

Resilience, Transcendence and Gratitude: Its Relation with Nature Relatedness in College Student Population

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ABSTRACT

Background: The aim of the present study is to examine the relationship between resilience, gratitude, transcendence and nature relatedness. **Methodology:** For the said purpose, participants were chosen from urban, rural and sub-urban community. Their resilience, gratitude, transcendence and nature relatedness were assessed using Brief Resilience Scale (BRS), Gratitude Questionnaire (GQ-6), Self-Transcendence Scale (STS) and Nature Relatedness Scale (NR). **Result:** Findings suggest that there was a positive correlation between gratitude and transcendence as well as gratitude and nature relatedness. All of them are significant at 0.01 and 0.05 level. Result of the t-test shows that there is no significant difference in gender and community type across the variables. Further investigations are necessary to see differences in nature relatedness across social groups, including people from different socioeconomic backgrounds, life stage and cultural groups as well as more research could be done on the growing field of positive psychology. **Conclusion:** Significant correlation was found between gratitude, transcendence and nature relatedness variables. In case of resilience no correlation was found with any of the variables. No gender and community type difference were found among these variables.

Keywords: Resilience, Gratitude, Transcendence, Nature relatedness

How does nature impact how we feel about things? Obviously, a lot will depend on other important circumstances in our lives. Is today nice or bad? No matter where we are on the planet, it seems that the mere existence of living beings makes us feel good. They help us relieve stress, and we enjoy them considerably more if the environment includes water, grass, and a clear sky. The idea that the nature quality in our neighborhood affects our mental health is not new, but it has not had a substantial impact on the development of both urban and rural settings, as well as public health priorities. Since the beginning of the industrial era, an increasing number of people have chosen to live exclusively in metropolis. Access to venues for sports, medical facilities, and institutions of learning is made simpler and more concentrated in metropolitan regions. One thing is for sure, though: a rural setting naturally has a greater biodiversity than an urban one. Less vegetation also reduces the chance of recovering from emotional stress or worsening mental health. It seems that as development has put more pressure on our natural settings, we have

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suffered more. Do we have to reevaluate or is what we're seeing only a coincidence? The concept of mental health has many different definitions. It has historically been regarded to mean the absence of a medically identifiable illness. This type of deficit model, however, is unable to take into account how mental and psychological health also have a positive influence on our capacity to form and maintain relationships, learn and communicate effectively, and respond critically to pressures and shocks. Therefore, everyone has a need for psychological health, not just those who have an illness. Policy has been to lock them up for years in order to shield the rest of society from the victims. These days, stress and mental illness are more common, and they are more expensive. This is why many other practices, such as cigarette smoking, overeating, and heavy drinking, are ways to cope with depression and have their own drawbacks. It is well accepted that emotional well-being is a powerful predictor of physical health. In our environments, we often only exhibit concern when a significant thing is harmed. However, the greatest and most cost-effective course of action is to focus resources upstream and seek to create beneficial environments where people may thrive rather than struggle. Therefore, in addition to focusing on preventing mental disease, we should also promote excellent mental health. Therefore, rather than only concentrating on preventing mental disease, establishing positive mental health for everyone should be a top concern. More and more research is showing that people's behavior, interpersonal interactions, and real state of mind are influenced by environmental influences, both natural and artificial (Tuan, 1977; Freeman, 1984; Kellert and Wilson, 1993; Tall, 1996). Therefore, the environment might be helpful or harmful. Although there are many reasons to maintain nature, including the value of its financial services to moral ideals, the potential benefits to one's own health have gotten relatively little attention (Pretty et al., 2003; 2004). Nature seems to have a positive influence on our health, help us recover from past stresses or problems, have an immunologic effect by protecting us from experiencing extra stress in the future, and enhance our mental clarity and attention.

Russo et al. (2012), Radcliffe (2012) b, Southwick (2012), and Charney (2012) define resilience as the ability and dynamic method for adaptively overcoming difficulties and stress while maintaining normal psychological and physical functioning. Everybody experiences stressful circumstances, and a lot of people eventually suffer trauma. As a result, learning how to build resilience is essential for promoting good coping mechanisms and reducing ineffective coping and stress responses in mental disorders like melancholy and posttraumatic stress disorder (PTSD).

