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Secure and defensive forms of national identity and public support for climate policies

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Abstract

The European Union currently aims to achieve fossil fuels independence and to become the first climate-neutral continent by endorsing the Green Deal policy agenda. In this work, we focus on the role of secure and defensive forms of national identity in shaping citizens' readiness to support versus oppose public policies aimed at climate neutrality and support for sources of energy perceived as traditional and non-traditional. Namely, we distinguish between national narcissism, which is a belief that one's national group is exceptional and deserves external recognition underlain by unsatisfied psychological needs, and secure national identification, which reflects feelings of strong bonds and solidarity with one's ingroup members, and sense of satisfaction in group membership. We hypothesize that in contrast to secure national identification, national narcissism, due to its motivational underpinnings, is related negatively to support for climate-change mitigating solutions. In Study 1 ($N = 1134$), we show that while secure national identity is positively related to support for developing renewable sources of energy and the Green Deal policy agenda, national narcissism is positively related to support for fossil fuel energy (and vice versa). In Study 2 ($N = 1016$), we found that allocating funds for reinforcing the green image of a country goes hand in hand with the support for policies aimed at mitigating climate change among those high in national narcissism. We put these findings in perspective by discussing the role of national narratives around the traditional sources of energy in shaping support for climate change mitigating policies.

Introduction

Reducing reliance on fossil fuels and increasing the share of renewable sources in the energy mix are imperative to meet the climate change challenges and sustain the planet's existence. The European Green Deal [1] was proposed to address the need for yet a faster reduction of global carbon emissions This policy agenda aims to reduce European emissions, address energy poverty, reduce external energy dependency, as well as create jobs and improve the well-being and health of both current and future generations. Its effective and successful implementation requires vast technological changes and mobilizing support among European governments and citizens. Massive changes in consumption patterns are needed to address

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global climate challenges, which require widespread support for climate policies [2] such as the European Green Deal.

In the context of decarbonization and the general energy transition, the support for specific policies does not depend solely on their technical effectiveness. The same technical solution may be understood differently within different cultural contexts or national sociotechnical imaginaries [3]. While significant progress in natural science offers insights into the mechanisms of climate change, input from social science is necessary to understand attitudes toward it with the aim of developing effective policies to mitigate its impact [4]. While a vast social science literature probes the embeddedness of climate change issues in social and political structures and contexts [5–7], here we focus on the role of the psycho-social underpinnings of pro- (vs. anti-) environmental attitudes and behavior at the individual level [8–12] in the hope of understanding and tackling the societal challenges concerning climate change readiness. Namely, we focus on the role of social psychological factors in explaining public support for climate policies [6, 7], and specifically, on the role of different forms of national identity and their motivational underpinnings in shaping citizens' support for climate-change mitigating policy agenda.

National identity and environmentalism

The social identity perspective [13–15] provides a fruitful framework for understanding the factors shaping societal readiness for collective action [16], including activities aimed at tackling climate change [17]. Notably, past work shows that national identity plays a crucial role in shaping public attitudes toward the natural environment and readiness to support environmental and climate change policies [18, 19].

On the one hand, a strong national identity can mobilize pro-environmental norms and thus pro-environmental tendencies. For example, research conducted in New Zealand shows that almost 90% of New Zealanders incorporate pro-environmental attitudes into their national identity. Such superordinate environmental identity is associated with the support for pro-environmental public policies such as government regulation of carbon emissions and increasing the share of renewable sources in the energy mix [20]. On the other hand, a strong national identity does not necessarily translate into stronger environmental readiness. Past research has suggested that strong national identification may also undermine environmental goals. Ray [21] observed a negative relationship between patriotism and environmentalism. In a similar vein, Bonaiuto et al. [22] and Feygina et al. [23] found a positive association between national identity and the denial of local and global environmental problems, respectively. Such negative relationships between national identity and environmentalism may be particularly pronounced in contexts where national identity is linked to reliance on sources of energy that are societally perceived as traditional and constitute a part of the traditional national imaginary. For example, in Poland, coal has been long perceived as a guarantee of Polish energetical sovereignty [24, 25], and. even nowadays, when Poland is a net importer of coal [26], the traditional attachment to coal remains vivid among political elites [27]. In such national contexts, the energy transition may thus be perceived as enforced by external political actors [24, 25, 28]. Indeed, the prevalence of sociotechnical imaginaries around natural resources and energy infrastructure projects means that "resource struggles are never only (or even primarily) about resources. Rather, conflicts over resources. . .become focal points for broader struggles involving the terms of citizenship, the nation, rights and identity" [29, p.691]. Thus, tackling the motivated roots of climate change denial [30] and mobilizing climate change readiness require both technological changes and changing the dominating narratives linking sources of energy and national values.

Forms of national identity and policy support

According to the classic social identity theory (SIT) framework [13, 14], people seek to enhance their self-esteem by assuming the identity of the groups they belong to and solidifying their perception of those groups as worthy and significant. To this aim, people employ intergroup comparisons, and as a result, they reveal a preference for ingroup over outgroup members. Recent theorizing and empirical research show that assuming ingroup identity can take two main forms: more secure and more defensive [31–34]. Past works on national identity proposed a variety of distinctions between its secure and defensive forms: patriotism and nationalism [32], constructive and blind patriotism [33], national attachment and glorification [34]. These different approaches converge in highlighting distinct group outcomes associated with these forms of national identity [31]. The secure forms are associated with a sense of bonds and solidarity with ingroup members, as well as prioritizing their well-being. In contrast, the defensive forms of identity are characterized by a belief in the superiority of one's group over others and a constant search for external confirmation of that belief [35]. These different outcomes are explained in terms of different motivational underpinnings: while individual ego-enhancement motives stemming from unsatisfied psychological needs are linked to defensive forms, genuine attachment to one's compatriots (rather than ingroup image) and a sense of satisfaction from being a member of this group are characteristic for secure forms [35].

