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ABSTRACT

To help mitigate the impact of multi-environmental degradation, the model program for emotionally at-risk children that uses nature to enhance emotional well-being (or intellect) has been constructed, implemented and researched. The six sessions that compose the program are designed to impart social-emotional understanding and prime perceptions by vicarious observance of, and interactive participation with, nature. It was hypothesized that using nature extensively in a therapeutic model would reduce the stressful impact of life and, as a result, positive emotional well-being would be evident. Based on the Piers-Harris self-concept scale and on person drawings, the students demonstrated a post-program increase in self-esteem ($p<.001$), happiness, educational status, and emotional development ($p<.001$). They also demonstrated improved perceptual skills, self-efficacy, empathy, and a significant reduction in aggression. This research offers a conceptual definition of ecopsychology, supports a new theory of development that challenges the ideation of the isolated self, and affirms that a child's psyche is part of a vast synergistic model of connections. (Contains 104 references.) (GCP)

Connectedness and Development – A Theory

Is Ecopsychology the Answer to Emotional Well-Being?

by

Crystal-Helen Feral

Connectedness and Development – a Theory
Is Ecopsychology the Answer to Emotional Well-Being?[1]

By: Crystal-Helen Feral, Ph.D., NCSP

Abstract

To help mitigate the impact of multi-environmental degradation, I have constructed, implemented, and researched a model program for emotionally at-risk children that uses nature to enhance emotional well-being (or intellect). Based on the Piers-Harris self-concept scale and person drawings, the students demonstrated a post-program increase in self-esteem ($p<.001$), happiness, educational status, and emotional development ($p<.001$). They also demonstrated improved perceptual skills, self-efficacy, empathy and a significant reduction in aggression. This research offers a conceptual definition of eco-psychology and supports a new theory of development that challenges the ideation of the isolated self and affirms that a child's psyche is part of a vast synergistic model of connections.

Introduction

Society today consists of violence, cruelty and injustice. These ills, along with intensifying environmental catastrophes, have a profound impact on a child's development. Perls (cited by Swanson, 1995) said long ago that an environment that has excessive dangers can have a desensitizing effect on humanity. I believe that for children, who also endure dysfunctional personal lives, hearing about the desolation of nature heightens their feelings of helplessness. Powerlessness threatens emotional development leading to abuse. People abuse each other, but we also abuse nature--the things that sustain us--resulting in retrogressive abuse of our physical and emotional health.

Multiple forms of deterioration impact health, but the most distressing could be environmental degradation. We hear all the

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time that we are using up our planet's natural resources and people suffer deeply from nature's distress (see Roszak, 1992; Conn, 1995). The industrial revolution has created a vast population and technological explosion making people compete for space and rank in every aspect of life. It is apparent that we have become individualistic, competitive, and isolated, thusly intensifying our virulence. People are looking for answers as to why health, nature, and systems are out of balance. Society needs a different way of thinking and behaving to effect a rejuvenation of the civil communal structures that once held people and nature together.

Emotions and Nature Connection

Because the universe functions in harmony, by observing nature we can understand the impact of our actions and our connective spirit. The answer, then, to emotional and planetary preservation could be as interrelated as a synergistic reactionary structure that requires more than a linear cause-effect paradigm. This vast, interactive complexity among all life forms symbolizes that whatever we do affects something or someone else. As inhabitants of this universe, we are part of one inseparable web of relationships (and feedback loops, Capra, 1996). When people consciously understand that they are part of, and intricately connected to the natural world, they will be able to expand their boundaries of empathy to include all of creation.

When psychologists impart this complexity to those who are emotionally burdened, it may be difficult for clients to accept, because in order to understand how our actions impact all life forms can be both frightening and exciting. As we contemplate the interaction of psychological constructs with symbolic interactions found in nature, a schema develops. By exploring, illuminating, and associating these interactions with emotions and behavior, therapists could help individuals who are in emotional turmoil understand and internalize their connective nature. Today, some therapists use Earth-mind-body metaphors to allow clients to discover their psyche's deep interactive connections to all life forms (Cahalan, 1995; Kanner 1996; Metzner, 1995).

Rationale: Oran Young, Chair of the National Academy of Science, says (in Adler, 1989) that psychologists have a major role in the proposed plan for tackling global issues. Behavior change is

a needed first step to global salvation. New investigations have exposed an undeniable need to understand the processes that link individual environments to our societal messes (Basic Behavioral Science Task Force, May 1996 & July 1996). Increasingly psychologists are challenged to develop emotional literacy programs and to become adept at imparting useful skills to individuals—from childhood to adulthood (Goleman, 1995; Kishton & Dixon, 1995).