The term "gratitude" first arose in the Latin word *gratia*, that denotes grace, graciousness (Emmons and Shelton, 2002). All words that originate in this Latin root "have to do with kindness, generousness, gifts, the beauty of giving and receiving, or getting something for nothing" (Pruyser, 1976, p. 69). One can give thanks to both human and non-human sources, including God, the environment, and animals (Weiner, 1986). It is an attribution-dependent condition since it is the result of an intellectual procedure that is described in two parts. People are aware that they have initially experienced a happy consequence associated to a beneficial outcome. In the second stage, when people attribute their happiness to external factors, an association between happiness and gratitude is established.). According to Lazarus & Lazarus (1994), gratitude can only exist when a person recognizes and values what another person has done for them. McCullough et al. (2002) define thankfulness as an individual disposition by defining it as "a generalized propensity to recognize and respond with grateful emotion to the roles of other people's benevolence in the beneficial interactions and outcomes that one obtains." Gratitude is described as the appreciation of all the

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wonderful things in one's own life in accordance with the theory of positive psychology (Seligman and Csikszentmihalyi, 2000; Seligman, 2002) (Emmons and Shelton, 2002; Wood et al., 2010).

According to Yaden et al. (2017a), self-transcendence is frequently described as a decrease in self-saliency and an increase in connectedness to people and the environment. However, when we examine other fields, we discover that the conceptualization and focus on self-transcendence differ. For instance, while nursing sees self-transcendence as awareness of one's wholeness in person-environment connections when fragmentation threatens one's well-being, psychology frequently sees it as involving an elevation or a separation of the self from the environment (Smith and Liehr, 2014). According to Garcia-Romeu (2010), self-transcendence appears to be becoming more prevalent in a number of fields, including positive psychology, developmental psychology, gerontology, personality theory, and psychiatric genetics. Self-transcendence can be regarded as a psychological state, personality trait, developmental process, value orientation, motivation, and worldview (Wong, 2016). Self-transcendence experience is also considered multifaceted in itself, composed of mindfulness, flow, self-transcendent emotions, awe, peak experiences, and mystical experiences (Yaden et al., 2017a).

Nature relatedness (NR), to denote a person's degree of connection for the natural world. Nature-relatedness is similar to the ecological self, or the idea of a self-construal that takes into account the natural environment, which is a concept from deep ecology. The idea of NR includes one's awareness of and comprehension of connectivity, alongside all other earthly creatures that are alive. In contrast to environmentalism, it encompasses much more than merely activism. It is not merely a love of nature or a pleasure in only the aesthetically beautiful aspects of nature, like snowflakes and sunsets. It also entails an appreciation for all facets of nature, including those that are unsightly to people (like spiders and snakes).

Relationships between people can help establish a connection to nature. "What we do to nature is actually a mirror of what we do to ourselves and to each other," as Mohandas Gandhi famously said, "signifying that how people treat one another and the natural world is intertwined." The degree of connection to nature and the degree of connection to people have a slight positive correlation ($r = 0.44$), according to studies by Mayer, Frantz, Bruehlman-Senecal, and Dolliver (2009) as well as Lee, Ashton, Choi, and Zachariassen (2015). Studies from the past have used phrases like "connection to nature" (Mayer, Frantz, Zelenski, Murphy, S. A., 2004) to describe the connection between humans and nature, relationship to and affection for nature (Nisbet, E. K., Zelenski, Murphy, 2010), affection and concern for nature (Perkins, H. E., 2002), integration into the natural self (Schultz, P. W., 2002), and dedication to nature (Davis, J. Empirical research (Mackay C. M., Schmitt M. T. (2019)) further supports the idea that a sense of connection to nature is a key predictor of supporting environmental attitudes and behaviors. Positive emotions can be divided into two categories based on the emotional experience's object: universal positive feelings and self-transcendent happy feelings. Emotions that are positive include all joyful emotional experiences. Self-transcending positive feelings, also known as sentiments of appreciation for others, are emotional perceptions and evaluations of individuals other than the self in this study. Positive emotions are often understood to be emotional perceptions of one and situations that only arouse the person's innate feelings. These, in the opinion of Moreton S. G., Arena A., Hornsey M. J., Crimston C. R., and Tiliopoulos N. (2019), include awe, appreciation, respect, devotion, and love. Self-transcendence represents the splendour and

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magnificence of humanity among them. It might inspire a lot of other people to put anything bigger than them ahead over their trivial concerns. To achieve this massive transformation, however, will take more than just one person's labour. Collaboration between all parties concerned is also essential to establishing a society that is more just and compassionate (Wong P. T., Arslan G., Bowers V. L., Peacock E. J., Kjell O. N. E., Ivtzan I., et al., 2021).

