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A Study of Mindfulness and Connectedness to Nature as Predictors of Environmentally Responsible Consumption

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Abstract

Environment responsibility has become the need of today's economic order. With the increasing awarenessof conspicuous mindless consumption among Indian public, especially the youth, this study tries to investigate the relationship of environmentally responsible consumption(ERC) with mindfulness and connectedness to nature (CNN) (N=132). We found CNN to be a significant predictor of ERCthrough structural equation modelling run in AMOS 21.The exploratory factor analysis was carried out using principal component method and varimax rotation followed by confirmatory factor analysis. Hypothesis testing showed positive correlation among the three variables and the explained variance in ERC contributed through mindfulness and CNN. The study makes clear that improving the welfare of the earth and achieving happiness are not mutually exclusive goals and that action may be taken to improve the well-being of the entire planet.

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Introduction

It is thought that conservation of environment is incompatible with the current economic system. The current economic system heavilydraws its resources from the environment, leaving it unfairly overtaxed. It also demands a continuous purchase of products andservices, keeping the economy in a go,leading to the overuse of natural resources. In such a scenario, individual behaviour patterns and decision-making processes can be said to be vital for sustainability. As it is impossible to abandon the current economic order, humans must put a limit on conspicuous and mindless consumption. Environmentally responsible consumption (ERC) can be one of the solutions to this problem. Every person's position as a consumer thus becomes essential to sustainable development. Doing more with less can be the best explanation for ERC.For the past twenty years, researchers have attempted to categorise customers as "green," "socially conscious," or "environmentally conscious" who align their actions according to environment's needs (Joshi & Rahman, 2015; Mishra et al., 2022; Su et al., 2020).

Similarly, several labels, including "green," "ethical," "sustainable," and "socially responsible," have been attempted by writers to categorise responsible consumption related to environment (Peattie, 2010).

Out of identified three categories of pro-environmental behaviours by Stern (1999), private sphere behaviour, is relevant to our study.The process of transformation is individual and contingent upon a number of variables like attitudes, values, belief system and norms (Stern 2000).Most of the theories surrounding these behaviours suggest that attitudes form belief systems which are strengthened by norms and specific values resulting in desired behaviours (Stern 2000). Rathee and Kour (2016) also suggest that altruistic value orientation leads to responsible consumption because it prioritises the well-being of others; for example, biospheric value-oriented persons engage in pro-environmental activity for the benefit of the ecosystem as a whole.Another dimension that is widely explored in contest of responsible consumption is bringing conscious awareness to one's actions. Almost all the research literature surrounding human ways to combat environment degradation leads to the same conclusion, that is, of forming an embodied and compassionate relationship between the natural world and humans.The value belief norm theory has been widely used to explain different types of pro-environment behaviours (Stern, 2000). It takes into account the role of one's values and feelings and activation of norms in occurrence of a behaviour. Another theory that highlights the role of mindfulness in pro-environment behaviour is theory of interpersonal behaviour (Triandis, 1997). The theory discusses the role of habit formation which can strengthen pro- environment intentions.Therefore, this paper attempts of look into the relationship of environmentally responsible consumption with mindfulness and connectedness to nature through structural equation modelling.

Environmentally Responsible Consumption (ERC)

The concept of ERC has been examined from several angles in the literature. Viewpoints ranging from corporate social responsibility, socially conscious consumption to the effects of sustainable production and product, green consumption, and even consumerism, have been employed in business and management research (Eizenberg&Jabareen, 2017; Jacob-John et al., 2021). Experts in consumer psychology have arduously investigated why some individuals adopt sustainable behaviours, and why others, despite having environmental concerns, adopt unsustainable ones (White et al., 2019). They have also shown emotions and cognitions related to the environment influence environmental decisions and sustainable behaviour. For example, Gifford (2008) argues that it has become crucial to identify the underlying motivators and factors that drive people towards a sustainable lifestyle. In this context, we bring Connectedness to nature (CNN) and Mindfulness together under investigation to study pro-environment behaviour related to general buying behaviours.

Mindfulness

There aren't many researchesthat specifically look at mindfulness in relation to pro- environment consumption. Mindfulness has been a buzzword for quite some time now, finding its way into business world, workplace and even into people's mobile phones in form of self-care apps. However, research in the field of environment conservation and protection mindfulness seems still seems to be a relatively new concept.

