The Differential Psychology of Environmental Protection/Exploitation

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Abstract

Differential psychology focuses on how people vary in the way they think, feel and act by measuring differences that distinguish individuals as more similar to themselves over time and across situations than others. In this article I review and discuss available evidence on key individual differences associated with protection and exploitation of the natural environment. The discussion centers on personality traits, basic human values, time perspective and system-justifying ideological orientations. Greater environmental protection has been shown to be consistently related to higher levels of Openness to Experience and Agreeableness traits (and somewhat Honesty-Humility), Self-Transcendence and Openness to Change values, and future thinking. In contrast, greater environmental exploitation is consistently related to higher levels of conservative political orientation, Right-Wing Authoritarianism (RWA) and Social Dominance Orientation (SDO). Research examining individual differences provides useful theoretical information that can have applied benefits in designing communication strategies to bring individuals less prone to protect the natural environment on board. Issues with jangle fallacy (measures with different names might not necessarily assess different things) and direction for future research are also discussed.

Keywords: environmentalism, individual differences, differential psychology, environmental protection, environmental exploitation

The Differential Psychology of Environmental Protection/Exploitation

I speak Portuguese, was raised Catholic, football was my sport growing up, and black beans stew is part of my diet to this day. Considering I was born in Brazil, such personal characteristics are unsurprising. Had I been born in India, I would most likely been raised speaking Hindi, practicing Hinduism, playing cricket, and eating vegetarian curry dishes. Certainly, being born in Brazil not only influenced my sport, religion and food preferences but also the way I think, feel and act. As this example illustrates, the socio-cultural context we grow up in influences our psychologies. Review of twin studies exemplifies the power of context by showing that despite shared genetic predispositions, twin similarities in intelligence and personality decrease as twins grow older (McCartney, Harris, & Bernieri, 1990).

Notwithstanding the important role of context in our lives, we know there are genetic predispositions at play for certain individual characteristics. For example, research has indicated gene dictates predispositions such as alcohol use disorders (Verhulst, Neale, & Kendler, 2014), antisocial behavior (Rhee & Waldman, 2002) and spatial reasoning (King et al., 2019). This means the socio-cultural context I grew up in Brazil—as well as the context in Aotearoa New Zealand I have been immersed in for about two decades—does not fully account for the way I think, feel and act as there are also genetically hardwired predispositions that influence who I am.

While past scholarship has tended to center on an either-or dichotomy when examining the influence of acquired and inherited dispositions, recent work makes it clear individual characteristics are the product of both environmental and biological influences, with increasing recognition that gene-by-environment interactions are critical in the development of dispositions that influence our psychological functioning and behaviors (e.g., Dick, 2011). In fact, both

cultural contexts and biology afford possibilities and constraints within which people think, feel and act.

This raises a similar question regarding environmental protection/exploitation. Is environmental protection/exploitation acquired via socialization, or are people born with inherent characteristics that lead them to protect or exploit the natural environment? Broadly speaking all humans have a genetically hardwired affinity with nature, or biophilia (Wilson & Kellert, 2013). At the same time, a disposition (or lack thereof) to protect the natural environment might be developed via socialization. Perhaps the only study examining genetic versus environmental influences observed that materialistic dispositions—a proxy marker of environmental exploitation—are almost entirely attributable to environmental factors and not genetic factors (Giddens, Schermer, & Vernon, 2009).

The available empirical evidence does not allow firm conclusions about the unique and/or interactive roles of acquired and inherited dispositions regarding environmental protection. However, there are key individual difference variables that have been shown to correlate consistently with dispositions to protect or exploit the natural environment. Empirical evidence indicates that if all humans have indeed a genetically hardwired affinity with nature, it is certainly stronger for some individuals compared to others. In this article, I discuss key individual differences variables related to environmental protection/exploitation.