One particular framework for understanding often divergent manifestations of national identity is the distinction between secure group identification and collective narcissism [31]. Collective narcissism is a belief that one's group is exceptional and deserves external recognition and special treatment [36]. While it is applicable to various group contexts (see e.g., [37], it has been mostly studied in the context of national groups [36]. National narcissism is defensive to the extent that it captures nation-enhancing evaluation that requires external validation, it increases as a response to ego threats and it is underlain by unsatisfied psychological needs [38, 39]. Although national narcissism has been found [40–42] to be related to nationalism, blind patriotism, or ingroup glorification, which all share common characteristics such as national superiority beliefs, the motivational roots of national narcissism concern perceived underappreciation and the central focus is thus on national image enhancement and gaining external recognition [43]. In contrast, national identification reflects satisfaction with national group membership and feelings of strong bonds and solidarity with the compatriots. Empirically, we can observe secure and defensive forms of national identity once we co-vary out the variances between national identification and national narcissism (which tend to be positively related). Secure national identification is observed when national narcissism is co-varied out of measures of national identification, while defensive identity is observed when the overlap between national narcissism and national identification is controlled for (for a detailed rationale see [44]. In brief, while national identification indexes satisfaction with one's group membership, ties with ingroup members, and centrality of the ingroup to the self [45] national narcissism indexes an unconditional belief in the greatness of the national group that requires external recognition [36].

Numerous studies found that national narcissism is linked to support for public policies that are perceived as enhancing the national image [46], especially in the international arena [47–49], even at the expense of increasing or creating health risks for compatriots [50–52]. Importantly for the current work, the theoretical distinction between national identification and national narcissism as secure and defensive forms of national identity, respectively, allowed for a better integration of the literature regarding national identity and environmentalism. Past studies showed that national narcissism (but not national identification) is

positively linked to support for anti-environmental policies such as cutting the protected forest [53], and to climate change skepticism [54], while it is negatively linked to support for introducing genuine pro-environmental policies [55]. Interestingly, although national narcissism has been found to be positively related to right-wing political orientation [56], it is also positively linked to support for exploiting environmental narratives to reinforce the national image [55], thus highlighting its unique explanatory role: its focus on nation-enhancement and gaining external recognition. Namely, although those high in national narcissism are reluctant to support pro-environmental governmental campaigns or actions stemming from outgroup criticism with regard to environmental protection, they reveal readiness to support actions aimed at enhancing the green image of their nation. Indeed, those high in national narcissism even prefer political greenwashing over genuine pro-environmental actions [55].

In the Polish context, the different links between forms of national identity and support for various sources of energy may be especially pronounced, thus affecting the overall support for policies aimed at climate neutrality. For example, past work found that national narcissism (but not national identification) is positively associated with the support for subsidizing the coal industry [53]. Readiness to support public policies that may have anti-environmental consequences (e.g., cutting the protected forest) was found to be related to decisional independence [53], that is, those who believed that introducing such a policy would be a manifestation of the nation being independent from other nations and supranational organizations (such as the European Union) were more prone to support it. Such considerations were found to be appealing to those high in national narcissism, but not in national identification. In a similar vein, climate change skepticism was found to be motivated by climate conspiracy beliefs, which were positively linked to national narcissism, but not national identification [54]. Qualitative research also suggested that denying climate change may be strategically used as a self-worth management tool [57]. These results shed light on the underlying mechanisms: those whose psychological needs are unfulfilled may be motivated to seek ego-enhancement through ingroup aggrandizement which may then satisfy their striving for individual feelings of self-worth and control [38, 39].

Focus on probing the underpinnings of support for pro-environmental public policies (s-frame) is especially important considering their potential impact and overall scope in comparison to personal readiness to act in a pro-environmental manner (i-frame). As observed by Chater and Loewenstein [58], public policy measures entail costs, while i-frame interventions focus on the implementation of policies that are cheap and uncontroversial (e.g., environmental public policy versus individual-level interventions promoting energy saving), thus resulting in the responsibilization of individuals [59] and lowering interest in traditional public policies [60].

In the pre-registered research presented here, we first aim to verify the links between different forms of national identity and support for the development of traditional and non-traditional sources of energy as well as support for policy aimed at climate neutrality (i.e., Green Deal). We predict that national narcissism is positively linked to support for traditional sources of energy (fossil fuels such as coal), and negatively linked to non-traditional sources (such as renewables), and consequently negatively linked to support for the Green Deal. We hypothesize that relying on traditional sources of energy and reluctance to support non-traditional sources stems from national image concerns. As non-traditional sources and policies aimed at climate neutrality may be perceived as imposed by powerful outgroups, reluctance to support them may in turn be perceived as strengthening the ingroup image. Second, we expect that offering national image enhancement can increase the support for introducing pro-environmental public policies among those high in national narcissism because they may perceive green policies as not satisfying their primary needs.

