

RESEARCH ARTICLE

The Impact of Nature Relatedness on Environmental Attitudes Weakens among Materialistic Individuals: Evidence from the Philippines

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Abstract: Although there exist separate lines of research showing that nature relatedness and materialism independently promote and/or hinder environmentalism, little research has looked at the influence of these two psychological factors on people's environmental attitudes when examined in concert with each other. This is important because in reality, psychological constructs operate simultaneously and often interactively within a person. The current research investigated the moderating role of materialism on the positive impact of nature relatedness on environmental attitudes in Filipino adults within the context of massive environmental degradation and modernization in the Philippines. Using a cross-sectional online survey, data were collected from 373 females and 216 males (mean age = 30.06, SD age = 13.31) in urban areas in Metro Manila, Philippines. Findings revealed that materialism moderated the positive impact of nature relatedness on environmental attitudes. Specifically, the positive impact of nature relatedness on environmental attitudes was strong among people with lower levels of materialism and weak among those with moderate levels and diminishes among people with high levels of materialistic values. The present findings offer novel insights on how materialistic values could suppress the influence of nature relatedness as a promoting factor in encouraging environmental attitudes. Limitations, future directions, and implications are discussed.

Keywords: nature relatedness, environmental attitudes, materialism, values, Philippines

INTRODUCTION

Environmental attitudes are known to be an important precursor of proenvironmental behaviors (Milfont & Duckitt, 2010). Literature suggests several predictors of environmental attitudes. For instance, nature relatedness, or the extent to which an individual views oneself as interconnected with the natural world (Mayer & Frantz, 2004), was found to promote people's

environmental attitudes (Rosa & Collado, 2019). However, the widespread environmental degradation worldwide has resulted in less exposure to nature, leading humans to gradually detach from the natural world (Restall & Conrad, 2015). In the Philippines, the massive destruction of the environment including deforestation, decreased animal population, plastic and air pollution, and solid waste management, among others, remains a problem (Bensel, 2008; Garcia et al.,

2013; Maohong, 2012). In addition, materialistic values are a known factor that contradicts the fundamental goals of environmentalism, where people who place a high premium on materialistic gains show less positive attitudes towards the natural environment (Hurst et al., 2013). Despite the existence of separate lines of evidence showing that nature relatedness (e.g., Rosa & Collado, 2019) and materialism (e.g., Hurst et al., 2013) independently influence people's environmental attitudes, it remains unclear how these two psychological factors play out in promoting people's environmental attitudes when examined in concert with each other. More specifically, studies that look at how materialistic values may suppress the positive impact of nature relatedness on environmental attitudes are also scarcely considered. To address this gap, the present study aims to examine the moderating role of materialism in the impact of nature relatedness on environmental attitudes among Filipinos within the context of massive environmental degradation and the national drive for economic progress in the Philippines.

Nature Relatedness and Environmental Attitudes

Nature relatedness is a critical factor in promoting environmentalism. Consistent quantitative evidence showed that people with a strong sense of affiliation with the natural environment tend to act more proenvironmentally (Dong et al., 2020; Geng et al., 2015; Martin et al., 2020). Qualitative evidence supported this by documenting that working adults with greater affinity with nature have increased awareness of environmental issues (Boiral et al., 2019). However, a literature review highlighted that most studies on nature connectedness focused on more developed countries including the U.S., Australia, the U.K., the Netherlands, Canada, and Germany (Restall & Conrad, 2015). This is concerning given that environmental problems are experienced globally and not a problem exclusive only to economically developed countries. Hence, nature relatedness among people in developing nations requires scientific attention. The Environmental Kuznets Curve hypothesis (Kuznets, 1955; Stern, 2004) suggests that developing countries at the initial phase of modernization are prone to environmental deterioration due to the necessity to utilize natural resources. But once a certain country-level income is achieved, the environmental degradation may be reversed, because growth in the economy allows opportunities for promoting regulations for environmental preservation

(Stern, 2004). Hence, understanding nature relatedness in developing countries could provide fruitful insights that have been neglected in the literature. The current research addresses this gap by examining the association between nature relatedness and environmental attitudes within the context of a developing country such as the Philippines.