Differential Psychology and Individual Differences for Environmental Protection/Exploitation

Differential psychology examines individual differences in how we think, feel, want, need and do. Research on individual differences focuses on whether individuals are more similar to themselves over time and across situations than they are to others, and whether variations for a

single person across time and situations are less than the variations between two or more individuals (Revelle, 2000; Revelle, Wilt, & Condon, 2011). Hence, differential psychology research within our field seeks to understand the characteristics of individuals who are more likely to protect or exploit the natural environment over time and across situations than other individuals. The underlying questions are why some individuals are more predisposed toward environmental protection/exploitation than others, and what are the personological roots of environmental protection/exploitation.

The extent to which particular individual difference variables affect behavioral predispositions to preserve or exploit the natural environment is well studied by environmental psychologists, and over the years many individual difference variables have been examined, from attitudes (Milfont, 2010; Milfont & Duckitt, 2010), independent versus interdependent views of the self (Arnocky, Stroink, & DeCicco, 2007), environmental identity (Clayton, 2003), connectedness to nature (Whitburn, Linklater, & Abrahamse, 2020), national narcissism (Cislak et al., 2021), and place attachment (Hernández, 2021). The present review focuses on the variables I have examined the most in my own research and those that have led to meta-analytical reviews given the amount of empirical research available. Interested readers can find reviews of other important individual difference variables elsewhere (Dietz, Stern, & Guagnano, 1998; Gifford & Nilsson, 2014; Milfont, 2012). Since broad personality traits underpin most (if not all) individual difference discussed, more emphasis will be placed on personality.

Personality Traits

Personality traits refer to the quantitative aspect describing a person's characteristic recurring patterns of thoughts, feelings, and behaviors (Baumert et al., 2017). Research examining personality traits within environmental psychology is not new and can be traced back

to at least the 1970s (Borden & Francis, 1978; Craik & McKechnie, 1977). Nowadays there are two widely accepted taxonomies detailing broad personality domains. The first taxonomy is the Big Five model of personality proposing the five trait domains of Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (Goldberg, 1990; John & Srivastava, 1999; Widiger, 2017). These five personality domains are often abbreviated into the OCEAN acronym. Openness to Experience reflects a tendency to be intellectually curious, sensitive to beauty, and willing to try new things. Conscientiousness reflects a tendency to be self-disciplined, regulate impulses, and act dutifully. Extraversion reflects a tendency to be engaged with the external world, to enjoy interacting with other people, and to be assertive in social settings. Agreeableness reflects a tendency to be willing to achieve social harmony, and to be trustworthy, generous and helpful. Finally, Neuroticism reflects a tendency to experience emotional instability, and to be vulnerable to life's stresses.

The second widely accepted taxonomy is the HEXACO model proposing six broad trait domains (Ashton & Lee, 2020; Lee & Ashton, 2008). HEXACO is an acronym for these proposed six personality domains: Honesty-humility, Emotionality, eXtraversion, Agreeableness, Conscientiousness, and Openness. While Extraversion, Conscientiousness and Openness to Experience in the HEXACO model are essentially the same as the corresponding domains in the Big Five model, Neuroticism and Agreeableness from the Big Five are replaced by Honesty-Humility, Emotionality, and Agreeableness. In the HEXACO model, Agreeableness reflects a tendency to be lenient in judging others, to compromise and cooperate with others, and to easily control anger. Emotionality reflects a tendency to experience anxiety to life situations, and feel a need for emotional support from others. Finally, the more unique Honesty-Humility domain

reflects a tendency to avoid breaking rules and manipulating others for personal gain, and to be disinterested in wealth/luxuries and elevated social status.

