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**The Prosocial and Pro-Environmental Aspects of Authenticity
and the Mediating Role of Self-Transcendence**

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Abstract

A considerable body of relevant literature has grown up around the theme of authenticity, showing the critical role it has in relation to a variety of indicators of individual well-being. The personal benefits of authenticity are now well documented. However, in this paper we hypothesize that authenticity is not only beneficial to the person themselves, but that it also promotes prosociality and ecological sensitivity. This study used cross-sectional data from one hundred and twenty-nine Turkish participants, who completed Turkish version of the Authenticity Scale, The Environmental Behavior Scale, The Helping Attitudes Scale and The Self-Transcendence Scale. The findings reported here show that greater authenticity was associated with more favorable attitudes to helping others and engagement in pro-environmental behaviors. Furthermore, the present research explored, for the first time, the effects of self-transcendence. The results showed that the associations between authenticity and helping attitudes of altruism as well as receiving and giving were mediated by self-transcendence. Implications, limitations, and future directions are discussed in terms of humanistic perspectives on authenticity.

Keywords: authenticity, congruence, self-transcendence, prosocial behavior, pro-environmental behavior

Introduction

Altruism and ecological sensitivity are areas of increasing interest research in psychology (e.g., Das-Friebel et al., 2019; Huber & MacDonald, 2012; Laguna et al., 2020; Levine & Strube, 2012; Tudor, 2013). Of interest is understanding individual differences in prosocial and pro-environmental behaviors, why some people are more likely than others to take a responsible and caring attitude towards others and the world around them, with the ultimate aim of developing new policies and practices to promote greater human welfare. This seems one of the most important tasks social psychologists are facing at present (Cornelius-White, 2007a; Blair, 2013). Some recent research (e.g. Ottiger & Joseph, 2021) has suggested that the psychological investigation of prosociality and pro-environmental behaviors might be aided by looking to ideas that have their origin in humanistic psychology. Specifically, authenticity has been the subject of promising research that shows potential for an increased understanding of social and ecological attitudes (e.g. Rivera et al., 2019).

Interest in authenticity has been longstanding to humanistic psychologists. One major theorist in the humanistic tradition was Rogers (1959) who described it as when individuals are fully aware of their inner experiencing and able to openly and transparently communicate that to others (Joseph, 2016). Authenticity for Rogers referred to: “*What is being experienced at the gut level, what is present in awareness, and what is expressed*” (Rogers, 1980, p.116). In more recent years, with the development of the Authenticity Scale (Wood et. al, 2008), a 12-item measure based on Rogers’ concept of authenticity, or congruence as it is often referred to, it has become possible to test Rogers’ hypotheses, for example, that authenticity is indeed a predictor of greater well-being. Several studies now show that greater authenticity is associated with higher levels of well-being (e.g., Kifer et al., 2013; Boyraz et al., 2014; Kaufman, 2018; Murphy et al., 2020). However, in Rogers’ (1959) theory, authenticity is thought not only to be of benefit to the person themselves but that it also leads to more

socially and ecologically constructive behaviors. He suggested that when one gradually taps into authentic self-characteristics, the positive directional tendency of the individual reveals and leads to constructive attitudes (Rogers, 1961, 1982). From this perspective, the socially and ecologically constructive behaviors are a fundamental potential of human nature that is actualized as long as favorable circumstances are present. Especially, in his later writings, Rogers' emphasis on formative tendency clearly manifests this integrative and constructive aspects of the authentic self as stated by Cornelius-White (2007b); *"While the basic wording of the definition of the actualizing tendency can lead a reader to see an individualistic bias, this reflects shallow understanding. Prioritizing the formative tendency helps prevent this too frequent, Western acculturated misunderstanding of actualization as individualistic rather than as relational and ecological."* (p.134). Thus, the more authentic a person is, the closer they become to living in a way that is more consistent with their intrinsic human nature which is to be prosocial and pro-environmental.