Materialism and Environmentalism

Materialism is defined as the extent to which one places a great premium on income and acquisition of material goods as the basis for life's success and well-being (Richins & Dawson, 1992). The proclivity to consume products that are unnecessary for living and are only driven by desire often conflicts with prosocial attitudes and values (Abramson & Inglehart, 2009), including environmental sustainability (Hurst et al., 2013). Theory and research evidence suggest that materialistic individuals tend to have less favorable attitudes towards the natural environment (Gu et al., 2018; Schultz, 2001). When people endorse egoistic values where wealth and accumulation of material things are prioritized, they are less likely to consider the environmental impact of their decisions (Hurst et al., 2013; Schultz, 2001). One noticeable limitation in the materialism-environmentalism literature was its lack of studies that center on low-income countries. That is despite the scientific evidence that materialism can be more pronounced and may operate differently in poverty-stricken environments (Chaplin et al., 2014). Studies on the influence of materialism on proenvironmentalism have mainly been documented in high-income countries including China (Gu et al., 2018), the U.S. (Tang & Hinsch, 2018), and Saudi Arabia (Alzubaid et al., 2020). To fully understand how materialism operates as a suppressing factor for environmentalism, investigating the extent to which it is endorsed in a developing nation and its association with environmental attitudes is imperative. The present study aims to extend this line of research by examining the unique impact of people's materialistic values on environmental attitudes within the context of a developing nation such as the Philippines.

The Philippine Context

Environmental degradation is one of the main problems in the Philippines. Before the arrival of the Spanish colonizers in 1521, 95% of the land area in the Philippines was covered by forests. By 1934, the

forested area was reduced to 57%, and by 1990, only 20% of the forested area remained. In 2010, estimates showed that only 8% of the Philippine forests were left (Rees, 2016). The massive deforestation in the country is mainly caused by illegal logging and agricultural practices that are destructive to the forests. For example, *pagkakaingin*, which means slash and burn, involves cutting down and burning down forests (Suarez & Sajise, 2010). The total elimination of the Philippine forests is feared to happen if the rate of deforestation continues (Maohong, 2012). Additionally, the national drive for economic growth and human-caused environmental degradation in the Philippines has resulted in alarming threats to the survival of a wide array of tree, plant, and animal species (Bensel, 2008; Garcia et al., 2013).

In addition, the tremendous plastic pollution in the Philippines has been causing serious damage to the natural environment. The United Nations (2018) reported that more than 50% of the plastic wastes that flow directly to the oceans originate from five countries (China, Indonesia, Thailand, Vietnam, and the Philippines). The plastic wastes that cause pollution to the oceans are continuously damaging several Philippine marine species (Abreo et al., 2019). The country's long history of human-induced environmental destruction has made a long list of species in the country into endangered status (Bensel, 2008; Garcia et al., 2013). Given the anthropogenic nature of environmental destruction in the Philippines, it is of great importance to determine the antecedents of Filipinos' environmental attitudes within the country's unique sociocultural context. Eom and colleagues (2018, 2020) explained that understanding people's environmentalism within their sociocultural context is imperative given the strong influence of sociocultural factors on people's values, attitudes, and behaviors (Aruta, 2016; Aruta et al., 2021a, 2021b; Aruta et al., 2019; Roxas et al., 2019). We reason that examining the influence of nature relatedness and materialism on environmental attitudes within the context of economic drive and environmental degradation in the Philippines is necessary as it could provide more nuanced insights on Filipinos' sense of environmental attitudes.

