

2008

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Recommended Citation

James, Penny A.; Henderson, Karla A.; and Garst, Barry (2008) "An Exploration of Camp Directors' Affective Connection to Nature and Camp Programming," *Research in Outdoor Education*: Vol. 9, Article 6. Available at: <https://digitalcommons.cortland.edu/reseoutded/vol9/iss1/6>

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AN EXPLORATION OF CAMP DIRECTORS' AFFECTIVE CONNECTION TO NATURE AND CAMP PROGRAMMING

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Richard Louv's (2005) book, *Last Child in the Woods: Saving our Children from Nature-Deficit Disorder*, rallied the outdoor community and initiated a national dialogue about the importance of children's connection to the natural world. Louv made a distinction between cognitive knowledge of environmental issues and tacit knowledge gained through direct experience. The latter leads to an affective connection and enduring bond with the natural world, which has been shown to contribute to healthy human development and cultivation of compassion and empathy for the planet (Huttenmoser, 1995; Mayer & McPherson Frantz, 2004; Wells & Evans, 2003).

Traditionally organized camps for children have been considered synonymous with nature-based opportunities while contributing to positive youth development. Researchers have demonstrated that intentional programming in camps increases the likelihood of achieving youth development goals (Marsh, 1999). Further, camp programming as an educational endeavor is subject to the influence of educator's personal attitudes, beliefs, and emotions (Cotton, 2006; Taylor & Caldarelli, 2004; Zembylas, 2005). Researchers found that people with stronger affective connections to nature demonstrate more environmentally responsible beliefs and behaviors (Berenguer, 2007; Kals, Schumacher, & Montada, 1999; Schultz, Shriver, Tabanico, & Khazian, 2004). Although not studied in the camp environment, research supports a direct relationship between educator affect and curricular decisions (Cotton; Taylor & Caldarelli).

Organized camping has a long history of providing outdoor recreation and environmental education. Louv's (2005) charge that organized camping has shifted away from tradition raises many questions. This study focuses on the role and influence of camp directors on nature opportunities for children within the camp environment. Camp directors set the tone for camp through communication of the mission and philosophy, and managerial decision-making that influences the organization, daily operation, staffing, and programming options of a particular camp (Ball & Ball, 2004). If programming shifts, as Louv suggested, it requires the sanction and leadership of camp directors.

Given the findings of previous research regarding the relationship between affect and decision-making and behavior coupled with Louv's (2005) charge that the nature of organized camping has changed, we explored (a) How connected to nature do camp directors today feel? (b) Do opportunities for children to have direct experiences with nature differ at camps of directors who feel a strong personal connection to nature compared to those camp directors who feel less connection? and (c) Is the influence of camp directors' affective connection to nature strong enough to account for differences in programming related to the provision of opportunities for children to directly experience nature?

The purpose of our study was to explore the relationship between camp directors' personal connections to nature and programming offered at their camps. We also wanted to ascertain whether their affective connection to nature related to camp directors' perceptions regarding nature-deficit disorder, the state of children's connections to nature in contemporary society, and the role of camp in fostering children's connections to nature:

Background

Organized camping first began in the middle of the 19th century and was founded on the ideals of using the natural environment for promoting youth development through outdoor experiences. Most historical accounts trace the origins to adult supervised outdoor camping experiences for youth organized through local institutions such as churches or schools (Eells, 1986). These camps used the natural environment and outdoor recreation activities such as hiking, fishing, and camp craft to foster health, physical activity, and well-being in youth. Today, the American Camp Association (ACA, 1998) continues to define organized camping as:

A sustained experience which provides a creative, recreational and educational opportunity in group living in the *out-of-doors* [italics added]. It utilizes trained leadership and the resources of the *natural surroundings* [italics added] to contribute to each camper's mental, physical, social, and spiritual growth. (p. 3)

Organized camping has become synonymous with opportunities for youth to directly experience and bond with the natural world.

While advocating for the benefits of organized camp experiences for youth, Louv (2005) suggested that camps today have shifted their programming focus from their "roots" in traditional outdoor experiences toward more contemporary interests. According to Louv, this shift has inadvertently contributed to what he termed "nature-deficit disorder" (p. 34), a disconnection between children and the environment:

The shift in our relationship to the natural world is startling, even in settings that one would assume are devoted to nature. Not that long ago, summer camp was a place where you camped, hiked in the woods, learned about plants and animals, or told firelight stories about ghosts or mountain lions. As likely as not today, "summer camp" is a weight-loss camp, or a computer camp. For a new generation, nature is more an abstraction than reality (Louv, p.2).

