



**Looking toward the Blue Sky: Environmental education researchers' experience, influences, and aspirations**

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5 **influences, and aspirations**  
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10 **Abstract**

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13 contexts, work in a range of settings, and envision various outcomes. Desiring to better  
14 understand their backgrounds, interests, and aspirations for the field, we surveyed EE researchers  
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17 research and the increasingly global scale of environmental issues, rural-to-urban population  
18 shift, and emphasis on health and wellness. They described a desire to pursue and communicate  
19 about research relevant to academics, practitioners, and the broader public.  
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31 **Keywords:** researchers, professionals, environmental education field, trends, theoretical  
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## Background

The environmental education (EE) field has a decades-long research history, motivated and informed by theoretical grounding in educational quality, social equity, and environmental conservation (Hart & Nolan, 1999; Stevenson, Wals, Dillon, & Brody, 2013; Scott, 2009). Many researchers, practitioners, scientists, and policymakers are interested in how EE engages people in developing the “attitudes, values, knowledge, skills, and behaviors” (UNESCO, 1977) to bring about a more sustainable and healthy environment in the short and long term. The field’s current structure—which can be described as either multifaceted or fractured, depending on one’s vantage—reflects its multi- and interdisciplinary grounding and organic history, growing from diverse areas, movements, and historical traditions (Biedenweg, Monroe, & Wojcik, 2013; Gough, 2013; Krasny & Dillon, 2013).

Monroe, Andrews, and Biedenweg describe EE as “an approach, a philosophy, a tool, and a profession” (2007, p. 206). The approaches and tools of the field have been relatively well-studied (e.g., Fraser, Rupanwita, & Krasny, 2013; Ardoin, Biedenweg, & O’Connor, 2015), yet the profession of EE—and, in particular, the researchers within the field, their perspectives, and background, and “the theories of learning held by the researchers,” as Dillon (2003) describes—are less studied. However, the influence of such researchers on a field is tremendous: they can be the keepers of history and create a field’s trajectory, consider broader trends, and suggest opportunities for fruitful integration of research and practice.

Over the past two decades, researchers have written reviews and critical essays to characterize and analyze EE research (e.g., Marcinkowski & Mrazek, 1996; Scott, 2009; Reid & Scott, 2013; Wals, Stevenson, Brody, & Dillon, 2013; and others), as well as speculate on future trends and opportunities (e.g., Rickinson, 2006; Ardoin, Clark, & Kelsey, 2013; Wals,

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3 Stevenson, Brody, & Dillon, 2013). Yet, rather than taking an approach that reviews the  
4 literature, which often has been the focus (e.g., Posch, 1993; Hart & Nolan, 1999; Palmer, 1999;  
5 Rickinson, 2001), we aimed to contribute to the field's historical record through developing an  
6 understanding of the backgrounds, theoretical groundings, areas of interest, and aspirations of  
7 current EE researchers.  
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11 To this end, we conducted a survey to explore EE researchers' theoretical and educational  
12 influences and identify issues EE researchers find compelling and deserving of further study. In  
13 part, the study was framed to bring to light the global trends that might relate to, and influence,  
14 both EE and EE research (Ardoin, Clark, & Kelsey, 2013). To explore future opportunities, we  
15 provided space for researchers to "blue sky," or think imaginatively, without constraint, about  
16 aspirational research questions, collaborations, and publications. By understanding this  
17 landscape, we hoped to uncover a better understanding of some of the field's future directions,  
18 including what Reid and Scott call the "blind spots, blank spots, and bald spots" (2013, p. 520).  
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### 35 **Methods**

36 To explore these topics, we conducted an online survey with self-identified EE  
37 researchers. This survey was part of a four-part exploratory study that inquired about seven  
38 global trends derived from the literature by the research team. The study combined this survey  
39 with interviews, a content analysis of five years of EE journals, and focus group data from  
40 convenings with EE and environmental communications researchers from around the world (see  
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50 The 20-item survey (see Supplemental Materials) included open- and closed-ended items,  
51 producing qualitative and quantitative data related to respondents' demographic characteristics,  
52 and also:  
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- 56 • Areas of training and past influences

- Journals to which the researcher had submitted, and in which the researcher had published, his/her work
- Sense of global trends and topics influencing EE
- Sense of critical research questions or topics within EE to be addressed in the next five to ten years

We implemented the survey in Qualtrics, an online platform, in May and June 2011.

Because no complete list of all EE researchers was available, and our goal was to reach as many self-identified EE researchers as possible, we issued invitations through the following email lists: the North American Association for Environmental Education (NAAEE) Research Commission members; recent attendees to the NAAEE Research Symposium; the Environmental Education Special Interest Group (EE-SIG) of the American Educational Research Association (AERA); and the international listserv maintained by the *Environmental Education Research* journal.<sup>1</sup> Some respondents were also reached through snowball sampling, as we designed the email invitation in a format that could be forwarded to other EE researchers.