Several studies have examined the Big Five and HEXACO models in relation to environmental protection (e.g., Desrochers et al., 2019; Hirsh & Dolderman, 2007; Markowitz et al., 2012; Milfont & Sibley, 2012; Milfont et al., 2015). Recently, Soutter, Bates and Möttus (2020) provided a meta-analytical summary of 38 data sources comprising over 44,000 individuals from studies on this topic. Their review of studies examining the correlations between personality domains and pro-environmental attitudes and behaviors indicate that both Openness to Experience and Honesty-Humility were the domains with stronger associations. Interestingly, Openness to Experience had a stronger association with pro-environmental attitudes [$r(k = 27) = .22$ [95% CI = .19, .25]] than behaviors [$r(k = 22) = .21$ [95% CI = .16, .26]], while Honesty-Humility had a stronger association with pro-environmental behaviors [$r(k = 5) = .25$ [95% CI = .15, .35]] than attitudes [$r(k = 5) = .20$ [95% CI = .14, .27]]. These two personality domains were followed by Agreeableness [attitudes, $r(k = 27) = .15$ [95% CI = .12, .18]; behavior, $r(k = 22) = .10$ [95% CI = .07, .14]] and Conscientiousness [attitudes, $r(k = 29) = .12$ [95% CI = .10, .14]; behavior, $r(k = 25) = .11$ [95% CI = .07, .14]], and then Extraversion [attitudes, $r(k = 27) = .09$ [95% CI = .07, .11]; behavior, $r(k = 21) = .10$ [95% CI = .07, .14]]. Estimates for Neuroticism were unreliable [attitudes, $r(k = 26) = .02$ [95% CI = -.00, .05]; behavior, $r(k = 22) = -.02$ [95% CI = -.05, .01]].

Their results also indicated that the associations between Openness to Experience and pro-environmental behaviors were stronger in non-Asian samples, while associations with pro-environmental attitudes were stronger in North American samples. Since this personality domain showed the strongest associations overall, I conducted an exploratory re-analysis of their meta-

analytical data to provide further examination of possible cross-cultural effects. Specifically, I examined the extent to which country-level score on Individualism and the Environmental Performance Index would moderate the associations observed for Openness to Experience (Milfont, 2021). Individualism did not moderate the Openness–attitude associations but did moderate the Openness–behavior associations, the Environmental Performance Index moderated the Openness–attitude associations but not the Openness–behavior associations. The results indicate associations for attitude were stronger in countries with below-median levels of environmental performance, and associations for behavior were stronger in countries with above-median levels of Individualism. These findings highlight the importance of taking into consideration the role of culture when examining human–environment interactions (Kim-Pong & Milfont, 2020), and show that well-established associations for certain individual difference variables might be stronger depending on the particular cultural context.

Extending cross-sectional and short longitudinal findings, we examined longitudinal relations between personality traits and environmental measures using 2009-2018 data from the New Zealand Attitudes and Values Survey ($N = 61,479$; Hopwood et al., in press). In line with past research, our cross-sectional findings indicate Agreeableness, Openness and Honesty-Humility had the more reliable and strongest associations ($r = .10$ to $.30$) with all six environmental measures (i.e., valuing the environment, believing in climate change, concern about climate change, personal environmental efficacy, personal environmental sacrifice, and support for the green party). Importantly, the most co-developmental effect—over-time change in traits associated with over-time change in environmentalism—occurred for Agreeableness and all six environmental measures, confirming the importance of this broad personality trait for environmental protection. This is interesting because Agreeableness reflects a tendency to

cooperate with others, and previous research has shown longitudinal links between pro-social, helpful orientations and pro-environmental tendencies (Kaiser & Byrka, 2011; Vilar, Milfont, & Sibley, 2020).

Values

Human values have been defined as “desirable transsituational goals, varying in importance, that serve as guiding principles in the life of a person or other social entity” (Schwartz, 1994, p. 21). While personality represents recurring patterns of thoughts, feelings, and behaviors, values represent what is important to us in life. Schwartz’s (1992) theory of basic values identifies 10 motivationally distinct value types—achievement, hedonism, stimulation, self-direction, universalism, benevolence, conformity, tradition, security and power—grouped into four higher order value clusters. These value clusters are Openness to Change (values favoring change and independent thought and behavior; e.g., stimulation, self-direction) versus Conservation (preservation of traditional practices and stability; e.g., conformity, security), and Self-Transcendence (concern for the welfare of others; i.e., universalism and benevolence) versus Self-Enhancement (pursuit of one’s own relative success and dominance over others; e.g., achievement, power).