Aim

The aim of the present study is to see the correlation between Resilience, Gratitude, Transcendence and Nature relatedness in young adults, as well as find out if there is any gender or community type difference among these variables.

RESEARCH METHODS

Research Methods- Quantitative research method is used to do the research.

Objectives

1. To examine the relationship between nature relatedness and resilience.
2. To examine the relationship between nature relatedness and gratitude.
3. To examine the relationship between nature relatedness and transcendence.
4. To examine the difference between male and female across the variables.
5. To examine the difference between the community type across the variables.

Hypothesis of the study

The null hypothesis was used in the current investigation since there have been so few studies looking at how these variables interact and have an impact on one another. The researcher made the assumption that there wouldn't be any significant relationships between the variables or differences between them.

Samples

Based on purposive sampling, In this study total 152 participants were selected of age range between 18-24 out of which 77 were males and 75 females from interdisciplinary areas of different fields. Both male and female participants from West Bengal age 18-24 were included. People of age above or below 18-24 and outside West Bengal were excluded.

Tools

A set of four questionnaires were used to measure the Resilience, Gratitude, Transcendence and Nature relatedness namely Brief Resilience Scale, Gratitude Questionnaire (GQ-6), Self-Transcendence Scale and Nature Relatedness Scale.

1. **Brief Resilience Scale (BRS):** The BRS consists of 6 measures that assess one's capacity for rebounding (Smith et al., 2008). On a scale of 1 to 5, with 5 indicating the strongest approval, each item is evaluated. I tend to recover swiftly from setbacks is an example item. A score on the BRS can range from 5 to 30, with higher scores indicating stronger resilience. The overall BRS score is calculated by reverse-scoring three things and summing all six elements. The study's Cronbach's alpha value was.84.
2. **Gratitude Questionnaire-6 (GQ-6):** GQ-6: The Gratitude Questionnaire (GQ-6) was developed by McCullough et al. (2002) as a self-report tool for evaluating people's inclinations towards gratitude in everyday situations. The authors classify the propensity towards appreciation—a positive emotional trait—as gratitude. They

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started off by creating 39 items (both positive and negative), made up of comments describing encounters, expressions of thankfulness, and daily appreciation of life. These statements were then evaluated on a Likert type scale with a range of 1 to 7, where 1 signified "strongly disagree," and 7 signified "strongly agree."

3. **Self-Transcendence Scale (STS):** The Reed's Self Transcendence Scale (STS) (1989a), which was initially created among elderly seniors and terminally ill adults, was used to measure self-transcendence. The STS includes 15 items on a scale with four points that range from 1 for "not at all" to 4 for "very much" and measures older persons' feelings of transcendence. According to Coward (1990), the STS has test/retest stability of .70 to .95 and Cronbach's alpha coefficients ranging from .80 to .88. The Cronbach's alpha coefficient in our study was .78.
4. **Nature Relatedness Scale:** The NRS, a 21-item scale, assesses "individuals' mental, emotional, and physical relationship with the natural world." (Nisbet et al., 2009:719). The NRS comprises of three subscales, including an eight-item subscale called "self" that measures one's personal connection to nature, a seven-item subscale called "perspective" that gauges how people perceive nature from the outside, and a six-item subscale called "experience" that gauges one's actual knowledge with it. A 5-point Likert scale with a range of 1–5 (strongly disagree–strongly agree) is used for each subscale. The sum of the scores, which can range from 21 to 105, shows a closer connection to nature.

Statistical Analysis:

Statistical analysis of data was done and obtained data were analyzed by using an appropriate parametric test. To assess the significant relationship between resilience, gratitude, transcendence and nature relatedness Pearson's correlation was used. And for assessing the significant differences between the variable T test and One way ANOVA was used. For the analysis of the result, 0.01 and 0.05 level of significance was accepted.

Procedure

1. Participants within the required age band were chosen by Purposive Sampling from 5 different colleges across West Bengal.
2. Informed consent
3. The researcher provided the participant with the questionnaire, which had the BRS scale, GQ-6 scale, Self-Transcendence scale and Nature relatedness scale printed Questionnaire.
4. The specific instructions required to fill in each scale were printed on the questionnaire.
5. The researcher however ensured that the instructions were clear by presenting the same orally.
6. It took around 12-15 minutes for each participant to complete the questionnaire.
7. The data was collected scored and analyzed using SPSS version 20.

