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# Predicting Pro-Environmental Values and Behaviors with the Supernumerary Personality Inventory and Hope

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## Abstract

This research examines the role of personality traits beyond the Five-Factor Model (FFM) framework in predicting pro-environmental values and behaviors. A sample of 410 participants completed personality scales and reported both their environmental values and the extent to which they had engaged in a series of pro-environmental behaviors in the preceding 24 hours. Small positive correlations were found between environmental values and behaviors with integrity and femininity and negative correlations with religiosity. Overall, the results show limited evidence supporting the personality dimensions measured in predicting pro-environmental values and behaviors. Implications of the findings are discussed.

Keywords: Supernumerary personality inventory, personality, environmental behaviors, hope

## 1. Introduction

While the study of personality traits has contributed to our understanding of pro-environmental attitudes and behaviors (e.g., Hirsh, 2010; Luchs & Mooradian, 2012; Nisbet, Zelenski, & Murphy, 2009), it has largely focused on personality traits such as the Five-Factor Model (FFM), despite research highlighting that these traits do not represent the breadth of personality (Ashton, Lee, & Son, 2000; Paunonen & Jackson, 2000). The purpose of the present study is to better understand whether personality traits outside of the FFM framework predict pro-environmental tendencies through a specific examination of the relationships between pro-environmental values and behaviors with the Supernumerary Personality Inventory (SPI; Paunonen & Jackson, 2000) and hope (Snyder et al., 1991).

### 1.1. Personality and Pro-environmental Behaviors

Specific to the Big Five personality traits, agreeableness and openness have consistently been identified as relevant to higher levels of environmentalism (Hilbig, Zettler, & Heydasch, 2012; Klein et al., 2019; Lee, Choi, & Zachariassen, 2015; Markowitz et al., 2012; Soutter, Bates, & Mõttus, 2020). Hirsh (2010) notes that neurotic individuals tend to be more worried about negative outcomes in general and thus might exhibit higher levels of concern about the environment as a consequence. While consistent relationships have not been identified with conscientiousness, Hirsh (2010) suggests that higher levels of social investment and general rule-adherence may result in increased pro-environmentalism. Along these lines, Nisbet et al. (2009) report that *Nature Relatedness* is positively correlated with agreeableness, conscientiousness, and openness. Examining national-level personality, across both persons and nations, agreeableness, conscientiousness, and openness are most strongly linked to environmental engagement (Milfont

& Sibley, 2012). Similarly, Hirsh (2014) found that countries with higher levels of agreeableness and openness perform better on a sustainability index.

When examining relationships between the Big Five personality dimensions and actual environmental behaviors (as opposed to beliefs, norms, attitudes, and intentions), agreeableness, conscientiousness, extraversion, and neuroticism have shown positive associations with pro-environmental behaviors (Kvasova, 2015). Consistent with the environmental literature (ElHaffar, Durif, & Dubé, 2020), it is likely that an attitude-behavior gap persists; thus, there is a continued need to examine actual behavioral variables (rather than only attitudes and intentions) and test predictors of such behaviors.

Research on HEXACO (Ashton & Lee, 2009) personality dimensions has found that openness, honesty-humility, agreeableness, conscientiousness, and to a lesser extent, extraversion correlate positively with pro-environmental attitudes and behaviors (Pavalache-Ilie & Cazan, 2018; Soutter et al., 2020). Openness was found to be a key predictor of emissions-reducing behavior (Brick & Lewis, 2016). Additional support has been found for honesty-humility (Lee et al., 2015; Marcus & Roy, 2019), though Hilbig et al. (2012) note that despite honesty–humility predicting many variants of prosocial behavior, it explains only incremental variance beyond the FFM.

Outside of the FFM, Wiseman and Bogner (2003) reported that psychoticism scores were positively related to an anthropocentric approach to the environment. Pettus and Giles (1987) found that self-controlled, well-organized, and goal-oriented people were more likely to display favorable environmental behaviors. In addition, Hirsh and Dolderman (2007) stated that environmentally concerned individuals are more often motivated by compassion, social concern,

and a broader self-concept. Taken together, the above findings support the notion that personality traits play an important role in understanding environmental attitudes and behaviors.