Although other value models do exist and have been used in relation to environmental protection—for applications of the functional theory of values see Coelho, Gouveia and Milfont (2006) and Vilar, Araujo and Liu (2020)—the majority of research in the area has employed the Schwartz theory (for a review, see Steg & de Groot, 2012). Research has consistently shown that the higher order dimension representing Openness to Change versus Conservation values is less related to environmental protection than the other higher order value dimension. Self-Transcendence values correlate positively with pro-environmental engagement, while Self-

Enhancement values correlate negatively (e.g., Schultz et al., 2005; Stern & Dietz, 1994). In their meta-analytical review of 91 studies from 31 countries comprising over 30,000 participants, Boer and Fischer (2013) confirmed that the motivational underpinnings of attitudes toward environmental protection are strongly linked to Self-Transcendence values, and also by Openness to Change values. These findings indicate individuals who express greater concern for the welfare of others tend to protect the natural environment. Similar to findings for personality traits, valuing openness is also associated with environmental protection.

It is worth noting that Self-Transcendence values within Schwartz's theory include value items expressing environmental protection (i.e., protecting the environment, a world of beauty, and unity with nature). That is, values expressing a motivation to protect the natural environment cluster with other-focused values such as equality, social justice, and a world at peace. This indicates a clear connection between concern for the welfare of others and concern for the welfare of nature.

Future Orientation

Broadly speaking the Self-Transcendence versus Self-Enhancement value dimension expresses the conflict underlying resource dilemmas between the collective interest of society and the individual interests of its members. But beyond this social conflict (private vs. public interests), a temporal conflict between short-term and long-term interests also underlies resource dilemmas. Environmental problems thus entail both social and temporal conflicts that emerge in trade-offs between short-term private interests and long-term collective interests. For example, commuting by car might be more convenient to an individual but it will have more negative impacts to the collective and the natural environment than commuting by public transport (Böhm & Pfister, 2015). Research has indeed shown that temporal concerns matter when discussing

environmental protection (e.g., Hendrickx, Poortinga & van der Kooij, 2001), and temporal concerns is evident in the 1987 Brundtland Report which argued sustainable development should meet the needs of the present generations without compromising the ability of future generations to meet their own needs.

Many studies have examined the extent to which temporal considerations influence environmental protection and have shown that individuals who are more future oriented—think about the future consequences of the current actions—are more likely to protect the natural environment (e.g., Arnocky, Milfont, & Nicol, 2014; Corral-Verdugo, Fraijo-Sing, & Pinheiro, 2006; Milfont & Gouveia, 2006). In our meta-analytical review of this literature (Milfont, Wilson, & Diniz, 2012), we confirmed that future thinking was associated with pro-environmental attitudes and behaviors [attitudes, $r(k = 10; N = 1992) = .17$; behavior, $r(k = 13; N = 5261) = .26$]. Extending this work on individuals' future thinking, we showed that individuals' visions of society's future also influences environmental protection (Milfont et al., 2014). In particular, across student and general population samples in Brazil, we observed that individuals were more willing to engage in environmental citizenship to the extent to which they believed preventing significant climate change would result in a future where there is societal development and more competence traits (e.g., competent, capable; see also Bain et al., 2016).

System-Justifying Ideologies

Research has shown that there are ideological and political motivations to maintain the status quo regarding current levels of environmental exploitation. Several individual difference variables have been used in this context, including political orientation (Cruz, 2017), moral intuitions (Milfont, Davies, & Wilson, 2019) and attitudinal variables indexing system-justifying ideologies (Milfont, Abrahamse, & MacDonald, 2021). Findings indicate that individuals who

tend to uphold conservative political orientations, ideologies that endorse the status quo, and “binding” morals (in-group loyalty, respect for authority, and purity) are more likely to exploit the natural environment.