Two previous studies have provided evidence for a relationship between authenticity and prosociality. Yöntem and İlhan (2013) demonstrated a significantly positive yet weak correlation between the Authentic Living component of the Authenticity Scale and the Altruism Scale ($r(220) = .22, p < .05$). In parallel, Aktar et al. (2021) found a positive relationship between the sense of authenticity and exhibition of prosocial behavior towards strangers ($r(784) = .16, p < .01$), friends ($r(784) = .24, p < .01$), and the family ($r(784) = .18, p < .01$). Going beyond prosociality to how authenticity relates to a person's wider attitudes towards how we live together in the world, one previous study has provided evidence for a relationship between authenticity and ecologically constructive behaviors. Ottiger and Joseph (2021) showed that authenticity is correlated with the feeling of connection to nature ($r(238) = .32, p < .01$), love and care for nature ($r(238) = .24, p < .01$), and ethically minded consumer behaviors ($r(238) = .25, p < .01$).

These results provide initial support for the hypothesis that greater authenticity is associated with more socially and ecologically constructive behaviors. However, it is not yet clear what factors might explain those associations. In the present study we aim to develop this line of inquiry further by investigating the association between authenticity and prosociality and pro-environmental behaviors, and whether the factor that can explain this association is self-transcendence.

According to Rogers' (1959) theory, authenticity emerges by being freed from conditions of worth. In other words, when an individual is able to follow their authentic path freely without any imposed influences, but by organismically valued experiences, this inner attunement extends into the outer world and also creates exterior harmony, and is part of what Rogers later described as a wider formative tendency: *'In humankind it extends from a single cell origin to complex organic functioning, to an awareness and sensing below the level of consciousness, to a conscious awareness of the organism and the external world, to a transcendent awareness of the unity of the cosmic system, including people.'* (Rogers, 1978, p.26). As such, Rogers' understanding of self eventually went beyond the actualizing tendency of the individual organism to include relational and ecological conceptualization explicitly (Cornelius-White, 2007b). Based on this perspective, being authentic can be regarded as a movement toward attaining the benevolent essence of a person who is sensitive to both others and to their own environment.

Moreover, Rogers (1980) characterization of persons of the future who care for themselves, others and nature can be regarded as an obvious example of how his theory considers the socially and ecologically considerate dimension and transcends the individual's self-concerns. Specifically, with Cornelius-White's (2007c) description, the Rogerian person of tomorrow is someone who is *'open to experience, authentic, intimate, capable of living with change and ambiguity, altruistic, revering of nature, building of egalitarian institutions,*

internally moral, less materialistic, and yearning for harmonious spiritual and/or ecological connections.’ (p. 65).

The notion of self-transcendence embraces “*something larger*” (Rogers, 1980, p. 129), even “*nature and cosmos*” (Maslow, 1971, p.269). Although the philosophical implications of the concept of authenticity are widely discussed, and its relationship with well-being has received much empirical attention, the spiritual dimension has received scant attention from scholars (Christy, Rivera, & Schlegel, 2020; Leijssen, 2008). The lack of academic interest in the spiritual and transcendental aspects of approaching the authentic self was also expressed by Rogers (1980), as follows: ‘*Our experiences in therapy and in groups, it is clear, involve the transcendent, the indescribable, the spiritual. I am compelled to believe that I, like many others, have underestimated the importance of this mystical, spiritual dimension.’* (p. 130.)

It is thought that those with higher self-transcendence values are also inclined to be concerned more about societal poverty, and environmental destruction (Schwartz, 2010). Support for these claims comes from previous studies. For example, Caprara et al. (2012) found that there is a statistically significant and strong positive relationship between self-transcendence values and prosociality, across two time points at four years apart (when participants were aged 21 and 25 years, respectively), both for men (time 1: $r(148) = .51, p < .01$), (time 2: $r(66) = .58, p < .01$) and for women (time 1: $r(188) = .53, p < .01$), (time 2: $r(169) = .58, p < .01$). Sariçam and Şahin (2015) also reported a strong correlation between self-transcendence and nature-relatedness ($r(284) = .61, p < .01$). A recent experimental study by Castelo and colleagues (2021) has shown that exposure to nature promotes a sense of transcendence and subsequent engagement in prosocial behavior.

Drawing upon these findings, we further hypothesize that authenticity would have an indirect association with helping attitudes and pro-environmental behaviors through self-

transcendence (see Figures 1 and 2). Thus the aim of this study is to explore whether the associations between authenticity and prosociality and pro-environmental behaviors are mediated by self-transcendence.