### 1.2. Supernumerary Personality Inventory (SPI)

While the FFM is often viewed as a comprehensive model of personality, there is evidence that this is not the case (e.g., Ashton et al., 2000; Lee, Ogunfowora, & Ashton, 2005; Paunonen & Jackson, 2000). Paunonen and Jackson (2000) found that there are up to 10 dimensions ill-covered by the Big Five. Based on these findings, Paunonen (2002) developed the SPI to measure these 10 traits, which include religiosity (devotion to a higher power), manipulativeness (able to influence others to achieve personal goals), integrity (adheres to and expects standards of behavior), seductiveness (behavior to attract romantic partners), thriftiness (expends resources only when necessary), conventionality (desire to maintain traditions), femininity (submissiveness, sympathy, tenderness), egotism (self-importance), humorousness (able to arouse and react to amusement), and risk-taking (willingly exposes self to risk; see Veselka, Schermer, & Vernon, 2011 for extended SPI scale definitions).

Given that the study of personality traits has contributed to understanding pro-environmental attitudes and behaviors (e.g., Hirsh, 2010; Luchs & Mooradian, 2012; Nisbet et al., 2009), a more specific examination of how SPI traits relate to pro-environmental behaviours is warranted. We predict that integrity and femininity will positively correlate with both environmental values and behaviors. Previous research has indicated a high overlap between integrity and honesty-humility (Lee et al., 2005) – the latter being positively linked to environmental concern (Lee et al., 2015; Marcus & Roy, 2019). Women are more likely to exhibit higher environmental concern than men (e.g., Luchs & Mooradian, 2012); thus, trait femininity may positively correlate with environmental values and behaviors. Because thriftiness

is a trait characterized by frugality (Hong & Paunonen, 2009), we predict a positive correlation with environmental values and behaviors given that many conservation actions have monetary benefit (such as conserving water or reusing materials).

While research has found mixed evidence regarding the relationship between religion and environmental concern, Martin and Bateman (2014) suggest that the use of general, single-item, categorical, or multi-item measures lacking psychometrically sound properties may explain some of the wide variance in findings (of which their work provides an overview). The SPI provides a multi-item trait level consideration of religiosity, and we employ multi-item measures of environmental values and behaviors to address these concerns. Drawing on previous research that has found a negative relationship between religiosity and environmental concern (Eckberg & Blocker, 1989; Greeley, 1993; Guth, Green, Kellstedt, & Smidt, 1995; Eckberg & Blocker, 1996; Schultz, Zelezny, & Dalrymple, 2000), we hypothesize a negative correlation between religiosity and both environmental values and behaviors. Given the overlap between conventionality and authoritarianism (Altemeyer, 1981) and the negative relationship between authoritarianism and environmental concerns (Peterson, Doty, & Winter, 1993; Schultz & Stone, 1994), we predict a negative correlation between conventionality and environmental values and behaviors.

Lastly, we predict that seductiveness, manipulativeness, and risk-taking will be negatively correlated with environmental values and behaviors because these traits have been positively associated with outcomes such as materialism and unethical decision-making (Hong, Koh, & Paunonen, 2012) and negatively associated with honesty-humility (Lee et al., 2005). As a sense of superiority and self-interest characterize egotism (Hong & Paunonen, 2009), it is hypothesized that individuals high in egotism may engage in environmental behaviors for potential status (Griskevicius, Tybur, & Van den Bergh, 2010) or social normative reasons

(Cialdini, Reno, & Kallgren, 1990; White & Simpson, 2013) rather than a result of higher environmental values. Thus, we predict that egotism will be positively related to behaviors, but not related to values.

### 1.3. Hope

Hope is defined as a sense of determination to meet goals, planning ways to meet them, and the perception that something desired may happen (Snyder et al., 1991). While specific circumstances can influence one's level of hope, Snyder et al. (1991) conceptualize hope as a stable individual difference trait.

Intuitively, one might anticipate a positive relationship between hope and pro-environmental attitudes and behaviors as a hopeful person should be more inclined to act in favour of positive outcomes (Snyder, 1994). Few empirical studies have explored how hope relates to environmental values and behaviors, so unsurprisingly, the evidence indicates mixed support (Park, Williams, & Zurba, 2020). For instance, Ojala (2008) found no significant relationship between context-specific hope and pro-environmental behavior. Hornsey and Fielding (2016) reported that hope-related messages were not significantly correlated with climate change mitigation actions. To understand youth environmental engagement, Ojala (2012) examined hope from an emotional-cognitive lens and differentiated between constructive hope (based on positive re-appraisal, trust in societal actors, and individual efficacy) and denial hope (based on denial of climate change) and found that the former had a positive impact while the latter correlated negatively with engagement. Alternatively, studying grade 5-6 students, higher levels of hope were associated with increased pro-environmental behaviors (Kerret et al., 2020). Importantly, each of the above studies examined hope specific to the context of environmental behaviors, rather than at trait level as in the current research.

