

Connectedness to Nature and Life Satisfaction Among College Outdoor Program Staff

Eric Frauman
Francesca Shaffer
Appalachian State University

Ecologists have long theorized about humans' psychological relationship to the natural world. The importance of feeling connected to nature is a theme in the writing of ecologists (Leopold, 1949; Orr, 1994; Roszak, 1995). They have argued that this connection to nature is a key component of fostering ecological behavior. In a meta-analysis of the relationship between nature connectedness and happiness, Capaldi, Dopko, and Zelenski (2014) found that people who are more connected to nature tend to experience greater life satisfaction compared to those who are less connected to nature.

Nonacademic college outdoor programs (OPs) have flourished in recent decades, with hundreds of OPs throughout the United States. OPs provide structured training and leadership opportunities for students interested in facilitating outdoor recreation experiences for others. Historically the emphasis of college OPs has been on facilitating adventure-based opportunities, although recent calls from organizational bodies such as the Association of Outdoor Recreation and Education (AORE) and Wilderness Education Association have emphasized "promoting ecologically sound stewardship of the natural environment" (<http://www.aore.org/>) and "education in the preservation of this country's wild land areas" (<http://www.weainfo.org/about>).

Given the increasing attention toward stewardship education in OPs, and the ever present and often "doom and gloom" reality of deteriorating environmental conditions across the globe, it seems important to examine how connectedness to nature (CN; Mayer & Frantz, 2004) is related to life satisfaction, particularly since OPs have the ability to influence not only their staff CN via training and field initiatives but ultimately the CN of people who participate in OP adventures. Unlike other environmental scales that measure more cognitive beliefs (e.g., New Environmental Paradigm [see Dunlap, Van Liere, Mertig, & Jones, 2000]), the CN measure is "designed to tap an individual's affective, experiential connection to nature" (Mayer & Frantz, 2004, p. 504). As such, the primary purpose of this paper was to examine OP staff CN and how it relates to life satisfaction, with the working theory that OP staff high in CN will express greater life satisfaction than OP staff lower in CN.

Method

A 17-question electronic survey was developed and administered to members of the AORE via an electronic mailing list invitation in Fall 2013 and Winter 2014. The survey included questions linked to CN and life satisfaction. Additionally, the survey asked whether OPs employ environmental education (EE) in their staff training efforts. *Note:* Capaldi et al. (2014) found that

individuals higher in CN are more likely to engage in a variety of pro-environmental behaviors. The CN measure consisted of 13 items using a 7-point level of agreement Likert scale (Mayer & Frantz, 2004), a five-item satisfaction with life (SWL) scale also using a 7-point level of agreement Likert scale (Pavot & Diener, 2008), and the EE question using a yes/no format.

Results

Nearly 300 ($n = 285$) respondents completed the survey. All 13 CN measure items were reliable with an overall scale Cronbach value of .892. *Note:* Additional analysis found that none of the items positively affected the overall Cronbach value if deleted. As such, all 13 items were kept. Overall mean scores for CN items ranged from 4.32 to 6.23, for which 1 = *strongly disagree* and 7 = *strongly agree*, with an overall mean of 72.2 ($SD = 11.4$) out of a possible 91 (Table 1). Eight of the 13 items had mean scores between 5.0 (*slightly agree*) and 6.0 (*agree*) with three ≥ 6.0 . All SWL measure items were reliable with an overall scale Cronbach value of .852. Mean scores for SWL items ranged from 4.89 to 5.61, for which 1 = *strongly disagree* and 7 = *strongly agree*, with an overall mean of 26.6 ($SD = 5.1$) out of possible score of 35.

Table 1
Respondent Perceptions of Connectedness to Nature

Connectedness to nature items	Neither disagree or agree			Item <i>M</i>
	Disagree	or agree	Agree	
I feel a sense of oneness with the natural world around me.	3.5%	5.9%	90.5%	5.84
I feel that the natural world is a community to which I belong.	1.4%	4.2%	94.0%	6.17
I presently recognize and appreciate the intelligence of other living organisms.	3.2%	2.8%	93.3%	6.15
I don't feel connected to nature.	91.2%	2.8%	4.9%	1.79
I imagine myself as a part of the larger cyclical process of living.	4.6%	10.9%	84.2%	5.81
I feel a kinship with animals and plants.	9.1%	13.7%	76.8%	5.41
I feel as though I belong to the earth just as much as it belongs to me.	9.1%	12.3%	78.6%	5.54
I feel deeply aware of how my actions affect the natural world.	2.8%	3.2%	93.3%	5.91
I feel like I am part of the web of life.	4.6%	28.8%	85.9%	5.75
I feel that all inhabitants of earth, human and nonhuman, share a common life force.	12.9%	17.5%	68.4%	5.25
I feel embedded within the broader natural world, like a tree in a forest.	14.9%	18.9%	64.9%	5.03
When I think of humans' place on earth, I consider them to be the most valuable species in nature.	57.9%	18.6%	22.8%	3.27
I feel like I am only a part of the natural world around me, and that I am no more important than the grass on the ground or the birds in the trees.	35.1%	18.6%	46.3%	4.32