Nature-deficit disorder raises concerns for the healthy development of today's youth as research has demonstrated the benefits and important contributions of nature to people's well-being (Kahn, 1999; Wells & Evans, 2003). Kahn tied humans' relationship to nature to Wilson's (1984) "biophilia theory" rooted in biology and to psycho-social developmental theories to outline how people's understanding of their place and role in the world contribute to a sense of identity and moral development. Nature also has a calming effect that improves concentration and creativity while reducing stress (Kahn; Moore, 1997; Wells & Evans). Societal implications of nature-deficit disorder arise because people who have developed an affective connection to

nature are more likely to demonstrate pro-environmental attitudes and behaviors (Chawla, 1999; Kals et al., 1999; Milton, 2002).

Children according to Louv (2005) are not the only ones to suffer from nature-deficit disorder. He proposed that living in a technologically advanced society has altered adults' relationship with nature as well. Given that camp directors "set the tone" for their summer camps, Louv's claims led us to question how connected camp directors felt to nature and how their personal affective connection to nature might influence the programming offered at their camps (Ball & Ball, 2004).

Camp directors are not typically involved in the direct leadership of outdoor and environmental education programming at their camps. However, camp directors set the tone for camp through communication and adherence to the camp mission, which impacts all managerial responsibilities including screening and hiring camp staff, approving program and curricular changes, approving equipment and programming expenditures, establishing policies and procedures, and site and facility planning to name but a few (Ball & Ball, 2004). Camp directors of ACA accredited camps are mandated to annually review their camp's mission statement, program goals, and compliance with programming standards (ACA, 1998). Not all programming standards are mandatory but compliance with each standard does contribute to a camp's overall accreditation score. Currently three programming standards (i.e. guidelines) directly relate to the natural environment.

Camps are encouraged to intentionally use the natural environment on a regular basis for "education and inspiration" (ACA, 1998; PD-2, p.104), and to provide age-appropriate, structured activities that help campers feel comfortable, build appreciation, and develop a sense of stewardship toward the environment (PD-9). Camps are also encouraged to evaluate and minimize negative environmental impacts from their operation and activities (PD-3). The camp director's responsibility is to annually review compliance with all programming standards (Ball & Ball, 2004).

Although our exploratory study was conducted to investigate a possible relationship between camp director's affective connection to nature and programming opportunities for children at their camps, the conceptual framework was drawn from the literature related to the theory of planned behavior, decision-making, and the influence of affect on decision-making and environmental education (Ajzen, 1985; Cotton, 2006; Hanoch, 2002; Simon, 1957). Affect may influence not only intentional behavior, consistent with planned behavior theory, but also may exert subconscious influences on behavior, consistent with the use of judgmental heuristics and biases (Ajzen; Kahneman & Tversky, 1980; Vecchio, 2003).

The theory of planned behavior can help to understand how beliefs, attitudes, and emotions impact camp directors' purposeful actions by operating *within* consciousness (Ajzen, 1985). Planned behavior theory extends the theory of reasoned action (Ajzen & Fishbein, 1977) that posits intention is the immediate antecedent of behavioral action by providing an acknowledgement that people may face impediments (e.g., lack of opportunities and resources) to follow through on their actions (Ajzen). Both theories suggest that intentions are shaped

simultaneously by a person's attitude toward the behavior and interpretation of the subjective norms of others (Ajzen; Ajzen & Fishbein). Kaiser, Wölfing, and Fuhrer (1996) found that planned behavior theory explained how environmental knowledge and ecological behavior intentions were influenced by perceived behavioral control in predicting environmental behaviors. Zint (2002) found that planned behavior theory coupled with past experience explained science teachers' intention to act and their subsequent instructional behavior.

Just as planned behavior theory has evolved to acknowledge that circumstances beyond a person's control may influence perceptions of behavioral control, decision-making theories acknowledge that managers operate within a "bounded rationality" (Simon, 1957). In essence, decision making is limited by the complexity of the problem, the information available, and the ability to pursue a desired course of action. People tend to do the best they can at any given time under the circumstances. For example, a camp director is not likely to decide to offer horseback riding at the camp if no infrastructure (i.e., stables and pasture land) or financial resources to develop and implement the program exist. Although this decision appears rational, researchers have discovered interplay between emotion and rational thinking processes (Hanoch, 2002).

Hanoch extended Simon's (1957) theory of bounded rationality to acknowledge the role of emotion in decision making. Etzioni (1988) suggested that most decisions are based on emotional involvement and value commitments at all phases of the process (i.e., information gathering, information processing, drawing inferences, identifying and evaluating alternatives, and selection of an alternative). Emotions have been found to work with cognitive mechanisms such as heuristics enabling the rapid processing of information (Muramatsu & Hanoch, 2005). Heuristics are an example of an unconscious process involved in decision making that may be affected by attitudes and emotions. Kahneman and Tversky (1980) found that people relied on judgmental heuristics when making decisions that drew on the accessibility of relevant information or symbols in memory as well as the representativeness, or correspondence, of new information to categories already stored in memory. Using these heuristics may lead to biases that operate beyond consciousness based on personal experience or selective perception in an effort to support foregone attitudes and beliefs (Soelberg, 1967; Vecchio, 2003).

