

Article

Narcissism and Pro-Environmental Behaviors: The Mediating Role of Self-Monitoring, Environmental Control and Attitudes

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Abstract: The need to protect and preserve the environment is an important concern, and the behavioral change in order to obtain behaviors positively oriented towards the environment is sometimes difficult to achieve. There are multiple factors that influence people's actions against the environment, but individualistic and egocentric tendencies (i.e., grandiose and vulnerable narcissism) may negatively impact pro-environmental behavior. This article expands existing research by providing a closer look at the mechanisms by which individuals with grandiose and vulnerable narcissistic tendencies self-monitor, make attributions about environmental problems, and embrace the new ecological paradigm, as well as their pro-environmental behaviors. Using a convenience sample (N = 945), two mediation models were tested to assess the effect of narcissism on pro-environmental behavior, mediated by self-monitoring, environmental control, and environmental attitudes. Results indicated that both grandiose and vulnerable narcissism negatively correlated with environmental control, but only grandiose narcissism negatively correlated with environmental attitudes and pro-environmental behavior. Furthermore, mediation analyses results revealed that only environmental control significantly mediated the relationship between narcissism types and pro-environmental behavior. The discussion focuses on the implications of narcissistic features on pro-environmental behavior. Ecological campaigns should aim to increase individual control and include strategies that stimulate narcissistic individuals to self-enhance and recognize their responsibility when they produce significant changes in the environment.

Keywords: narcissism; self-monitoring; environmental attitudes; pro-environmental behavior



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1. Introduction

The quality of the environment and its degree of degradation has been the focus of researchers in recent years [1,2]. Numerous factors contribute to environmental degradation, including globalization, energy consumption, and carbon emissions [3]. Since climate change in the current era is happening much faster [4], we face multiple problems in managing this phenomenon due to the beliefs and perceptions of individuals regarding its anthropogenic causes [5]. Some authors [6] suggested that individuals engage in environmental protection and conservation behaviors because they intrinsically care about the well-being of others and the environment, thus adopting a perspective that emphasizes environmental concern. Other authors [7] indicated that people display sustainable behaviors or environmental policies depending on certain economic reasons, thus from a rational economic perspective that highlights the balance between effort, costs, and benefits. Even though current research related to pro-environmental behavior (PEB) is receiving considerable attention, there is still no consensus on the individual factors that determine this behavior. As pointed out by other work [8], people have different motives to take pro-environmental actions, and their behavior is affected by cognitive, attitudinal, and psychosocial factors [9]. In addition, there are other aspects at the individual level that influence the tendency to engage or not in certain PEBs, such as the status or the reputation obtained [10]. Previous research has examined the efficacy of different strategies and

ecological campaigns to promote sustainable behaviors [11–13], but currently we know relatively little about the psychological bases and personality traits that can shape individuals' environmental behavior. Therefore, more studies are needed to analyze the factors that influence PEB in order to understand the complex psychological processes or behavioral barriers encountered by individuals [14].

The present research aimed to analyze individual differences through the lens of narcissistic personality traits (i.e., grandiose and vulnerable narcissism) in relation to PEB, because they may create a behavioral pattern of exploitation and manipulation of surrounding resources for personal purposes, thus diminishing the individual's understanding of the importance for protecting the environment. Although recent studies investigated the relationship between narcissistic tendencies and PEB [15,16] or pro-environmental attitudes [17], the present study expands existing research by analyzing the mechanisms (i.e., self-monitoring, environmental control, and environmental attitudes) by which grandiose and vulnerable narcissistic individuals engage or not in PEB.

2. Theoretical Background and Research Hypotheses

2.1. Narcissism and PEB

Psychological factors enhance or diminish PEB, and among several factors investigated in the literature, personality traits have an important role. Thus, the motives that drive individuals to behave in a “green” and sustainable way need further clarification.

Narcissism can be defined as a person's ability to maintain a positive self-image through affect-regulation and interpersonal processes in order to receive the validation and admiration of the people around them [18]. Furthermore, narcissistic individuals systematically seek social situations that allow them to obtain self-enhancement experiences [19]. The most frequently encountered distinction in the literature regarding the forms of narcissism is between grandiose and vulnerable narcissism [20,21]. Even though both forms of narcissism have the same core, are organized around the need for uniqueness, and have grandiose expectations and entitlement, each dimension has its own specific features [21]. Grandiose narcissistic individuals use self-enhancement strategies to maintain an inflated, grandiose self-image, deny personal weaknesses, and denigrate others if they feel threatened, while vulnerable narcissistic individuals appear to be shy, manifest aggressive tendencies, devaluation, and a general pattern of self-defense [20]. Grandiose narcissism is associated with higher self-esteem, arrogance, and risk-taking behaviors [22]. Vulnerable narcissism is correlated with higher levels of neuroticism [23], poor emotion regulation abilities, increased anger, and hostility [24]. In addition, grandiose narcissism displays correlations with extraversion, while vulnerable narcissism highly correlates with introversion [25]. Both grandiose and vulnerable narcissism are positively associated with present hedonism, and only vulnerable narcissism is associated with present fatalism (i.e., the belief that life is unpredictable and therefore fate and luck explain personal outcomes) [26]. Thus, narcissistic individuals prefer to engage in activities that lead to immediate gratification, acting impulsively and having few considerations about the future consequences of their actions. Individuals with narcissistic tendencies also want to obtain immediate personal benefits, and their actions can cost other individuals or the commons in the long term [27]. Narcissists are willing to self-enhance by blaming the situation or other persons for unsuccessful outcomes [28]. This regulatory mechanism may also be visible in the way in which people with narcissistic tendencies seek to explain environmental issues.