We used NVivo 10, a qualitative analysis software, to code the qualitative data using an open-coding process (Corbin & Strauss, 2015). We matched these data with attribute data, allowing us to consider variance in qualitative response based on a variety of quantitative data. Three independent coders analyzed a subsection of survey questions, comparing coding and discussing discrepancies. Once we reached consensus on the coding scheme, researchers independently coded the remaining questions.

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<sup>1</sup> These lists may (and most likely do) overlap in membership, as many EE researchers are members of several—and potentially all—of these groups. We assume, though, that the same individual would not have elected to complete the survey more than once and, therefore, that each responses represents a unique individual.

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3 After creating categories from the qualitative data addressing the respondents' views, we  
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5 conducted cross-tabs to identify correlations between these variables, respondents' professional  
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7 work, and demographics. These comparisons were primarily conducted in NVivo10 using  
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9 matrix<sup>2</sup> and other queries; they were also sometimes conducted in SPSS.  
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## 12 13 14 **Findings**

### 15 16 17 **Demographic characteristics**

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19 We received 86 survey responses.<sup>3</sup> Although we could not determine the overall  
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21 population size and, thus, corresponding response rate, we believe this group of respondents  
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23 reasonably reflects a portion of the EE researcher community,<sup>4</sup> given the breadth of responses  
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25 received. With over 60% of respondents having worked in the field for 11 years or more, these  
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27 data suggest that respondents were quite experienced and able to reflect from a perspective with  
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29 some tenure in the field (Table 1).  
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33 < Table 1 (Demographics) here >  
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### 36 37 **Roles, Background, and Training**

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39 Respondents self-identified their role(s) from a list of 10 options; we allowed for multiple  
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41 selections, and respondents could add roles to our list (see Table 2). From our pre-defined  
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43 categories, most respondents self-identified as University Researcher (62%), followed by  
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45 Informal Educator (28%), and Graduate Student (27%).  
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49 < Table 2 (Roles) here >  
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53 <sup>2</sup> A matrix query allows stratification of qualitative data by quantitative or attribute variables.

54 <sup>3</sup> We report on all 86 responses throughout this paper, unless otherwise noted.

55 <sup>4</sup> The number of researchers consistently active in the NAAEE Research Commission over the five years prior to the  
56 survey ranged between 50 and 75 (pers. comm., J. Braus, 2014); the number of researchers consistently active in the  
57 AERA Environmental Education Special Interest Group (EE-SIG) has remained around 50 (pers. comm., D.  
58 Williams, 2014).  
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3 Our data suggest that many individuals in the EE field identify in both researcher and  
4 practitioner roles. Introductory text explicitly stated: “If you are an environmental education  
5 researcher, we would appreciate your voluntary participation;” thus, our analysis assumes that all  
6 respondents considered themselves researchers at some level. Beyond that, we used two  
7 questions to consider whether our respondents also self-identified in a combined  
8 researcher/practitioner role. First, when asked whether they considered themselves to be an  
9 environmental educator, 83% responded “yes” (n=69); this finding held true across men (82%)  
10 and women (84%) as well as geographies. Second, for analysis purposes, we aggregated the list  
11 of ten roles in the “current roles” question into two categories: *researchers* (those who chose  
12 *only* one or more of University Researcher, Graduate Student, Government/Agency Researcher<sup>5</sup>)  
13 and *researcher/practitioners* (those who chose at least one of the roles other than those we pre-  
14 listed). Among respondents, 65% (n=56) self-identified as researcher/practitioners, compared  
15 with 29% (n=25) who identified themselves as being in research-only roles. This suggests that a  
16 majority of respondents saw themselves playing multiple roles in EE, opening the possibility that  
17 their work may bridge research and practice.  
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39 As with the role question above, respondents self-identified their area(s) of background  
40 and training from a pre-populated list; we allowed for multiple selections, and respondents could  
41 add additional areas to our list (see Table 3). Respondents most often indicated Education as  
42 their area of background and training (91%); however, responses to this question suggested that  
43 EE researchers bring a range of backgrounds and perspectives.  
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50 < Table 3 (Background) here >  
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57 <sup>5</sup> We did not include the role “Nonprofit researcher or employee” in the *researcher* group because we were unable to  
58 determine, from the data collected, whether the respondent was primarily a researcher or other type of employee.  
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### Theoretical and Educational Influences

We wanted to better understand which historical publications, theories, or bodies of work influenced our EE researcher respondents. We inquired about this in two items: (1) “Thinking broadly about environmental education research (not only your own work), what would you say have been among the three most influential publications, theories, or bodies of work?” and (2) “What key theories have proven most useful in your research? (Note that these can be from any discipline or field.)” We combined the responses to these two items during analysis and coded separately for non-journal publications, academic journals, and theories/bodies of work. Parsing the first two was relatively straightforward; coding open-ended responses to theories and bodies of work was more inferential. For example, we coded references to behavior change that mentioned concepts such as the Theory of Planned Behavior, locus of control, and action competence.