Environmental education programming is influenced by the environmental attitudes and beliefs of educators including whether or not to assume a neutral stance on controversial environmental issues, the educational content covered, and the use of experiential teaching methods (Cotton, 2006; Flogaitis, Daskolia, & Agelidou, 2006; Taylor & Caldarelli, 2004). Affect plays a large role in teaching, though it has received little attention in the research literature perhaps because investigating affect is more difficult than investigating cognition (Zembylas, 2005). Most theories of human cognition have abandoned a purely rational view of information processing and decision making (Etzioni, 1988). Today psychologists understand that from an evolutionary perspective, cognition and affect have evolved together and are intricately connected (Forgas, Wyland, & Latham, 2006). Emotions may be either beneficial or detrimental to decision making and operate both within and beyond consciousness (Baumeister, Vohs, & Tice, 2006). Thus, it is reasonable to assume that a camp director's attitudes, beliefs, and affective connection to nature may influence managerial decision making not only at a conscious level (e.g., allocating

resources to the provision of environmental education and outdoor recreation) but at the unconscious level (e.g. biases based on personal experiences with nature) as well.

The purpose of this study was to explore the relationship between camp directors' affective connections to nature and programming at their camps. We also sought to ascertain if camp directors' affective connection to nature was related to perceptions of nature-deficit disorder, the state of children's connections to nature in contemporary society, and the role of camp in fostering children's connection to nature (Louv, 2005).

Methods

Participants

In May 2007, a random sample of 529 camp director email addresses was drawn from the ACA camp membership list that included 2500 accredited camps. Twenty-two addresses were not valid. A total of 144 camp directors participated resulting in a response rate of 28%. No demographic characteristics were collected about the camp directors since the focus of this study was on camp programming opportunities that facilitated campers' direct experiences with nature.

Data Collection

Camp directors completed an online survey (via Survey Monkey) developed by the authors in collaboration with members of the ACA Children, Nature, and Camp Task Force who assisted with face validity of the instrument. Camp directors were asked to rate their level of agreement with Louv's (2005) claims regarding the state of children's connection to nature and the role of camps in fostering nature connections. Items about children's connection to nature were synthesized from the narrative in Louv's book. Level of agreement was indicated on a 5-point scale with 1= *strongly disagree* and 5= *strongly agree*. An example of a question related to the state of children's relationship to nature in contemporary society included, "Children today are less connected to the environment than they were 20 years ago." Questions related to the role of camps in fostering children's opportunities to engage the natural world included, "Opportunities to connect with the natural environment at camp are important for children" and "Fostering campers' connections to the natural environment requires purposeful programming."

Other questions related to camp director perceptions included whether they believed nature opportunities were important to parental decisions about sending their children to camp and whether their camp's mission statement, goals, and objectives matched their personal philosophy about nature. Camp directors also rated how integral they believed the natural environment was for conducting activities at their camps on a 3-point scale with 1= *not at all* (activity could be conducted indoors without altering the experience), 2 = *somewhat important* (activity could be conducted indoors but it would alter the experience), and 3 = *essential* (without the defining characteristics of the natural environment, this activity cannot be conducted). The fifteen activities were: (a) adventure activities (e.g., rock climbing), (b) arts & crafts, (c) boating (non-motorized), (d) camp craft, (e) challenge activities (e.g., ropes course), (f) cooperative games, (g) field sports (e.g., soccer, baseball), (h) hiking, (i) horseback riding, (j) motorized recreation (boating, ATV, motorcycle), (k) nature study, (l) primitive skills (e.g., foraging or shelter building), (m) swimming, (n) target sports (e.g., archery), and (o) trip/travel. Camp director's only provided ratings for those activities offered at their camps.

Information was collected regarding those characteristics of camp operations and programming deemed likely to influence the provision of opportunities that foster children's affective connection to nature. Characteristics of camps that could potentially influence the offering of nature-based programming included: camp affiliation (e.g., nonprofit or agency sponsored), day or residential, and camp locale (e.g., urban or wilderness). Programming characteristics explored included whether programming was conducted primarily indoors or outdoors, the amount of time campers spent in the outdoors each day, whether the camp had programming goals that specifically addressed nature, the primary program focus of the camp (e.g., traditional outdoor or sport), whether the camp mission statement explicitly included any nature related words (e.g., nature, environment, or outdoors), and what types of activities the camp offered. We were also interested in whether camp directors' CNS differed depending on the camper population served (i.e., ethnicity, ages, abilities, gender, income, and camper locale). Camp characteristics, programming characteristics, and camper demographics were categorical variables.