The Present Study

Past studies revealed that the extent to which a person endorses proenvironmental attitudes depends, in part, on one's self-transcendent values (i.e., concern

for collective interests) and self-enhancement values (i.e., concern for personal interests; see Dietz et al., 2005; Steg et al., 2014, for reviews). Previous research proposed that there are two types of self-transcendent (i.e., altruistic and biospheric values) and self-enhancement values (i.e., hedonistic and egoistic values) and that these values are strongly associated with proenvironmentalism (Steg et al., 2014). Altruistic values reflect a person's care and concern for the welfare of other people, whereas biospheric values reflect how much a person values nature and the environment. On the other hand, hedonistic values reflect a person's concern for seeking pleasure and minimizing effort, while egoistic values involve the high importance that a person places on acquiring resources (Dietz et al., 2005; Steg et al., 2014). Following these propositions, we argue that Filipinos with higher levels of nature relatedness will report more positive attitudes towards the natural environment because people who view themselves as affiliated with nature tend to endorse biospheric values (Steg et al., 2014).

Self-enhancement and egoistic values (i.e., concern for personal interests) including materialism can motivate people to engage in behaviors that promote personal and material gains (Dietz et al., 2005; Steg et al., 2014). Past studies suggest that individuals who endorse high materialistic values tend to engage in behaviors that are detrimental to the welfare of the natural environment (Aruta, 2020; Gu et al., 2018; Schultz, 2001). Guided by this proposition, we argued that people who hold high materialism will report less favorable attitudes towards nature. Additionally, we reasoned that the proclivity to endorse favorable attitudes towards nature may be suppressed among Filipinos who place great importance on material possessions because materialism indicates egoistic values (Hurst et al., 2013; Steg et al., 2014).

While several previous research studies showed that nature relatedness (Aruta, 2020; Rosa & Collado, 2019) and materialism (Hurst et al., 2013), separately and independently, predict people's attitudes towards the natural environment, there is a dearth of literature that examines nature relatedness and materialistic values in concert with each other in predicting environmental attitudes despite the fact that, in reality, these constructs exist and interactively operate within a person. Additionally, studies that investigate the buffering role of materialism on the nature relatedness–environmental attitudes association were also

noticeably underrepresented in the literature. Hence, this study addresses this critical gap by investigating the simultaneous and interactive impact of nature relatedness and materialism on environmental attitudes in one coherent model.

The present study aimed to investigate the interaction effect of nature relatedness and materialism on environmental attitudes within the context of continuous and massive environmental degradation, and economic drive in the Philippines. We proposed that nature relatedness will positively predict environmental attitudes in Filipino adults. In addition, we hypothesized that materialism will negatively influence Filipino adults' environmental attitudes. More importantly, the main objective of this study was to examine the moderating role of materialism on the positive influence of nature relatedness on environmental attitudes in Filipino adults. Simply put, the following hypotheses are presented:

Hypothesis 1: People with higher nature relatedness will report greater environmental attitudes.

Hypothesis 2: People who have higher materialistic values will report lower environmental attitudes.

Hypothesis 3: Materialism will moderate the positive impact of nature relatedness on environmental attitudes. Specifically, the positive impact of nature relatedness on environmental attitudes will be weaker among individuals with high materialistic values. On the other hand, the positive impact of nature relatedness on environmental attitudes will be stronger among people with low materialistic values. Figure 1 shows a representation of the above-mentioned relationships.

METHODS

Participants and Procedures

A total of 589 individuals participated in the study, all of whom were currently residing in urban Metro Manila in the Philippines. There were 373 females and 216 males, and the average age was 30.06 (SD = 13.31), with ages ranging from 18 to 65. More than half (68%) of the participants described their family income as average, a little more than a quarter (26%) as slightly above average, and a small portion (6%) as above average. Through snowball sampling, participants who are Filipino and at least 18 years old were invited to complete an online survey containing measures of materialism, nature relatedness, environmental attitudes, and several demographic questions. Online survey links were provided via social media and email messages. The participants were then asked to share the online link with other people who may qualify for the study. All participants were informed that their data will be treated with utmost confidentiality, that their identity will be anonymous, and that they have the right to withdraw from their participation at any point. Individuals who did not provide their informed consent were instructed to discontinue responding to the survey. The study was conducted in accordance with the 1964 Helsinki Declaration and its later amendments.