All Buddhist traditions emphasise the development of "right mindfulness", which contrasts with "wrong mindfulness"(Dunne, 2011). This right mindfulness, according to the Buddhist tradition, is an intentional, inquisitive practice that incorporates emotive, social, cognitive, and even ethical aspects (Grossman, 2011).In contrast, the definition of mindfulness in the sciences is often determined by extra-religious criteria. The idea has mainly been accepted by researchers in modern psychology as a strategy for improving awareness, controlling attention, and responding to mental processes that lead to emotional suffering and maladaptive behaviour (Lau et al., 2006).Grossman (2015) hints towards a slightly different, maybe more nuanced, conceptualization of mindfulness by defining it as an "act of unbiased, openhearted, equanimous experience of perceptible events and processes as they unfold,".

This allows us to think about it as the cultivation of specific intentions and values towards ourselves and others, such as kindness, compassion, generosity, and equanimity, rather than merely a neutral awareness of the mental landscape.

Connectedness to Nature CNN

Schultz (2002) proposes that concern for environment arises from the extent to which people see themselves tobe a part of natural environment. Connectedness to nature refers to sense of oneness with the natural world, sense of kinship with animals and plants, and sense of equality between the self and nature (Mayer & Frantz, 2004). It is said to be composed of three dimensions of psychological inclusion in nature; a cognitive representation of the self that is interdependent with nature; an affective representation that forms an emotional bond between nature and the self and a behavioural dimension that refers to the commitment to act in the best interest of environment (Schultz, 2002). Goals of environmental management can benefit greatly from connectivity to nature. Three main themes that lead to CNN have been found, one, as situational contexts such as interaction with real and virtual environments, the second as individual differences owing to personality, gender or age and the third, internal psychological states. Situational contexts may go onto include encounters with nature, both in real and virtual world, for instance, activities like meditation and or participating in environment awareness campaigns (Lieflander et al., 2013). Interaction with nature is one of the most researched predictors of CNN. The research also showed that self- transcendent worldviews correlated well with CNN. Few personality traits that go well with CNN have also been reported to be openness to experience and agreeableness (Nisbet et al., 2009; Tam, 2013).

Relationship between Mindfulness and ERC

Numerous researches have demonstrated a correlation between pro-environmental intents and self-reported environmental behaviours and mindfulness, which is typically conceptualised as a disposition. Bahl et al. (2016) argue that mindfulness has the potential to challenge habits that mainly shape most of our consumption behaviours. The role of mindfulness in attenuating consumption is considered significant as it directly targets core values leading to a more enduring change in perspective and inner convictions (Bahl et al., 2016). To put simply, increased awareness of the present moment, which is made possible by elevated mindfulness levels encourages pro-environmental concern, which then then results in environmental behaviour in people. Jacob et al. (2009) studied mindfulness and self-reported pro-environment behaviour among spiritual practitioners and found regular practice of mediation was linked to sustainable food choices and household practices.According to their research, there is a relationship between ecologically sustainable behaviour and subjective wellbeing that can be facilitated by mindfulness meditation. The substantial correlation between dispositional mindfulness levels and CNN has been validated by several studies (Barbaro and Pickett, 2005; Nisbet et al., 2019). Schutte and Malouf's (2018) meta -analysis also found significant corelation between mindfulness and CNN.Aspy and Proeve's (2017), also found stronger sense of connection to nature in participants that were exposed to mindfulness meditation intervention than those in the control condition. Rosenberg (2004) also argues that mindfulness may provide an antidote to consumerism, as this quality of consciousness encourages reflection on one's actions.

Relationship between CNN and ERC

Discussion around CNN remains nascent being focused only on how it might be used to encourage environmentally friendly behaviour. Interestingly,Thogerson (1999) says that universalistic values and some core fundamental values also contribute to eco -friendly behaviours. The most significant contribution in the area of sustainable behaviours and value system comes from Stern et al. (1995). Shortly after them, studies took place which dealt with ways to increase empathy with nature. CNN is found to be a strong predictor of sustainable consumption (Johnson et al., 2017). Mayer and Frantz (2004) also found greater concern and empathy for environment in people with high CNN scores. CNN also leads to persistent and prolonged ecological

behaviours, including both, effortless and demanding behaviours (Gosling and Willaims, 2010).Schutte and Malouff (2018) states that the relationship between mindfulness and CNN may be reciprocal and bi-directional. The study consolidated findings of 12 samples comprising of 2,435 individuals and illustrated that the traits of mindfulness are correlated with connectedness to nature significantly.