To assess camp directors' affective connection to the environment, camp directors completed the Connectedness to Nature Scale (CNS; Mayer & McPherson Frantz, 2004). The CNS measures a person's "experiential sense of oneness with the natural world" (Mayer & McPherson Frantz, p. 504). Prior instruments such as the New Ecological Paradigm (NEP) scale (Dunlap, Van Liere, Mertig & Jones, 2000) and the Inclusion of Nature in the Self (INS) scale (Schultz, 2001) assessed a person's cognitive beliefs about the environment. Consistent with a growing body of research that direct experiences and affective relationships with nature better predict pro-environmental attitudes, beliefs, and behaviors, the CNS assesses affective connection to nature rather than cognitive beliefs (Kals et al., 1999; Mayer & McPherson Frantz).

The CNS consists of fourteen questions with agreement based on a 5-point scale with 1 = *strongly disagree* and 5 = *strongly agree*. Mayer and McPherson Frantz (2004) conducted a series of five studies with samples drawn from both university students and adults from the general population to establish the psychometric properties of the CNS. They reported scale reliabilities ranging from .79 to .84, and test-retest reliability of .78. Concurrent validity was demonstrated through moderate correlations between the CNS and the NEP (Dunlap, et al., 2000), $r = .35$ and $r = .52$, and the INS (Schultz, 2001), $r = .55$.

Data Analysis

Data reduction of survey questions related to nature-deficit disorder, the state of children's connection to nature and the role of camp in fostering children's nature connections was conducted via a principal components analysis (PCA) with varimax rotation using cutoffs of eigenvalue greater than or equal to one and correlation greater than or equal to .40. The KMO of .68 indicated that the high correlation between the variables would be reduced by partial correlations such that the data were amenable to PCA (see Table 1). All items loaded on two factors: (a) importance of camp in fostering children's nature connections and, (b) children's disconnect from nature, which cumulatively explained 56% of the variance. Only two items loaded on the "disconnect" component and the scale were not reliable. Therefore, the disconnect component is omitted from further statistical analysis.

TABLE 1

Principal Components Analysis of Survey Items Related to Camp Directors' Perceptions of the Role of Camps and Nature-Deficit Disorder in Contemporary Society (N=142)

	Component 1 (Camp Importance)	Component 2 (Disconnect)
<i>Variable</i>		
Camp Opportunities Important	0.68	
Purposeful Programming Necessary	0.58	
Camp More Important Today	0.60	
Nature Important to Camp Mission	0.84	
Nature Important to Goals/Objectives	0.85	
Existence of Nature-Deficit Disorder		0.81
Camp Should Meet Contemporary Interests		0.61
Eigenvalue	2.61	1.33
Explained Variance (%)	37.33	18.95
Cumulative Explained Variance (%)	37.33	56.28
KMO	0.68	
Cronbach Alpha	0.77	0.25

A principal components analysis with varimax rotation on the CNS produced findings similar to Mayer and McPherson Frantz's (2004) one-factor solution. Factor loadings for all items except three were greater than or equal to .3 on the first factor, which had an eigenvalue of 6.25 and accounted for 45% of the variance. Scale reliability for the CNS was acceptable, and Cronbach Alpha = .86 with reliability not improved by deleting any of the items. Therefore, all analyses of CNS mean scores and CNS high/low splits were based on the CNS scale in its entirety.

For analyzing camp directors' perceptions of nature-deficit disorder, the state of children's connection to nature in contemporary society, and the role of camp in fostering children's nature connections, CNS was changed to a dichotomous variable (high CNS: $M \geq 3.52$ or low CNS: $M \leq 3.51$) based on Mayer and McPherson Frantz's (2004) findings with the general population, $M = 3.52$. This change allowed for a comparison between camp directors categorized with high CNS scores ($n = 97$) and camp directors categorized with low CNS scores ($n = 44$). Given the tradition of organized camping's role in the provision of nature-based opportunities for children, it was anticipated that camp directors' mean CNS score would be higher than that found in the general population. Thus, a split based on Mayer and McPherson Frantz's findings with the general public was deemed more appropriate than a median split, which might be artificially inflated due to the population being studied.

All ANOVAs and t-tests were conducted at $\alpha = .05$ to investigate the relationship between camp directors' CNS scores and camp director perceptions, camp characteristics, programming characteristics, and camper demographics. Post hoc analyses used Scheffé tests since this method was conservative for protecting against Type I errors when a large number of comparisons are made (Garson, 2008). The small sample size, coupled with the skewed distribution of the data, precluded the use of multivariate statistical analyses.