Overview of the current studies

We investigated the relationship between national narcissism, national identification, and support for climate-change-mitigating public policies. National narcissism is associated with supporting various public policies that are aimed to reinforce the group's image at the expense of engagement in genuine pro-ingroup actions e.g., [50, 51, 55]. Hence, we expected that national narcissism would be negatively associated with support for environmental policies aimed at mitigating climate change such as the Green Deal. Aiming to replicate and extend past work, we also examined whether national narcissism is positively linked to support for the development of traditional energy sources based on fossil fuels such as coal, and negatively linked to the support for the development of renewable energy sources. Finally, we examined whether the support for policies aimed at mitigating climate change among those high in national narcissism depends on allocating funds to reinforce the green image of a country (i.e., greenwashing).

We report findings from two pre-registered studies. In Study 1, we examined national narcissism and national identification as predictors of support for introducing the Green Deal in Poland. Aiming to replicate past research, we measured support for the development of distinct sources of energy based on both fossil fuels and renewables. For exploratory reasons, we also measured support for the development of atomic energy. In Study 2, we measured participants' national narcissism and national identification and then asked their views regarding the percentage of the total funding of the pro-environmental 'Climate and Energy' policy that should be allocated to finance the national image campaign for the policy to be supported by them. Because right-wing political attitudes were found to be associated with national narcissism [55, 56] and anti-conservation attitudes [61], we controlled for political orientation in both studies. Moreover, we controlled for demographics (age and gender) in both studies given their relations to environmentalism [62, 63].

We report how we determined our sample size and all measures in the method sections. In all studies, we conducted our analyses with the use of bias-corrected bootstrapping (with 10,000 re-samples). Both datafiles are posted at https://osf.io/txy8z/?view_only=e36aa04c349743aa8de3c50f8f07a55c.

Study 1

Study 1 was part of a larger survey focused on the forms of national identity and their links to multiple socio-political outcome variables (e.g., support for health, environmental, cultural, and historical policies, and collective action engagement). The current analyses of the data focused on measures of Polish national narcissism, national identification, political orientation, and attitudes toward the Green Deal policy agenda. The pre-registration of the hypotheses, design, and analyses for Study 1 can be found at: https://aspredicted.org/594_RFX.

Materials and methods

Participants and design. Study 1 was a part of a larger survey and employed a Polish national quota sample ($N = 1134$) balanced for gender, age, and education. Participants' age ranged between 18 and 81 ($M = 46.59$, $SD = 15.82$), 32.28% of them completed primary education level, 38.10% attained secondary education, and the remaining 29.52% higher education. There were 587 women (coded as 0) and 547 men (coded as 1). Post-hoc sensitivity analyses conducted with G*Power [11] showed that with this sample we had 80% power to detect an effect size of $f^2 = .005$ for regression models presented in Table 2.

Ethics statement. Prior to gathering the data, we obtained ethics approval from an Institutional Review Board at the Faculty of Psychology, SWPS University of Social Science and

Humanities (number 53/2021). The study was an online survey. The participants were first informed about the purpose of the study, its voluntary nature, and anonymity. Participants were then asked either to confirm that they read and understood the consent form, that they were adults, and that they were willing to voluntarily participate in the study or to exit the study without consent.

Measures. **National narcissism** was measured with the full version of the Collective Narcissism Scale adapted to the Polish national context [36]. The scale consisted of nine items (see S1 Text), including "Poles deserve special treatment", and "Not many people seem to fully understand the importance of Poles". Participants indicated the extent to which they agreed with each statement on a scale from 1 (*definitely not*) to 7 (*definitely yes*; $M = 4.07$, $SD = 1.38$; Cronbach's $\alpha = .91$).

National identity was measured with the 10 items of the group-level self-investment subscales from the In-group Identification Scale [45] adapted to the Polish national context [64], including "I feel a bond with other Poles", and "I think that Poles have a lot to be proud of". Participants rated each statement on the same 7-point scale used for national narcissism ($M = 5.00$, $SD = 1.57$; $\alpha = .97$).

Support for the Green Deal policy agenda was measured with a newly developed scale, consisting of three items: "Poland should support the European Union in its efforts to reduce carbon dioxide emissions", "Poland should support actions supporting countries that fall victim to climate change", "Poland is a too poor country to afford special programs to counteract climate change" (reversed item). Participants rated each item on a 7-point scale anchored at 1 (*I strongly disagree*) and 7 (*I definitely agree*; $M = 4.69$, $SD = 1.23$, $\alpha = .54$).

As the reliability coefficient for this variable is rather low, we analyzed the factor loadings for each item. The reversed item had a factor loading of -0.46, thus suggesting that although its relationship with the latent construct is relatively low, the cutoff criteria for inclusion are met. Thus, we decided to include the reversed item as pre-registered. However, we also replicated the main analysis for a 2-item indicator.

Support for the development of distinct energy sources was again measured with three items. We asked participants to what extent they support the development of energy in Poland based on (1) renewable sources such as sun, water, wind, biomass, or biogas ($M = 5.81$, $SD = 1.39$), (2) fossil fuels such as hard coal or lignite ($M = 3.33$, $SD = 1.90$), and (3) fission of the atom ($M = 4.25$, $SD = 1.79$). Participants rated these items on the same 7-point agreement scale.

Finally, **political orientation** was measured with a single item asking participants to specify their political views from 1 (*definitely left-wing*) to 7 (*definitely right-wing*; $M = 4.04$, $SD = 1.40$).