Instruments

Nature relatedness

The Nature Relatedness Scale (NRS) was used to measure the participants' sense of affiliation with the natural world (Nisbet et al., 2009). Participants rated each of the 21 statements, with sample items such as, "My relationship to nature is an important part of who I am," "My ideal vacation spot would be a remote, wilderness area," and "My connection to nature and

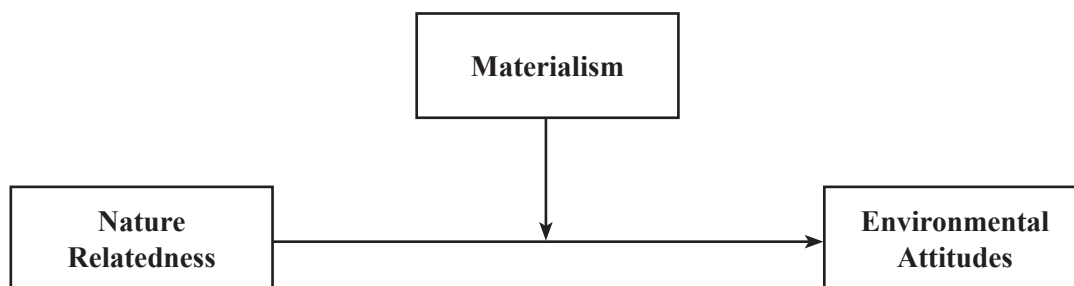


Figure 1. Proposed model illustrating the moderation effect of materialism on the influence of nature relatedness on environmental attitudes

the environment is a part of my spirituality.” The participants’ responses were measured on a 5-point Likert scale, ranging from 1 = *strongly disagree* to 5 = *strongly agree*, with higher scores indicating greater levels of relatedness with nature. Previous studies demonstrated high alpha coefficients of NRS among Canadian undergraduate students ($\alpha = .87$; Nisbet et al., 2011) and Australian adults ($\alpha = .87$; Dean et al., 2018). In the present study, the reliability of NRS was $\alpha = .73$. The total nature connectedness index was determined by combining the scores in all items on the scale. Negatively stated items were reverse scored before data analysis.

Environmental attitudes

The 20-item Environmental Attitudes Scale (Fernandez-Manzanal et al., 2007) was utilized to assess people’s extent of favor or disfavor for the natural environment. Participants rated each item by responding on a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*, with higher scores indicating high levels of environmental attitudes. Some sample items are “*I believe that information is increasingly necessary to be aware of the effects our actions have on the environment,*” “*In my opinion, the more people know about the natural environment the better their defence attitude,*” and “*I am willing to consume less and go without some comforts if it helps to protect the environment.*” Past research using Spanish undergraduate students showed high reliability of $\alpha = .84$ (Rodríguez-Barreiro et al., 2013). In the present study, the alpha coefficient of the scores on environmental attitudes was $\alpha = .77$. The participants’ overall environmental attitudes were calculated by combining the scores in all items resulting in an overall index of people’s attitudes towards the environment. Negatively stated items were reversed scored prior to data analysis.

Materialism

The Material Values Scale (MVS) was used to measure the extent to which individuals value material gains and possessions as a source of happiness and self-worth (Richins & Dawson, 1992). Participants rated each of the 18 statements on how well each item describes them. Some sample items are “*I admire people who own expensive homes, cars, and clothes,*” “*Buying things gives me a lot of pleasure,*” and “*I put less emphasis on material things than most people I*

know” (reverse coded). Participants responded on a 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*, with higher scores indicating high levels of materialism. Previous research showed that MVS is a valid measure for materialistic values in American undergraduate students (Richins, 2004) and German adults (Müller et al., 2013). Past research showed high reliability of MVS among Icelandic adults ($\alpha = .80$; Garðarsdóttir & Dittmar, 2012) and Turkish undergraduate students ($\alpha = .80$; Karabati & Cemalcilar, 2010). In the current research, the alpha coefficient of MVS was $\alpha = .85$. The overall materialism index was calculated by combining the scores in all items. Negatively stated items were reversed scored prior to data analysis.