Our 86 respondents named 85 theories and bodies of work. Most of the theories/bodies of work named (60%, n=51) were mentioned only once across all respondents. Another 25% (n=21) of the theories/bodies of work were named between two and four times total. By contrast, 11 theories appeared 5 to 9 times, and one category/grouping of theories (“Behavior Change”) was coded 26 unique times. (See Figure 1 and online supplement for all coded influential theories and bodies of work.)

< Figure 1 (Influential Theories) here >

Respondents named 64 specific publications as influential to the field of EE, generally or to their own work as an EE researcher. Similar to the theories and bodies of work, most of these texts were named only by one respondent (83%, n=53). Some respondents also named journals



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3 they believed had influenced the field; 16 journals were named. (See Table 4 and online  
4 supplement for all of the publications named as “influential.”)  
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8 < Table 4 (Influential Publications) here >  
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## 10 11 12 **Publication History**

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14 We also were interested in identifying the prevalence with which researchers reported  
15 submitting articles to journals in EE and other fields as a proxy for understanding how EE  
16 researchers are engaging with EE scholarship. We asked respondents to indicate their submission  
17 (not publication) record to nine EE journals; we provided them with the option to name up to  
18 three “other” journals to which they had submitted at least once. Among all respondents, EE  
19 researchers indicated that they had submitted to all of the journals on our closed-ended list. The  
20 journals with the highest frequency of past submission included: *Environmental Education*  
21 *Research* (26% of respondents, n=22), *Journal of Environmental Education* (23%, n=20),  
22 *Canadian Journal of Environmental Education* (21%, n=18), and *Applied Environmental*  
23 *Education and Communication* (14%, n=12) (see Figure 2).  
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39 < Figure 2 (Journal Submissions) here >  
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41 Recognizing that EE is a diverse field, we were not surprised that EE researchers reported  
42 submitting articles to a number of different journals, both within and outside of the field.  
43 Respondents named 42 additional journals not included in our closed-ended list to which they  
44 had submitted manuscripts for consideration (see Table 5).<sup>6</sup> The titles named most frequently  
45 were: *Journal of Sustainability Education* (5), *Green Teacher* (4), *Environment and Behavior*  
46 (3), *Journal of Research in Science Teaching* (3), and *Journal of Environmental Psychology* (3).  
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57 <sup>6</sup> We generated the original journal list through discussion groups with EE researchers in 2010 and 2011. The list is  
58 intended to reflect peer-reviewed publications to which EE researchers may be most likely to submit manuscripts.  
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< Table 5 (“Other” Journals) here >

Expanding the analysis of our journal submission question, we were further interested in whether those who identified primarily as researchers reported different submission patterns than those who identified as researcher/practitioners. Based on the groupings described above (see “Roles” section), we found that, for several journals (e.g., *Canadian Journal of Environmental Education*, *Journal of Environmental Education*), researcher/practitioners were equally or more likely to submit articles for publication in peer-reviewed journals (see Figure 3). This appears to be the case for journals that are explicitly aimed at application and practice, as well as those that are more focused on theory.

< Figure 3 (Journal Researcher/Practitioner Submissions) here >

#### *Publication of Your Dreams*

We asked researchers what publication(s) they most dream about for their own work. We received an array of responses (n=66), from traditional journals to Oprah’s Book Club. Some discussed using novel formats to reach a broader, more diverse population, describing “going beyond the academic audience” (n=7) to the general public, policymakers, and EE practitioners, among others. For example, one respondent who was interested in sharing with the general public, mused: “The *Globe* and the *Mail*, or the creation of a well-viewed blog, or even a short video on YouTube with 200 million views would be good. A TED-talk type format would be very cool to be involved with. Academic journals are fine, but exposure is so limited. I will attempt to get my research published in a journal soon, but, honestly, I don’t know if the EE field is even the right world for my research” (Respondent DAE4). Another suggested a combined approach for researchers and lay audiences: “... [a] peer-reviewed scientific article that is media-enhanced so it’s accessible and available to the general public” (Respondent WOP2). A

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3 respondent interested in policymakers described reaching influentials: “[I would like to write]  
4 publications that are read by, and influence, decision makers, such as elected officials and state  
5 and federal agency leaders” (Respondent NY4C). Others emphasized their interest in reaching  
6 on-the-ground practitioners: “Something accessible to everyday education practitioners:  
7 interactive, experiential, co-created” (Respondent K3L6).  
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15 Respondents named 20 journals as the outlet for a dream publication. With regard to  
16 specific journals, the most responses were coded to: *Nature* (7 references); *Science* (6);  
17 *Environmental Education Research* (5); and *Journal of Environmental Education* (4).  
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### 23 **Global Trends and EE Research**