Results

Table 1 presents the zero-order correlations among the variables. Replicating previous findings, national narcissism, national identification, and political orientation were all strongly positively correlated. Importantly for the current study, national narcissism and national identity had distinct correlations with support for environmental policies despite being highly correlated. While national identity had a weak positive correlation with support for the Green Deal policy agenda, the correlation for national narcissism was negative and small to medium. Similarly, support for the development of renewable sources of energy correlates negatively with national narcissism and positively with national identity. Neither national narcissism nor national identification was significantly related to support for the development of atomic energy, and interestingly both were positively correlated with support for fossil-fuel-based

Table 1. Bootstrapped correlations between continuous variables with standardized 95% bias-corrected confidence intervals (Study 1).

Variables	1	2	3	4	5	6
1. National narcissism	–					
2. National ingroup self-investment	.69*** [.65, .72]	–				
3. Support for the Green Deal	-.21*** [-.27, -.14]	.02 [-.05, .08]	–			
4. Support for renewable sources of energy	-.09** [-.15, -.03]	.11*** [.05, .18]	.41*** [.36, .47]	–		
5. Support for fossil-fuel-based sources of energy	.43*** [.37, .48]	.27*** [.22, .32]	-.45*** [-.50, -.39]	-.26*** [-.31, -.20]	–	
6. Support for atomic energy	< .001 [-.06, .07]	-.001 [-.06, .06]	.05 [-.01, .11]	.15*** [.09, .20]	-.01 [-.08, .06]	–
7. Right-wing political orientation	.43*** [.37, .48]	.37*** [.32, .42]	-.25*** [-.31, -.19]	-.08** [-.14, -.02]	.26*** [.20, .32]	.06* [.002, .13]

* $p < .05$.

** $p < .01$.

*** $p < .001$.

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sources of energy. Overall, these results are consistent with previous findings [43] and indicate that national narcissists are less likely to support pro-environmental policies. Finally, right-wing political orientation was negatively correlated with support for both the Green Deal policy agenda and the development of renewable sources of energy, while it was positively correlated with support for both fossil-fuel-based and atomic sources of energy.

As pre-registered, we conducted hierarchical regression with support for the Green Deal policy agenda as a dependent variable, national narcissism, and national identification as predictors (Step 1), and political orientation and demographics (age and gender) introduced as controls (Step 2). The model was statistically significant, $F(2, 1131) = 55.03$, $p < .001$, $R^2 = .09$. In line with our pre-registered hypothesis, individuals higher in national narcissism declared weaker support for the Green Deal policy agenda ($B = -0.36$ [-0.44, -0.29], $\beta = -.41$, $p < .001$), after controlling for national identification which has a positive association with Green Deal support ($B = 0.23$ [0.17, 0.30], $\beta = .30$, $p < .001$). As reported in S1 Table, this effect remained significant when political orientation and demographics were controlled for.

We then fitted a structural equation model with support for the Green Deal policy agenda and the distinct sources of energy predicted by national narcissism and national identification (Fig 1). A large number of items may, however, lead to estimation problems in the measurement part of the model [65] and lower the estimation stability [66]. Thus, to reduce the number of observed variables we used item parcels instead of single items for predictor variables [65, 67]. The model for predictors included 6 parcels (3 for national narcissism and 3 for national identity). Because the group-level self-investment measure consists of 3 subscales assessing satisfaction, solidarity, and centrality [45], we decided to group the items for each of the subscales together, thus relying on facet-representative parceling [65, 68] to create the parcels. In contrast, national narcissism is a one-dimensional construct (with no subscales that could be used to create parcels), and we thus relied on a random item allocation to parcels [69]. The analysis was conducted using the Mplus version 8.8 [70]. We used the maximum-likelihood estimation method with a bootstrapping procedure.

As illustrated in Fig 1, individuals higher in national narcissism declared weaker support for both the Green Deal policy agenda ($b = -0.47$ [-0.58, -0.35], $p < .001$) and for renewable sources of energy ($b = -0.36$ [-0.44, -0.29], $p < .001$), after controlling for national identification, which predicted these outcomes positively ($b = 0.37$ [0.27, 0.47], $p < .001$ and $b = 0.36$ [0.27, 0.44], $p < .001$, respectively). In contrast, individuals higher in national narcissism declared stronger support for traditional sources of energy ($b = 0.72$ [0.60, 0.84], $p < .05$), after controlling for national identification ($b = -0.14$ [-0.25, -0.02], $p < .001$). Finally, neither