Controlled Variables

Gender, age, and religiosity were set as covariates to control for their effects on environmental attitudes as suggested by previous studies. Past studies showed that females consistently reported greater levels of environmental attitudes and concern compared to males (Bord & O’Connor, 1997; Zelezny et al., 2000). The evidence on the influence of age on environmentalism is mixed and complex (Gronhoj & Thøgersen, 2009). But recent findings revealed that age has positive associations with proenvironmental attitudes and behaviors (Casalo & Escario, 2018). Lastly, religiosity was found to negatively influence environmental attitudes (Arbuckle & Konisky, 2015) and support proenvironmental policies (Eom et al., 2020).

RESULTS

Table 1 shows the descriptive statistics including the estimate of normality (skewness and kurtosis $<|2|$). Intercorrelations among the variables were in the predicted direction. In particular, nature relatedness was positively and significantly correlated with environmental attitudes. On the other hand, materialism was negatively and significantly correlated with environmental attitudes but not with nature relatedness. It is important to note that although materialism and nature relatedness were not significantly correlated, this correlation was not necessary for testing the interaction effect between the predictor variable (nature relatedness) and moderator (materialism;

Baron & Kenny, 1986; Hayes, 2018) on environmental attitudes. The nonsignificant correlation ($r = -.01$) between nature relatedness and materialism indicates the absence of multicollinearity in the data.

To test the moderation effect of materialism on the impact of nature relatedness on environmental attitudes, the present research used Model 1 of the PROCESS macro for SPSS (Hayes, 2013). Results show that the overall model was significant ($F[7, 581] = 21.75, p < .001$). As presented in Table 2, the results found support for Hypothesis 1 as nature relatedness positively and significantly predicted environmental attitudes ($\beta = .19, SE = .03, t = 4.91, p < .001, 95\% CI = 0.11, 0.26$). Furthermore, results found support for Hypothesis 2 as materialism negatively and significantly predicted environmental attitudes ($\beta = -.27, SE = .03, t = -9.19, p < .001, 95\% CI = -0.33, -0.21$). Support for Hypothesis 3 was found as materialism significantly moderated the positive influence of nature relatedness on environmental attitudes ($\beta = -.14, SE = .05, t = -2.80, p < .01, 95\%$

$CI = -0.25, -0.04$). Nature relatedness, materialism, and the interaction term accounted for approximately 3.3%, 11.7%, and 1%, respectively, of the variance in environmental attitudes. The addition of the age, gender, education, and religiosity cumulatively accounted for about 5%, resulting in a total of 21% variance explained in environmental attitudes.

It is important to note that the influence of nature relatedness on environmental attitudes was significant at the low and moderate levels but not at the high level of materialism. In particular, the positive influence of nature relatedness on environmental attitudes was strong when the level of materialism was low ($\beta = .29, SE = .05, t = 5.25, p < .001, 95\% CI = .18, .40$), weak when materialism was moderate ($\beta = .19, SE = .03, t = 4.91, p < .001, 95\% CI = .11, .26$), and nonsignificant when the level of materialism was high ($\beta = .08, SE = .05, t = 1.62, p = .1053, 95\% CI = -.02, .18$). Age ($\beta = -.007, SE = .002, t = 3.59, p < .001, 95\% CI = .01, .003$), gender ($\beta = .20, SE = .04, t = 4.77, p < .001, 95\% CI = .12, .29$), education ($\beta = .06, SE = .03,$

Table 1

Descriptive statistics and correlations of the variables

Variables	M	SD	Skewness	Kurtosis	Correlations	
					1	2
1. Nature relatedness	3.56	.54	.37	1.31	—	
2. Materialism	3.18	.71	-.14	.31	-.01	—
3. Environmental attitudes	4.29	.54	-.08	-.48	.17*	-.35*

* $p < .001$

Table 2

Direct effects and interaction effect on environmental attitudes

Variables	β	SE	t	95% CI
1. Nature relatedness	.19***	0.03	4.91	[0.11, 0.26]
2. Materialism	-.27***	.03	-9.19	[-0.33, -0.21]
3. Nature relatedness \times materialism	-0.14**	0.05	-2.80	[-0.25, -0.04]

*** $p < .001$, ** $p < .01$

Note. β = standardized regression coefficients, t = t -statistics, SE = standard error, 95% CI = bias-corrected and accelerated bootstrap confidence interval (based on 5,000 bootstrap resamples).