Results

The purpose of our study was to explore the relationship between camp directors' personal connections to nature and programming offered at their camps. We also wanted to ascertain whether their affective connection to nature related to camp directors' perceptions regarding nature-deficit disorder, the state of children's connections to nature in contemporary society, and the role of camp in fostering children's connections to nature. Results are presented for these camp director perceptions and followed by results related to characteristics of the camp, characteristics of programming, and camper demographics.

Camp directors rated their agreement with explanations taken from Louv's (2005) book related to nature-deficit disorder and the role of camps in fostering children's nature connections. A principal components analysis produced two components: *importance of camp* and *disconnect*. The disconnect component was unreliable and was, therefore, not included in the analysis. Camp directors classified as high on the CNS demonstrated significantly greater agreement ($M = 4.50$, $SD = 0.49$) that camp is important for fostering opportunities for children to develop affective connections to nature than camp directors classified as low on the CNS ($M = 4.11$, $SD = 0.64$), $t(140) = -4.04$, $\eta = .10$, $\beta = .98$, $p < .01$.

Two additional items explored the relationship between camp directors' perceptions and their CNS mean scores. Camp directors CNS mean scores did not differ significantly depending upon whether they perceived nature opportunities to be an important consideration in parents' decisions about camp ($n = 41$, $M = 3.76$, $SD = 0.60$) or not ($n = 87$, $M = 3.69$, $SD = 0.61$), $t(126) = -.055$, $\eta = .00$, $\beta = .09$, $p < .58$. CNS mean scores were significantly higher ($n = 93$, $M = 3.79$, $SD = 0.60$) if camp directors perceived that their camp's mission and philosophy about nature matched their own personal philosophy compared to camp directors who perceived incongruence between their personal and their camp's nature philosophy ($n = 35$, $M = 3.50$, $SD = 0.59$), $t(126) = -2.43$, $\eta = .05$, $\beta = .67$, $p < .02$.

Camp directors were asked whether or not they offered 15 selected camp activities and if so, how important the natural environment was in conducting those activities. Table 2 presents the number of camps offering each activity and CNS mean scores for camp directors for each of the three perceived levels of importance of the natural environment for conducting each activity. Significant differences were found for camps offering arts and crafts, camp craft, primitive skill, and trip/travel programs.

A Scheffé test revealed a significant difference in CNS mean scores between camp directors who perceived the natural environment as somewhat important and camp directors who perceived the environment as unimportant for conducting arts and crafts. CNS mean scores were significantly

higher for camp directors who perceived the environment as somewhat important to camp craft than for directors who perceived the environment as unimportant. Camp directors who perceived the environment as unimportant to primitive skills had significantly lower CNS mean scores than either those directors who perceived the environment as somewhat important or essential. CNS mean scores were significantly lower for camp directors who perceived the environment as unimportant to trip/travel programs than for those who perceived it as essential.

Camp directors' CNS mean scores were compared to camp characteristics deemed likely to influence the provision of opportunities that foster children's affective connections with nature (see Table 3). Camp directors CNS mean scores were significantly higher at camps where programming was primarily conducted outdoors than camp directors at camps where campers spent at least half of their time indoors. Camp directors at camps where the mission included "nature" related words had significantly higher CNS mean scores than directors at camps where the mission included no nature related words. No significant differences in CNS mean scores were found based on camp characteristics related to whether or not the camp had nature related program goals or the primary programming focus of the camp was traditional outdoors.

No significant differences in CNS mean scores were found based on programming characteristics related to the number of hours campers spent outdoors, camp affiliation, day or residential camp, or camp location (e.g., urban, rural; see Table 4).

Whether camp directors' CNS mean scores differed based on the populations they served was also investigated (see Table 5). Camp directors' CNS mean scores were significantly higher for camp directors at camps whose camper population included both Caucasians and ethnic minorities than camp directors at camps that included no ethnic minorities. In examining Table 5, camp directors' CNS mean scores at camps that served only ethnic minorities differed .04 from that of camp directors at ethnically diverse camps. However, post hoc analysis revealed that the only significant difference was between camp directors at camps serving only Caucasian campers and camp directors at camps serving diverse populations (i.e. Caucasians and ethnic minorities). The lack of a significant finding between the Caucasian only and ethnic minority only groups is attributed to the small sample size ($n = 9$) for the ethnic minorities only group in comparison to the other groups (Garson, 2008). Significant differences in camp director's CNS mean scores were found related to the ages of campers served (i.e., whether or not programs are offered that include adults or families). However, post hoc analyses showed no significant pairwise results. No significant differences in CNS mean scores were found related to campers' abilities, campers' gender, family income level, or campers' residential location (e.g., urban or rural).