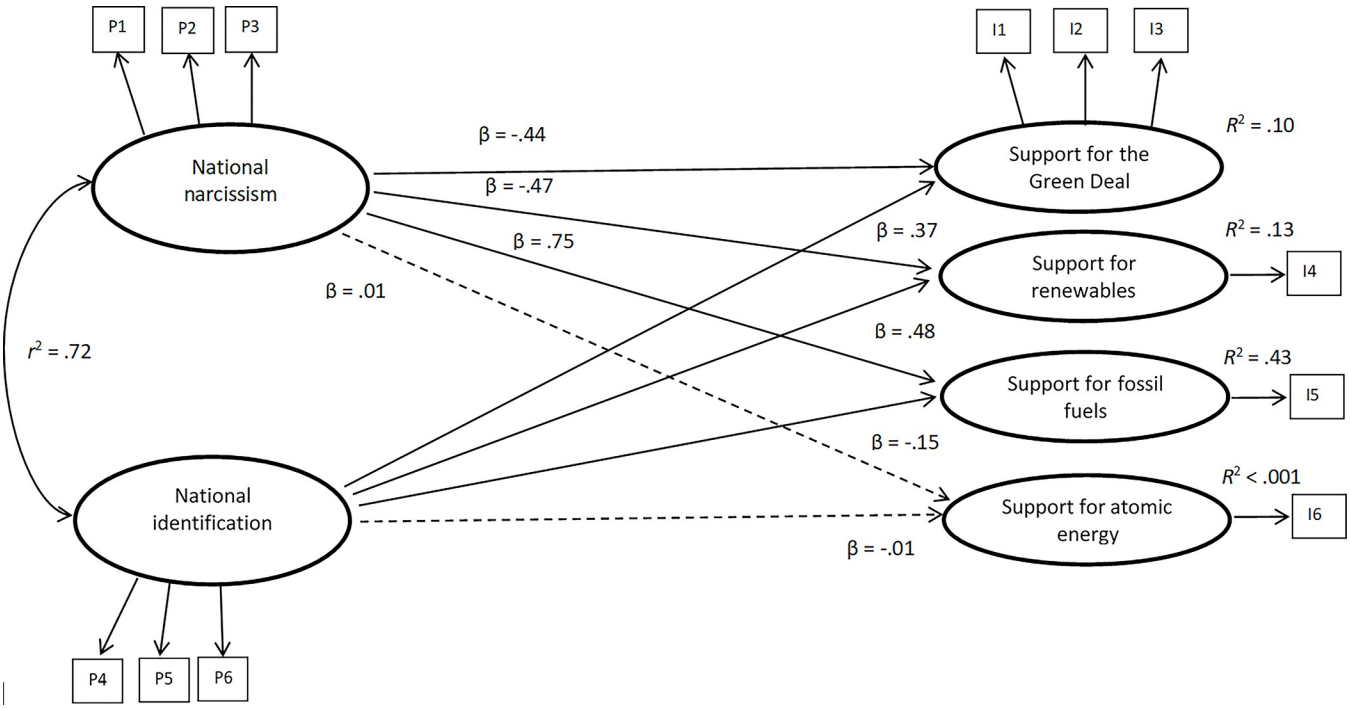

Fig 1. National narcissism and national identification as predictors of support of the Green Deal and development of distinct energy sources (Study 1). The simplified measurement model with item parceling and standardized coefficients. Goodness-of-fit indices: $\chi^2(42) = 428.64$, $p < .001$, RMSEA = .09, CFI = .96, TLI = .93, SRMR = .09. Solid lines represent significant relationships.

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national narcissism (b = 0.004 [-0.12, 0.13], p = .953) nor national identification (b = -0.01 [-0.12, 0.11], p = .933) significantly predicted support for atomic energy.

The effect of national narcissism and national identification on support for the Green Deal, renewable, and traditional sources of energy remained statistically significant when political orientation, as well as demographics (gender, age, and education), were controlled for (see S2 Text). Also, we observed an almost identical pattern of results when we fitted a model w using a two-item indicator of support for the Green Deal (see S3 Text).

Discussion

Offering high external validity afforded by a national quota sample results from Study 1 were in line with our pre-registered predictions: although positively correlated, national narcissism and national identification had differential relations to environmentalism. National narcissism negatively predicted support for introducing climate change mitigating policies linked to the Green Deal policy agenda or developing renewable sources of energy, while secure national identification predicted both positively. Also, replicating past work [43], national narcissism was positively related to support for developing traditional sources of energy based on fossil fuels, while secure national identification was negatively related to it. These effects were demonstrated over and above the effects of right-wing political orientation as well as age and gender.

When controlling for the shared variance of forms of identification and ideological orientation, the effects of ideological stance on support for the Green Deal and the development of renewable energy sources were weaker than those of identification (although in the case of support for the development of traditional sources of energy based on fossil fuels the effect of

secure national identification was not significant). Interestingly, past work showed that support for reinforcing the national ingroup image through political greenwashing is positively related to national narcissism but negatively related to left-right political orientation [44]. This suggests that introducing pro-environmental policies aimed at climate mitigation promoted by powerful outgroups such as the European Union may undermine the underlying needs for recognition of the strength of the national ingroup and its external appreciation (rather than the needs for order and structure underlying right-wing political orientation [71, 72].

Thus, in Study 2, we aimed to examine whether a potential investment in the national image through the implementation of a pro-environmental policy is related to the overall support for the climate change mitigating campaign among those high in national narcissism, as such image-reinforcement could satisfy their underlying needs.

Study 2

In Study 2 we again measured national narcissism and national identification, and then directly asked participants what percentage of pro-environmental policy funds should be allocated to national image campaign. In order to increase internal validity, we relied on a different measure of national identification. The design, hypotheses, and analyses were pre-registered: https://aspredicted.org/XTK_N9K.

Materials and methods

Participants and design. In Study 2 we recruited a different national Polish quota sample (N = 1016) again balanced for gender, age, and education. Participants' age ranged between 18 and 84 (M = 47.43, SD = 16.66), 39.76% of them completed primary education level, 34.94% attained secondary education, and the remaining 25.30% higher education. There were 532 women (coded as 0) and 484 men (coded as 1). Post-hoc sensitivity analyses conducted with G*Power showed that with this sample we had 80% power to detect an effect size of f^2 = .006 for the pre-registered regression models presented in S2 Table.

Ethics statement

Prior to gathering the data, we obtained ethics approval from an Institutional Review Board at the Faculty of Psychology, SWPS University of Social Science and Humanities (number 3/2022). The study was an online survey. The participants were first informed about the purpose of the study, its voluntary nature, and anonymity. They were then asked either to confirm that they read and understood the consent form, that they were adults, and that they were willing to voluntarily participate in the study or to exit the study without consent.