The Dual Process Model (DPM) of ideology and prejudice proposed by Duckitt (2001) provides a useful framework for understanding the links between ideological/political orientations and environmental exploitation. The DPM proposes that the primary determinants of prejudice-related outcomes are two broad socio-ideological attitude dimensions indexed by right-wing authoritarianism (RWA; Altemeyer, 1996) and social dominance orientation (SDO; Sidanius & Pratto, 1999). On one hand, RWA accesses authoritarian submission, authoritarian aggression, and conventionalism. Individuals who are high (as opposed to low) in RWA endorse submission to established authorities, obedience and coercive social control (i.e., social-cultural conservatism; Altemeyer, 1998). On the other hand, individuals who are high (as opposed to low) in SDO endorse hierarchical group relations and inequality among social groups (i.e., anti-egalitarianism or economic conservatism; Pratto et al., 1994). As depicted in Figure 1, the DPM posits these motivationally based attitudes result from distinct socialization practices, personality traits, social/group context, and worldviews. While RWA reflects a punitive socialization, danger/threat context, social conformity and the perception of the world as a dangerous place, SDO reflects an unaffectionate socialization, tough-mindedness, a context of resource scarcity and inequality, and the perception of the world as competitive.

Although RWA and SDO are ideological variables often considered to explain group-based oppression and prejudice, several studies have shown they are also key ideological motives that legitimate environmental exploitation by humans (e.g., Altemeyer, 2003; Jackson et al.,

2013; Milfont et al., 2013; Schultz & Stone, 1994), and that SDO might be a strongest predictor of environmental exploitation than RWA (Milfont et al., 2013, ; Stanley et al., 2019).

The DPM is also useful in consolidating research on personality traits and values reviewed earlier. According to DPM the causal personality traits underpinning RWA and SDO are low Openness to Experience and low Agreeableness (and Honesty-Humility), respectively (Duckitt & Sibley, 2017). Research linking the Schwartz values with RWA/SDO has shown that RWA is primarily related to low Openness to Change values, while SDO is primarily related to low Self-Transcendence values (Duriez, Van Hiel, & Kossowska, 2005). Hence research has consistently shown that endorsement of coercive social control, obedience/respect for existing authorities and conformity to traditional norms (indexed by RWA) as well as preference for intergroup hierarchy and inequality (indexed by SDO) are linked to traits/values also associated with environmental exploitation.

Personological Roots of Environmental Protection/Exploitation

The present review has summarized clear individual difference roots of environmental protection/exploitation. The extant literature indicates individuals who are more prone to protect the natural environment are those who: (1) have a tendency to be intellectually curious, sensitive to beauty and willing to try new things (high Openness to Experience), to be willing to achieve social harmony and compromise and cooperate with others (high Agreeableness), and to a lesser degree have a tendency to avoid manipulating others for personal gain and ignore wealth/luxuries and elevated social status (high Honesty-Humility); (2) endorse protection for the welfare of all people (high Self-Transcendence) and independent thought and novelty (high Openness to Change) as guiding principles in their lives; (3) are more aware of the future consequences of their current behaviors and more willing to sacrifice at-the-moment benefits for

future gains (high Future Time Orientation); and (4) reject system-justifying ideologies and political orientations that endorse coercive social control obedience (high RWA) and preference for intergroup hierarchy and inequality (high SDO). Figure 2 provides a visual summary of these findings.

The reviewed differential psychology findings of environmental protection/exploitation can be used to design better communication strategies to bring individuals less prone to protect the natural environment on board. To illustrate, research has indicated that framing environmental issues in a way that aligns to the identity and cognition of certain groups might help swing these people to act (e.g., Baldwin & Lammers, 2016; Feygina, Jost, & Goldsmith, 2010, Study 3; Wolsko, Ariceaga, & Seiden, 2016; but see Kim, Hammond, & Milfont, 2021).