TABLE 2

Analysis of Variance for Camp Directors' CNS Mean Scores Based on Their Perceptions of Importance of Environment to Activities

	N	df	F	η^2	β	p	Not Important			Somewhat Important			Essential		
							n	M	SD	n	M	SD	n	M	SD
Adventure	98	2, 95	0.64	.01	.15	.53	2	3.18	0.25	22	3.68	0.69	74	3.69	0.61
Arts & Crafts	120	2, 117	3.07	.05	.58	.05*	57	3.58	0.59	52	3.86	0.60	11	3.77	0.47
Boating	102	2, 201	1.15	.01	.19	.29	9	3.51	0.67	93	3.73	0.59	102	3.71	0.60
Camp Craft	110	2, 107	4.18	.07	.73	.02*	15	3.33	0.66	53	3.83	0.56	42	3.76	0.62
Challenge Activities	104	2, 101	0.42	.01	.12	.66	6	3.45	0.60	32	3.69	0.62	66	3.69	0.63
Cooperative Games	128	2, 125	1.63	.03	.34	.20	18	3.69	0.39	79	3.66	0.65	31	3.89	0.54
Field Sports	111	2, 108	0.34	.01	.10	.71	3	3.71	0.19	41	3.61	0.64	67	3.71	0.60
Hiking	122	2, 119	0.81	.01	.19	.45	3	3.33	0.72	9	3.65	0.45	110	3.75	0.60
Horseback Riding	65	2, 62	0.35	.01	.10	.70	1	3.29	0.37	11	3.79	0.63	53	3.71	0.59
Motorized Recreation	20	2, 17	0.34	.02	.09	.57	0			2	3.54	0.45	18	3.82	0.64
Nature Study	123	2, 120	2.47	.04	.49	.09	4	3.57	0.46	40	3.56	0.68	79	3.81	0.55
Primitive Skills	82	2, 79	4.38	.10	.74	.02*	3	2.69	0.48	17	3.74	0.55	62	3.76	0.63
Swimming	119	2, 116	1.45	.02	.31	.24	8	3.43	0.85	26	3.59	0.70	85	3.74	0.54
Target Sports	104	2, 101	1.55	.03	.32	.22	4	3.18	0.79	35	3.76	0.58	65	3.70	0.64
Trip/Travel	89	2, 86	4.97	.10	.80	.01*	5	3.03	0.49	22	3.46	0.63	62	3.78	0.61

* p < .05

TABLE 3
T-Tests for Camp Directors' CNS Mean Scores Based On Camp Characteristics

Location of Camp Programming	t(1, 125) = -2.31, $\eta = .04$, $\beta = .63$, $p < .02^*$		
	<u>N</u>	<u>M</u>	<u>SD</u>
Not Primarily Outdoors	19	3.43	0.67
Primarily Outdoors	108	3.77	0.58
Nature Related Goals	t(1, 126) = 1.90, $\eta = .03$, $\beta = .47$, $p < .06$		
	<u>N</u>	<u>M</u>	<u>SD</u>
None Director Aware Of Nature Related Goals	30	3.53	0.12
	98	3.76	0.06
Programming Focus	t(1, 126) = 0.18, $\eta = .00$, $\beta = .05$, $p < .86$		
	<u>N</u>	<u>M</u>	<u>SD</u>
Traditional Outdoor	111	3.71	0.60
Other (e.g., sport)	17	3.68	0.68
Mission Includes "Nature" Words	t(1, 126) = -2.48, $\eta = .05$, $\beta = .69$, $p < .02^*$		
	<u>N</u>	<u>M</u>	<u>SD</u>
No Nature in Mission	37	3.51	0.63
Mission Includes Nature	91	3.79	0.58

* $p < .05$

TABLE 4
Analysis of Variance for Camp Directors' CNS Mean Scores Based on Programming Characteristics

Average Hours Campers Outdoors	F(3, 125) = 1.78, $\eta = .04$, $\beta = .46$, $p < .15$		
	<u>N</u>	<u>M</u>	<u>SD</u>
Less Than 5	6	3.29	0.32
5-6 Hours	19	3.77	0.60
7-8 Hours	36	3.61	0.58
More Than 8 Hours	68	3.79	0.62
Camp Affiliation	F(3, 124) = 0.75, $\eta = .02$, $\beta = .21$, $p < .53$		
	<u>N</u>	<u>M</u>	<u>SD</u>
Independent For Profit	26	3.76	0.59
Independent Not For Profit	47	3.66	0.61
Religiously Affiliated	20	3.58	0.75
Agency or Government	35	3.81	0.52
Day or Residential Camp	F(2, 125) = 1.40, $\eta = .02$, $\beta = .30$, $p < .25$		
	<u>N</u>	<u>M</u>	<u>SD</u>
Day Camp	20	3.77	0.59
Residential Camp	75	3.76	0.57
Both Day & Residential	33	3.56	0.69
Camp Location	F(2, 125) = 0.09, $\eta = .00$, $\beta = .06$, $p < .92$		
	<u>N</u>	<u>M</u>	<u>SD</u>
Urban/Suburban	24	3.69	0.60
Rural	78	3.70	0.62
Wilderness/Remote	26	3.75	0.58