Physical health also affects our collective well-being. Being ill can stem from a dysfunction in emotions. Barrows (1995) imparts that our culture has embedded developmental theories based on isolation and individualism. Being individualistic has some attractions, but it contributes heavily to our toxicity (Garbarino, 1995). Psychologists understand behavior and its consequences and that empathy (which is linked to civility) is an important aspect in obtaining emotional and planetary well being. When all aspects of a person's life are in balance, health is optimized (Swanson, 1995).

Multiple Lifestyle Imbalances

Toxic environments *are* poisonous. Travis, McLean and Ribar (1989) believe that while we are all vulnerable to chaotic lifestyles, the child is the *most susceptible.* Gangs, drive-by shootings, drugs, and death worry children the most and this does not include their fear of thunder, lightening, and snakes (NAESP, 1996). Early exposure to violence impacts a child's confidence and leads to disaster. This, *combined with* troubling information about the destruction of nature habitats, can cause a ponderous dimension of emotional imbalance. Past APA President Frank Farley (1996) believes "the world is in a bad way" and we need to find solutions to reinvent "ourselves as the primary discipline in the solution of humanity's major problems." If psychology cannot help society "reduce human horror, we will have failed our original promise." This, he says, will take "all the creativity we can muster" (p.775). One aspect of horror is violence.

Violence and Aggression: Social toxicity causes confrontations that lead to shootings. Antonovsky (1993) says more frightening than war "is the young man with the gun.... All messages are noise, noise which kills and wounds people" (p.971). Many aggressive acts result from impairment in the ability to accurately interpret the actions of others. Pillow (1995) affirms that the ability to associate and make inferences is a fundamental part of cognitive development. However, injury or abuse can interfere with accurate perceptive skills (Lewis et al., 1988; Thomas, 1979; Mayer & Salovey, 1993; Moffitt & Silva, 1988). The Basic Behavioral Task Force (May 1996) reports aggressive acts result from misinterpreting another person's behavior. One reason for impacted perceptual ability could also be related to chemical poisons.

Toxic Habitats: Exposure to chemicals, according to Irene Wilkenfeld, "can cause a stunning array of physical, emotional, behavioral, and learning disorders from asthma to depression" (Mendelsohn, 1996, p. 10). Chemicals have been related to impulsivity and aggression (Cullinan, Epstein & Lloyd, 1983) and perceptual difficulty (Travis, McLean & Ribar, 1989). Even the places we live contain chemicals that cause illness particularly for those under emotional stress (McCunney, 1987).

Stress and Fear: Psychologists take children's fears seriously but it is often difficult to distinguish fear from anxiety and stress (Fimian & Cross, 1986; NAESP, 1996). However, the fear of living with environmental catastrophes together with predisposed archaic fears could augment stress levels (particularly for children, who are 'close' to these fears). See Wickes, 1927; Bowd, 1983; Valentine, 1930; Wilson and Kellert, 1993. Chronic stress (Chandler, 1984; Lazarus, 1971) can lead to withdrawal as a coping strategy (Garbarino, 1995) and a refusal to "care about anyone else's needs. In either case, people who cope by withdrawing become less effective as human beings and the social environments where they live become more toxic...Therefore] the vicious cycle continues" (p.157). This breakdown, per Rosemond (1997), is related to erosion of connections that bind people together allowing them to feel a part of something larger than themselves.

Isolation and Distrust: This erosion of connections has lead to withdrawal as a coping mechanism. Children spend more time watching instead of participating in life. Researchers find that interaction with technology suppresses character development and family communication. Garbarino (1995) says: "The less experience people have with face-to-face interaction, the more they distrust

each other" (p.35). Rosemond (1997) found that the explosion of electronic viewing has caused a 55 percent increase in attention difficulties. This passive indifference also manifests in a lack of concern for nature's ills causing people to be spectators or renters, not owners. When you own something, you take care of it--nature as well as yourself. Swanson (1995) believes that interactive experiences help us keep in touch with the sensations of life: "Our modern indoor lifestyles threaten to extinguish our meaningful interactions with the natural world" (p. 64). Cahalan (1995) adds that this pattern involves the aspect of clinging to the image of "self-as-owner... rather than primarily sensing oneself as a dynamic process of relating" (p. 101) causing an apathetic defense against the urban-industrial dislocation from rootedness. (Also see Schwartzberg, 1987; Foster & Little, 1987.)

Illness and Powerlessness: Apathy, and possibly guilt, toward nature's ills parallels the lack of concern for physical health. Being ill is viewed as a disruptive imbalance of elements. "When airborne pollution gets really bad, it is the children with... respiratory conditions who show the effects... with greatest intensity" (Garbarino, 1995, p. 5-6). Also see Mendelsohn, 1996 and Rapp, 1996. Doctors are reporting an increase in stress-related diseases, particularly chronic fatigue that can attack the immune system. "Being out of balance becomes the familiar norm and the feel for healthy functioning becomes lost.... We can lose touch with our feelings" and our perceptual grounding (Swanson, 1995, p.67).