$t = 2.05, p < .05, 95\% \text{ CI} = .003, .13$), and religiosity ($\beta = -.01, SE = .02, t = -.50, p = .62, 95\% \text{ CI} = -.05, .03$) were set as covariates to control for their effects.

DISCUSSION

As the natural resources in the Philippines continue to dwindle due to human activity, generations of Filipinos have been less exposed to the natural environment potentially resulting in a reduced sense of relatedness with nature. Along with the alarming decline in the natural resources in the country was the national drive for economic development in the Philippine society. The goal of the present study was to examine the moderating impact of materialism on the positive association between nature relatedness and environmental attitudes among Filipino adults in the context of environmental degradation and modernization in the Philippines. Overall, the current study found support for the hypotheses by demonstrating that materialism attenuated the positive influence of nature relatedness on environmental attitudes.

Key Findings

The present study found support for Hypothesis 1, which proposed that nature relatedness will positively

predict environmental attitudes. This suggests that people who view the self as part of the natural world have more favorable attitudes towards activities that promote nature's welfare, confirming previous studies (Boiral et al., 2019; Rosa & Collado, 2019). Viewed differently, individuals who perceive the self as detached from the natural world tend to have negative attitudes towards activities that preserve the environment. Previous research explained that people with high nature relatedness are more likely to endorse views and opinions that aim at preserving the environment because of their strong concern for other beings that are part of nature (Mayer & Frantz, 2004; Schultz, 2001). While nature relatedness was extensively studied in more developed countries such as the U.S., Australia, the U.K., the Netherlands, Canada, and Germany, among others (Restall & Conrad, 2015), the present findings contributed to this line of research by demonstrating that nature relatedness is also an important promoting factor for environmental attitudes in the context of a developing country like the Philippines. This finding adds to the growing literature on the universality of the importance of people's sense of connection with nature in promoting environmentalism.

The present findings lend support for Hypothesis 2 by showing that individuals who place a great value on materialistic gains tend to endorse less favorable

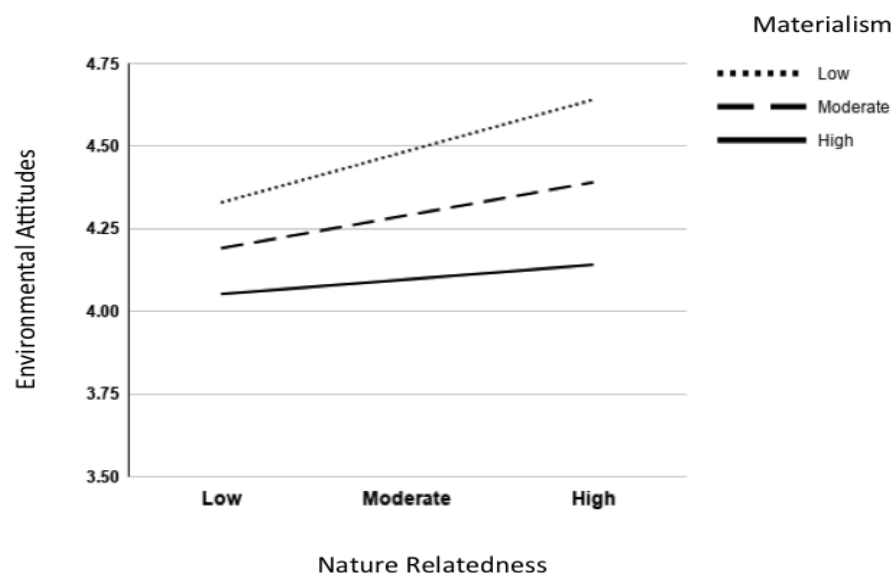


Figure 2. The influence of nature relatedness on environmental attitudes across the different levels of materialism