Pro-environmental behavior represents the “behavior that consciously seeks to minimize the negative impact of one's actions on the natural and built worlds (e.g., minimize resource and energy consumption, use of non-toxic substances, reduce waste production)” [29] (p. 240). Most of the previous research that investigated the relationship between personality and sustainable consumption or PEB, was limited to the Big Five taxonomy [30] or HEXACO personality traits [31–34]. Furthermore, studies that analyzed the relationship between narcissism and PEB obtained mixed results. Even though individuals with narcissistic tendencies are less concerned about environmental issues [35],

when the choice of green products is visible to the public, they adopt responsible PEBs to impress others or gain status [36]. Depending on the evaluation method of PEBs (i.e., self-report or diary reports), some authors obtained mixed results regarding the relationship between narcissism and PEBs. For example, other authors [16] investigated, among 261 individuals, the link between narcissism and PEBs for altruistic or egoistic motives. Their results suggested that agentic narcissism correlated negatively with altruistic PEBs when diary reports were analyzed, while communal narcissism correlated significantly positively with altruistic PEBs. In addition, communal narcissism was significantly positively associated with PEBs motivated by a selfish orientation, but agentic narcissism was not significantly associated with egoistic PEBs. Furthermore, other authors investigated the behavior of narcissistic individuals in relation to green product purchases [37] and found that narcissistic individuals do not value green actions or potential societal benefits but can act “green” if the situational factors offer them visibility [38]. Furthermore, narcissistic tendencies are associated with the unsustainable consumption of resources or the reuse of products [30], and various forms of narcissism have been associated with high levels of conspicuous consumption, such as materialism or luxury goods purchase intentions [39].

2.2. Self-Monitoring, Narcissism and PEB

Self-monitoring explains the way in which individuals modify and adapt their behavior to specific situations, thus regulating their self-presentation according to situational cues [40]. A high self-monitoring person adjusts his/her behavior according to the received interpersonal social signals, while a low self-monitoring person is centered on inner emotions or attitudes, being less concerned about expressive control and social appropriateness [41,42]. Previous studies indicated that encouraging individuals to self-monitor their pro-environmental actions can predict behavioral changes [43]. Self-monitoring strategies that encourage individuals to monitor their progress towards the target behavior can support goal achievement and have been successfully implemented as an intervention to obtain health or environmental benefits (e.g., decrease in meat consumption) [44,45]. The effect of self-monitoring has been studied in relation to green purchase intentions [46] and usually high “monitors” align their actions to the societal needs, choosing commonly accepted pathways regarding PEBs. Other authors [47] found that high self-monitors are more likely to reduce the level of future travels, thus are more prone to embrace socially accepted trends such as environmentally motivated travel reduction. Building on these premises, it is expected that high self-monitors are more likely to engage in PEBs.

Individuals with narcissistic tendencies want to gain the attention of others or make efforts to be noticed, and for this they use various self-regulatory tactics [48]. Self-monitoring is used strategically by narcissists to achieve impression management and to protect themselves socially [49]. Researchers have analyzed the relationship between narcissism and self-monitoring and found that there are strong and positive associations [50,51]: narcissists are attentive to social cues that can guarantee them a grandiose self-presentation. Vulnerable narcissism positively correlates with the protective dimension of self-monitoring, while grandiose narcissism correlates with acquisitive self-monitoring, thus grandiose and vulnerable narcissists use different presentation tactics [49]. On the other hand, other results suggested that vulnerable narcissism is not significantly associated with self-monitoring [52]. In the present study the indirect association of grandiose and vulnerable narcissism with PEB through self-monitoring was explored.