Given that individuals with higher levels of hope are more inclined to research desired goals (Synder, 2000), and because hope has a particularly valuable role in circumstances of certainty (Cook, 2018) such as climate change (Morton, Rabinovich, Marshall, & Bretschneider, 2011), we hypothesize a positive relationship between hope and environmental values and behaviors.

### 1.4. Present study

The present study adds to the literature examining personality traits outside of the traditional personality models by examining the 10 SPI dimensions and hope with environmental values and behaviors. Critically, we assess pro-environmental aspects through measures of both values and behaviors (Bissing-Olson, Fielding, & Iyer, 2016), and predict each with SPI, hope, and demographic variables.

## 2. Method

### 2.1. Participants

Participants were 410 (56% female) undergraduate students at a large North American university with an average age of 18.41 years (*SD* = 1.81, range = 17 to 42). Individuals received partial course credit for participating in the study.

### 2.2. Measures

Participants completed the SPI (Paunonen, 2002) measuring 10 personality dimensions (conventionality, seductiveness, manipulativeness, thriftiness, humorousness, integrity, femininity, religiosity, risk-taking, and egotism). Each scale has 15 items, responded to with a 3-point response key with 1 = *do not agree*, 2 = *sometimes*, and 3 = *agree* and summed.

Participants also completed Snyder et al.'s (1991) 8-item Hope scale employing a 4-point response key (1 = *definitely false*, 2 = *mostly false*, 3 = *mostly true, and 4 = definitely true*). The

total hope score, as well as the 4-item Pathways (example item, “I can think of many ways to get out of a jam”) and the 4-item Agency (example item, “I meet the goals that I set for myself”) scale scores were calculated.

Environmental values were measured using the 15-item New Ecological Paradigm Scale (NEP; Dunlap et al., 2000). Example items include, “The earth has plenty of natural resources if we just learn how to develop them” (reverse-scored) and “We are approaching the limit of the number of people the earth can support.” Participants rated each item on a scale from 1 (*disagree strongly*) to 5 (*agree strongly*).

To assess environmental behaviors, participants were shown a list (see Table 1) of 11 common pro-environmental behaviors (e.g., use a reusable cup; adapted from Bissing-Olson et al., 2016) and indicated whether they had carried out each of the 11 behaviors during the preceding 24 hours by indicating, “I could have, but I didn't” (coded as 1), “Yes” (coded as 2), or “I did not need to” (which was coded as missing data, not relevant to the research question). As in Bissing-Olson et al. (2016), individual scores for each of the 11 behaviours were summed and divided by 11 to result in an average behavioural score for each participant with a range between 1 (participant did not carry out any of the pro-environmental behaviors when the opportunity arose) and 2 (participant carried out all pro-environmental behaviors that they had the opportunity to do).

**2.3. Procedure**

Participants were given a letter of information and consent form, and then were asked to complete SPI, environmental values, environmental behaviors, hope, and demographic items. Participants were provided with debriefing information. The study received institutional ethics approval, and all data was collected using a secure online platform.

## 3. Results

Descriptive statistics and coefficient alpha values for all scales are available in Table 2. For each of the measures, skewness and kurtosis values were below 1.5 and therefore acceptable. Each SPI scale, hope, and environmental values and behaviors were examined relative to demographic information. All correlations with age were non-significant. For completeness, gender differences were assessed and are reported in the Appendix.

Correlations between SPI scales, hope, and environmental values and behaviors are detailed in Table 2. In addition, 95% confidence intervals are indicated below when describing the significant correlations from Table 2. As anticipated, the correlation between environmental values and environmental behaviors was positive and moderate [CI: .131 to .348]. This result provides validity for our environmental behavior measure as it aligns well with participant environmental values.

Several correlations emerged in line with our predictions. Integrity was positively correlated with both environmental values [CI: .052 to .239] and behaviors [CI: .090 to .270]. Femininity was positively correlated with both values [CI: .062 to .233] and behaviors [CI: .010 to .187]. Religiosity was negatively correlated with both values [CI: -.391 to -.198] and behaviors [CI: .210 to -.032].