RESULT

The response obtained from the respondent is analyzed using SPSS version 16. The data is first analyzed by finding the means and SD of each construct in order to determine the level of the respondent's age, community type, resilience, gratitude, self-transcendence and nature relatedness. Then the data is further analyzed for correlation, T-test and one way ANOVA to test the relationship and difference that might exist.

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Table 1. Mean and SDs for age, community type, BRS, GQ6, STQ AND NA_RELT (n=152)

Group Statistics			
	Sex	Mean	Std. Deviation
Age	1	21.91	1.425
	2	22.17	1.200
C_TYPE	1	3.91	.830
	2	3.97	.897
BRS	1	19.59	3.335
	2	18.62	2.503
GQ6	1	27.46	6.434
	2	29.53	5.364
STQ	1	46.74	10.229
	2	47.13	8.383
NA_RELT	1	69.92	14.039
	2	70.54	13.211

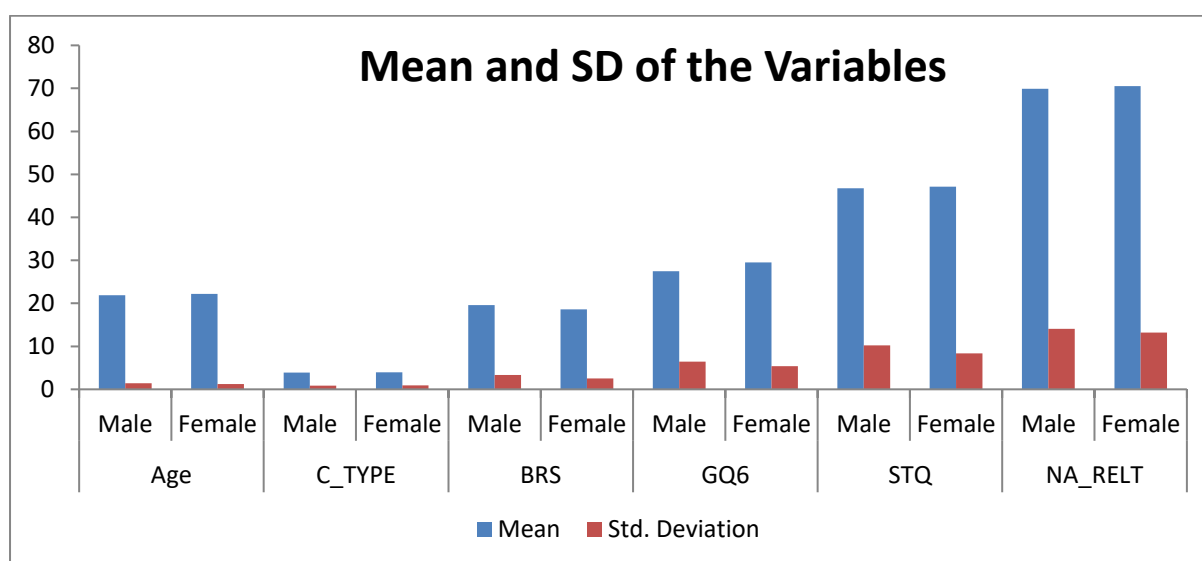


Table 1 presents the descriptive statistics of the age, community type, BRS, GQ6, STQ and NA_RELT and both female and male perceived the construct at the same level.

Table 2- Pearson Correlation between the variables

		Age	Sex	C_TYPE	BRS	GQ6	STQ	NA_RELT
Age	Pearson Correlation	1	.100	.049	- .133	.001	.087	.155
	Sig. (2-tailed)		.223	.551	.102	.993	.288	.056
	N	152	152	152	152	152	152	152
Sex	Pearson Correlation	.100	1	.040	- .165*	.173*	.021	.023
	Sig. (2-tailed)	.223		.624	.042	.033	.800	.780
	N	152	152	152	152	152	152	152
C_TYPE	Pearson Correlation	.049	.040	1	- .078	.074	.141	-.029

