Significant Life Experiences Affect Environmental Action: A Critical Review of Taiwanese Research

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Abstract
Since environmental education is a lifelong process and the everyday world beyond the school may be the main channel for environmental learning, this paper reviewed four Taiwanese studies that have examined the types of significant life experiences affecting the cultivation of environmental action. In the current paper, the author critiques these studies’ findings. Based on the performed review, implications for program development and instructional practice in Taiwan are presented.

Keywords: environmental action, significant life experiences

I. Introduction
Many environmental education researchers (e.g., Chawla 1999, Palmer 1993) believe that if environmental educators can understand the types of life experiences that motivate environmental action, it will be helpful to foster the development of an environmental citizenry. Therefore, many significant life experiences studies have been done in the international society for environmental education because of the relevancy of lived, everyday experience, which primarily occurs outside of school, as the main channel for environmental learning (Chawla and Cushing 2007, Hsu 2009, UNESCO 1980).

In the past decades, five significant life experiences studies have been done in Taiwan. However, a comprehensive and rigorous literature review has been lacking in these studies. In this paper, these Taiwanese studies were reviewed and critiqued. The significance of this paper is three-fold. First, this paper addresses the absence of critical literature reviews relating to significant life experiences research in Taiwan. Second, this paper is directly applicable for program developers in both formal and non-formal environmental education settings because it provides a reference for the improvement of environmental education programs and instructional practices in Taiwan. Third, this review could provide some empirical evidence for cross-cultural comparisons in the international environmental education community in order to promote the mutual understanding about how to cultivate an environmental citizenry in different countries.

II. Significant Life Experiences Studies in Taiwan
Because environmental education is a lifelong process and the everyday world beyond the school may be the primary domain for environmental learning, four studies conducted in Taiwan are selected to examine what types of significant life experiences affect the cultivation of environmental action.

By applying a method similar to the one employed by Chawla (1999) to classify and analyze life experiences, Hsu (2003) examined the autobiographical memories of 42 active members of environmental organizations in the rural areas of Taiwan. The results indicated that the most crucial eight factors for environmental action were “natural experiences (childhood)” (57%), “environmental organizations” (45%), “loss of beloved natural places” (33%), “friends” (24%), “natural experiences (adulthood)” (24%), “parents” (19%), “fear of environmental disasters” (19), and “vocation” (19%). In the present study, the factor of education broadly covered courses, teachers, outdoor teaching, and internships; however, “primary education” (0%) and “secondary education” (2%) were almost never mentioned when the participants discussed the significant life experiences that influenced the performance of their environmental action. This result was counterintuitive for Hsu.

The factor most referred to in the study by Hsu (2003) was “natural experiences (childhood),” which mostly
indicated simple actions performed during playing that were characterized by strong somatic sensations, rather than inner experiences that were profound and static. Moreover, these experiences were improvised and unplanned activities such as roasting sweet potatoes and collecting wild fruits in a field, or swimming and catching fish in a creek. The adulthood natural experiences mentioned were derived from the socializing stage of life and had gradually transformed into delicate and profound inner experiences, including the appreciation and emotional influence of the beauty of nature, as well as carefree walks taken alone or with few friends in nature. The second most mentioned factor was “environmental organizations,” implying that the respondents gained a deepened realization of the beauty of nature and environmental deterioration through opportunities for experiencing nature or indoor courses offered by environmental organizations. This factor also implied that the respondents’ environmental actions were facilitated by the atmosphere of devotion in environmental organizations and the information about environmental action strategies provided by such organizations. In addition, multiple respondents reported that they were influenced and inspired by their friends to engage emotionally with nature, show concern for environmental problems, or join environmental organizations. Most of the friends mentioned by the respondents were members of environmental organizations as well. The third most mentioned factor was “loss of beloved natural places,” indicating that the respondents felt distressed by the destruction and disappearance of beloved outdoor places (e.g., creeks or beaches) that they had frequented in childhood, or the damage suffered by a remote natural habitat that was precious because of its ecological value and beauty.