Some of the predicted relationships were partially supported. Thriftiness was positively correlated with environmental values [CI: .002 to .208], but the relationship between thriftiness and behaviors was not significant. Alternatively, risk-taking was negatively correlated with behaviors [CI: -.217 to -.027] but not values. While both conventionality [CI: -.204 to .003] and manipulativeness [CI: -.215 to .012] were negatively correlated with values but not behaviors, in both of these cases the confidence intervals include zero and should be interpreted with caution.

The same held for the positive relationship between the agency dimension of hope and environmental behaviors [CI: -.006 to .205]. Finally, a number of predicted relationships were not supported. No significant relationships with environmental values or behaviors were found with seductiveness or egotism.

Given the practical need to predict both environmental values and behaviors, we conducted two direct entry multiple regression models, with demographic variables (age and gender), hope, and SPI scales entered as predictors (Table 3). Because the two sub-scales of hope, agency and pathways, correlated highly, the total hope score was used in the regression analyses. For environmental values, the model was significant ($F$ (13, 387) = 5.89, $p < .001$), accounting for 13.7% of the variance. Being a woman ($t = 2.81$, $p = .005$) and scoring higher on thriftiness ($t = 2.01$, $p = .045$) and lower on religiosity ($t = -5.88$, $p < .001$) significantly predicted environmental values. In predicting actual pro-environmental behaviors, the overall regression model was again significant ($F$ (13, 386) = 3.49, $p < .001$), accounting for 7.5% of the variance. Consistent with predictors of values, women ($t = 2.91$, $p = .004$), thriftiness ($t = 2.16$, $p = .031$), and lower levels religiosity ($t = -2.63$, $p = .009$) predicted behaviors; however, integrity ($t = 2.15$, $p = .032$) and hope ($t = 22.21$, $p = .028$) were significant as well.

**5. Discussion**

The present study investigated the relationship between SPI personality traits, hope, and their potential in predicting environmental values and behaviors. Overall, we found that neither SPI traits nor hope are strongly correlated with pro-environmental values and behaviors, yet modest support for a number of our hypotheses emerged.

The positive, though weak, relationships between integrity and environmental values and behaviors align with the literature regarding the high overlap between integrity and honesty-

humility (Lee et al., 2005) and the latter link with environmental concern (Lee et al., 2015; Marcus & Roy, 2019). These results indicate that further examination of integrity in understanding pro-environmental concern is warranted. Though trait femininity was positively related to environmental values and behaviors, its predictive ability when gender was included in the regression models was not significant. Given that our findings were consistent with the literature with regards to females having higher environmental values and behaviors, trait femininity may not add more to our understanding than gender (Luchs & Mooradian, 2012). The negative correlation between religiosity and environmental values and behaviors adds to the literature that has examined this relationship with single items and found mixed support. With trait level measures of religiosity with both measures of environmental values and actual behaviors, we find considerable support for a negative relationship and predictive ability.

Thriftiness was positively correlated with environmental values but not behaviors. As values represent motivations, it is logical that weaker relationships would emerge with actual behaviors given that individuals encounter barriers to actually engaging in pro-environmental action. In line with these findings, the regression model predicting environmental values accounted for greater variance than that predicting environmental behaviors, and the correlation between values and behaviours was weak though significant. Finally, risk-taking was negatively correlated with behaviors but not values, perhaps indicating that those higher in risk-taking are more inclined to violate social norms surrounding pro-environmental behaviors. Each of these last two findings may be interpreted as evidence that concurrently examining both values and behaviors should be encouraged in future research.

Counter to our predictions, no significant relationships were found between conventionality, seductiveness, manipulativeness, egotism, and environmental values. Thus no

evidence emerged that these traits warrant further consideration. The lack of significant correlations between hope and environmental values and behaviors adds to the mixed evidence in the literature. It appears that more research is needed to understand how trait level, rather than context-specific hope, might impact environmental behaviors.

### 5.1. Limitations

A number of limitations should be considered when interpreting these results. The sample was limited to undergraduate students at a North American university and thus is not likely to be representative of the general population. Like much personality research, the study was cross-sectional. Additionally, while an alpha of .70 is an arbitrary cut-off, as Schmitt (1996) demonstrated, a scale with an alpha of 0.50 can still be valid, and, notably, three of the scales fell just below this commonly used threshold. We also relied on self-reports of participant pro-environmental behaviors, rather than actual observations in data collection. While doing so extends predictive validity beyond measuring environmental values, researchers should be cautious in interpreting self-reported environmental behaviors (Chao & Lam, 2011).