-insert Figure 1 and Figure 2 about here-

Method

Participants and Procedure

One hundred and twenty-nine Turkish-speaking individuals (93 female, 36 male), between the ages of 21-61 (Mean = 35 years, $SD = 8.63$), volunteered to take part in the study. Fifty-five percent of the participants were full-time employees, 3.1% work part-time, 16.3% were freelancers, 7% were students, 4.7% were retired, 7% were homemakers and 7% were unemployed. The vast majority of sample was well-educated; 51 (39.5%) of the respondents had postgraduate degrees, 66 (51.2%) a university degree, and 11 (8.5%) had a high school diploma or equivalent, and 1 (0.8%) a secondary-school diploma.

All participants were recruited through snowball sampling starting from personal networks. Data were collected through the Bristol Online Survey, an online survey software. Prior to commencing the study, informed consent was obtained from all participants in accordance with University of Nottingham's Education Department's Ethics Committee, which provided necessary permissions for the implementation of this research. All subjects participated voluntarily in the study without any incentive. Participants were asked to forward the link to the questionnaire via social media in order to make it accessible to a wider sample.

Measures

The Authenticity Scale (AS; Wood, Linley, Maltby, Baliousis & Joseph, 2008) is a 12-item self-report measure that contains three subscales: Self-Alienation (e.g., 'I feel as I don't know myself very well'), Authentic Living (e.g., 'I think it is better to be yourself than to be

popular’), and Accepting External Influence (e.g., ‘I am strongly influenced by the opinions of the others.’). The items are rated on a seven-point Likert scale ranging from 1 (= *Does not describe me at all*) to 7 (= *Describes me very well*). Cronbach's alpha reliability coefficients was reported as being .78 for Self Alienation, .69 for Authentic Living, and .78 for Accepting External Influence. For the Turkish version, Cronbach’s alpha values were .79 for Self-Alienation, .62 for Authentic Living, and .67 for Accepting External Influence (İlhan & Özdemir, 2013). Scoring consists of reversing the negative subscale items of Accepting External Influence and Self-Alienation, and then summing up all the items for a total score. Higher scores reflect greater authenticity.

The Self-Transcendence Scale (STS; Reed, 1991) is a 15-item self-report measure that contains two subscales: Intrapersonal Self-Transcendence (e.g., ‘Able to move beyond things that once seemed so important’) and Interpersonal Self-Transcendence (e.g., ‘Being involved with other people or my community when possible’). The items are rated on a four-point Likert scale ranging from 1 (= *Not at all*) to 4 (= *Very much*). Cronbach's alpha reliability coefficients were found to range from .80 to .88. For the Turkish version, Cronbach-alpha value for the total scale was .87 (Sarıçam, 2015). It is noted that the results of Confirmatory Factor Analysis for the Turkish-translated version of STS showed a one-factor rather than a two-factor structure. Therefore, only the mean score for all 15 items was calculated. Higher scores reflect greater self-transcendence.

The Environmental Behavior Scale (EBS; Goldman, Yavetz & Pe'er, 2006) is a 20-item self-report measure that contains six subscales: Resource-Conserving Actions with Personal Financial Benefit (e.g., ‘Conserve water at home (close the faucet when brushing my teeth, washing dishes etc.)’), Environmentally Responsible Consumerism (e.g., ‘Re-use used writing paper as draft paper’), Nature-Related Leisure Activities (e.g., ‘Read articles on environmental issues in daily newspapers or magazines’), Recycling Efforts (e.g., ‘Bring