To investigate the urban-rural divide and generation gap for significant life experiences, Hsu (2005) distributed and retrieved 198 questionnaires through mail to collect the autobiographical memories of environmental activists across Taiwan. Subsequently, the samples of significant life experiences were categorized according to age to generate a life course that affected the formation of environmental activists. The life course revealed that “natural experiences,” “life principles,” and “parents” during childhood as well as primary and secondary schools were conducive to forming future environmental actions; “natural experiences,” “student organizations,” and “curricula, lecturers, and field trips in tertiary education” facilitated the performance of environmental actions during the period of higher education; and most of the other crucial factors were categorized into the period of life after school education, including “environmental organizations,” “loss of beloved natural places,” “natural experiences,” “fear of environmental disasters,” “vocation,” “friends,” “life principles,” “social justice,” and “adult education.” The present study determined that almost no respondents reported “primary education” and “secondary education” from the 12-year primary and secondary school education system as a source of significant life experiences that affected the performance of environmental actions.

After further analysis, Hsu (2005) identified an urban-rural divide for six sources of significant life experiences, namely “natural experiences (childhood),” “student organizations,” “social justice,” “loss of beloved natural places,” “books,” and “other environmental activists.” Compared with the respondents living in rural areas, those living in urban areas had fewer childhood natural experiences and were less likely to feel a sense of loss over the disappearance of beloved natural places. However, the urban residents tended to be inspired by the appeal of environmentalists, influenced by environment-related books, outraged by people destroying the environment as a social injustice, or affected by environmental clubs in college. These aforementioned four factors could facilitate future environmental actions, and are also features that could be used to encourage environmental education in urban areas.

A generation gap also appeared for the effectiveness of several sources of significant life experiences, including “natural experiences (college years),” “loss of beloved natural places,” “fear of environmental disasters,” “environmental organizations,” “life principles,” “tertiary education,” and “student organizations (college years).” In the study, older people mentioned “life principles” more frequently than middle-aged or younger people did (21% vs. 7% vs. 2%). In other words, positive life beliefs such as simplicity, respect for life, and responsibility that are developed in childhood are crucial internal factors for forming future environmental actions. Compared with younger people, a substantially higher proportion of older and middle-aged people referred to “loss of beloved natural places” (33% vs. 36% vs. 13%) and “fear of environmental disasters” (21% vs. 20% vs. 4%). By contrast, younger people mentioned the influences of “tertiary education” (17% vs. 7% vs. 3%), “environmental organizations” (50% vs. 36% vs. 6%), and “student organizations (college years)” (35% vs. 5% vs. 0%) far more frequently than older and
middle-aged people did. The student organizations in college were mainly clubs interested in experiencing nature (e.g., mountain hiking clubs) or concerned with the environment (e.g., environmental protection clubs).

In both Taiwan and Western countries, studies on significant life experiences lacked control groups such as the general public or those who are apathetic to environmental protection (e.g., Chawla 1999, Palmer and Suggate 1996, Palmer et al. 1998, Hsu 2003, 2005). Therefore, environmental educators remained unable to answer the following key questions: “Do people that are indifferent or unfriendly toward the environment share similar life experiences with environmental activists? In other words, are the common significant life experiences that have been identified by previous studies the crucial factors affecting the formation of environmental citizens?” To remedy the lack of control groups in most of the studies on significant life experiences, Hsu (2009) applied 17 significant life experiences to develop a closed questionnaire, surveyed 430 civil servants and teachers in Eastern Taiwan, and compared the reported significant life experiences between people with high scores and low scores for environmental action. The results indicated that all 17 significant life experiences differed significantly between the two groups, and most of the differences reached large effect sizes. Hsu’s study indicated that the significant life experiences listed in past studies can effectively distinguish environmentally committed people from those who are apathetic toward environmental protection. A multiple regression analysis also revealed that 54.6% of the variance in environmental action could be explained by the significant life experiences that were studied. Based on the analyses of regression and effect size, “environmental organizations,” “social justice,” “friends,” “loss of beloved natural places,” “principles,” and “books and authors” were identified as the most critical life experiences for fostering environmental action.

Based on research conducted in Taiwan (Hsu 2003, Hsu and Lee 2004, Hsu 2005, Hsu 2009), Hsu and Jen (2014) proposed an environmental action model (Figure 1), in which environmental action is the product of the interaction among fundamental factors, facilitating factors, inhibiting factors, and environmental hope.