Based on the mentioned literature, the following hypotheses have been formulated.

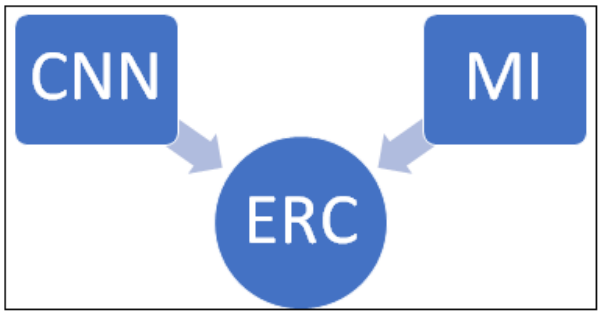
Hypotheses

H1.There will be a positive correlation amongMindfulness, Connectedness to Nature andEnvironmentally Responsible Consumption.
H2. Mindfulness will have a positive effect on Environmentally Responsible Consumption.
H3. Connectedness to Nature will have a positive effect on Environmentally Responsible Consumption.

Methodology

Sample

The study was carried out on 132 young adults (male and females both) within the age group of 20-30 years selected from northern regions of India (Jammu, Punjab, Haryana, Himachal Pradesh and Chandigarh).Purposive sampling was used to collect data from individuals who were working and had minimum educational qualification as graduates. Few forms were also collected through Google Forms. Two subjects' responses were incomplete, hence were dropped from the data analysis.



Note: Connectedness to nature (CNN), Mindfulness (MI) and Environmentally Responsible Consumption (ERC)

Figure 1: Proposed Conceptual model

Measures

Environmentally responsible consumption

ERC was measured using 20 items adapted from ERC Scale constructed by Gupta and Agarwal (2018). These 20 items make 5 dimensions; purchasing environment friendly products, need based purchases, packaging, collaborative consumption and conscious consumption written in a form of 7-point Likert scale.These five dimensions were particularly chosen as they are directly related to buying behaviour. Item 7, 12,13, 14 were dropped for giving factor loadings less than 0.45 (Comrey and Lee,1992). The final items' factor loadings are shown in Table 2. The measure showed composite reliability as 0.883 which is very good (Nunnally & Bernstein, 1994; Hair et al., 2013).

Connectedness to nature

CNN was measures using 10 items adapted from Connectedness to nature Scale by Mayer and Frantz (2004) which originally has 15 items. The items were based on 5-point Likert scale. The measure showed composite reliability as 0.678 which is good (Nunnally & Bernstein, 1994; Hair et al., 2013).

Mindfulness

Mindfulness was measured using 6 items adapted from Five Facet Mindfulness Questionnaire - 15 (FFMQ-15) by Baer et al. (2008).All the items were based on 5- point Likert scale ranging between Strongly Agree to Strongly Disagree. The measure showed composite reliability as 0.897 which is very good(Nunnally & Bernstein, 1994; Hair et al., 2013).

Data Analysis

Data collected was collected on the self- administered measures and then coded in SPSS 21 and put to analysis in AMOS 21. Since, the original measures produced poor factor loadings, measures were adapted. The exploratory factor analysis was carried out using principal component method and varimax rotation. Then SEM was carried out in two stages, firstly, the model was tested using confirmatory factor analysis (CFA), and in second stage, hypotheses were tested for proposed relationships.

Table 1: Mean, SD, variance for CNN, Mindfulness, ERC (N=130)

	N	*Minimum*	*Maximum*	*Mean*	*S.D.*
CNN	130	36.0	73.0	52.65	7.96
Mindfulness	130	34.0	72.0	48.72	6.75
ERC	130	53.0	140.0	98.08	15.73

Source: Primary data

Table 2: Final Factor Loadings with reliability and convergent validity analysis

Factor	*Indicators*	*Estimate*	*Composite reliability*	*Assumed variance*
CNN	Cn1	.697	0.697	0.40
	Cn2	.694		
	Cn3	.754		
	Cn5	.712		
	Cn6	.566		
	Cn7	.776		
	Cn8	.720		
	Cn9	.707		
	Cn10	.718		
	Cn11	.454		
MINDFULNESS	M1	.663	0.897	0.49
	M2	.519		
	M5	.449		
	M11	.517		
	M12	.518		
	M15	.488		
ERC	pb1	.475	0.883	0.42
	pb2	.570		
	pb3	.513		
	pb4	.643		
	pb5	.506		
	pb6	.469		
	pb8	.491		
	Pb9	.630		
	Pb10	.568		
	Pb11	.577		
	Pb15	.601		
	Pb16	.653		
	Pb17	.691		
	Pb18	.508		
	Pb19	.540		
	Pb20	.602		