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25 We asked respondents to rate the potential impact of seven global trends on future EE  
26 research; the trends were pulled from, and defined by, various literature sources (cf, Authors).  
27 Respondents were asked to consider the amount of influence these trends are likely to have on  
28 EE research in the next 5 to 10 years using a Likert-type scale from 1 (low) to 3 (high).  
29 Respondents indicated that they anticipated the two most influential trends to be the increasingly  
30 global scale of environmental problems and the shift of human populations from rural to urban  
31 areas (see Table 6).  
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42 < Table 6 (Global Trends) here >  
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44 In an open-ended fashion, we asked respondents to name up to three “hot topics” that  
45 might be influential in EE research in the next five to ten years. We coded these responses to  
46 primary (“parent”) categories and sub-primary (“child”) categories (Table 7). The most  
47 frequently coded parent category (19%, 47 references) of hot topics related to research at the  
48 intersection of EE and particular areas of natural resource improvement or management. The  
49 second most frequent (18%, 37 references) was research in, or about, particular settings in which  
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3 EE occurs. The third most prevalent parent category (11%, 29 references) concerned pedagogical  
4 approaches and curriculum. The fourth most mentioned set of responses (9%, 24 references)  
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6 referred to theories or bodies of work in EE requiring more attention.  
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10 < Table 7 (Hot Topics) here >  
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### 12 13 14 **Research Aspirations without Constraint**

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16 We asked aspirational, *blue-sky* questions to provoke researchers' thinking about their  
17 future professional pursuits; the *blue-sky* framing was used to generate responses without  
18 consideration of resource constraints.  
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#### 22 23 24 *Sabbatical Research Topics*

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26 If given a sabbatical year anywhere in the world, researchers were most likely to  
27 emphasize formal EE settings (31 references). These references included a number of sub-  
28 themes, such as practice and policy (10), pre-secondary topics (8), and teacher education (6).  
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30 One respondent, for example, noted an interest in studying how “the mainstream education  
31 system can best contribute to, and foster, the necessary understanding that urban processes and  
32 living [are] also dependent upon the environment” (Respondent HBM8). Another was interested  
33 in questions of international comparative education, asking how “...other countries actually  
34 enact the teaching of environmental sustainability in formal education settings” (Respondent  
35 QQNW).  
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47 In 17 instances, we coded the respondents' desired sabbatical topic to “natural resources  
48 and resource management,” including sub-themes such as food and food security (5 references),  
49 climate change (4), water (2), and biodiversity (2). One researcher was interested in,  
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52 “Address[ing] the global climate change factors across countries [and asking] what are the  
53 different cultures' views of climate change, and what behavior constructs effect under what  
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3 conditions?” (Respondent ISW0). Another indicated an interest in exploring a question such as,  
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5 “What are the contributions of environmental education in places of high biodiversity (Africa,  
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7 South America, etc.)? How is environmental education approached differently in these places?  
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9 Are the goals and outcomes different?” (Respondent 3ZG8). Another was curious about “the role  
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11 of public education and its relation to biodiversity and food production in the local community”  
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13 (Respondent CIUM).  
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18 Eleven references emphasized the theme of citizen and community engagement. One  
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20 researcher said that s/he would be interested in pursuing a sabbatical to engage with “the role of  
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22 experience in the outdoors/in nature on the development of positive associations with  
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24 nature/nature connection and the role of those associations in the development of environmental  
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26 conservation, green lifestyle choices, and environmentally responsible behaviors” (Respondent  
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28 JR7C). Another indicated a desire to explore the “relationship between environmental literacy  
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30 and ecological footprint at the household level” (Respondent IRWS).  
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35 We found 11 references focusing on global dimensions of EE. One researcher said, “I’d  
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37 like to work in Mexico, Latin America (or even the Southwestern US) on issues related to local  
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39 agricultural systems: the ways that youth are learning (or not) traditional agricultural techniques  
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41 and the ways that globalization of agribusiness is impacting local knowledge of agricultural  
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43 systems.” (Respondent K472). One respondent combined an interest in international comparative  
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45 studies with an focus on teacher education strategies: “I would like to go do a tour of teacher  
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47 education programmes internationally, identifying the strengths in terms of generating a global  
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49 consciousness around sustainabilities of relationality (peace/nonviolence); economics (reducing  
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51 global disparities between rich and poor); ecologies; and cultures/languages” (Respondent  
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53 QED2).  
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### *Collaborative Research Question*

We also asked respondents to suggest one EE-related research question on which they would like to collaborate in the next five years. Again, questions in the formal education realm were the most frequently coded, garnering 27 references. Some described forming a closer connection with standards-based education, noting opportunities such as, “I would like to see a collaboration of researchers analyzing the science Common Core standards. These standards will dictate the knowledge students are going to learn in nearly every classroom in the country K-12, and it is vital that we understand how that content meets the needs of students to cope with a deteriorating environment both locally and globally” (Respondent QQNW). Another suggested an interest in understanding, “the effects of school-based environmental education programs on students’ environmental values and beliefs and environmentally responsible behaviors (also interested in how biophilia works in this process)” (Respondent PGKL).