2.3. Environmental Locus of Control, Narcissism, and PEB

Locus of control (LOC) represents the degree to which individuals consider certain events to be a consequence of their own behavior, with control being perceived either internally (i.e., personal effort) or externally (i.e., fate, luck, or powerful others) [53]. People who have an internal LOC believe that their actions are closely related to the results and consequences obtained, while those with an external LOC believe that they have a passive role regarding everyday life events. Some authors [54] suggested that people can

have different levels of internal or external LOC depending on the nature of the events they face, so they can co-exist at the level of an individual. Beliefs related to the LOC can be analyzed both from a general perspective and situationally, because “individual differences in these beliefs have been considered as either relatively stable personality factors or as transitory social cognitions influenced by a host of situational cues and changes” [54] (p. 66). Other researchers [55] analyzed the LOC in relation to environmental issues. The authors investigated the way in which individuals perceive that they have the ability to produce positive or negative effects in terms of pro-environmental behaviors and obtained results that suggest that (1) people with an internal environmental LOC believe that their actions produce effects on the environment, and (2) people with an external environmental LOC believe that other factors have an impact on the environment, their behavior having a limited impact [55]. Those who make external attributions regarding environmental outcomes behave less ecologically because they believe their actions cannot produce significant effects on the environment [29]. An internal environmental LOC positively influences people’s environmental behaviors [56,57], while an external LOC can have a negative impact on pro-environmental purchase intentions [58]. Therefore, we expected that environmental control will be positively correlated with PEBs, as also suggested in previous studies.

Perceived behavioral control (i.e., people’s belief that they have or do not have the ability to behave in certain ways and obtain the desired results) [59] represent an important mechanism that supports environmentally sustainable actions. A meta-analysis [60] indicated that perceived behavioral control along with behavioral intentions and habits are relevant predictors of environmentally friendly behavior. Internal LOC can be a key factor or antecedent of green intentions and PEBs [61]. Narcissistic individuals present themselves as pro-environmental and green consumers, but their claims are not actually reflected in actions [37]. Narcissism predicts environmental apathy through the mechanism of a competitive-jungle worldview [62], and in the common dilemma situations, pro-self-oriented individuals want to maximize personal benefits by extracting substantial resources from others [63]. As narcissistic individuals do not have the ability to assume the results of their own behavior, manifesting in a self-biased manner [28], they are likely to attribute environmental problems to external factors that do not belong to their own person. To the extent of our knowledge, there are no previous studies examining the potential underlying mechanisms of environmental control in influencing the pro-environmental actions of grandiose or vulnerable narcissistic individuals.

2.4. Environmental Attitudes, Narcissism and PEB

The association between environmental attitudes and PEB depends on the intensity of environmental attitudes [64]. There is usually a discrepancy between attitudes and behavior, and some authors suggest that there is a weak relationship between the two [29]. Even though the relationship between attitudes and behavior can vary from culture to culture [65], some empirical findings [66,67] highlighted that pro-environmental attitudes represent a significant predictor of general ecological behavior. Individuals’ endorsement of an ecological worldview (i.e., New Environmental Paradigm; NEP) captures the beliefs about the fact that humanity can produce imbalances in nature, and clear limits of growth are needed if negative effects are to be avoided [68]. Usually, the NEP is used as a measure of explicit environmental attitudes, and it can influence behavior through different routes [69]. Therefore, in the present study it was expected that people who adhere to the NEP and believe that nature is delicate and negatively affected by human actions will have high PEB scores.

Research on the effect of the narcissistic traits in predicting environmental attitudes is scarce. When analyzing the relationship between Dark Triad traits (i.e., machiavellianism, narcissism, and psychopathy) and environmental attitudes, researchers found that narcissism was negatively related to environmental attitudes but was not significantly related with environmental attitudes when the three Dark Triad traits were taken into

account as predictors simultaneously [70]. Therefore, one may argue that the attitudes of people with narcissistic tendencies are situational, and their behavioral manifestations differ depending on the public image they want to present. Moreover, due to the need to obtain the social benefits of environmentalists, narcissists may superficially claim that they care about the environment, and in reality, this aspect may not be reflected in their day-by-day behaviors [37]. The present study investigates whether narcissism types have different effects on the NEP and PEB, and narcissism (i.e., grandiose and vulnerable) is expected to be negatively related to pro-environmental attitudes.

Drawing on previous empirical research and theoretical arguments, two mediation models were explored, which are detailed as the following research hypotheses:

Hypothesis 1. *Self-monitoring, environmental control, and environmental attitudes mediate the relationship between grandiose narcissism and PEB.*

Hypothesis 2. *Self-monitoring, environmental control, and environmental attitudes mediate the relationship between vulnerable narcissism and PEB.*

3. Method

3.1. Participants and Procedure

The sample included 945 participants ($M_{age} = 20.04$, $SD = 2.94$, range 18–40 years) from the North-Eastern part of Romania. Of the total sample, 654 were woman (69.2%), most participants were undergraduate students (76.8%), and were from an urban area (52.4%). In terms of family monthly revenue, 12.4% ($N = 117$) of the participants' families earned less than EUR 300, 16.9% ($N = 160$) earned between EUR 301 and 500, 20.8% ($N = 197$) earned between EUR 501 and 700, 17.6% ($N = 166$) earned between EUR 701 and 900, 19.5% ($N = 184$) earned between EUR 901 and 1400, and 12.8% ($N = 121$) earned more than EUR 1401. The reason for selecting university students as survey respondents is that they highly support environmental attitudes, but these attitudes are not reflected in environmentally responsible behaviors in their normal activities [71]. Furthermore, students are expected to be green consumers and key actors in the transition to a sustainable lifestyle and pro-environmental orientation [72].