things (such as: newspapers, plastic bottles) to recycling collection points’), Citizenship Action (e.g., ‘Report to the authorities on environmental problems’), Environmental Activism (e.g., ‘Participate in campaigns for the cleaning-up and care of public spaces’). The items are rated on a five-point Likert scale ranging from 1 (= *Never*) to 5 (= *Almost always*). Cronbach's alpha reliability coefficients was reported as being .51 for Resource-Conserving Actions with Personal Financial Benefit, .59 for Environmentally Responsible Consumerism, .68 for Nature-Related Leisure Activities, .64 for Recycling Efforts, .64 for Citizenship Action, and the correlation was $r = .6, p < .01$ for Environmental Activism. For the Turkish version, Cronbach-alpha values were .68 for Resource-Conserving Actions with Personal Financial Benefit, .66 for Environmentally Responsible Consumerism, .70 for Nature-Related Leisure Activities, .63 for Recycling Efforts, .68 Citizenship Action and the correlation was $r = .57, p < .01$ between the two items of Environmental Activism (Timur & Yılmaz, 2013). Scoring consists of reversing one item and then summing up all the items for a total score. Higher scores reflect greater environmental awareness and sensitivity.

The Helping Attitudes Scale (HAS; Nickell, 1998) is a 20-item self-report measure that contains three subscales: Selfish (e.g., ‘I would avoid aiding someone in a medical emergency if I could’), Altruism (e.g., ‘Helping friends and family is one of the great joys in life’) and Receiving and Giving (e.g., ‘Doing volunteer work makes me feel happy’). The items are rated on a five-point Likert scale ranging from 1 (= *Strongly disagree*) to 5 (= *Strongly agree*). Cronbach's alpha reliability coefficient was reported as being .86 for the total score. For the Turkish version, Cronbach-alpha value for the total scale was .83 (Serpen & Hasgül, 2018). It is noted that in the Turkish translation, the factor values of two items were below .30 and four items loaded more than one factor at the same time. These items were eliminated; thus the Turkish version includes 14 items. Scoring consists of reversing the

negative subscale item of Selfish, and then summing all the items for a total score. Higher scores reflect greater helping attitudes.

Results

Data were analyzed using the software package SPSS, version 24. A-priori sample size calculator for hierarchical multiple regression (Soper, 2020) was performed. Within this context, anticipated effect size was entered as 0.20, accepted as small according to Cohen's (1988) criteria, and the desired statistical power level was entered as 0.99. According to the results of sample size calculator, the proposed sample size needed to achieve statistical power for our intended regression analyses was 124, thus the 129 participants that were recruited for this study exceeds the minimum requirement.

Firstly, the correlations, means, standard deviations and internal consistency reliability for all measures are presented in Table 1. Pearson's product-moment correlations were performed to measure the associations between authenticity, self-transcendence, helping attitudes and pro-environmental behavior. All three subscales of the Authenticity Scale were highly correlated with the total Authenticity Scale score, and performed similarly with respect to their correlations with the other variables, thus we chose to focus our analysis on the total Authenticity Scale score only. There were positive correlations between authenticity and self-transcendence ($r(129) = .49, p < .01$), helping attitudes ($r(129) = .22, p < .05$), and pro-environmental behaviors ($r(129) = .24, p < .01$).

Examining the subscales of the helping attitudes, and pro-environmental behaviors scales, it was found that greater authenticity was associated with higher scores on the Self Transcendence Scale, the Altruism and Receiving and Giving Subscales of the Helping Attitudes Scale, and the Personal Financial Benefits, Nature-Related Leisure Activities, and Environmental Activism subscales of the Environmental Behavior Scale. No associations

were found, however, for the Selfish subscale of the Helping Attitudes Scale or the Environmentally Responsible Consumerism, Recycling Efforts, or Citizenship Action subscales of the Environmental Behavior Scale.

To test for mediation, it is necessary that there is a correlation between the independent variable (The Authenticity Scale) and the dependent variables (in this case the subscales of the Helping Attitudes and Environmental Behavior Scales); between the independent variable and the mediator (The Self-Transcendence Scale); and between the mediator and the dependent variables. Thus we tested whether self-transcendence mediated the relationship between authenticity and the four subscales of Altruism, Receiving and Giving, Environmental Activism, and Nature Related Leisure Activities. The Personal Financial Benefits subscale was associated with authenticity, yet it was not associated with self-transcendence, therefore it did not meet the criteria for mediation analysis. A series of multiple regressions were used to determine the mediating role of self-transcendence.