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		Age	Sex	C_TYPE	BRS	GQ6	STQ	NA_RELT
	Sig. (2-tailed)	.551	.624		.340	.365	.084	.720
	N	152	152	152	152	152	152	152
BRS	Pearson Correlation	-.133	.165*	-.078	1	.156	.151	.074
	Sig. (2-tailed)	.102	.042	.340		.055	.063	.365
	N	152	152	152	152	152	152	152
GQ6	Pearson Correlation	.001	.173*	.074	.156	1	.249**	.216**
	Sig. (2-tailed)	.993	.033	.365	.055		.002	.008
	N	152	152	152	152	152	152	152
STQ	Pearson Correlation	.087	.021	.141	.151	.249**	1	.101
	Sig. (2-tailed)	.288	.800	.084	.063	.002		.215
	N	152	152	152	152	152	152	152
NA_RELT	Pearson Correlation	.155	.023	-.029	.074	.216**	.101	1
	Sig. (2-tailed)	.056	.780	.720	.365	.008	.215	
	N	152	152	152	152	152	152	152

**p<.01, *p<.05

From table 2, it can be seen that there is a positive correlation between gratitude and transcendence, significant at .01 level and there is also a positive correlation between gratitude and nature connectedness, significant at .01 level.

Table 3: T-test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Age	Equal variances assumed	.566	.453	-1.225	150	.223
	Equal variances not assumed			-1.219	142.900	.225
C_TYPE	Equal variances assumed	1.826	.179	-.491	150	.624
	Equal variances not assumed			-.492	149.913	.623
BRS	Equal variances assumed	5.615	.019	2.054	150	.042
	Equal variances not assumed			2.039	135.259	.043
GQ6	Equal variances assumed	3.896	.050	-2.155	150	.033
	Equal variances not assumed			-2.144	142.334	.034
STQ	Equal variances assumed	.267	.606	-.254	150	.800
	Equal variances not assumed			-.253	141.283	.801
NA_RELT	Equal variances assumed	.081	.776	-.280	150	.780
	Equal variances not assumed			-.280	148.090	.780

From the above table (table 3) it can be seen that there exists no significant difference between across the gender.

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Table 4: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Age	Between Groups	.802	2	.401	.229	.796
	Within Groups	260.961	149	1.751		
	Total	261.763	151			
BRS	Between Groups	8.228	2	4.114	.464	.630
	Within Groups	1322.482	149	8.876		
	Total	1330.711	151			
GQ6	Between Groups	35.833	2	17.916	.498	.609
	Within Groups	5364.108	149	36.001		
	Total	5399.941	151			
STQ	Between Groups	258.427	2	129.214	1.505	.225
	Within Groups	12796.040	149	85.879		
	Total	13054.467	151			
NA_RELT	Between Groups	503.554	2	251.777	1.372	.257
	Within Groups	27337.919	149	183.476		
	Total	27841.474	151			

From the above table (table 4) it can be seen that there exists no significant difference across the community type.

DISCUSSION

A connection to nature has been linked to positive emotions, based on earlier studies (Capaldi C. A., Dopko R. L., Zelenski J. M. 2014). The ecological self-theory, put forth by Bragg E. A. (1996), contends that the well-being of humans and the well-being of nature are intertwined and that happiness is experienced by means of a spiritual interconnection with all things. There is mounting evidence that humanity's future is inextricably linked to nature. On the one hand, maintaining a connection to the natural environment helps individuals survive. According to Cervinka R., Röderer K., and Hefler E. (2012), feeling of natural connection is closely related to mental wellness and individuals who emotionally connect with nature have been shown to have better psychological health, which lowers the risk of mental disease (None) (Trigwell J. L., Francis A. J., and Bagot K. L. 2014). (2016)) Additionally, it has been discovered that thankfulness, through self-transcending good feelings and a connection to nature, has a fully moderating effect on willingness to engage in environmental preservation or sacrifice (Chen L, Liu J, Fu L, Guo C, Chen Y. 2014). This finding indicates that gratitude has a potent, if exploratory, influence on the enhancement of pro-environmental tendencies and connection to nature. However, these findings also suggest that self-transcendent feelings of happiness may promote environmental conservatism by enhancing one's connection to nature. (Stellar, J. E., Gordon, A. M., Piff, P. K., Cordaro, D., Anderson, C. L., Bai, Y., Maruskin, L. A., & Keltner, D. (2017).