### 5.2. Conclusion

The present study adds to our understanding of how personality is related to environmental values and behaviors as both personality measures, the 10 SPI traits and hope, are outside of the commonly measured FFM. The results present some evidence for relationships between SPI traits, hope, and environmental values and behavior; however, the links were modest as many of the variables were weakly correlated. That integrity correlated with both values and behaviors suggests that SPI traits may provide additional information beyond the FFM and thus adding dimensions such as integrity into personality and prosocial behavior research will add to the understanding of these relationships.

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**Table 1**. Pro-environmental behaviors

| |
|---|
| Recycle paper/cardboard |
| Recycle plastic/glass/tins/containers |
| Conserve water (e.g., took short shower, turned off tap washing hands or brushing teeth) |
| Save electricity (e.g., turned off lights that weren't needed) |
| Reuse paper |
| Use a reusable cup/container for drinking (rather than disposable) |
| Use public transportation, walk or ride a bike instead of driving a vehicle |
| Appropriately use green bin for food waste |
| Appropriately dispose of non-recyclable waste (e.g., electronic waste, hazardous waste) |
| Turn off digital devices (e.g., computer, iPad) |
| Reduce paper when printing (e.g., printed double-sided, printed multiple pages per sheet) |

**Table 2**. *Descriptive statistics and inter-scale correlations*.

| Scale | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPI | | | | | | | | | | | | | | | |
| 1. Conventionality | | | | | | | | | | | | | | | |
| 2. Seductiveness | .07 | | | | | | | | | | | | | | |
| 3. Manipulativeness | .26** | .42** | | | | | | | | | | | | | |
| 4. Thriftiness | -.04 | -.28** | -.28** | | | | | | | | | | | | |
| 5. Humorousness | .06 | .32** | .33** | -.10* | | | | | | | | | | | |
| 6. Integrity | -.07 | -.33* | -.33* | .06 | -.23** | | | | | | | | | | |
| 7. Femininity | -.15** | -.10* | -.10** | -.10* | -.30** | .25** | | | | | | | | | |
| 8. Religiosity | .25** | -.03 | -.03 | -.07 | -.04 | .05 | .03 | | | | | | | | |
| 9. Risk-taking | -.01 | .36** | .19** | -.11* | .36** | -.33** | -.41** | -.01 | | | | | | | |
| 10. Egotism | .37** | .37** | .44** | -.24** | .24** | -.09 | -.08 | .12* | .19** | | | | | | |
| Hope | | | | | | | | | | | | | | | |
| 11. Hope Total | .15** | .26** | .28** | -.20** | .26** | .03 | -.22** | .06 | .28** | .49** | | | | | |
| 12. Agency | .17** | .21** | .16** | -.18** | .21** | .08 | -.18** | .12* | .20** | .50** | .88** | | | | |
| 13. Pathways | .09 | .24** | .33** | -.17** | .24** | -.02 | -.22** | -.02 | .28** | .34** | .85** | .50** | | | |
| 14. Env. Values | -.10* | -.05 | -.10* | .11* | -.03 | .14** | .15** | -.30** | -.04 | -.09 | -.01 | -.03 | .02 | | |
| 15. Env. Behaviors | -.01 | -.05 | -.04 | .09 | .01 | .18** | .10* | -.12* | -.12* | .01 | .09 | .10* | .04 | .24** | |
| Mean | 32.39 | 28.29 | 30.57 | 29.43 | 32.96 | 30.73 | 26.59 | 27.59 | 32.80 | 32.80 | 3.07 | 3.04 | 3.11 | 3.58 | 1.73 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SD | 3.91 | 5.54 | 4.59 | 4.77 | 5.44 | 5.12 | 7.76 | 5.61 | 4.98 | 4.98 | 3.16 | 1.93 | 1.72 | .49 | .22 |
| α | .60 | .83 | .72 | .71 | .81 | .68 | .73 | .92 | .76 | .79 | .78 | .72 | .67 | .74 | |
| Skewness | -.122 | .106 | -.071 | -.117 | -.036 | -.431 | -.078 | .428 | .182 | -.203 | -.080 | -.237 | -.063 | -.287 | -1.113 |
| Kurtosis | .078 | -.579 | -.061 | -.006 | -.343 | -.327 | -.373 | -.619 | -.528 | -.272 | .111 | .144 | .340 | .316 | 1.461 |

SPI = Supernumerary Personality Inventory; Env. = Environmental; *$p$<.01, two-tailed.