The findings also have theoretical implications. Scholars have discussed and shown the empirical implications of psychological distance in relation to environmental problems (e.g., Leiserowitz, 2005; Milfont, 2010; Milfont et al., 2014; Spence, Poortinga, & Pidgeon, 2012). Psychological distance of environmental problems is reflected in the perception these problems are too uncertain (hypotheticality dimension), will occur at a distant point in time (temporal dimension), far away geographically (spatial dimension), and will affect them not us (social dimension). The temporal and social dimensions can be linked to findings related to future thinking as well as personality traits and values, respectively. Awareness of environmental problems and environmental protection are greater for those who have higher levels of future thinking and concern about the welfare of others. This means meaningful mental representations of future events and others pull individuals to behave in accordance with these representations now, thus reducing psychological distance effects (at least for the temporal and social dimensions). Future studies could test this experimentally by examining the extent to which these

individual difference variables moderate (lessen) the effects of psychological distance for environmental problems.

Despite the theoretical and practical implications such knowledge can provide, this review might lead to a deterministic interpretation; that is, all individuals who present these characteristics are destined to protect/exploit the natural environment. Such a deterministic view finds support in the available evidence and on twin studies showing that some of these characteristics are genetically grounded—personality traits (Vukasović & Bratko, 2015), values (Twito & Knafo-Noam, 2020), and conservative political beliefs and social dominance orientation (Kleppestø et al., 2019)—as well as in research indicating individual differences might be stronger than environmental prompts (Moussaoui, Desrichard, & Milfont, 2020). However, there are few points worth noting. First, these twin studies show that genetic factors do not fully account for individual differences, and that environmental factors have a large contribution. Second, studies have shown that personality traits and basic values change over the lifespan (Milfont, Milojev, & Sibley, 2016; Milojev & Sibley, 2017), and even shared genetic predispositions might decrease over time (McCartney, Harris, & Bernieri, 1990). Finally, research has documented a temporal shift in willingness to support environmental protection among those traditionally less likely to do so (e.g., climate change beliefs among conservatives; Jenkins-Smith et al., 2020). Consequently, even enduring individual differences are not fully genetically determined and are susceptible to change due to maturation and environmental factors.

Before concluding, it is important to highlight directions for future research. I believe one major issue for individual differences research within environmental psychology is the so-called jangle fallacy, or the assumption “that measures with different names measure different

things” (Corsini, 1991, p. 513). Compare for example survey items used to assess environmental identity and environmental values in a recent study (Bouman, Steg, & Kiers, 2018). Items for the environmental self-identify measure (e.g., “I am the type of person who acts environmentally friendly”, “I see myself as an environmentally-friendly person”) strongly overlap with items for the environmental values measure (e.g., “It is important to [him/her] to protect the environment”, “It is important to [him/her] to respect nature”). Given the acute content overlap it is not surprising that these measures are very highly correlated (.75; see their Table 3).

Future research should take this issue seriously. First, it is important to acknowledge the content overlap among measures (and potential jangle fallacy) explicitly. Considering this example, the definition of environmental self-identify and environmental values might differ as well as the questionnaire instruction, but it does not address the fact that the survey items overly overlap. That is, one can give distinct labels for measures used and distinct instructions for participants to complete them, but it is important to inspect whether the items and their wording are indeed distinct. Otherwise, the argument might get stuck in a tautological nature of this methodological issue: the explaining variable (e.g., the importance of biospheric/environmental values) and the explained variable (e.g., environmental identity) are almost identical. Second, researchers should interpret findings related to such overly overlapping measures with caution given their methodological similarities, with explicit mention that claims such measures are empirically distinct might be unattainable. Third, researchers should also make the measures easily available in their articles or supplementary material so readers can readily examine whether content overlap is present, which should calibrate their interpretation of the reported findings. Fourth, when possible, overlapping items should be analyzed separately from non-overlapping items to provide better estimates of effects (e.g., Milfont, Sibley, & Duckitt, 2010).