According to the results of the intercorrelation, there is an important positive connection between transcendence and gratitude. On the most basic level, this suggests that the three distinct emotions of compassion, appreciation, and wonder make up self-transcendence. There is some evidence to support the idea that feeling connected and grateful increases wellbeing. Many of the self-transcending emotions have been categorized as other praising emotions since gratitude develops from other people's giving. (2017) Stellar, J. E., Gordon,

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A. M., Piff, K., Cordaro, D., Anderson, C. L., Bai, Y., Maruskin, L. A., & Keltner, D. In one study, the ability to predict thankfulness was explored in relation to spiritual well-being and mood. Previous studies have emphasised how people's experiences of gratitude are influenced by their good affect; nevertheless, the literature has generally ignored how strongly people's affects are felt. As predicted, there were strong correlations between gratitude and the correlation variables of spiritual well-being, beneficial impact, and affect intensity. According to correlations, extroversion and emotional stability are both related to higher levels of thankfulness, and those with higher emotional stability also tend to have less intense emotional experiences. Given this information, it is intriguing that those who are more sensitive to emotional stimuli and who identify more with experiencing pleasant emotions in general also express higher levels of thankfulness. (n.d.) >The Free Library. (2014). 8 Spiritual well-being and appreciation: the role of positive affect and affect intensity. Gratitude is regarded as a psychological construct that governs the strength, regularity, range, and density of grateful emotional reactions and behavior. Additionally, when the degree of gratitude rises, connections' perceived borders tend to blur, leading to stronger emotions of unity with the thing that is giving rise to them.

The results pertaining to the inter correlation indicated that there was a significant positive correlation between gratitude and nature connectedness, significant at .01 level it implies that, subjects who received gratitude induced emotions reported significantly higher connection with nature scores; (Chen L, Liu J, Fu L, Guo C, Chen Y. The Impact of Gratitude on Connection with Nature: The Mediating Role of Positive Emotions of Self-Transcendence. *Front Psychol.* 2022.) There is growing evidence that the future of humanity is inextricably linked to nature, (Bragg, E. A. (1996).) The current study found gratitude to have a fully mediating effect on willingness to engage in environmental protection/sacrifice for the environment through self-transcending positive emotions and connection to nature. This result suggests a strong, albeit exploratory, effect of gratitude on the promotion of connection to nature and enhanced pro-environmental tendencies, but these effects also suggest that self-transcendent positive emotions may lead to environmental conservatism through increased connection to nature. (Chen L, Liu J, Fu L, Guo C, Chen Y. The Impact of Gratitude on Connection with Nature: The Mediating Role of Positive Emotions of Self-Transcendence. *Front Psychol.* 2022)

When the data was analyzed on the basis of gender, it was found that there was no significant difference between males and females on the dimensions of resilience, gratitude, transcendence and nature relatedness. These findings might be either due to the participants' intellectual superiority because of which they were able to overcome the gender-based differences and acquire a comprehensive perspective for these values, or, it might be because these values are imbibed among Indian youth uniformly regardless of their gender. Therefore, both males and females gave preference to these constructs at the same level.

The results further indicated that there were no significant differences across the community type on the measures of resilience, gratitude, transcendence and nature relatedness. This implies that community type differences do not affect the trait values and strengths among individuals as these constructs are intrinsically motivated, they cannot be acquired extrinsically. There were no significant effects of gender, age, or year on the need satisfaction/frustration variables (all p 's > 0.05) (Neufeld, A., Malin, G.2019).

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Further scope

The findings highlight the need for a more fine-grained understanding of the different dimensions of nature relatedness, and their associations with physical and mental health for diverse subpopulations. Further understanding is needed of the nature of any disbenefits, for whom, and in what circumstances, along with exploration of the potential for other societal benefits. Careful attention to differences in nature relatedness across social groups, including people from different socioeconomic backgrounds, gender, life stage and cultural groups, is imperative in future research. Cross cultural consideration of nature relatedness is needed to understand if and how the construct of nature relatedness holds meaning for people from different ethnic and socio-cultural backgrounds, including the development of scales that are appropriate for cross-cultural research.

More research could be conducted on the growing field of positive psychology. Moreover, more research could be done on focusing on the intervention techniques related to nature relatedness and positive psychology. More specifically, current research serves as groundwork for future research on positive psychology particularly in the Indian context.

Implication

The present study showed that positive correlation is present between gratitude and transcendence as well as gratitude and nature relatedness. A strong sense of nature-relatedness encourages pro-environmental behaviors and supports climate change mitigation efforts. On a community level, nature-based activities can enhance social cohesion and resilience. Personal growth, creativity, and self-reflection are also nurtured through experiences in nature. This information can be used to plan and design appropriate interventions for individuals who come up with related problems.

Limitations

The present study was conducted on a small sample of a limited population. Along with this the data in the study was collected using quantitative method only. Therefore, further studies could be planned eliminating these limitations so that the findings can be generalized on a broader level.

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Conflict of Interest

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