A number of responses (14 references) invoked one or more of the theories underpinning the field. For example, one respondent would like to investigate how “. . . ecopedagogy educators define effective characteristics for ecopedagogy programs” (Respondent F2MK).

### **Conclusion: Discussion, Limitations, and Future Research**

For nearly all of the areas we examined—from the influential theories or bodies of work, publications, and authors, to the *blue-sky* sabbatical, collaboration, and publication ideas—the responses suggest tremendous diversity among participating EE researchers. In particular, with regard to historical influences (e.g., theories, bodies of work, and publications influencing one’s career), we note that, for the most part, no paragon exists.

On one hand, this may suggest a field that may benefit from further coalescing to address complex questions, such as those identified as global trends and “hot topics.” On the other hand,

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3 this may suggest a strength such that researchers are approaching environmental, educational,  
4 and social challenges from different angles and perspectives. In this way, EE researchers may  
5 bring a range of perspectives from their diverse reading lists, theoretical influences, and  
6 methodological angles that may be complementary in discerning interesting, compelling research  
7 questions that are theoretically important and also practically relevant. Then, it is incumbent  
8 upon EE researchers to draw on the strengths and opportunities associated with the field's  
9 diversity to tackle the environmental issues we do and shall face.

### 20 21 *Limitations and Future Directions*

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23 We aimed to gain a firsthand perspective on trends in EE research by surveying current  
24 researchers and eliciting their voices about their direct experience. To derive researchers' ideas  
25 in a relatively compressed period of time, we employed a survey with a mix of open- and closed-  
26 ended items; in this way, we uncovered data on the research topics. However, this leads to our  
27 first limitation: Because of the structure of the survey research method as we implemented it, we  
28 cannot describe in a deep, rich way the lived experiences of EE researchers or their vision for EE  
29 research. To do so, methods that would produce richer qualitative data (e.g., interviews,  
30 participant observation, individual case studies) would be illuminating. Our hope was to explore  
31 some trends and consider the existing influences within the EE researcher community; we also  
32 hoped to start a conversation about current researchers' future direction(s) and aspirations.

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34 A second limitation relates to our role as EE researchers. Because we are active in the  
35 field, our own biases and situatedness influence our interpretation of the data. In particular, our  
36 perspectives may bias our coding of the qualitative data and interpretation of the findings.  
37 However, the benefit is that our embeddedness and deep knowledge of the field facilitate  
38 contextualization within a broader frame.

### *Conclusion*

Our findings suggest that EE researchers have remarkable diversity in terms of theoretical perspectives, influences, and backgrounds informing their work. Because of this diversity, finding commonalities among approaches, interests, and future aspirations may be challenging. Certainly, this diversity may create divides among researchers; yet, this multiplicity of perspectives may also provide space for learning from each other as well as the ability to be generative and transdisciplinary in our interpretation and application of research findings. Studies in fields such as technology, business, and design have suggested that diversity within, and among, fields is healthy: it can bring innovation, opportunities for unusual collaborations, and the ability to be nimble in light of changing conditions (Derry & Schunn, 2005; Jacobs & Frickel, 2009; von Knippenberg, De Dreu, & Homan, 2004).

With content areas as dynamic and multifaceted as environment and education, perhaps these qualities are beneficial. This community of researchers represents diverse interests, takes varied theoretical and methodological approaches, and works in a range of settings. So long as we maintain open dialogue within the field and among EE researchers, we may better have an opportunity to address some of today's thorniest and most persistent environmental and sustainability challenges.



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## EE Researcher Survey: Tables

**Table 1. Selected respondent demographics**

Gender	Female 54% Male 45%
Race	White 84% Asian 5% Hispanic or Latino 5% Other 9%
Residency <sup>1</sup>	United States 49% Canada 22% Australia 6% United Kingdom 4%
Age	Range: 25–76 years Mean: 44 years Mode: 31 years
Education	Master's or PhD: 89%
Time in EE field	0–10 years: 38% 11–20 years: 36% More than 20 years: 26%

**Table 2. Current roles**

	Frequency	Percent
University researcher	53	62.4
Informal educator	24	28.2
Graduate student	23	27.1
Volunteer	20	23.5
Independent consultant	20	23.5
Activist	20	23.5
Nonprofit researcher or employee	12	14.1
Classroom (K–12) teacher	12	14.1
Government/agency researcher	8	9.4
Corporate or for-profit employee	2	2.4
Other	24	28.2

**Table 3. Background and training areas**

	Frequency	Percent
Education	78	91
Natural sciences	40	47
Natural resource management	15	17
Sociology	14	16
Physical Sciences	11	13

<sup>1</sup> One respondent participated from each of the following countries: China, Finland, Germany, Hungary, India, Japan, Kuwait, Mexico, New Zealand, and Taiwan.