* $p < .05$

TABLE 5
Analysis of Variance for Camp Directors' CNS Mean Scores Based on Camper Demographics

Campers' Ethnicity	F(2, 122) = 6.53, $\eta = .10$, $\beta = .90$, $p < .01^*$		
	<u>N</u>	<u>M</u>	<u>SD</u>
No Ethnic Minorities	77	3.57	0.57
Only Ethnic Minorities	9	3.93	0.43
Ethnically Diverse	39	3.97	0.63
Campers' Ages	F(3, 116) = 2.22, $\eta = .07$, $\beta = .67$, $p < .07$		
	<u>N</u>	<u>M</u>	<u>SD</u>
Children Only	49	3.65	0.60
Children & Adults	19	3.50	0.61
Children & Families	12	3.73	0.58
Children, Adults, & Families	40	3.93	0.58
Campers' Abilities	F(2, 124) = 2.81, $\eta = .04$, $\beta = .54$, $p < .06$		
	<u>N</u>	<u>M</u>	<u>SD</u>
All Abilities	53	3.86	0.62
With Disabilities	7	3.51	0.45
With No Disabilities	67	3.62	0.59
Campers' Gender	F(2, 125) = 0.26, $\eta = .00$, $\beta = .09$, $p < .77$		
	<u>N</u>	<u>M</u>	<u>SD</u>
Boys Only	9	3.60	0.69
Girls Only	28	3.77	0.49
Co-educational	91	3.70	0.63
Campers' Family Income Level	F(2, 125) = 0.60, $\eta = .01$, $\beta = .15$, $p < .55$		
	<u>N</u>	<u>M</u>	<u>SD</u>
Low Income	20	3.80	0.57
Middle Income	86	3.72	0.64
High Income	22	3.60	0.52
Campers' Residential Location	F(2, 125) = 0.04, $\eta = .00$, $\beta = .06$, $p < .96$		
	<u>N</u>	<u>M</u>	<u>SD</u>
Urban/Major City	38	3.70	0.70
Suburban	66	3.70	0.59
Rural/Small Town	24	3.74	0.51

* $p < .05$

Discussion

This exploratory study provided tentative support that a relationship, albeit indirect, existed between camp director's affective connection to nature and at least some aspects of programming at their camps. The mean CNS score for camp directors in this study was higher than Mayer and McPherson Frantz (2004) found in the general population. Consistent with the conceptual framework based on planned behavior theory, affect, and decision-making biases, camps with camp directors who had stronger affective connections to nature were more likely to provide opportunities that connect campers with nature. This finding is likely due to the

leadership and managerial support of the camp directors (Ball & Ball, 2004). Camp directors with high CNS mean scores were significantly more likely to express agreement that camp was important for fostering children's connection to nature. These results also were consistent with Mayer and McPherson Frantz's findings of more pro-environmental attitudes and behaviors in people who scored higher on the CNS.

Camp directors who had higher CNS mean scores were more likely to agree that their camp's mission matched their personal nature philosophy. We cannot determine from this study whether these camp directors were attracted to work at a camp that matched their philosophy, were transformed by working at a camp with a particular nature philosophy, or whether they had played a role in formulating or revising their camp's mission. Camp directors' CNS mean scores were significantly lower if they perceived the natural environment to be unimportant to conducting several camp activities (i.e., arts & crafts, camp craft, primitive skills and trip/travel). These findings were consistent with higher CNS scores indicative of more pro-environmental attitudes and beliefs (Mayer & McPherson Frantz, 2004).

Camp directors with high CNS scores worked in a variety of camp settings and were not restricted to traditional outdoor camps. Camp directors with high CNS scores were equally likely to be found in urban as wilderness camp settings, associated with day or resident camps, and either in nonprofit or profit organizations. No significant differences were uncovered for the number of hours campers spent outdoors, although the camp directors with the lowest CNS mean score were associated with campers spending the least amount of time outdoors. This result may be due to the outdoors serving as a backdrop for some camp activities (e.g. field sports like soccer) as well as integral to others (e.g. nature study).

