001
	Education	-0.019	0.038	-0.013	-0.491	0.623
	Income	0.016	0.020	0.022	0.806	0.420
	Gender	-0.194	0.075	-0.063	-2.584	0.010

Appendix E

Multiple Regression Overall Model

Model Summary

Model	R	R²	Adjusted R²	RMSE
1	0.537	0.288	0.285	1.301

ANOVA

Model		Sum of Squares	df	Mean Square	F	p
H₁	Regression	1024.271	7	146.324	86.419	< .001
	Residual	2526.257	1492	1.693		
	Total	3550.0528	1499			

Note. The intercept model is omitted, as no meaningful information can be shown.

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	p
H₁	(Intercept)	9.400	0.182		51.683	< .001
	Sexism	-0.053	0.017	-0.072	-3.088	0.002
	Conventionalism Gender	-0.226	0.019	-0.299	-11.668	< .001
	System Justification	-0.305	0.028	-0.271	-10.771	< .001
	Age	-0.039	0.023	-0.041	-1.696	0.090
	Education	-0.067	0.036	-0.047	-1.865	0.062
	Income	0.001	0.019	0.002	0.068	0.946
	Gender	-0.230	0.071	-0.075	-3.220	0.001