Fundamental factors refer to basic life experiences that are antecedents for future environmental civil actions. These antecedents are joyful experiences with nature during childhood, religious beliefs favorable for environmental protection, a sense of social justice, and an affection or concern for the environment induced by friends or family, education, books, and media.

Facilitating factors can catalyze fundamental factors and increase the possibility for people to perform environmental civil actions. Facilitating factors are family support, examples of environmental protection from adults, reading habits and abilities, the loss of beloved places, anxiety over environmental problems, participation in environmental organizations, introspection and self-awareness, and experiences of the contrast between city and country lifestyles.

Inhibiting factors are divided into internal and the external ones. Internal inhibiting factors are negative factors related to personal attributes and abilities that may inhibit fundamental factors from transforming into environmental civil actions. Internal inhibiting factors are low environmental sensitivity, a lack of ability to act, low internal locus of control, self-interested values, an unwillingness to undertake environmental responsibility, and a lack of introspection.

External inhibiting factors are obstacles derived from others.
or social influences. These are utilitarian values, consumerism, national identity characterized by an indifference to public interests and social justice, a busy work life, and opposition from family and friends to environmental action, which are unfavorable for cultivating environmental actions. The environmental action model proposed by Hsu and Jen (2014) examined the factors inhibiting the development of environmental actions, which have been infrequently investigated by studies on significant life experiences.

Environmental hope refers to the sources of strength required by environmental activists to persevere when they experience setbacks and frustration. These sources include nature, collective efforts, support from family and friends, religious beliefs (e.g., compassion, justice, and respect for life), examples from the practices of environmental activists, encouragement and exemplars obtained from reading, a vision for a beautiful future, and affection for local people and cultures.

III. Environmental Education Implications from Significant Life Experiences Research

The review of significant life experience studies indicated that the everyday world beyond the schoolroom may be the preferable channel for environmental learning. Therefore, as Hsu (2009) suggested, environmental educators in Taiwan should consider the extent to which environmental education is fostered and supported not just in formal settings, but also in non-formal and informal settings.

This literature review indicated that childhood natural experiences are the most crucial factor for developing environmental activists (Hsu 2003, 2005, 2009), and this factor exhibited a distinct urban-rural divide both in its frequency of being mentioned and its implications. As Taiwan has undergone industrialization and urbanization, the limited natural environments in urban areas have prevented Taiwanese children from easy access to nature in their childhoods. Therefore, compared with urban residents, a higher proportion of rural residents referred to childhood natural experiences. For rural residents, natural experiences were mostly obtained through exploring nearby natural surroundings independently or with playmates. These experiences were improvised and created spontaneously by the children having fun in their daily lives. By contrast, urban residents rarely created their childhood natural experiences actively by themselves; instead, they were led to suburban areas to experience nature by their family members. However, because rural residents have more experiences and close interactions with nature in childhood, they are more likely to encounter the life experience of “loss of beloved natural places” than urban residents are when they grow up. This sense of loss and great sorrow, mostly derived from the destruction of beloved natural places (e.g., nearby creeks) where rural residents used to play as children, stimulates them to perform environmental actions.

For children living in rural areas, their teachers or parents may not necessarily be required to take them to faraway national parks to experience nature; instead, creeks or green fields near their schools or communities are excellent spots for environmental education. The point is not to impart considerable environmental knowledge but to provide opportunities for children to play happily in nature. For children living in urban areas, Chawla and Cushing (2007) suggested that parents and teachers be taught how to guide children to experience nature, more green parks be built for children in urban areas to explore and play in, and more community-based conservation plans be formulated to assist children with perceiving adults and peers’ concern for the environment. The aforementioned methods deserve further attention and effort in the field of environmental education.

Although urban residents have fewer childhood natural experiences than those living in rural areas do, they tend to be inspired by environmental activists, influenced by environment-related books, outraged by socially unjust environmental disruption, or affected by environmental clubs during higher education. All these aforementioned factors may encourage future environmental actions and are strengths that environmental educators in urban areas can take advantage of. Hsu (2005) argued that this urban-rural divide may have originated from the relatively more lively activities of environmental organizations and accessible information in urban areas that provide urban residents with more opportunities for exposure to environmental problems; alternatively, this divide may have derived from the fact that urban residents have more chances to perceive the human effect on environmental improvement. These manifestations of urban-rural divide present different means for forging an environmental activist and the possibilities of environmental education.