Measures. **National narcissism** was measured with nine items from the Collective Narcissism Scale used in Study 1 (e.g., "If Poles had a major say in the world, the world would be a much better place"; [36]). Participants rated the items on a 7-point scale anchored at 1 (*definitely not*) and 7 (*definitely yes*; M = 4.24, SD = 1.33, α = .90).

National identification this time was measured with twelve items based on Cameron's (2004) scale (e.g., "I feel strong ties to other Polish people") adapted to the Polish national context [73]. Participants rated these items on the same 7-point scale (M = 4.99, SD = 1.24, α = .91).

Political orientation was measured with the same single item used in the first study (M = 4.09, SD = 1.63).

Support for national image investment through a pro-environmental policy was measured with a single item. Participants read a short description of the aims of the pro-environmental campaign: "The Polish 'Climate and Energy' campaign aims to stop climate change.

This goal is to be achieved by holding the world's largest oil companies accountable and by providing people with daily access to renewable energy sources.". After reading the campaign description, participants were then asked about funding allocation: "What part of the funds allocated to the entire campaign described above should be allocated exclusively to the image-building activities carried out as part of this campaign, aimed at promoting Poland on the international arena as a pro-environmental country, which aims to implement pro-environmental policies, so that you support this campaign?"). Participants indicated their answer to this funding allocation question on the slider ranging from 0 to 100% (M = 47.84, SD = 29.65).

Results

Zero-order correlations between focal variables are presented in Table 2. Replicating previous findings, national narcissism, national identification, and right-wing political orientation were all strongly positively correlated. Importantly for the current study, national narcissism was positively correlated with the support for national image investment through pro-environmental policy. Similarly, both national identification and right-wing political orientation were positively associated with it, albeit the effects were statistically weaker when compared to the correlation with national narcissism as indicated by the non-overlapping 95% confidence intervals.

As pre-registered, we tested a regression model with national narcissism and national identification as joint predictors of willingness to support the campaign provided a certain percentage of funds would be allocated to the national image campaign (as reported in S2 Table). Individuals higher in national narcissism declared stronger support for spending money on image-reinforcing activities, even after controlling for national identification, which was negatively related to support for national image investment for image-reinforcing activities (Model 1). Similarly, these effects held when political orientation (Model 2) and demographics (Model 3) were controlled for.

As previously, we then fitted a structural equation model with support for national image investment through pro-environmental policy explained by national narcissism and national identification. As in Study 1, the model for predictors included 6 parcels (3 for national narcissism which were based on a random allocation, and 3 for national identification which were constructed using facet representative parceling), and we again used the maximum-likelihood estimation method with a bootstrapping procedure to get an estimation for confidence intervals.

As illustrated in Fig 2, individuals higher in national narcissism declared stronger support for national image investment through pro-environmental policy (b = 8.25 [6.45, 10.06], $p <$ .001), after controlling for national identification, which predicted this outcome negatively

Table 2. Bootstrapped correlations between continuous variables with standardized 95% bias-corrected confidence intervals (Study 2).

Variables	1	2	3
1. National narcissism	–		
2. National identification	.60*** [0.55, 0.64]	–	
3. Support for national image investment through pro-environmental policy	.31*** [0.24, 0.37]	.13*** [0.06, 0.19]	–
4. Right-wing political orientation	.43*** [0.37, 0.48]	.33*** [0.27, 0.38]	.10** [0.04, 0.17]

** $p < .01$.

*** $p < .001$.

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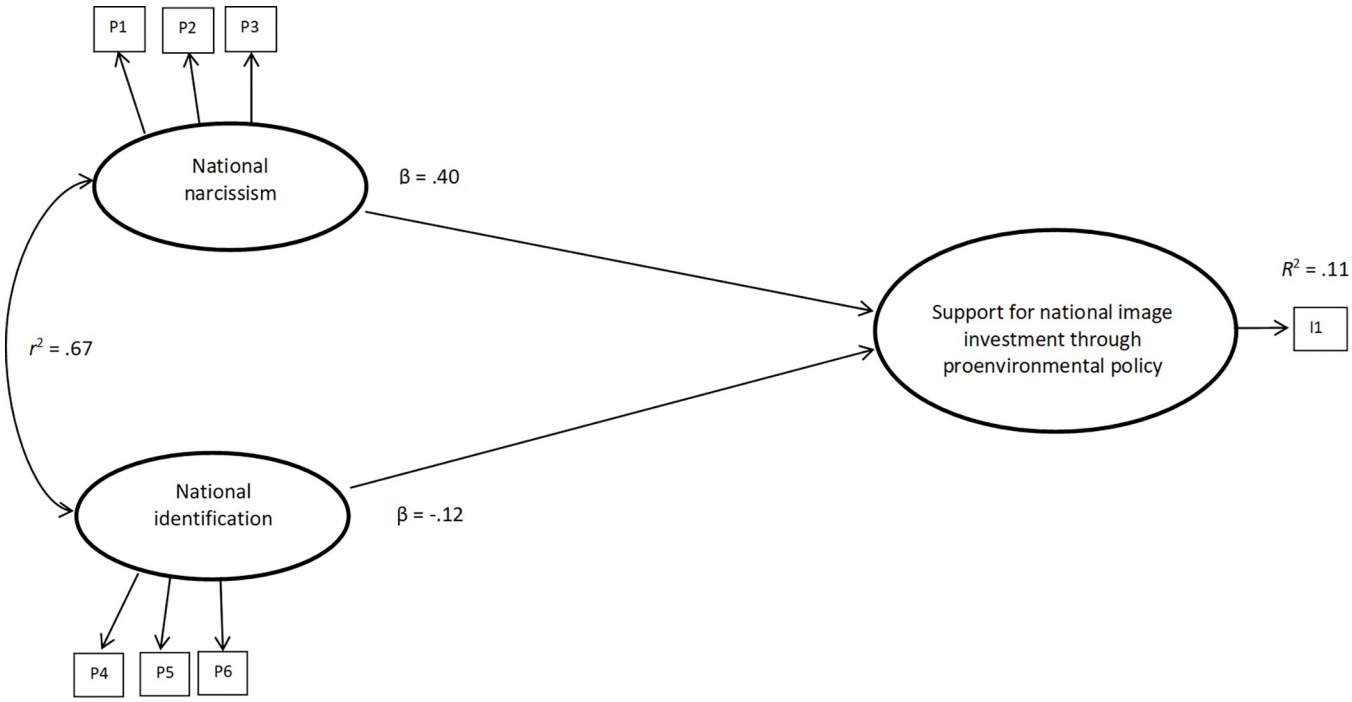