Note. The 7-point Likert scale used to evaluate the items was compressed to three for visual purposes. *Strongly disagree*, *disagree*, and *somewhat disagree* were collapsed into one category, with *strongly agree*, *agree*, and *somewhat agree* also collapsed into one category.

To closer examine the relationship between CN and life satisfaction, the researchers determined a CN composite score and SWL composite score for each respondent. A bivariate correlation test found a modest positive relationship between CN and SWL of .242 ($p < .001$). Three similar groups based on CN composite scores were then created to assess whether low CN revealed lower SWL composite scores on average versus those in groups with higher CN scores. An ANOVA test revealed a main effect difference ($F = 3.895$, $p = .022$) with post hoc analysis showing that those in the lowest CN group had a significantly lower mean SWL score ($M = 25.82$) than those in the highest CN group ($M = 27.95$), but similar to that of the middle CN group ($M = 26.33$).

Concerning EE training just over one in five respondents (22.0%) said their OPs provided EE as part of staff training. Thinking that respondents who receive EE training in the workplace may express greater CN and by default SWL scores, the researchers performed independent samples t tests. Nonsignificant results were found, but those receiving EE training had a higher CN score (74.4) versus those without (71.6). EE training revealed a difference concerning SWL with those receiving it having a statistically significant ($p = .021$) greater mean score ($M = 28.0$) versus those without ($M = 26.3$).

Conclusions and Implications

Respondents collectively seem connected to nature (CN) with composite mean scores reflecting an agreement level between *slightly agree* and *agree*. SWL composite mean scores are more closely associated with *slightly agree*. As hypothesized, those with higher CN composite scores expressed greater SWL scores than those with lower CN scores, although the mean difference was modest. The provision of EE training, while not statistically distinguishing those getting it versus those not, as it related to CN, revealed higher mean CN scores for those receiving it. On the other hand, those receiving EE expressed greater SWL scores than those not receiving it.

It is plausible the limited findings could be explained by the range of CN individual item overall mean scores, thereby obscuring a potentially stronger positive relationship to SWL. Further research should examine the factor structure of the CN scale, as previous studies have found its single factor explaining variance ranging from 28% to only 38% (Mayer & Frantz, 2004).

While other factors (e.g., student vs. professional staff) may offer additional insight into the findings, OP administrators should consider looking at how CN may have implications for other OP outcomes (e.g., life satisfaction), particularly if they can be facilitated via the delivery of EE to staff and ultimately to participants in the field. Developing EE training may have significant implications for CN, as a more-connected-to-nature staff may have a greater positive influence on the CN and resulting SWL of their respective participants.

References

- Capaldi, C. A., Dopko, R. L., & Zelenski, J. M. (2014). The relationship between nature connectedness and happiness: A meta-analysis. *Frontiers in Psychology*, 5, 976. <https://doi.org/10.3389/fpsyg.2014.00976>
- Dunlap, R. E., Van Liere, K. D., Mertig, A. G., & Jones, R. E. (2000). Measuring endorsement of the new ecological paradigm: A revised NEP scale. *Journal of Social Issues*, 56, 425–442. <https://doi.org/10.1111/0022-4537.00176>
- Leopold, A. (1949). *A Sand County almanac: With essays on conservation from Round River*. New York, NY: Ballantine Books.
- 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, 503–515. <https://doi.org/10.1016/j.jenvp.2004.10.001>

-
- Orr, D. W. (1994). *Earth in mind: On education, environment, and the human prospect*. Washington, DC: Island Press.
- Pavot, W., & Diener, E. (2008). The Satisfaction With Life Scale and the emerging construct of life satisfaction. *Journal of Positive Psychology*, 3, 137–152. <https://doi.org/10.1080/17439760701756946>
- Roszak, T. (1995). Where psyche meet Gaia. In T. Roszak, M. E. Gomes, & A. D. Kanner (Eds.), *Ecopsychology: Restoring the earth, healing the mind*. (pp. 1–20). San Francisco, CA: Sierra Club Books.