Psychology	10	12
Geography	9	10
Political science	6	7
Anthropology	4	5
Museum studies	4	5
Medicine	1	1
Other (text response categories below)	38	44
Environmental studies/Ecology	12	14
Outdoor education/Recreation	7	8
Philosophy	5	6
Communication	4	5
Agriculture	2	2
Social science	2	2

**Table 4: Publications named as influential by more than one respondent**

Author(s)	Year of Publication	Publication Title	Number of Respondent References
Louv, Richard	2008	<i>Last Child in the Woods: Saving our children from nature-deficit disorder</i>	9
Orr, David	2004	<i>Earth in Mind: On education, environment, and the human prospect</i>	7
Sterling, Stephen	2001	<i>Sustainable Education: Re-visioning learning and change</i>	3
Carson, Rachel	1962	<i>Silent Spring</i>	2
Falk, John and Dierking, Lynn	2000	<i>Learning from Museums: Visitor experiences and the making of meaning</i>	2
NAAEE	Various (1999–2014)	<i>Guidelines for Excellence in Environmental Education</i>	2
Sauvé, Lucie	2005	<i>Currents in Environmental Education: Mapping a complex and evolving pedagogical field</i>	2
UNESCO	1977	<i>Final Report: Intergovernmental Conference on Environmental Education, Tbilisi (“The Tbilisi Declaration”)</i>	2

Table 5: “Other” journals named by respondents

<i>Australian Journal of Outdoor Education</i>	<i>International Research in Geographical and Environmental Education</i>
<i>Children, Youth and Environments</i>	<i>Journal of Adventure Education and Outdoor Learning</i>
<i>Cultural Studies of Science Education</i>	<i>Journal of Artistic and Creative Education</i>
<i>Curator</i>	<i>*Journal of Environmental Psychology</i>
<i>Ecology and Society</i>	<i>Journal of Experiential Education</i>
<i>Educational Action Research</i>	<i>Journal of Extension</i>
<i>Educational Philosophy and Theory</i>	<i>Journal of Geophysical Research: Oceans</i>
<i>Educational Researcher</i>	<i>Journal of Interpretation</i>
<i>Educational Studies</i>	<i>Journal of Interpretation Research</i>
<i>Elementary Science Education</i>	<i>Journal of Museum Education</i>
<i>*Environment and Behavior</i>	<i>*Journal of Research in Science Teaching</i>
<i>Environmental Communication</i>	<i>*Journal of Sustainability Education</i>
<i>Environmental Geology</i>	<i>Journal of Teacher Education for Sustainability</i>
<i>Environmentalist</i>	<i>OIDA International Journal of Sustainable Development</i>
<i>*Green Teacher</i>	<i>Pesquisa en Educação Ambiental</i>
<i>Green Theory and Praxis</i>	<i>Procedia—Social and Behavioral Sciences</i>
<i>Human Ecology</i>	<i>Teacher Education Quarterly</i>
<i>Human Ecology Review</i>	<i>Theory and Research in Social Education</i>
<i>International Journal of Environmental and Science Education</i>	<i>Tópicos en Educación Ambiental</i>
<i>International Journal of Geoheritage</i>	<i>Young Children</i>
<i>International Journal of Sustainability in Higher Education</i>	<i>Zoo Biology</i>

\*Named by 3 or more respondents

Table 6. Influence of global trends on EE research

Rank	Global Trend	Mean score (out of 3.0)	Percent of respondents rating medium (2) or high (3)
1	The increasingly global scale of environmental issues	2.70	98%
2	The shift of the majority of the world's population from rural to urban areas	2.60	95%
3	The growing interest in/concern about health and wellness	2.55	93%
4	Concerns about links between the food system and the environment	2.44	89%
5	The rise of social media	2.41	94%
6	The global economic situation and, in particular, the recent recession	2.31	86%
7	The rise of “green lifestyles,” as evidenced in the focus on sustainable cities, green technologies, and so on	2.31	81%

**Table 7. Most frequently identified “hot topics” for EE research**

<b>Category/Parent node</b>	<b>Parent node rank (Number of references)</b>	<b>Top three child nodes within parent node (Number of references)</b>
Natural resources and resource management	1 (47)	Climate change (16) Food, food security, agriculture (10) Energy (7)
Setting for EE research	2 (37)	Formal education practice and policy (25) Informal or free-choice learning (7) Integration of EE across settings (4)
Sustainability or sustainable development	3 (29)	Economic or consumer considerations (9) Education for Sustainability Development (ESD) or Education for Sustainability (EfS) (5) Systems thinking (4)
Theories or bodies of work	4 (25)	EE definitional components (13) Cultural competence (5) Indigenous knowledge (4)