Fig 2. National narcissism and national identification as predictors of support for national image investment through pro-environmental policy (Study 2). The simplified measurement model with item parceling and standardized coefficients. Goodness-of-fit indices: $\chi 2(12) = 66.00$, $p < .001$, RMSEA = .07, CFI = .99, TLI = .98, SRMR = .03.

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(b = -3.11, [-5.48, -0.82], $p < .001$). These effects remained statistically significant when right-wing political orientation and demographics were controlled for (see S4 Text).

Discussion

In line with our pre-registered predictions, Study 2 showed that individuals higher in national narcissism declared a stronger preference for national image investment through introducing pro-environmental policy, after controlling for national identification. This relationship remained statistically significant when political orientation, as well as demographics, were controlled for. After controlling for national narcissism and other variables, national identification was negatively associated with support for investing in the national image using pro-environmental policies.

It is worth noting that the support for national image investment was not incentivized, and thus the participants' willingness to support image enhancement could be attributed to their psychological gains in feelings of self-worth. Enhancing the national image has the potential of increasing also feelings of self-importance of those who identify with the nation. Thus, such strategies may be especially appealing to those whose psychological needs are unsatisfied, namely, those high in national narcissism, a defensive form of national identity.

In contrast to narcissistic high-identifiers, secure high-identifiers prefer to invest less in the national image campaign using funds dedicated to pro-environmental campaigns. The relationship between secure national identification and image investment is, however, weaker than the relationship between national narcissism and image investment. Taking into account that the study relied on a national quota sample balanced for gender, age, and education, this finding has practical implications regarding the introduction of public policies aimed at

climate neutrality. It demonstrates how pro-environmental policies reinforcing the national image could garner support from those high in national narcissism, and thus mobilize political support among those who would not support such policies for the sake of mitigating global climate change.

General discussion

In two pre-registered studies relying on national quota samples, we investigated secure and defensive forms of national identity as underpinnings of support for global climate change mitigating policies. We found that while secure national identification is positively related to support for policies promoting renewable energy sources and thus aimed at mitigating global climate change, national narcissism is negatively related to it (Study 1). National narcissism could thus be considered a barrier to the implementation of pro-environmental policies due to underlying national image concerns. As observed in Study 2, pro-environmental policies are supported by those high in national narcissism to the extent the policies offer the enhancement of the national image. The more the national image is strengthened as a result of implementing such policies, the more those policies are supported by those high in national narcissism. In contrast, those high in secure national identification reported lower national image investment needs than those low in secure national identification.

The results presented here are in line with past work showing that national narcissism goes hand in hand with supporting actions that possibly could enhance the nation's image, but not necessarily support the contemporary or future ingroup members [40–42], also concerning the natural environment such as logging the unique protected forest [43] or simply preferring government to engage in greenwashing over introducing genuine pro-environmental policies [44]. Pro-environmental policies could be perceived by those high in national narcissism as not meeting their more primary needs, that is being recognized by the international community, and thus such policies may be rejected by them. More generally, this work offers insights for policy design by broadening the literature on the social-psychological factors underlying public support for the climate policy agenda [6, 7]. Together these studies suggest that solidifying popular support for pro-environmental policies depends on tackling the motives underlying national sentiments. More broadly, citizens' support for public policies may be better understood by differentiating between defensive and secure forms of national identity and their motivational underpinnings [47, 48, 50, 51, 74, 75]. The unsatisfied psychological needs that may motivate individuals to assume a narcissistic form of national identity as a group-based ego enhancement strategy [35] may then further translate into motivated cognition manifesting in sensitivity to disrespect and suspicion of outgroups, susceptibility to national image enhancement narratives, and misinformation acceptance, including science skepticism and conspiracy beliefs [50–52, 54, 55]. Thus, those high in national narcissism may seek and support those political offers that would (and oppose those that would not) provide them with nation- and eventually ego-enhancement. Support for greenwashing and anti-environmental policies such as subsidizing coal and rejection of pro-environmental policy agenda and renewable sources of energy may thus be political reflections of underlying psychological motives [76].

Similarly, past work found that those placing themselves on the far right end of the political spectrum may be prone to climate conspiracy beliefs, and thus reject pro-environmental policy agenda [77], but also may be prone to the romanticization of national environment while rejecting global environmental agenda [78]. While political orientation was not a focal predictor in our research, we observed that it was negatively related to support for the Green Deal policy agenda and renewables, while it was positively related to support for fossil fuels over

and above the effects of national narcissism and secure national identification (Study 1), while it was unrelated to support for atomic energy (Study 1) and prioritizing image-enhancement (Study 2). This pattern is in line with past research showing that although national narcissism and right-wing political orientation are positively related to each other, and both negatively related to support for genuine pro-environmental policies, national narcissism is related to readiness to exploit environmental narrative for national image enhancement, while right-wing political orientation is not [55].