Table 3: Discriminant validity analysis: fornell–larcker criterion test

Factors	*CNN*	*Mindfulness*	*ERC*
CNN	0.686		
mindfulness	0.561	0.530	
ERC	0.501	0.456	0.569

Table 1 shows the mean, SD, minimum and maximum values for all scales for N = 132. On CNN, the mean came out to be 52.65, with SD ± 7.96. The minimum and maximum scores obtained are 36 and 73 respectively. On the mindfulness scale, the mean appeared to be 48.72, SD ± 6.75 with minimum and maximum values of 34 and 72 respectively. For the ERCscale, the mean and SD came out to be 98.08 and 15.73 respectively having a minimum and maximum value of 53 and 140 respectively.

Exploratory Factor Analysis

EFAreported that Kaiser–Meyer–Olkin's (KMO) value as 0.718 and Barlett's test was significant at 0.01 level. The values were higher than the threshold value of 0.5 and 0.6 (Hair et al., 2013; Tabachnick &Fidell, 2013). In the next step, factors were extracted using eigenvalue of more than 1.

Stage 1: Confirmatory Factor Analysis

The factor loadings having a value less than 0.45 or p-value > 0.05 were removed from the final model to increase the construct reliability and validity (Comrey & Lee,1992). Table 2 shows the final items that were taken into final model with respective reliability for each factor. The discriminant validity was assessed using the Fornell and Larcker criteria and cross-loadings. For adequate discriminant validity as per the Fornell and Larcker criterion, the square root of the AVE for each construct should be greater than the correlations of that construct with other constructs. The model's Fornell and Larcker criterion test is shown in Table 3, where the squared correlations are compared to correlations from other latent components.

Fit Indices

The model was run for a CFA and items with value less than 0.45 were dropped (Comrey & Lee,1992).

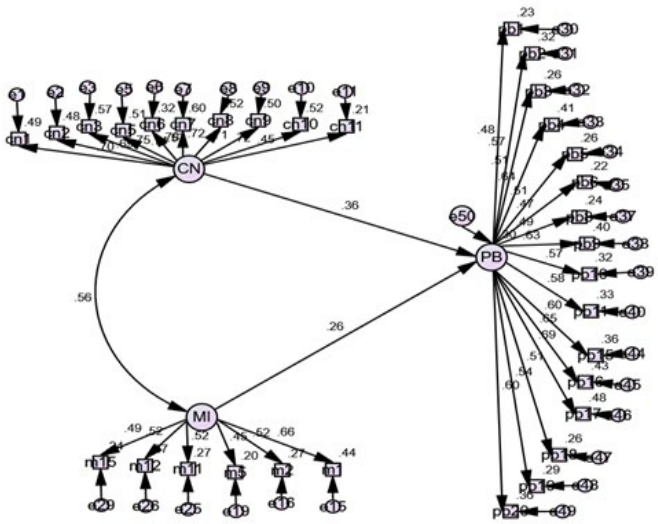


Figure 2: Confirmatory factor analysis Path Diagram for Connectedness to nature (CN), Mindfulness (MI) and ERC depicted by PB (Pro-environment behaviour)

The factor loadings in Table 1 were generated from the said CFA. The model's fit indices were as follow; CMNI/df= 2.55, GFI=0.619, RMSEA=0.10, comparative fit index (CFI)= 0.63 also shown in Table 2. Our CMNI and chi square came out to be as good fit, while RMSEAhad an acceptable fit (Hair et al., 2014). The model can be accepted as it is derived from a substantive theoretical framework(Hooper et al., 2008). TheCFI and GFI were less than the threshold values and were found to be of poor fit (Hair et al., 2014). RMSEA, CFI and GFI failed to reach prescribed good fit as these are influenced by the model size, for instance, for small samples RMSEA tend to be upwardly biased (Shi et al., 2019). Secondly, the insignificant relationship between the variables of the model further weakens the overall fit.