A snowball sampling technique was used to identify other participants among students' personal acquaintances. The undergraduate students were trained about the sample recruiting strategy, and in exchange, they received course credits. Students identified at least three people with a minimum age of 18 years and sent them a link to an online questionnaire form. All the participants received an informed consent about the aim of the study (i.e., analysis of the relationships between different individual variables and environmental behavior), their rights to withdraw from the study any time, and they were ensured about the confidentiality of their answers. In addition, they received information about the average time for completing the questionnaires (approximately 15 min). The procedures used in this study adhere to the tenets of the Declaration of Helsinki.

3.2. Measures

3.2.1. Grandiose Narcissism

The unidimensional 16-item Narcissistic Personality Inventory (NPI-16) was used to measure grandiose narcissism [50]. This short measure of narcissism was developed drawing on the items in the Narcissistic Personality Inventory-40 items (NPI-40), a widespread measure used by non-clinical researchers [73]. The narcissist consistent responses were coded with 1 and non-narcissist responses were coded with 0 (e.g., "I like to be the center of attention" vs. "I prefer to blend in with the crowd"). A total score was computed based on the mean across the 16 items, higher scores representing a higher trait of grandiose narcissism. Additional information about internal reliability is presented in Table 1.

Table 1. Descriptive statistics of the main study variables.

	Alpha	M	SD	Skewness (SE)	Kurtosis (SE)
Grandiose narcissism	0.75	0.32	0.21	0.58 (0.08)	0.00 (0.15)
Vulnerable narcissism	0.73	3.16	0.64	−0.10 (0.08)	0.44 (0.15)
Self-monitoring	0.75	3.42	0.62	−0.20 (0.08)	−0.14 (0.15)
Environmental control	0.71	3.93	0.51	−0.56 (0.08)	0.19 (0.15)
Environmental attitudes	0.65	3.58	0.42	−0.08 (0.08)	−0.28 (0.15)
PEB	0.63	3.08	0.48	−0.10 (0.08)	−0.20 (0.15)

Note. N = 945; PEB = pro-environmental behavior.

3.2.2. Vulnerable Narcissism

Vulnerable or covert narcissism was measured using The Hypersensitive Narcissism Scale (HSNS) based on Murray's Narcissism Scale [74]. The 10-item measure contains statements (e.g., "I dislike sharing the credit of an achievement with others") that had to be evaluated by the participants using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The total score was computed by the mean of the individual scores, higher scores indicating a high level of vulnerable narcissism. The internal reliability of the scale was good (see Table 1).

3.2.3. Self-Monitoring

Participants completed a Revised Self-Monitoring Scale [75] that contains 13 items (e.g., "I have the ability to control the way I come across to people, depending on the impression I wish to give them"). Each item yields a score from 0 (strongly disagree) to 5 (strongly agree), and higher scores indicated high self-monitoring. The scale showed good internal reliability (see Table 1).

3.2.4. Environmental Attitudes

A revised New Ecological Paradigm Scale (NEP) was used to measure the pro-environmental attitudes and ecological worldviews of participants [68]. The scale consists of 15 items (e.g., "When humans interfere with nature it often produces disastrous consequences") that measure the concern for the environment and the fact that humans interfere with natural resources and processes. Participants were asked to evaluate each statement about the relationship between humans and the environment using a 5 Likert-type scale, with response alternatives from strongly disagree to strongly agree. The NEP Scale was treated as a unidimensional variable [68], by averaging the 15 items, higher scores representing an endorsement of the environmental paradigm and a pro-ecological worldview. The scale showed acceptable internal reliability (see Table 1).

3.2.5. Environmental Locus of Control

To measure the extent to which people believe that they have the ability to influence pro-environmental outcomes through their actions, an Environmental Locus of Control Scale was used [55]. The scale contains 12 items (e.g., "It is acceptable to pay 10 percent more for groceries that are produced, processed, and packaged in an environmentally friendly way") with response options for each item ranging from 1 (strongly disagree) to 5 (strongly agree) and grouped into four dimensions (i.e., biospheric-altruism, corporate skepticism, economic motivation, and individual recycling effort). The unidimensional model that encapsulates the multiple dimensions was successfully validated [55], thus a total score for environmental locus of control (ELOC) was computed. Each item represents an attitudinal/dispositional measure, and a higher mean score indicates that the individual has a greater degree of pro-environmental attitudes and is more likely to engage in pro-environmental behaviors. Information related to the reliability of the scale can be found in Table 1.

3.2.6. Pro-Environmental Behavior

To measure ecological behaviours, a Pro-environmental Behaviours Scale (PEBS) was used [76]. The 19-items scale is grouped into four different dimensions (i.e., conservation, environmental citizenship, food, and transportation). The items measure the main human activities that can contribute to climate change, from a private-action point of view (e.g., “How often do you turn off the lights when leaving a room?”) as well as from a public point of view, referring to activist behaviours (e.g., “During the past year have you contributed money to an environmental, conservation, or wildlife protection group?”). One item which was not representative for the investigated sample (i.e., “Please answer the following question based on the vehicle you drive most often: approximately how many miles per gallon does the vehicle get?”) was eliminated. The original version indicated a good internal consistency for the scale; thus, the total score was used for the analyses (see Table 1). Higher scores represent that individuals are involved in more environmental behaviours.