attitudes towards nature. Viewed differently, people who put less emphasis on income and material possessions as the basis for self-worth and success are more likely to have positive attitudes towards the natural world. Past research explained that individuals with an excessive desire for material acquisition could drive them to focus more on personal interest, and less on the interests of others, including the welfare of nature (Aruta, 2020, 2021; Gu et al., 2018; Hurst et al., 2013). Given that previous evidence suggested that materialism can be pronounced, and could be valued more strongly in poverty-stricken environments (Chaplin et al., 2014) like the Philippines (Aruta, 2020), the present findings confirmed that, among Filipino adults, materialism can also hinder the development of environmental attitudes, providing a similar pattern found in high-income countries including China (Gu et al., 2018), the U.S. (Tang & Hinsch, 2018), and Saudi Arabia (Alzubaid et al., 2020). This finding contributes to the literature by providing some hints on the potential universality of the detrimental impact of materialistic values on people's environmental attitude, and that materialistic values may have comparable (if not stronger) negative influence on people's environmental attitudes in a developing country such as the Philippines as it has in more developed countries.

Confirming Hypothesis 3, the present research found that materialism moderated the positive impact of nature relatedness on environmental attitudes in Filipino adults. Specifically, Figure 2 shows that the positive impact of nature relatedness on environmental attitudes was weak among individuals with moderate levels of materialistic values, but the impact was stronger among those with lower levels of materialism. These findings suggest that as materialism decreases, the stronger people's sense of affinity with nature leads to greater levels of pro-environmental attitudes. In other words, as materialism increases, people's sense of relationship with nature becomes less viable in boosting their environmental attitudes.

We highlight that the most notable finding of the present research was that while the positive impact of nature relatedness was strong among Filipinos with low levels of materialistic values, the positive influence of nature relatedness on environmental attitudes diminishes among those with high levels of materialistic values. This suggests that nature relatedness becomes futile in promoting environmental attitudes when people strongly view the acquisition of

money and material things as the primary basis for their happiness, self-worth, and success in life. It must be noted that environmental attitudes are highest among people with high levels of nature relatedness but low materialism, and lowest among those with low levels of nature relatedness but high in materialism. Theory and past studies supported these findings by explaining that people with high materialism strongly endorse egoistic values, which could drive excessive focus on personal gains, and may ultimately lead to little priority to others' welfare, and unfavorable attitudes towards the natural environment (Gu et al., 2018; Hurst et al., 2013; Schultz, 2001; Steg et al., 2014; Tang & Hinsch, 2018).

In summary, the present findings contributed to the literature in several important ways. By examining the impact of Filipinos' nature relatedness and materialism in concert with each other on their environmental attitudes, the study was able to elucidate how these two constructs interact in promoting and hindering Filipinos' attitudes towards the natural environment. Specifically, we demonstrated that Filipinos' sense of relationship with nature differentially influences environmental attitudes across the different levels of materialistic values, such that the positive impact of nature relatedness on environmental attitudes is strong among Filipinos with low materialistic values, weakens among those with moderate levels of materialistic values, and vanishes among those with high levels of materialistic values. Providing support to theory and previous evidence (Aruta, 2020; Dietz et al., 2005; Rosa & Collado, 2019; Steg et al., 2014), the current research explains that Filipinos who strongly endorse materialistic values have less concern for nature because materialism directly contradicts the biospheric values, which are commonly held by people with a high sense of relationship with nature. On the other hand, the current findings showed that having lower concern over materialistic gains as the basis for one's success and self-worth could magnify the impact of nature relatedness on environmental attitudes in Filipinos. An explanation is that biospheric values, which are commonly endorsed by people with high nature relatedness, may harmonize well with self-transcendent values (less focus on the self). Importantly, self-transcendent values are commonly endorsed by people who are low in materialism (Dietz et al., 2005; Steg et al., 2014). Therefore, the findings of the present research contributed to the limited literature on nature

relatedness and materialism in developing nations, by elaborating how different levels of materialism operate in attenuating and promoting the positive impact of nature relatedness on Filipinos' environmental attitudes, which may offer several practical implications in encouraging environmentalism in the Philippines.