Stage 2: Hypothesis testing

A structural equation model was generated to study the relationship among variables where CNN and mindfulness were taken as two independent variables and PEB as a dependent variable as shown in the Figure 1. The squared multiple correlation was 0.295 which means 29% of the variance in ERC is caused by CNN and Mindfulness. The impact of CNN on ERC came out to be positive and significant (b=0.358, t=2.68. p= 0.007) at 0.05 level and similarly

Table 4: Model fit Indices

	Threshold	*Obtained value*	*Remark*
Chi square test	p>0.05	0.06	Good fit
CMIN	Less than 5	2.55	Good fit
CFI	More than 0.9 good fit • 0.8–0.9 borderline fit	0.632	Poor fit
GFI	• More than 0.9	.619	Poor fit
RMSEA	Less than 0.08 for adequate fit • 0.08–0.1 for acceptable fit	0.10	Acceptable fit

mindfulness had a positive impact on ERC, although insignificant (b=.255, t=1.86, p= 0.063).

Discussion

The present study studies the relationship between Environment conscious consumerism, connectedness to nature and mindfulness. A structural equation model was generated to study the relationship among variables where CNN and mindfulness were taken as two independent variables and PEB as a dependent variable as shown in the Figure 1. Similar relationship patterns have been foundbetween nature, mindfulness and pro-environment behaviour in earlier conducted studies as well.For example, a strong correlation between pro-environmental behaviours and mindfulness has been found in terms of housing, transportation, and eating (Barbaro &Picket, 2016). Kumar et al., (2022) undertook a study to examine how employees' awareness of and connectedness to nature encourages them to voluntarily adopt pro-environmental behaviour in the workplace. They found that mindfulness and connectedness to nature encouraged employees to participate in pro-environmental activities within the context of the organization. It can be said that a compassionate and embodied connection with others and the natural environment fosters eudaimonic well-being and helps people internalize the need for sustainable living. Anderson and Krettenauer (2021) also found that pro-environmental behaviour being significantly predicted by connectedness to across a variety of age and cultural contexts. Similarly, it has also been argued that fewer opportunities for nature interaction can produce a sense of alienation between humans and nature, which can impede support for environmental concerns (Rosa et al.,2018).

Mindfulness has also been found todirect attention towards sustainable solutions. Several studies have found similar results. For example, Theirmann(2021) explored the connection between pro-environmental behaviours(PEB) and mindfulness practice, and itsuggested a novel theoretical framework known as the 2-pathway model of PEB change.This process of change is personal and dependent on a dynamic web of elements.They also assert that because mindfulness improves one's interactions with nature and fosters a sense of connection to it, it strengthens one's sense of self and motivates one to act in a way that is environmentally friendly. Patel and Holm (2018) also found that the tendency of managers to participate in workplace pro-environmental behaviours (PEBs) can be strengthened by practicing mindfulness. It is possible to integrate mindfulness with daily activities likeeating and walking, as well as with physical practices like tai chi and yoga.

Conclusion

The findings of the study concluded that Mindfulness, CNN and ERC are positively correlated. It also showed that both mindfulness and CNN contribute towards ERC. The study asserts that a compassionate connect with nature and awareness of one's action is necessary for checking on our mindless consumption.

Implications of the Study

This study will definitely add to the theoretical constructs and open venues for further exploration. Use of SEM in the present study makes it a robust study as it controls biases by taking into account the latent variables along with measurement error. It definitely,

sheds light on the fact that our happiness and planet's welfare are not incompatible pursuits rather there is incessant need for pro-environment action in the developing countries. Many studies show that pro social behaviours, including those related to environment provide intrinsic satisfaction and lead to subjective well-being (DeYoung, 1996; 2000). Mindfulness and CNN can together be integrated with daily activities to achieve pro-environment and pro social behaviours. Mindfulness exercises can be thought of as effective experiential tools for promoting responsible consumption.Studies also show how these can be used at workplace and other settings like schools and colleges and even households with respect to responsible consumption.

Limitations of the Study

The tested model is a simple attempt to study pro-environmentbehaviour. The model can be refined by identifying different moderator and mediators working with different factors of pro-environmentbehaviour. Mediation analysis can provide better explanation for the proposed relationship. This study is one of the first to utilize these measures on Indian cohort, due to which we are unable to find any decent replication of findings to support our results. Yet the variables mindfulness and CNN underscore an important role in context to pro-environment behavior, therefore, we recommend replication of the same methodology on a larger sample to validate the results.