-insert Table 1 about here-

Firstly, the association between the Authenticity Scale and the Altruism subscale of the Helping Attitudes Scale was examined. In step 1, a linear regression analysis was performed and the Authenticity Scale was entered, explaining 3.2 % of the variance in altruism. As shown in Table 2, the coefficient of determination ΔR^2 is .03 and the Beta value ($\beta = .17$) showed that the Authenticity Scale was positively and statistically significantly associated with the Altruism subscale. Thus, authentic people are more inclined to show altruistic behavior. In the second step, a multiple regression was carried out and the Self-Transcendence Scale was entered. With the addition of self-transcendence in the second step of model, authenticity was no longer associated with altruism. Since the Beta value of authenticity has decreased and it did not remain statistically significant after the inclusion of

self-transcendence (Before: $\beta = .17, p < .05$; After: $\beta = .04, p = .65$). These results suggest that self-transcendence mediates the association between authenticity and altruism.

-insert Table 2 about here-

Secondly, the mediating role of the Self-Transcendence Scale on the association between the Authenticity Scale and the Receiving and Giving subscale of the Helping Attitudes Scale was examined. In Step 1, a linear regression was performed, and authenticity was entered, explaining 6.4% variance in receiving and giving. As shown in Table 3, the coefficient of determination ΔR^2 is .06 and the Beta value ($\beta = .25$) showed that the Authenticity Scale was positively and statistically significantly associated with the Receiving and Giving subscale. Thus, authentic people are more likely to give and receive help from others. In step 2, the Self-Transcendence Scale was entered. With the addition of self-transcendence in Step 2, authenticity was no longer associated with receiving and giving (see Table 3). Authenticity did not remain statistically significantly associated with giving and receiving after the inclusion of self-transcendence (Before: $\beta = .25, p < .001$; After: $\beta = .11, p = .23$) suggesting that self-transcendence mediates the association between authenticity and receiving and giving.

-insert Table 3 about here-

Thirdly, the mediating role of the Self-Transcendence Scale on the relationship between Authenticity and Environmental Activism subscale of Environmental Behavior Scale was examined. In Step 1, a linear regression was performed and authenticity was entered, explaining 3.8% variance in environmental activism. As shown in Table 4, the coefficient of determination ΔR^2 is .03 and The Beta value ($\beta = .19$) showed that the Authenticity Scale was positively and statistically significantly associated with the Environmental Activism subscale. Therefore, authentic people are prone to express environmental activist attitudes. With the

addition of self-transcendence in the second step of the model, neither authenticity nor self-transcendence were associated with environmental activism. The Beta value of authenticity decreased and it did not remain statistically significant after the inclusion of self-transcendence (Before: $\beta = .19, p < .05$; After: $\beta = .13, p = .19$). These results suggest that self-transcendence does not mediate the association between authenticity and environmental activism.

-insert Table 4 about here-

Finally, the mediating role of the Self-Transcendence Scale on the relationship between the Authenticity Scale and the Nature-Related Leisure Activities subscale of the Environmental Behavior Scale was examined. In Step 1, the Authenticity Scale was entered in a linear regression analysis and explained 10.6% variance in nature-related leisure activities. As shown in Table 5, the coefficient of determination ΔR^2 was .10 and the Beta value ($\beta = .32$) showed that the Authenticity Scale was positively and statistically significantly associated with Nature-related Leisure Activities subscale. This means that authentic people tend to do nature-related activities in their daily life. In Step 2, the Self-Transcendence Scale was entered. With the addition of self-transcendence in step 2, authenticity remained associated with nature-related leisure activities. The Beta value of authenticity slightly decreased and remained statistically significant after the inclusion of self-transcendence (Before: $\beta = .32, p < .01$; After: $\beta = .25, p < .05$), suggesting that self-transcendence does not mediate the association between authenticity and nature-related activities.