Environmental education in Taiwan has long focused on personal environmental actions in daily life (e.g., energy
and water conservation at home) without sufficiently noting civic actions performed collectively (Hsu and Jen 2014); however, the history of environmental movement in Taiwan indicates that environmental quality is mainly maintained by political active citizens with collective actions (Ho 2005, Hsiao et al. 2003). Therefore, environmental educators in Taiwan should strengthen civic awareness and collective actions (Hsu 2003, Hsu and Jen 2014).

This literature review also indicated that young people have acknowledged the influence of environmental organizations and student organizations that encourages them to perform environmental actions far more frequently than middle-aged or older people. During the period of martial law (1949-1987), Chinese Nationalist Party (KMT) was the single ruling party in Taiwan and the establishment of environmental organizations was long banned. Constitutional democracy was eventually restored in Taiwan after 1987. Most older Taiwanese people lived in an autocratic country without any environmental organizations and opposition parties. The majority of environmental organizations in Taiwan developed rapidly after the lifting of martial law in the late 1980s (Chen 1994), and most of the young generation surveyed in Hsu (2005) grew up in a democratic society after the lifting of martial law. Therefore, they had more opportunities to be influenced by environmental organizations and student organizations than the older generations. This finding marks the advent of a new generation of democracy. The key to solving environmental problems resides in how people express their opinions through collective legal and political channels in the decision-making process of a democratic society. Accordingly, environmental education in Taiwan should encourage students to participate in environmental organizations, learn from adult or peer role models, and strive for the opportunity to perform collective environmental actions to strengthen individual and group locus of control.

Studies in Taiwan have very rarely referred to the primary and secondary education spanning the first 12 years of a student’s life as a significant life experience that facilitates the formation of environmental actions (Hsu 2003, 2005, Hsu and Lee 2004). Almost all of the subjects interviewed in the previous studies mentioned directly and affirmatively that the primary and secondary education in Taiwan did not have any positive influences on the development of their environmental civic action (Hsu 2003, 2005, 2009, Hsu and Lee 2004). This result contrasts strongly with the studies conducted in Western countries such as the United States, Britain, Australia, and Canada, where primary school education has been confirmed as highly influential in facilitating environmental actions; nevertheless, similar findings have been reported in Hong Kong, a society with cultural elements similar to those of Taiwan (Chawla 1999, Palmer et al. 1998). Hsu (2003) inferred that the limited influence of the Taiwanese primary and secondary school education on developing environmental activists may be caused by the short history of environmental education on the island, for which the educational objectives, contents, and teaching strategies are still in formation. A more plausible explanation could be diplomaism, or the intensive pursuit of academic achievements. In other words, Taiwanese educational institutions overemphasize examinations and thus drastically limit the ability to develop environmental citizens. Considering the past educational methods and curriculum structures adopted in Taiwan, and the extracurricular time primarily devoted to activities aiming at academic success in most families, the results yielded in most of the studies in Taiwan become understandable. Therefore, the course contents and teaching strategies of environmental education at primary and secondary school levels in Taiwan must be comprehensively reviewed in the future. Education authorities must train exemplar teachers capable of environmental actions, develop environmental courses that combine natural experiences and environmental topics, and collaborate with environmental organizations or environmental education centers in organizing outdoor teaching and camp activities to facilitate the formation of environmental citizens.

IV. Future Research

This review analyzed 4 significant life experiences studies conducted in Taiwan to provide a comprehensive understanding of the cultivation of Taiwanese environmental action. Two recommendations for future research are presented as follows. First, previous studies on significant life experiences have mostly focused on the educators and civil servants, which is a major gap in this research area. Therefore, future studies should carefully examine the differences among various social classes (e.g. labors, farmers). Second, further studies are encouraged to explore how the findings of significant life experiences research could be implemented in the culturally sensitive and contextually specific curriculum and pedagogical practices. This review was a tentative exploration of significant life experiences
research in Taiwan. More refined studies are required to foster the development of an environmental citizenry.

Profile of the Author

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