Interestingly, national narcissism is positively linked neither to support for global climate policy agenda nor for the protection of the national environment. For those high in national narcissism romanticization of the national environment does not manifest in supporting measures to protect it (see also [53], but rather in greening of the national image.

Limitations and future directions

It has to be noted that in our research we relied on a single-item measure of political orientation. On the one hand, the single-item measure might be more resilient to contextual considerations (in terms of socio-cultural background and time) than longer measures as it captures a more general political orientation. Longer measures often rely on value-related or policy-related issues which are bound to be context-sensitive, and thus are products of their time and socio-cultural context [79, 80]. On the other hand, while in Western European countries right-wing political orientation of the citizens measured with a single item is positively related to economic liberalism and negatively related to cultural liberalism, in the case of Eastern European countries no such clear pattern emerges (at least based on the European Social Survey and the European Value Study data [81]. Specifically, in Poland, right-wing political orientation was found to be related solely to cultural (but not economic) liberalism. Thus, importantly for the pattern observed here, national narcissism is uniquely related to green image support over and above the effects of political orientation motivated by socio-cultural stability considerations. In Eastern European countries such as Poland, in which free-market economic ideas might not be considered traditional, lifestyle consequences of introducing pro-environmental policies might be more pronounced than more general system-level considerations (cf. [23, 30]. That is, pro-environmental policies, such as the Green Deal policy agenda, might be rejected simply because they are costly to the ingroup [55], but not because introducing them would require changes in the economic system [23]. These ideas, however, require further empirical work focused specifically on the role of (socio-cultural and economic) motives underlying political orientation, which would allow for integration of the literature on the relationship between ideology and environmentalism and for going beyond the interpretations regarding the single country context which risk simplification and inaccuracy.

The effects observed here should be interpreted in a certain historical and socio-political context. While we aimed at increasing their external validity with the recruitment of national quota samples, both studies were conducted within one socio-political context. This pattern was observed in Poland, a country that is no longer dependent on its own sources of fossil fuels. Yet, its national historical narratives still cover (and glorify) sources of energy that are considered traditional, such as coal, and link them to national sovereignty. As a result, those whose national identity is rooted in feelings of underappreciation may thus perceive attempts to implement policies promoting sources of energy that are not considered traditional by the group (and are not linked to national identity) as following the outgroups' agenda. As a result, they may oppose such policies, thereby in the long run putting the health and well-being of both their compatriots and outgroup members at risk. Thus, it is vital to verify whether these patterns replicate among the less affluent nations that are more directly affected by climate

change (cf. [82]) and whether demonstrating the national image gains and recognition affects support for green policies in different socio-political contexts. In the studies reported here, we focused on national narcissism and secure national identification as instances of defensive and secure forms of national identity. Both for theoretical and practical reasons, future work would do well to systematically examine the relationships between other defensive and secure forms (e.g. nationalism and patriotism, blind and constructive patriotism).

Interestingly, the relationships we observed for national narcissism, and national identification with support for atomic energy (Study 1) were both statistically non-significant, thereby suggesting that social discourse around atomic energy has not been politicized and included in the national narrative yet. Reliance on atomic energy is neither supported by those high in secure (national identification), nor by those high in defensive (national narcissism) forms of national identity. Should the discourse around atomic energy change, for example by implicating the powerful outgroups as profiting from or imposing it, it might become rejected by those high in national narcissism. In contrast, if the atomic energy is persuasively labelled as climate-friendly and green, it might become supported by those high in national identification. These findings thus pave the way to the new, more applicable, lines of research aimed at verifying how shaping the narratives around the traditional and non-traditional sources of energy affects their support. For example, linking renewables to national sovereignty could be potentially effective in times of political instability affecting the supply of fossil fuels. "We need to re-double our efforts to diversify our energy systems towards a Europe that is no longer at the behest of autocrats." claimed the President of EU Parliament Roberta Metsola in her speech on 1st March 2022.

Conclusions

Similar to other domains (e.g., public health) [40–42], defensive forms of social identity such as national narcissism can function as a barrier toward the introduction of public policies in the environmental domain [43, 44]. Thus, tackling support for problematic public policies requires tackling underlying group-based motives, not only information and knowledge provision, thereby highlighting intergroup relations as a key issue in the public discourse around climate change counteraction.

Supporting information

S1 Table. Supplemental online material summary of regression models (with bootstrapping with standardized 95% bias-corrected confidence intervals) for the support for the Green Deal policy, development of the renewable, traditional and atomic sources of energy as dependent variables (Study 1).
(DOCX)

S2 Table. Supplemental online material summary of a hierarchical regression model (with standardized 95% bias-corrected confidence intervals) for support for national image investment through pro-environmental policy as a dependent variable (Study 2).
(DOCX)

S1 Text. Supplemental online material measures (not included in the main article).
(DOCX)

S2 Text. Supplemental online material model with a two-item indicator of support for Green Deal (Study 1).
(DOCX)

S3 Text. Supplemental online material model controlling for political orientation and demographics (Study 1).
(DOCX)

S4 Text. Supplemental online material model controlling for political orientation and demographics (Study 2).
(DOCX)

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