4. Results

4.1. Preliminary Analyses and Associations among the Main Study Variables

First, the study variables were tested for normality, analyzing the values for Skewness and Kurtosis, namely the range values between ± 1 , according to the recommendation of other researchers [77]. Some authors [78] suggested that Skewness and Kurtosis represent normality measures that should be reported routinely along with other summary statistics. Thus, summary statistics for the variables are presented in Table 1.

Zero-order correlations showed that grandiose narcissism was positively and significantly correlated with self-monitoring, and negatively correlated with environmental control, attitudes, and behavior, whereas vulnerable narcissism correlated positively and significantly with self-monitoring and negatively with environmental control (see Table 2). Regarding socio-demographic variables, age was not significantly associated with any of the variables, but gender presented several significant correlations. Results indicated that men tend to score higher on grandiose narcissism, while woman tend to score higher on vulnerable narcissism, environmental control, attitudes, and pro-environmental behaviors.

Table 2. Inter-correlations between study variables.

Variables	1	2	3	4	5	6	7	8
1. Grandiose Narcissism	-							
2. Vulnerable Narcissism	0.03	-						
3. Self-monitoring	0.26 ***	0.06 [†]	-					
4. Environmental Control	−0.14 ***	−0.16 ***	0.17 ***	-				
5. Environmental Attitude	−0.12 ***	−0.03	0.11 ***	0.49 ***	-			
6. PEB	−0.10 **	−0.04	0.07 *	0.21 ***	0.16 ***	-		
7. Age	0.04	−0.02	0.01	−0.06	−0.01	−0.06	-	
8. Gender	−0.14 ***	0.08 *	0.02	0.19 ***	0.20 ***	0.25 ***	−0.20 ***	-

Note. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; [†] $p = 0.053$. N = 945. PEB = pro-environmental behavior. All gender correlations represent point biserial coefficients (gender was coded with 0 for men and 1 for woman).

4.2. Mediation Analyses

To test the mediation role of self-monitoring, environmental control, and attitudes, two mediation analyses were conducted using the PROCESS macro in SPSS, Model 4 [79] with 5000 bootstrapping, with grandiose narcissism and, respectively, vulnerable narcissism as the independent variable. For both analyses, the dependent variable was PEB, and the mediators were self-monitoring, environmental control, and environmental attitudes. We used as control variables age, gender, education level, income level, and geographical area. Both analyses partially supported the hypothesized models.

4.2.1. Mediation Effect of Grandiose Narcissism

First, the results for the model using grandiose narcissism as the independent variable (see Figure 1) reveal that grandiose narcissism was significantly related to PEB ($B = -0.17$; $p < 0.05$; 95% CI $[-0.3162, -0.0302]$), indicating that higher grandiose narcissism was associated with lower PEB. Grandiose narcissism was significantly related to self-monitoring ($B = 0.80$; $p < 0.001$; 95% CI $[0.6235, 0.9921]$), which was not significantly related to PEB ($B = 0.04$; $p = 0.07$; 95% CI $[-0.0042, 0.0959]$). Grandiose narcissism was significantly related to environmental control ($B = -0.29$; $p < 0.001$; 95% CI $[-0.4454, -0.1388]$), which was significantly associated with PEB ($B = 0.13$; $p < 0.001$; 95% CI $[0.0711, 0.2059]$). Finally, grandiose narcissism was significantly related to environmental attitudes ($B = -0.20$; $p < 0.01$; 95% CI $[-0.3316, -0.0761]$), which was not significantly related to PEB ($B = 0.04$; $p = 0.29$; 95% CI $[-0.0374, 0.1220]$). After analyzing the indirect effects, only environmental control significantly mediated the relationship between grandiose narcissism and PEB (see Table 3). The direct relation between grandiose narcissism and PEB became weaker but remained significant. Thus, the first hypothesis was partially supported by the data.