Implications

The present study has several important implications. First, the findings suggest that people with a greater sense of affinity with nature endorse positive environmental attitudes. This particular finding may offer insights on improving Filipinos' environmental attitudes by providing people opportunities for nature-related experiences (e.g., nature-based field trips and camping), as past studies revealed that greater exposure to nature leads to a better sense of oneness with the natural world (Rosa et al., 2018). Moreover, workplace programs that provide opportunities for nature experiences and promote an ecologically friendly environment may be considered given that adults and businesses are the ones with greater levels of carbon footprints. Second, substantial past evidence points out that childhood exposure to nature predicts nature relatedness and pro-environmentalism in adulthood (Rosa et al., 2018; Wells & Lekies, 2006). Hence, educational programs for children (especially for children in urban areas) that incorporate nature-based activities may be given further attention in the Philippine educational system. Third, national and local governments in the Philippines may consider increasing forested areas and parks that Filipinos can visit for nature-based experiences. The findings of the present study indicated that when people feel a sense of connection with nature, they are more likely to act more ecologically. Fourth, the present findings indicated that materialistic values can be detrimental in promoting environmental attitudes among Filipinos. Educational and parenting programs that teach Filipino children about the importance of intrinsic goals such as self-improvement, and self-transcendent values such as the welfare of other people and nature, may be considered. Doing so could contribute to educating the future generations of Filipinos about the danger of materialism and about the importance of internalizing self-transcendent values such as concern for nature. Lastly, the present research suggests that promoting the environment requires helping people in combating their tendency in developing materialistic values, as the

impact of nature relatedness on environmental attitudes diminishes among people with high materialistic values. This could mean that efforts in promoting Filipinos' nature relatedness may become futile if there is a lack of sufficient attention given to molding people's self-transcendent values and to combatting materialistic values. To this effect, identifying the factors that promote materialism (e.g., exposure to media commercials and advertisements, and reducing Filipinos' exposure to such factors must be prioritized.

Limitations and Future Directions

The limitations of the present study offer opportunities for future research. First, the findings of the current research are mainly based on correlations, and no cause and effect between nature relatedness, materialism, and environmental attitudes can be established. Future research may conduct controlled laboratory experiments that could demonstrate the effect of nature relatedness and materialism on environmental attitudes. Second, participants in the present study were residing in urban cities in the Philippines. Given that nature relatedness may be influenced by one's extent of exposure to nature (Rosa et al., 2018), studies in the future may focus on examining nature relatedness among individuals from rural areas given their greater exposure to natural environments. Lastly, further understanding of promoting environmentalism in the Philippines may require exploring the antecedents of materialism and nature relatedness in Filipinos. The findings of the present study indicate that the reality of modernization and massive environmental degradation in the country may play a role in the development of a sense of affiliation with nature and materialistic values among Filipinos.

CONCLUSION

The present study demonstrates the importance of determining how nature relatedness predicts environmental attitudes across individuals with different levels of materialistic values. Moreover, the current research highlights the importance of studying environmentalism within a country's unique socio-cultural contexts, by examining the impact of nature relatedness, materialism, and their interaction effect on environmental attitudes in Filipino adults. Findings revealed that the positive impact of nature

relatedness on environmental attitudes weakens as materialistic values increase. Ultimately, the impact of nature relatedness on environmental attitudes diminishes among Filipinos with high levels of materialistic values. The present findings provided relevant insights on the importance of understanding how the interaction between people's affiliation with nature and materialistic values could inform policies that promote environmentalism in a developing nation like the Philippines.

Declaration of Ownership

This report is our original work.

Conflict of Interest

None.

Ethical Clearance

All procedures performed in the study were in accordance with the ethical standards of the 1964 Helsinki declaration or comparable ethical standards.

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