EE Researcher: Figures

Figure 1. Top 12 most named theories and bodies of work

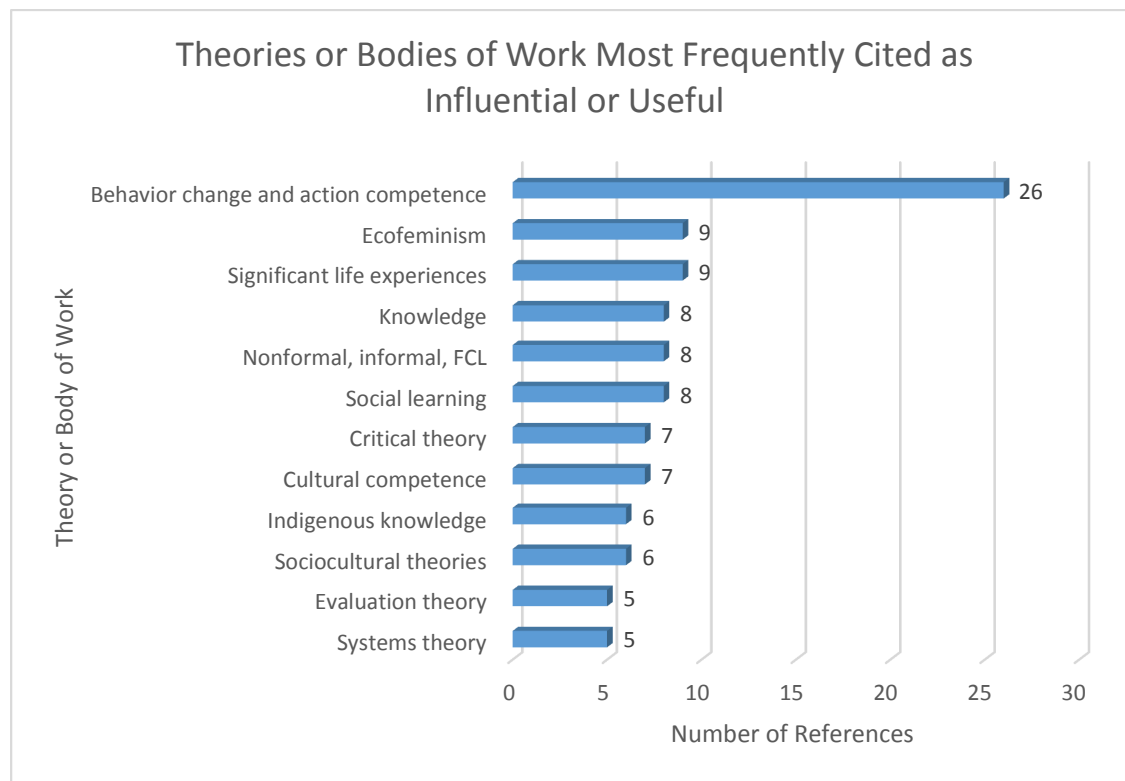
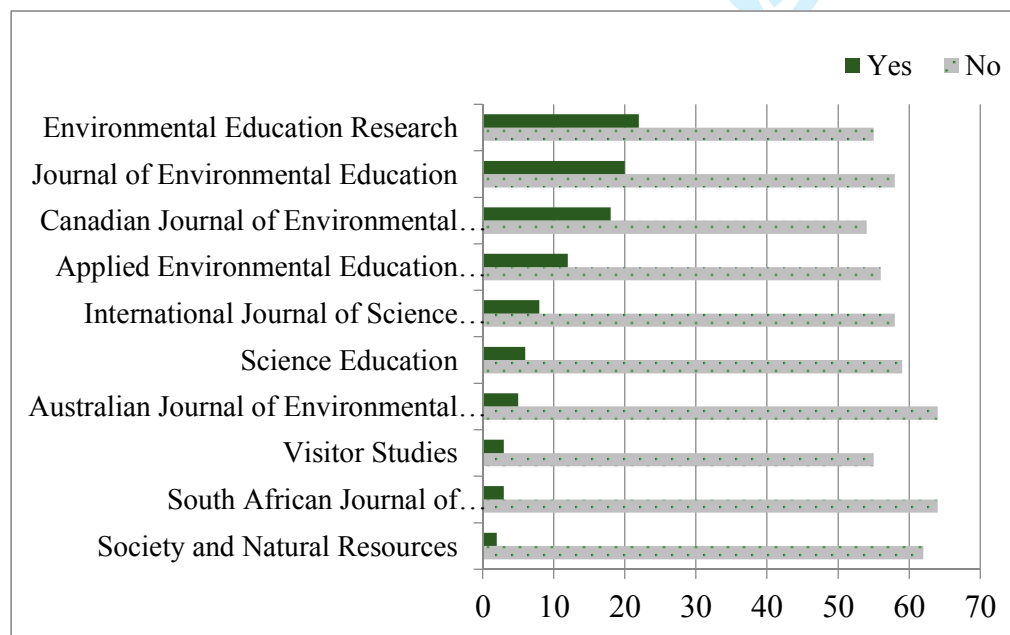