-insert Table 5 about here-

Discussion

The specific objective of this study was to investigate prosocial and pro-environmental aspects of authenticity and to test for the mediating role of self-transcendence. Consistent with

previous findings, there were significant positive correlations between authenticity and helping attitudes and between authenticity and pro-environmental behaviors. Our finding that authenticity is associated with nature-related leisure activities is consistent with that of Ottiger and Joseph (2021) who found a correlation between authenticity and the feeling of connection to nature, love and care for the nature. Also, until now, there have been few empirical studies which have investigated the association between self-transcendence and prosocial behavior (i.e. Caprara et al., 2012). As such it is of note that we found a significant correlation between self-transcendence and helping attitudes, and between self-transcendence and pro-environmental behavior. From the broader standpoint of humanistic psychology, Maslow (1971) reformulated his theory on the hierarchy of needs by emphasizing self-transcendence over self-actualization. Similarly, in one of his latter works, Rogers (1980) describes transcendence experiences as ‘*concomitants of the person-centered approach.*’ (p. 132). The findings of this study confirm this connection by demonstrating a clear and statistically significant ($r(129) = .49, p < .01$) correlation between authenticity and self-transcendence.

The novel feature of this study was our proposal concerning the relationship between authenticity and prosociality and pro-environmental behavior, in which we hypothesized that self-transcendence would be a mediating variable. In accord with our hypothesis, the findings showed that self-transcendence did have a mediating effect on the associations between authenticity and altruism, and authenticity and receiving and giving. On the other hand, the Self Transcendence Scale did not mediate the relationship between authenticity and environmental activism, or between authenticity and nature-related leisure activities.

A number of limitations need to be considered. Firstly, we did not find the associations between authenticity and our measures of constructive behaviors to be as broad as we had expected, with several non-statistically significant associations. No associations were found for several of the subscales of the Helping Attitudes and Environmental Behavior Scales. It

may be that not all forms of environmental behavior are perceived in the same way, perhaps some are seen as more authentic and worthy of engagement than others. A further possible explanation for these results may be the challenges in the measurement. In terms of the measurement of prosocial and pro-environmental variables we relied on self-report. The use of behavioral measures would be desirable. Similarly, the validity of self-report measures of authenticity is subject to considerable discussion (Harter, 2002; Baumeister, 2019). Second, this study only examined Turkish-speaking participants, further work needs to be carried out with people from other cultures. In addition, these findings might not be generalizable to all genders, since participants within this study were mostly women. Third, this study uses cross-sectional data which limits our understanding of causality. Future experimental and longitudinal studies may provide answers to the causal nature between these variables.

A suitable development of this work would be longitudinal studies that aim to identify causal links between authenticity, self-transcendence, helping attitudes and pro-environmental behavior. Further experimental studies are also needed to understand how these factors are connected. Examples include an investigation of whether interventions on the cultivation of empathy (i.e., Davis & Begovic, 2014), prosocial spending (i.e., Aknin et al., 2011), making gratitude visits (i.e., Lomas et al., 2014), kindness-based positive psychology activities (i.e., O'Connell, O'Shea & Gallagher, 2016) promote authenticity, or whether invoking feelings of authenticity gives rise to these other more altruistic and prosocial states.

As such, we suggest that the results of this investigation broadly support the theory of client-centered therapy, which advocates that anxiety decreases as the client aligns with their authentic self and begins to establish more harmonious relations with their society and environment (Rogers, 1951). However, further empirical studies are needed to examine whether other behavioral and social changes are experienced by clients who undergo client-centered therapy. For example, conducting experimental investigations to assess the long-term

effects of the therapy process on prosociality may be useful. If client-centered therapy encourages the client to engage in constructive behavior (i.e., altruistic activities), this may also boost the effectiveness of the therapy by enhancing the well-being of the client. As previous studies have shown that prosociality is associated with well-being and psychological functioning (e.g., Hui et al., 2020), different psychotherapeutic approaches may consider applying the practices of client-centered therapy for the promotion of the authenticity of their client, and subsequent prosociality and increased levels of well-being.

Finally, these findings contribute to the humanistic psychology literature on prosociality and pro-environmental behaviors with the observation that those who engage more in such behaviors, tend to be more authentic and that this relationship is mediated by self-transcendence. We think this opens up a new line of enquiry in which ideas from humanistic psychology may help to inform future research.