References

Anderson, D. J., &Krettenauer, T. (2021). Connectedness to nature and pro-environmental behaviour from early adolescence to adulthood: A comparison of urban and rural Canada. *Sustainability*, *13*(7), 3655.

Bahl, S., Milne, G. R., Ross, S. M., Mick, D. G., Grier, S. A., Chugani, S. K., Chan, S. S., Gould, S., Cho, Y. N., Dorsey, J. D., Schindler, R. M., Murdock, M. R., & Boesen-Mariani, S. (2016). Mindfulness: Its Transformative Potential for Consumer, Societal, and Environmental Well-Being. *Journal of Public Policy & Marketing*, *35*(2), 198–210. https://doi.org/10.1509/jppm.15.139

Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., Segal, Z. V., Abbey, S., Speca, M., Velting, D., & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, *11*(3), 230–241. https://doi.org/10.1093/clipsy.bph077

Barbaro, N., & Pickett, S. M. (2016). Mindfully green: Examining the effect of connectedness to nature on the relationship between mindfulness and engagement in pro-environmental behavior. *Personality and Individual Differences*, *93*, 137-142.

Comrey, A. L., & Lee, H. B. (1992). Interpretation and application of factor analytic results. *Comrey AL, Lee HB. A first course in factor analysis*, 2, 1992.

Dunne, J.D. (2011). Toward an understanding of non-dual mindfulness. Contemporary Buddhism 12, 71–88. doi: 10.1080/14639947.2011.564820

Dunlap, R. E., & Van Liere, K. D. (1978). The "new environmental paradigm". Journal of Environmental Education, 9(4), 10–19. https://doi.org/ 10.1080/00958964.1978.10801875

Eizenberg, E., &Jabareen, Y. (2017). Social sustainability: A new conceptual framework. Sustainability, 9(1), 68. https:// doi.org/10.3390/ su9010068

Grossman, P. (2011). Defining mindfulness by how poorly I think I pay attention during everyday awareness and other intractable problems for psychology's (re)invention of mindfulness: Comment on Brown et al. (2011). Psychological Assessment, 23, 1034–1040. doi:10.1037/ a0022713 Grossman, P. (2015). Mindfulness: Awareness Informed by an Embodied Ethic. Mindfulness, 6, 17–22. https://doi.org/10.1007/s12671-014-0372-5

Gosling, E., & Williams, K. J. (2010). Connectedness to nature, place attachment and conservation behaviour: Testing connectedness theory among farmers. *Journal of environmental psychology*, *30*(3), 298-304.

Hair, J.F., Jr., Black, W.C., Babin, B.J., & Anderson, R.E. (2013). Multivariate data analysis: A global perspective (7/e). New Delhi: Pearson Education.

Hooper, D., Coughlan, J., & Mullen, M. (2008, September). Evaluating model fit: a synthesis of the structural equation modelling literature. In *7th European Conference on research methodology for business and management studies* (Vol. 2008, pp. 195-200).

Jacob, J., Jovic, E., & Brinkerhoff, M. B. (2009). Personal and Planetary Well-Being: Mindfulness Meditation, Pro-Environmental Behavior and Personal Quality of Life in a Survey from the Social Justice and Ecological Sustainability Movement. Social Indicators Research, 93(2), 275–294. JSTOR.

Jacob-John, J., D'souza, C., Marjoribanks, T., &Singaraju, S. (2021). Synergistic interactions of sdgs in food supply chains: A review of responsible consumption and production. Sustainability, 13(16), 1–20. https:// doi.org/10.3390/su13168809

Johnson, K.A., Liu, R.L., Minton, E.A., Bartholomew, D.E., Peterson, M., Cohen, A.B., Kees, J., 2017. U.S. citizens' representations of God and support for sustainability policies. J. Public Policy Mark. 36 (2), 362e378.

Joshi, Y., & Rahman, Z. (2015). Factors affecting Green purchase behaviour and future research directions. *International strategic management review*,*3*(2).

Kumar, S., Panda, T. K., & Pandey, K. K. (2022). The effect of

employee's mindfulness on voluntary pro-environment behaviour at the workplace: the mediating role of connectedness to nature. *Benchmarking: An International Journal*, *29*(10), 3356-3378.