Finally, it is theoretically and practically stronger to focus on findings for non-overlapping measures than to emphasize results for overly overlapping measures. For example, I find it more interesting to investigate and discuss correlations between environmental self-identify and altruistic values; this correlation is considerably smaller than that for biospheric values (.26 compared to .75; see their Table 3) but this effect is practically stronger because there is no methodological overlap between the items assessing altruistic values (e.g., “It is important to [him/her] that every person has equal opportunities”, “It is important to [him/her] that every person is treated justly”) and those for environmental identity. This means the lower correlation between these constructs constitute a better estimation of the reality since it is not inflated by methodological artefacts.

The review focused on psychological constructs but there is also robust evidence indicating biological sex is consistently associated with environmental protection. Individuals who self-identify as female are likely to express greater environmental protection, while those who self-identify as male are likely to express greater environmental exploitation (e.g., Franzen & Vogl, 2013; Milfont, 2012; Zelezny, Chua, & Aldrich, 2000; Xiao & McCright, 2015). My colleagues and I have examined variables that could explain this sex difference, and our findings indicate female participants tend to display higher levels of environmental protection because they were higher in Agreeableness and Conscientiousness while lower in SDO compared to male participants (Desrochers et al., 2019; Graça et al., 2018; Jylhä, Cantal, Akrami, & Milfont, 2016; Milfont, & Sibley, 2016). Future research should explore this further and examine the extent to which gender identification (not only biological sex) is related to environmental protection (e.g., Calvo-Salguero et al., 2014; Desrochers et al., 2019, Study 3). Gender perspectives are also a

very important topic within environmental psychology research more broadly (Cortés, 2014), and should be explored further.

Finally, in their study with 240 pairs of same-sex twins, Giddens and colleagues (2009) observed that materialistic dispositions (example of items: “I like to own things that impress people”, “Buying things gives me a lot of pleasure”, “I’d be happier if I could afford to buy more things”) were entirely acquired and not inherited attributes. An important direction for future studies is to make use of a twin study paradigm to examine the extent to which environmental protection/exploitation is an acquired or inherited individual difference, and whether correlations between psychological constructs reviewed here and environmental protection/exploitation have common genetic underpinnings and make up a genetically grounded behavioral syndrome (see Klepeštø et al., 2019). Humans need to balance utilization and protection of natural resources in order to survive (Milfont & Duckitt, 2004), which suggests both protection and exploitation might be present in such behavioral syndrome.

Conclusions

The way we think, feel and act are influenced by acquired and inherited dispositions, as well as by gene–environment interactions. Differential psychology research has identified key individual difference variables underpinning environmental protection/exploitation. Overall, female individuals and those who score higher on Openness to Experience and Agreeableness traits (and somewhat Honesty-Humility), Self-Transcendence and Openness to Change values and Future Time Orientation, and who score lower on conservative political orientation, Right-Wing Authoritarianism (RWA) and Social Dominance Orientation (SDO) are more prone to protect the natural environment compared to their counterparts. I do hope readers will take this review and suggested agenda for future research to develop advance this line of enquiry.

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Figure 1. A dual process motivational model detailing the impact of socialization practices, personality and social worldview beliefs on the two ideological attitude dimensions and corresponding motives/reasons for prejudice and prejudice-related outcomes (adapted from Duckitt & Sibley, 2017). Although focusing on prejudice, this model is also useful for understanding environmental protection/exploitation as discussed in text.

Figure 2. Visual depiction of key individual difference variables associated with environmental protection. Biological sex (being female) is also a consistent predictor of environmental protection, which is not include in the figure but discussed in text.