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Table 1
Descriptive Statistics and Pearson Correlations for Study Measures
(*N*=129)

Measures

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Authentic Living	–																	
2. Self Alienation	-.45**	–																
3. Accepting External Influence	-.27**	.36**	–															
4. STS- Intrapersonal	.35**	-.52**	-.31**	–														
5. STS- Interpersonal	.24**	-.29**	-.04	.58**	–													
6. HAS- Selfish	-.22*	.16	-.05	-.22*	-.33**	–												
7. HAS- Altruism	.28**	-.14	-.00	.24**	.31**	-.54**	–											
8. HAS- Receiving and Giving	.29**	-.24**	-.04	.26**	.39**	-.48**	.70**	–										
9. EBS- Citizenship Action	.13	-.12	-.11	.16	.26**	-.07	.18*	.34**	–									
10. EBS- Recycling Efforts	.02	-.13	-.00	.12	.10	-.16	.08	.29**	.35**	–								
11. EBS- Environmentally Responsible Consumerism	.05	-.13	.05	.03	.07	-.09	.12	.32**	.25**	.57**	–							
12. EBS- Environmental Activism	.10	-.21*	-.11	.15	.22*	-.07	.10	.27**	.72**	.30**	.18*	–						
13. EBS- Personal Financial Benefit	.19*	-.13	-.07	.04	.12	-.07	.08	.23**	.24**	.33**	.46**	.16	–					
14. EBS- Nature-related Leisure Activities	.31**	-.17*	-.29**	.21*	.31**	-.11	.27**	.34**	.47**	.25**	.24**	.45**	.23**	–				
15. AS	.70**	-.84**	-.71**	.53**	.25**	-.14	.17*	.25**	.15	.08	.06	.19*	.17*	.32**	–			
16. STS	.35**	-.50**	-.25**	.96**	.78**	-.28**	.29**	.33**	.21*	.13	.05	.19*	.07	.27**	.49**	–		
17. HAS	.31**	-.21*	.00	.28**	.40**	-.81**	.88**	.83**	.22*	.19*	.19*	.16	.14	.27**	.22*	.35**	–	
18. EBS	.20*	-.21*	-.13	.18*	.27**	-.14	.21*	.44**	.77**	.71**	.64**	.68**	.57**	.66**	.24**	.23**	.30**	–
Mean	23.50	10.63	12.21	34.33	12.83	9.39	21.55	17.11	12.79	10.27	12.32	4.13	12.41	13.93	64.65	47.17	59.27	65.87
<i>SD</i>	3.46	5.27	4.17	4.59	2.02	2.74	2.69	2.10	3.18	3.07	2.03	1.89	2.16	2.67	9.90	6.01	6.38	10.29
α	.69	.84	.77	.77	.78	.48	.77	.59	.65	.70	.57	.73	.53	.63	.83	.82	.81	.84

AS= Authenticity Scale; STS=Self-Transcendence Scale; HAS= Helping Attitudes Scale; EBS= Environmental Behavior Scale

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 2

Regression Analysis to Test the Mediating Role of the Self-Transcendence Scale onto Altruism Subscale of the Helping Attitudes Scale

(*N*=129)

Block	Unstandardized coefficients		Standardized coefficients		Sig.	95% CI for β		R ² Δ Change
	B	SE	β	t		Lower	Upper	
1 (Constant: Altruism)	18.40	1.55		11.86	.00	15.33	21.47	
AS	.04	.02	.17	2.05	.04	.00	.09	.03
2 (Constant: Altruism)	15.04	1.93		7.76	.00	11.21	18.88	
AS	.01	.02	.04	.44	.65	-.04	.06	
STS	.12	.04	.27	2.76	.00	.03	.20	.05

AS= Authenticity Scale; STS=Self-Transcendence Scale; SE=Standard Error; CI= Confidence Interval. a *p* < .05, b *p* < .01

Table 3

Regression Analysis to Test the Mediating Role of the Self-Transcendence Scale onto Receiving and Giving Subscale of the Helping Attitudes Scale

(*N*=129)

Block	Unstandardized coefficients		Standardized coefficients		Sig.	95% CI for β		R ² Δ Change
	B	SE	β	t		Lower	Upper	
1 (Constant: Receiving and Giving)	13.64	1.19		11.46	.00	11.29	16.00	
AS	.05	.01	.25	2.94	.00	.01	.09	.06
2 (Constant: Receiving and Giving)	10.99	1.48		7.40	.00	8.05	13.93	
AS	.02	.02	.11	1.20	.23	-.01	.06	
STS	.09	.03	.27	2.85	.00	.03	.16	.05