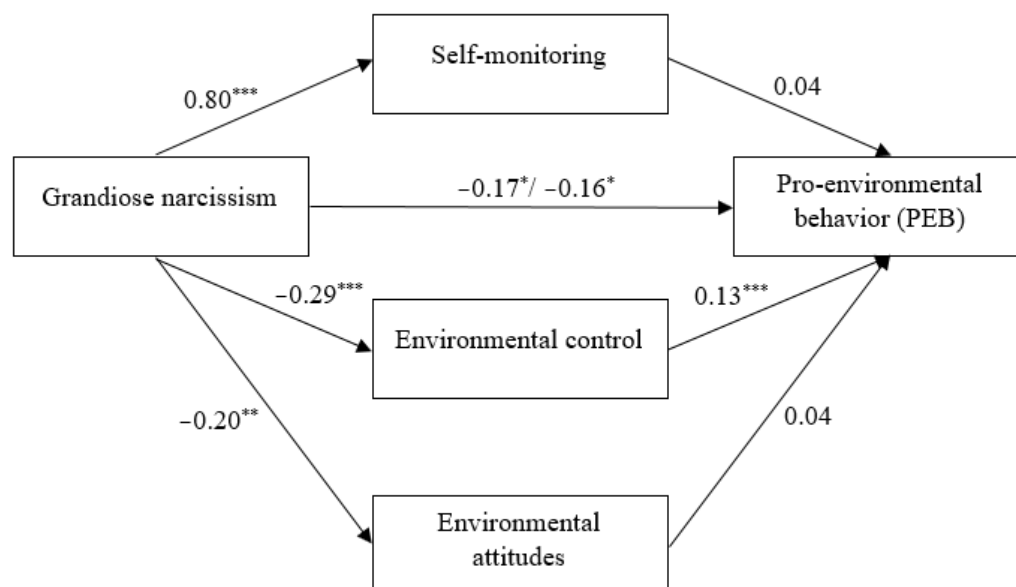


Figure 1. The mediation paths from grandiose narcissism to PEB, through self-monitoring, environmental control, and environmental attitudes while controlling for age, education level, income, and geographical area. *Note.* Path values represent unstandardized coefficients. The first effect value between grandiose narcissism and PEB (the value before the slash) shows the total effect of grandiose narcissism on PEB, and the second effect value (the value after the slash) shows the direct effect of grandiose narcissism on PEB, while controlling for mediators. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 3. The indirect effects of narcissism (grandiose and vulnerable) on PEB through self-monitoring, environmental control, and environmental attitudes while controlling for age, gender, educational level, income, and geographical area.

Mediators	Grandiose Narcissism				Vulnerable Narcissism			
	Point Estimate	SE	Bias Corrected		Point Estimate	SE	Bias Corrected	
			95% Lower	95% Upper			95% Lower	95% Upper
Total	−0.01	0.02	−0.0706	0.0496	−0.01	0.00	−0.0333	−0.0063
Self-monitoring	0.03	0.02	−0.0055	0.0830	0.00	0.00	−0.0010	0.0074
Environmental control	−0.04	0.01	−0.0755	−0.0132	−0.02	0.00	−0.0339	−0.0087
Environmental attitudes	−0.00	0.00	−0.0295	0.0078	−0.00	0.00	−0.0057	0.0012

4.2.2. Mediation Effect of Vulnerable Narcissism

The second mediation analysis investigated the mediation effect of self-monitoring, environmental control, and environmental attitudes of the relation between vulnerable narcissism and PEB (see Figure 2), while controlling for age, gender, education level, income level, and geographical area. The results indicated that vulnerable narcissism was significantly related to PEB ($B = -0.05$; $p < 0.05$; 95% CI $[-0.0972, -0.0041]$), indicating that higher vulnerable narcissism was associated with lower PEB. Vulnerable narcissism was significantly related to self-monitoring ($B = 0.06$; $p < 0.05$; 95% CI $[0.0004, 0.1247]$) which was not significantly related to PEB ($B = 0.03$; $p = 0.18$; 95% CI $[-0.0153, 0.0808]$). Vulnerable narcissism significantly predicted environmental control ($B = -0.14$; $p < 0.001$; 95% CI $[-0.1960, -0.0972]$) which was significantly related to PEB ($B = 0.13$; $p < 0.001$; 95% CI $[0.0706, 0.2072]$). Finally, vulnerable narcissism did not significantly predict environmental attitudes ($B = -0.02$; $p = 0.16$; 95% CI $[-0.0715, 0.0121]$), and environmental attitudes did not significantly predict PEB ($B = 0.05$; $p = 0.21$; 95% CI $[-0.0298, 0.1297]$). After analyzing the indirect effects, only environmental control significantly mediated the relationship between vulnerable narcissism and PEB (see Table 3). The direct relation between vulnerable narcissism and PEB did not remain significant. Thus, the second hypothesis was partially supported by the data.