Liefländer, A. K., Fröhlich, G., Bogner, F. X., and Schultz, P. W. (2013). Promoting connectedness with nature through environmental education. *Environment Education Research,19*,370–384. doi:10.1080/13504622.2012.697545

Mayer, F. S., & Frantz, C. M. (2004). The connectedness to nature scale: A measure of individuals' feeling in community with nature. *Journal of environmental psychology*, *24*(4), 503-515.

Mishra, S., Malhotra, G., Chatterjee, R., & Kareem Abdul, W. (2022). Ecological consciousness and sustainable purchase behavior: The mediating role of psychological ownership. *Asia Pacific Journal of Marketing and Logistics, 35*, 414–431. https://doi.org/10.1108/APJML-08-2021- 0591

Nisbet, E.K. (Elizabeth K.), Zelenski, J, & Grandpierre, Z. (Zsuzsa). (2019). Mindfulness in Nature Enhances Connectedness and Mood. *Ecopsychology, 11*(2), 81–91. doi:10.1089/eco.2018.0061

Nisbet, E. K., Zelenski, J. M., and Murphy, S. A. (2009). The nature relatedness scale: linking individuals' connection with nature to environmental concern and behavior. *Environment Behaviour, 41*, 715–740. doi: 10.1177/0013916508318748

Nunnally, J.C., & Bernstein, I.H. (1994), Psychometric theory, 3/e. New York, NY: McGraw-Hill.

Patel, T., & Holm, M. (2018). Practicing mindfulness as a means for enhancing workplace pro-environmental behaviors among managers. *Journal of Environmental Planning and Management*, *61*(13), 2231-2256.

Peattie, K. (2010). Green consumption: Behavior and norms. *Annual Review of Environment and Resources, 35*(1), 195–228. https://doi.org/10. 1146/annurev-environ-032609-094328

Rathee, N., & Kour, J. (2016). The Psychology of Pro-Environment Action. *Annals of the Romanian Society for Cell Biology*, 30-42.

Rosa, C. D., Profice, C. C., & Collado, S. (2018). Nature experiences and adults' self-reported pro-environmental behaviors: The role of connectedness to nature and childhood nature experiences. *Frontiers in psychology*, *9*, 1055.

Schutte, N. S., & Malouff, J. M. (2018). Mindfulness and connectedness to nature: A meta-analytic investigation. *Personality and Individual Differences*, *127*, 10–14. https://doi.org/10.1016/j.paid.2018.01.034

Shi, D., Lee, T., &Maydeu-Olivares, A. (2019). Understanding the model size effect on SEM fit indices. *Educational and psychological measurement*, *79*(2), 310-334.

Stern, P. C. (2000). New environmental theories: Toward a coherent theory of environmentally significant behavior. Journal of Social Issues, 56(3), 407–424. https://doi.org/10.1111/0022-4537.00175

Su, L., Hsu, M. K., & Boostrom, R. E. (2020). From recreation to responsibility: Increasing environmentally responsible behavior in tourism. *Journal of Business Research, 109,* 557–573. https://doi.org/10.1016/j.jbusres. 2018.12.05

Tam, K. P., Lee, S. L., and Chao, M. M. (2013). Saving Mr. nature: anthropomorphism enhances connectedness to *and protectiveness toward nature*. *Journal Experimental Social Psychology, 49,*514–521. doi: 10.1016/j.jesp.2013.02.001

Thiermann, U. B., &Sheate, W. R. (2020). Motivating individuals for social transition: The 2-pathway model and experiential strategies for pro-environmental behaviour. *Ecological Economics*, *174*, 106668. https://doi.org/10.1016/j.ecolecon.2020.106668

Thøgersen, J. (1999). Spillover processes in the development of a sustainable consumption pattern. *Journal of economic psychology*, *20*(1), 53-81.

Triandis, H.C. (1977). Interpersonal Behaviour. Monterey, C.A: Brook/Cole.

White, K., Habib, R., & Hardisty, D. J. (2019). How to SHIFT consumer behaviors to be more sustainable: A literature review and guiding framework. *Journal of Marketing, 83*(3), 22–49. https://doi.org/10. 1177/0022242919825649

Zylstra, M. J., Knight, A. T., Esler, K. J., & Le Grange, L. L. L. (2014). Connectedness as a Core Conservation Concern: An Interdisciplinary Review of Theory and a Call for Practice. *Springer Science Reviews*, *2*(1–2), 119–143. https://doi.org/10.1007/s40362-014-0021-3