AS= Authenticity Scale; STS=Self-Transcendence Scale; SE=Standard Error; CI= Confidence Interval. a $p < .05$, b $p < .01$

Table 4

Regression Analysis to Test the Mediating Role of the Self-Transcendence Scale onto Environmental Activism Subscale of the Environmental Behavior Scale

(*N*=129)

Block	Unstandardized coefficients		Standardized coefficients		Sig.	95% CI for β		$R^2\Delta$ Change
	B	SE	β	t		Lower	Upper	
1 (Constant: Environmental A.)	1.73	1.08		1.59	.11	-.42	3.88	
AS	.03	.01	.19	2.23	.02	.00	.07	.03
2 (Constant: Environmental A.)	.61	1.39		.43	.66	-2.14	3.36	
AS	.02	.01	.13	1.30	.19	-.01	.06	
STS	.04	.03	.12	1.28	.20	-.02	.10	.01

AS= Authenticity Scale; STS=Self-Transcendence Scale; SE=Standard Error; CI= Confidence Interval. a $p < .05$, b $p < .01$

Table 5

Regression Analysis to Test the Mediating Role of the Self-Transcendence Scale onto Nature-related Leisure Activities Subscale of the Environmental Behavior Scale

(*N*=129)

Block	Unstandardized coefficients		Standardized coefficients		Sig.	95% CI for β		$R^2\Delta$ Change
	B	SE	β	t		Lower	Upper	
1 (Constant: Nature-Related L.A.)	8.24	1.48		5.55	.00	5.30	11.17	
AS	.08	.02	.32	3.88	.00	.04	.13	.10
2 (Constant: Nature-Related L.A.)	6.45	1.89		3.40	.00	2.70	10.19	
AS	.06	.02	.25	2.62	.01	.01	.12	
STS	.06	.04	.14	1.51	.13	-.02	.15	.01

AS= Authenticity Scale; STS=Self-Transcendence Scale; SE=Standard Error;
 CI= Confidence Interval. a $p < .05$, b $p < .01$

Figure 1
A Proposed Model for Mediating Role of the Self-Transcendence Scale on the Relationship Between the Authenticity Scale and the Helping Attitudes Scale

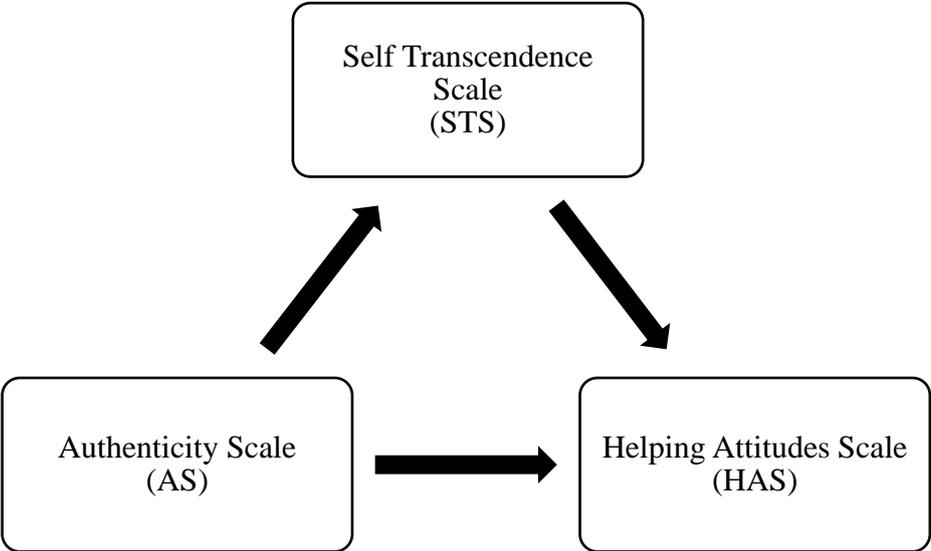


Figure 2

A Proposed Model for Mediating Role of the Self-Transcendence Scale on the Relationship Between the Authenticity Scale and the Environmental Behavior Scale