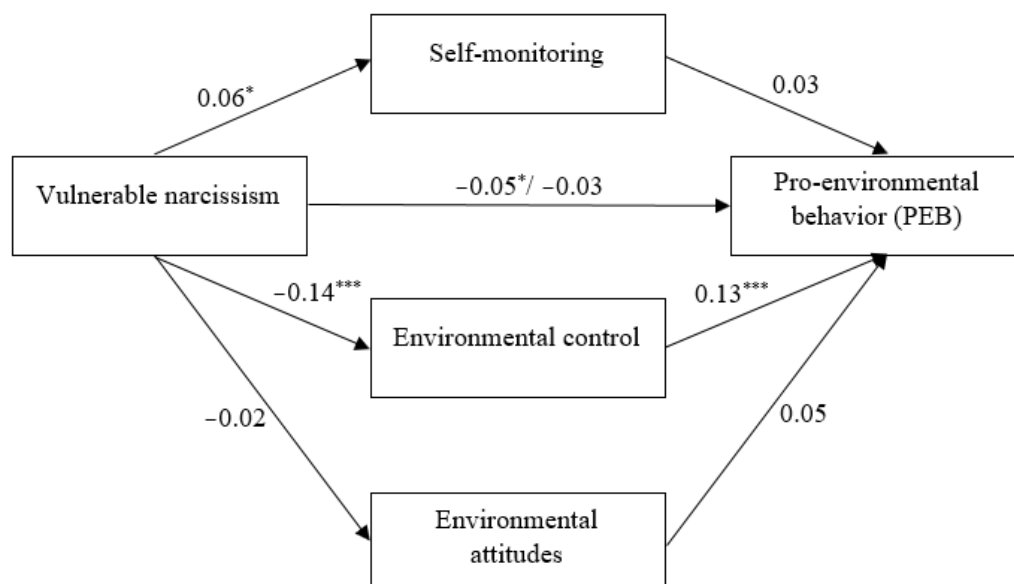


Figure 2. The mediation paths from vulnerable narcissism to PEB, through self-monitoring, environmental control, and environmental attitudes while controlling for age, education level, income, and geographical area. *Note.* Path values represent unstandardized coefficients. The first effect value between vulnerable narcissism and PEB (the value before the slash) shows the total effect of vulnerable narcissism on PEB, and the second effect value (the value after the slash) shows the direct effect of vulnerable narcissism on PEB, while controlling for mediators. * $p < 0.05$; *** $p < 0.001$.

5. Discussion

The purpose of this study was to gain a better understanding of the associations between narcissism types and PEB by considering self-monitoring, environmental control, and environmental attitudes. Results indicated that the correlational pattern between narcissistic types, self-monitoring, environmental control, and environmental attitudes was slightly different. Only grandiose narcissism correlated negatively with PEB and environmental attitudes. The results are in line with previous research which indicated that narcissism predicts a general apathy toward environmental issues [80] and has a negative influence on individuals' green behavior [36,81]. In addition, previous research indicated that narcissistic individuals have materialistic values and care less about environmental issues [82]. Both forms of narcissism correlated negatively with environmental control, and

positively with self-monitoring. Moreover, both mediation models suggested that only environmental control significantly mediated the relationship between narcissism types and PEB.

There are several key findings of the present research. First, to explain individual differences in PEB, it was anticipated that narcissism types relate with self-monitoring, environmental control, and environmental attitudes, and ultimately explain the engagement in PEB. Congruent with initial expectations, narcissistic individuals are involved to a lesser extent in PEB. Thus, narcissists cared less about the environmental problems and are less willing to get involved in conservation and environmental protection behaviors. Furthermore, this relationship was mediated only by environmental control, even when controlling for different socio-demographic variables. This pattern of results is consistent with the previous research about the negative effect of narcissism on PEB [38,82]. Narcissistic individuals support anti-conservation policies [83] and do not engage in public actions on climate change [84]. These results can be explained by the fact that grandiose and vulnerable narcissistic individuals have materialistic and conspicuous consumption tendencies [85], and materialism is related with decreases in pro-environmental attitudes and behaviors [86] or low consumers' intentions to adopt PEB [87].

Second, the results indicated that grandiose and vulnerable narcissism have similar indirect effects on PEB. Self-monitoring and environmental attitudes did not mediate the relationship between narcissism types and PEB. Grandiose and vulnerable narcissists reported higher levels of self-monitoring. However, self-monitoring did not lead to involvement in PEB. One interpretation of these findings can be that narcissistic individuals use self-monitoring only as a self-presentation tactic (i.e., exaggerating personal qualities) to make desirable impressions. Furthermore, grandiose narcissists did not endorse a pro-ecological worldview (i.e., reported lower levels of environmental attitudes), while vulnerable narcissism was not related to environmental attitudes. Previous studies revealed that grandiose narcissism is significantly and negatively correlated with pro-environmental orientation, measured using the NEP [88]. On the other hand, other research did not find a direct relationship between narcissism and NEP [89]. Thus, this relationship may be worth examining in future research.

Third, only environmental control explained the relationship between narcissism types and PEB in both mediation models. Environmental control seems to play a crucial role in understanding the relationship between narcissism dimensions and PEB. The results suggest that both narcissistic types tend to have a low environmental control, which is also related to lower levels of PEB. Specifically, individuals with high levels of narcissism (either grandiose or vulnerable) consider that we have enough water, energy, forest resources, and believe that humans act responsibly towards the environment. In addition, they are not willing to pay more for eco-friendly products or to pay additional taxes to protect the environment and to make recycling efforts. Moreover, individuals with low environmental control engage in less PEB. Thus, low perceived control of environmental problems tends to be detrimental for eco-friendly behaviors, whereas high perceived control tends to be benefic. These results are consistent with the claim that narcissistic individuals project blame and make attributions for setbacks to external circumstances [90,91]. Additionally, grandiose narcissists are willing to behave badly and are not disturbed by violations of social standards made by others [92]. Another explanation for the mediation results might be that vulnerable narcissists consider they have no control over the events in their lives and "they perceive that world is happening to them, rather than perceiving themselves as causal agents in their lives" [93] (p. 30). Furthermore, individuals with vulnerable narcissistic tendencies have an external LOC and consider that powerful others and chance or luck control their life [94] due to a possible attempt to self-regulate and protect their fragility and insecurity.