Figure 2. Number of respondents indicating they have (dark bars) and have not (light bars) published in selected journals



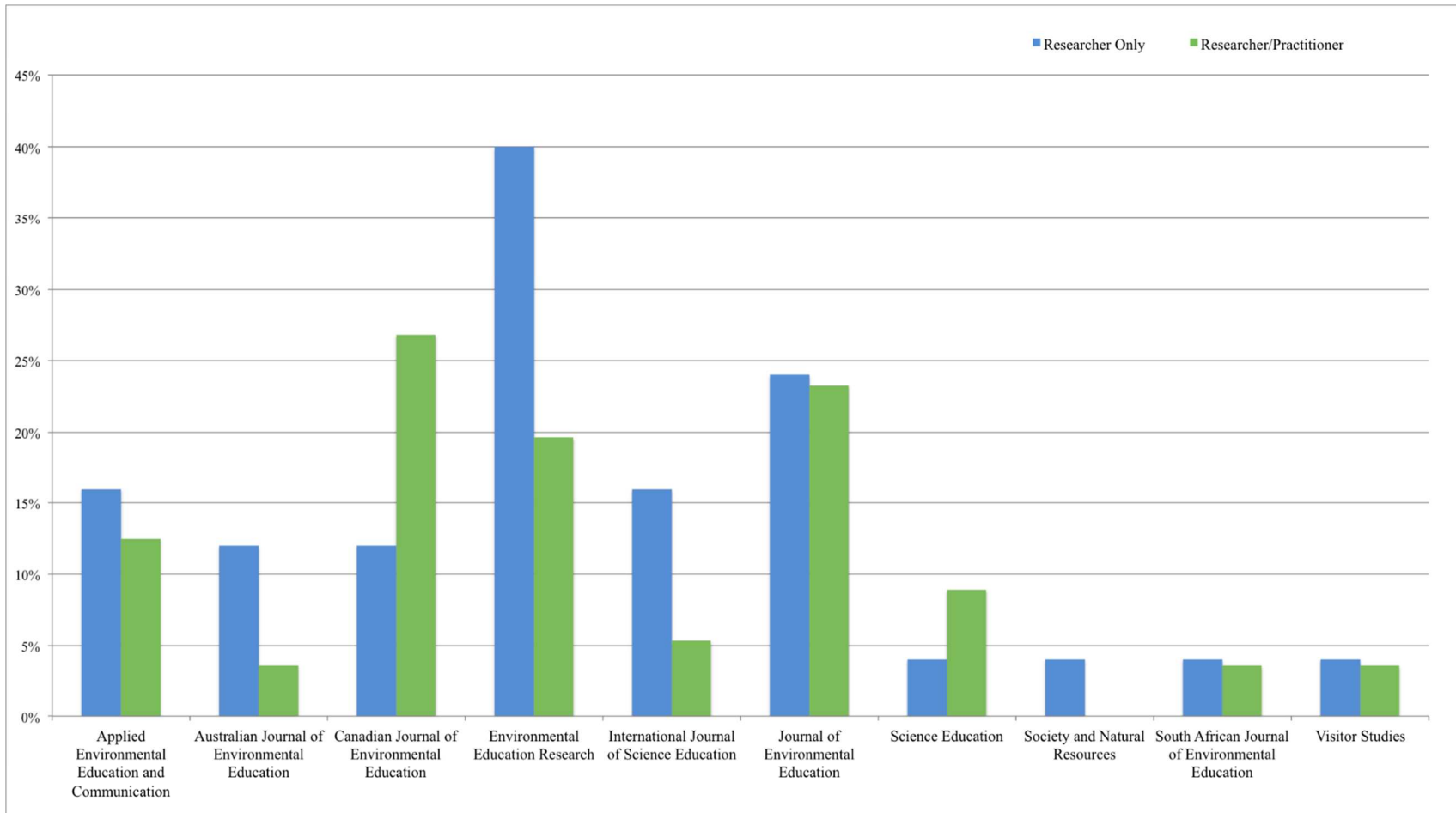


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Figure 3. Percent of journal submissions for *Researcher Only* and *Researcher/Practitioner* groups for journals in closed-ended list



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