Table 3. *Standardized multiple regression coefficients for environmental values and environmental behaviors regressed on gender, age, hope, and SPI traits.*

| | Environmental values | Bootstrap 95% CI [LL,UL] | Environmental behaviors | Bootstrap 95% CI [LL,UL] |
|---|---|---|---|---|
| Gender (1=male, 2=female) | .169** | [.049, .277] | .181** | [.025, .130] |
| Age | -.052 | [-.039, .011] | -.050 | [-.017, .005] |
| Hope | .075 | [-.047, .232] | .132* | [.008, .136] |
| Conventionality | .045 | [-.008, .019] | .063 | [-.003, .010] |
| Seductiveness | .020 | [-.008, .012] | .000 | [-.005, .005] |
| Manipulativeness | -.044 | [-.017, .008] | -.011 | [-.006, .005] |
| Thriftiness | .102* | [.000, .021] | .114* | [.000, .010] |
| Humorousness | .043 | [-.006, .013] | .085 | [-.001, .008] |
| Integrity | .105 | [.000, .022] | .123* | [.001, .012] |
| Femininity | .104 | [-.002, .022] | -.009 | [-.006, .005] |
| Religiosity | -.287*** | [-.024, -.012] | -.133** | [-.007, -.001] |
| Risk-taking | .077 | [-.003, .017] | -.091 | [-.008, .001] |
| Egotism | -.057 | [-.017, .006] | .008 | [-.005, .006] |
| $R^2$ (adjusted $R^2$) | .165 (.137) | | .105 (.075) | |

Notes: * $p < .05$; ** $p < .01$; *** $p < .001$

## Appendix

Gender Differences

With respect to the SPI scales, men reported higher levels of conventionality than women ($M_{men}$ = 33.52, $SD$ = 3.97, $M_{women}$ = 31.53, $SD$ = 3.65, $t$ = 5.22, $p$<.001), as well as seductiveness ($M_{men}$ = 29.48, $SD$ = 5.51, $M_{women}$ = 28.32, $SD$ = 5.53, $t$ = 2.10, $p$<.05), manipulativeness ($M_{men}$ = 31.16, $SD$ = 4.63, $M_{women}$ = 30.12, $SD$ = 4.53, $t$ = 2.29, $p$<.05), humorousness ($M_{men}$ = 34.73, $SD$ = 5.21, $M_{women}$ = 31.69, $SD$ = 5.23, $t$ = 5.80, $p$<.001), risk-taking ($M_{men}$ = 29.68, $SD$ = 5.66, $M_{women}$ = 26.52, $SD$ = 5.20, $t$ = 5.83, $p$<.001), and egotism ($M_{men}$ = 33.59, $SD$ = 5.11, $M_{women}$ = 32.21, $SD$ = 4.83, $t$ = 2.78, $p$<.01). Women reported higher levels than men on integrity ($M_{women}$ = 37.92, $SD$ = 4.25, $M_{men}$ = 35.72, $SD$ = 4.24, $t$ = -5.18, $p$<.001) and femininity ($M_{women}$ = 33.46, $SD$ = 4.00, $M_{men}$ = 27.19, $SD$ = 4.21, $t$ = -15.33, $p$<.001). There were no significant gender differences in thriftiness ($p$=.18) or religiousness ($p$=.14).

Men reported higher levels of hope ($M$ = 25.21, $SD$ = 3.33) and had higher scores on the pathways ($M$ = 12.74, $SD$ = 1.79) and agency ($M$ = 12.47, $SD$ = 1.99) scales than women ($M$ = 24.11, $SD$ = 2.95, $t$ = 3.50, $p$<.001; $M$ = 12.16, $SD$ = 1.62 $t$ = 3.41, $p$<.001; $M$ = 11.95, $SD$ = 1.85, $t$ = 2.68, $p$<.01, respectively). Women ($M$ = 3.68, $SD$ = .45) reported greater environmental values than men ($M$ = 3.46, $SD$ = .51; $t$ = -4.65, $p$<.001) and were also more likely to engage in pro-environmental behaviors ($M$ = 1.77, $SD$ = .18) than men ($M$ = 1.69, $SD$ = .25; $t$ = -3.55, $p$<.001).