The main limitation of this study is related to the use of self-report measures of behavior. Thus, some respondents may have answered in a socially desirable way. Moreover, the internal consistency of some measures was modest (e.g., the PEB measure). In order to

overcome the limitations of our cross-sectional study, future studies should try to analyze if the environmental behavior of narcissistic individuals can vary depending on certain contexts or depending on the possibility of self-affirmation using an experimental design. A possible solution can be by empowering narcissistic individuals in relation to environmental issues. Moreover, future studies could try various behavioral modeling techniques to achieve positive changes in environmental attitudes and specific PEBs of narcissistic individuals while providing evident opportunities for glory using a longitudinal design.

The present results should be replicated by using a cross-cultural perspective, taking into account the particularities of different populations. For example, citizens from European countries (e.g., France, Germany, Italy, and the United Kingdom) report to be conscientious about the environment and a feeling of responsibility seems to have the largest contribution to the prediction of PEB [95]. Another research [96] evaluated pro-environmental actions taken by EU member states and found that Romania is among the last countries in the ranking in terms of PEB. Furthermore, the latest Special Eurobarometer (2021) about climate change highlighted that half of the respondents from Romania consider that EU and the governments are responsible for managing and tackling the climate crisis [97]. The Special Eurobarometer report (2021) also highlighted the fact that individuals did not get involved in actions to combat climate problems and protect the environment, but most of them agree that the EU economy should be climate-neutral and think that climate change is a very important problem [97].

More studies are needed to analyze cross-culturally the factors that influence PEB in order to understand the complex psychological processes, individual differences, or behavioral barriers encountered by individuals [14]. Future studies should investigate if people with narcissistic tendencies would engage in pro-environmental behaviors (even if the place of environmental control is external) for other reasons, such as social pressure, the norms of the group they belong to, the desire to get the attention of others through actions on which they do because this aspect would maintain their self-image, so the grandiose or vulnerable (narcissistic) self.

The major implication of this study is related to the fact that in order to increase the degree in which narcissistic individuals engage in PEB, it is important to stimulate their acceptance of personal responsibility for the protection and conservation of the environment. Recognizing the responsibility for environmental protection is the first step that can bring people closer to the realization of actual PEB [55]. Thus, ecological campaigns should aim to increase individual control in terms of producing significant changes in the environment. Additionally, if people feel responsible for the environment, they might feel shame if they do not get involved in actions to protect the environment, and self-blaming emotions (e.g., guilt and shame) can increase support for environmental actions [98]. However, previous research suggested that exposure to responsibility-attribution messages may not be very effective compared with other media messages strategies, such as reading about the government actions to protect environment or fear visuals with environmental concerns [99]. Moreover, it is possible that high consumerism contributes to the formation of individual perceptions related to the fact that we have enough resources and there is no need to worry about them. Therefore, public policies and ecological awareness campaigns should highlight the negative impact on the environment at a global level determined by the excessive consumption of resources. Furthermore, increasing the level of environmental education together with certain awareness campaigns could help individuals to understand that they can have control over the environment and can get involved in concrete actions in this regard. In addition, future studies may address alternative strategies to stimulate narcissistic people to self-enhance by making PEB (e.g., allowing them to manifest their grandiosity and to obtain others' attention by engaging in eco-friendly behaviors with high visibility and social rewards).

6. Conclusions

Using a large and heterogeneous sample, the present research adds on clarifying the role of narcissism in relation to PEB. The findings partially support the proposed explanatory mechanism that narcissistic individuals have specific beliefs and attitudes that decrease their PEB and uncovers the mediating effect of environmental control in the relation between narcissistic types and PEB. Specifically, the lower levels of environmental control can block narcissistic individuals to engage in PEB. On the other hand, self-monitoring and environmental attitudes do not mediate the relation between narcissistic types and PEB. These findings highlight the importance of perceived environmental control in the relationship between narcissism and PEB. Policymakers and ecological campaigns should target the individuals' impact on the environment, alongside shared responsibility with governmental authorities and corporations. In addition, promotional strategies should allow narcissistic individuals to gain the attention and praise of those around them by engaging in environmental actions that increase their perceived behavioral control. In this way, narcissists maintain their grandiose self-views and can be stimulated to get involved in PEB by understanding the future consequences of their behavior. Furthermore, making non-environmental goals unattractive and socially unvalued could lead to a change in the belief regarding the individual impact on the environment, facilitating the transition to positive behaviors oriented towards the environment.

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