Summary

The gloomy indicators attest that our children are at-risk and information about the destruction of nature, compounded with societal ills, can create intense hopelessness. Those demonstrating "the effects of social toxicity first and most dramatically are the ones who have accumulated the most developmental risk factors" (Garbarino, 1995, p.6). *Children are living in a world that is detrimental to their emotional, physical, and educational development — and all of these are inter-connected.* Wymore (1995) attests that "we can only know ourselves in relation to other things, and we are inexorably in a web of relationship with all things" (p.117).

Connections and Emotional Health

Powerlessness and Depression: Multi-imbalances *are* stressful and erode the essence of childhood. "Since they [children] are often powerless to change or influence the course of their lives...they develop overpowering feelings of hopelessness" (Patros & Shamoo, 1989, p.92) and often find no resolution to their difficulties. Similar to adults (Seligman, 1975; DeAngelis, 1996) helplessness can lead to depression in children and those that are already depressed know this (Goleman, 1995). According to the Centers for Disease Control, from 1952 to 1992 "the incidence of suicide...(for those younger than 25) nearly tripled" (Ward, 1996, p.30). Dr. Alan Berman of the American Association of Suicidology, asserts that feeling hopeless, *or finding no solution to the problems*, is "more predictive of suicidal risk than diagnoses of depression... Hopelessness is a much more abject way of thinking and feeling and I tend to believe that being depressed itself is not sufficient cause to lead to or explain suicide" (p.31). One model asserts that depression is related to losses in nature.

Compounding the dysfunction that is occurring within social and familial structures, information about our planet is primarily negative. Conn and Roszak (in Roszak, 1995b) report that we grieve deeply from dysfunctional relationships related to nature. This loss-of-nature grief is a distinctly different feeling for things profoundly beloved, which we are losing, and depression results.

Depression and Self-Esteem: 4.5 million children in the U.S. may suffer from depression (NBC News, 1997). The manifestations of which often lead to a negative self-image (Lamarine, 1995; Moore & Fine, 1990). Leary, Schreindorfer and Haupt (1995) found low self-esteem to be a strong predictor of emotional and behavioral problems, and O'Dell et al. (1994) found a relationship to academic performance. Impacted self-esteem can also impair the ability to understand individual actions *and the actions of others* (Rubin, Chen & Hymel, 1993; citing Coie & Kupersmidt, 1983). The Basic Behavioral Task Force (May 1996) concluded that: [Understanding] "how people perceive and respond to the social world is one of the most important tasks of basic behavioral science research" (p. 478). By exploring the research, Goleman (1995) found that empathy is based on self-awareness. (Also see Mayer, DiPaolo & Salovey, 1990.)

Self-esteem and Empathy: A healthy self-concept allows an individual to be empathic. It is the primary emotional component that helps us understand that we are worthy to be a part of a civil, societal structure. Per Mayer and Salovey (1993) it is the "major underlying contributor to emotional intelligence" (p.438) and serves to "increase individuals' perceptions that they are socially included" (Leary, Schreindorfer & Haupt, 1995, p.308). Pillow (1995) conveys that: "Assimilation refers to instances when a person's belief or emotion mediates the representation of information about a situation" (p.662). When a child is faced with something that goes beyond available information, they need to draw from existing knowledge. This skill is responsible for adequate perceptual, cognitive, and emotional development.

A child's social development is derived from an outline where success is dependent on integrating into the larger societal context (Garcia-Coll & Meyer, 1993; Denham et al., 1994; Youngblade & Dunn, 1995). Hoffman's (1978) term: "Vicarious affective response," means that an observer "responds as if he were experiencing the same affect as the model" (p.228). "Literally, it means 'feeling into' another person" (Moore & Fine, 1990, p. 67). Because we feel pain, we should relate to the pain that we might inject on others. But is this concept also true of nature? "Does it make sense to talk about a moral, empathetic relationship... with nature?" (Kahn & Friedman, 1995, p.1403). It is sometimes difficult to understand that the natural environment can 'feel pain' or for people to understand its rights. It is difficult to associate an empathic structure with nature. However, it is hypothesized that biophilia is the "innate emotional affiliation of human beings to other living organisms" (Roszak, 1995c, p.4) and Zoologist E.O. Wilson purports that humans possess biophilia (Wilson & Kellert, 1993). Because emotional neglect dulls empathy, it also dulls perceptions (Goleman, 1995). I believe that empathic-driven civility might be enhanced and thus strengthened, children (and as adults) will become valuable and civil inhabitants of the planet and perceive their uniqueness in association with its vastness.