Camp directors with high CNS mean scores were found working with a variety of camper populations. No significant differences were uncovered based on camps serving particular genders, abilities, ages, income level, or camper locations. The only significant finding was for camp directors working with no ethnic minorities who had significantly lower CNS mean scores than directors working with both Caucasian and ethnic minority campers. Although interesting, no explanation for this finding is readily apparent and further research is necessary both to replicate the finding and to parse out an explanation for it.

The examination of the relationships between camp directors' affective connection to nature and programming at their camps was predicated on the theories of planned behavior, decision making, and the influence of affect on decision making and environmental education (Ajzen, 1985, Kahneman & Tversky, 1980; Vecchio, 2003). In addition, a growing body of environmental psychology research has demonstrated how emotional affiliations with nature gained through direct experience are better predictors of pro-environmental behaviors than cognitive assessments of a person's environmental beliefs (Kals et al., 1999; Mayer & McPherson Frantz, 2004; Schultz, 2001). For purposes of this study, we interpreted the provision of nature-based opportunities for campers as pro-environmental behavior.

Although this exploratory study has raised more questions than it has answered, it has provided tentative support that camp directors' affective connection to nature has at least an indirect

relationship to some aspects of programming related to campers' nature-based opportunities. This study is an important first step in exploring how outdoor education professionals' affective connection to nature may influence programming for children. Camp directors' are not typically involved in the direct leadership of outdoor education experiences for campers. Many other factors likely mediate this relationship such as the affective connection program staff feel for the environment.

No literature was found that investigated the influence of camp directors on camp programming, even though that assumption is implicit. However, given the significant findings that camp directors' CNS scores were related to some aspects of camp programming, it appears that camp directors may influence the program emphases and program delivery at their camps through either intentional behavior or subconscious biases that affect decision-making. Further research is necessary to understand how camp directors' attitudes, beliefs, and affective connection to nature influence their leadership and managerial functioning. Further investigation of the relationship between camp programming and camper's affective connections to the environment in the battle against nature-deficit disorder also is warranted in light of these results.

This exploratory study has several limitations. First, we were unable to make conclusions regarding cause and effect for the relationship between camp directors' affective connection to nature and programming at their camps. This relationship is likely dynamic. Camp directors with strong affective connections to nature may be attracted to careers consistent with their attitudes, beliefs, and feelings. Conversely, working for organizations involved in outdoor education could foster the development of pro-environmental attitudes, beliefs, and feelings in employees. In the context of this study, we could not determine which situation came first.

Second, our response rate was only 28%. This rate was likely due to the timing of the survey, which was completed in May at a time when camp directors were busy with preparations for the upcoming camp season. Approximately 87% of the respondents were from camps with a traditional outdoor programming emphasis. We do not know if this proportion is representative of the ACA accredited camp population as ACA does not maintain records about a camp's overall programming emphasis. Our sample was representative, however, of ACA accredited camps in sponsorship and day or residential structure.

Third, we did not collect demographic information about the camp directors, which in retrospect might have provided additional insight. For example, what childhood experiences did these camp directors' have related to nature and how did those experiences perhaps bias their managerial decision-making related to programming at their camps? We made statistical comparisons in this study regarding the relationship of CNS to camp directors' perceptions, camp characteristics, programming characteristics, and camper demographics. These multiple comparisons increased the experimentwise error rate for making a Type 1 error beyond our stated $\alpha = .05$. Therefore, we performed all post hoc analyses with Scheffé tests, which are conservative and more appropriate when a large number of comparisons are made (Garson, 2008). While MANOVA would have been more appropriate, taking into account any intercorrelation between items that may exist, the small sample size, and the skewed distribution of the data precluded the use of multivariate statistical procedures.

Finally, the omission of the disconnect component (see Table 1) left our question regarding the possible relationship between camp directors' affective connection to nature and their perceptions of the state of children's connections to nature in contemporary society unanswered. Camp director's beliefs in the presence of nature-deficit disorder were not reliably connected to their beliefs as to whether or not camp programming should be diverted away from traditional outdoor recreation and environmental education toward children's more contemporary interests. Further research would be necessary to develop a scale that would answer this question and ascertain camp directors' perceptions of children's relationship to nature today.

This study was a first step in exploring the potential relationships between camp directors' affective connection to nature and programming at their camps. The finding that camp directors' affective connection to nature has a significant relationship to some aspects of programming attests to the strength of this indirect relationship. Previous research supports the influence of emotion on educational content but no research has examined the affective connection of camp program staff on camp programming (Cotton, 2006; Zembylas, 2005). Given the literature and the significant findings of this study, one would anticipate stronger effect sizes with direct providers of camp programming. Nevertheless, if nature-deficit disorder exists, and if the goal of the current movement within the field of outdoor education is to foster children's affective connection to nature, then future researchers must continue to explore the effectiveness of camp programs in achieving nature-focused ends.

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