Empathy and Civility: Empathy, resulting from a positive self-concept might be the root of morality (Hoffman, 1984) and one of the processes needed for positive social interaction. Brothers, citing Weiner (1977) in her 1989 review, says that primates can read emotions from the facial expressions of peers and by showing animals particular social interactions with other animals elicits endocrine and autonomic changes allowing the assumption that empathy is a given of biology. Pillow (1995) reports "that around the age of 6 or 7 years children begin to have an understanding of the active information-processing....[and] perspective-taking skill requires understanding of relations between mental states and the conditions that determine or mediate them" (p.652). Garbarino (1995) says that the decline of "civility (an old-fashioned word) has a negative effect on our children's development... It provokes a callousness that generalizes to other relationships" (p.38-39). In the Basic Behavioral Research (July 1996), 52 scientists found that communal structures promise greater access to health care, are effective in buffering stress, and promote coping networks in our current isolated environments. Holtzman (1997) agrees that successful education depends on a close community generating empowerment, positive social and educational development.

Civility results from empathy. However, to comprehend this interaction requires accuracy in perceptive skills and a keen ability to attend. I believe as society heads to communal structures, that positive interactions will be obligatory. Antonosky (1993) attests that civility "affirms plural commitments and loyalties to oneself and to others" (p.973). An organism is not able to function healthily if one aggressively dominates others. Aggressive behavior, particularly for kids, results in isolation (Cillessen et al., 1992), low popularity, and rejection by peers (Denham & Grout, 1993; Kennedy, Spence & Hensley, 1989).

Conclusion

This symbiotic scenario has portrayed immense complexity of development. It has demonstrated a full circle of emotional and behavior interactions and purports that people need to connect to feel that their lives are meaningful. Barrows (1995) sums it perfectly: *The two disciplines of developmental psychology and deep ecology, working together, may offer the best hope of keeping "our children as sane as they were when they were born"* (p.101) [emphasis added]. If individuals do not feel part of a social structure, they will

not perceive that they are in control of self or their environments (O'Rourke, 1996). Salisbury et al. (1995) say that when children are empowered they take ownership for the particular milieu in which they are involved and a strong civil concern for life becomes evident.

Connectedness: Emotional Health and Nature

The need for connectedness has recently been explored by many *'free-thinkers'.* One being poet Susan Griffin (in Spayde, 1996) who says: "The understanding that nature is a source of meaning... is the hope for a just society" (p.63). Many others believe that a holistic concept is the "only honest, economical and feasible way forward" (p. 63). In this report, Carolyn Forche says, "we are becoming aware... that we are all interrelated. Once we relate in a way that doesn't reduce or dominate either party... we begin to appreciate the radiance of the larger web of inter-relatedness, and we wake up" (p. 69). Farley (1996) believes that many of the world's problems "are rooted in psychology" and that there is an important "need for a truly global psychology" (p. 773).

Historical Overview: The psychology-to-nature etiology is diverse, ranging from Jung's collective unconscious, to the current ecopsychology movement. Frances Wickes (1927) found memory to be a storehouse of adventures that enables the comparison of experiences. Drawing on Jungian Psychology and the unconscious, she states that images that are contained in the deep levels of cultural and collective attitudes of society parallel primitive gods and magic. Per Swanson (1995) it appears that consciousness is on the "cutting edge for the human sciences in recognizing the powerful role our relationship to the environment plays in mental health"(p.51). Recently, Aizenstat (1995) portrayed a new generation of Jung's Depth Psychology. This concept imparts that human behavior is deeply rooted in nature and that: "The rhythms of nature underlie all of human interaction...When these human forms betray the natural psychic pulse, people and societies get sick, nature is exploited and entire species are threatened" (p.93). Park (1996) says that: "Journeys into nature offer metaphor, identification, a greater sense of commonality, and understanding. We experience something greater than ourselves" (p. 322).

Metaphors and Emotional Health: In designing the study program, historical metaphors were included, including the Native Americans' circle of life process, to help students understand and prime their perceptions. This was done to impart the human-to-nature association and provide conscious awareness, as these stories bring to life holistic and interdisciplinary ties to the land and to each other. "American Indian cultures are a vital link between human society and nature" (Caduto & Bruchac, 1989, p. xxiii). They believed that "plants and animals were brothers and sisters and lived cooperatively for the welfare and survival of all" (Foster & Little, 1987, p.99) and honored all forms and manifestations of life. An awareness of ancient philosophies can help children understand how the 'First Nations' (Armstrong, 1995) understood and shared the earth, contrary to our "understanding and knowledge of nature" [being] distanced from the reality of life lived physically close to the earth" (p.34).

Counselors also use Native American metaphors and symbols in therapy (Heinrich et al., 1990). They attest that psychologists <u>are</u> healers and should draw on the wisdom of the ancient because "the work of healing is most effectively done with metaphors.... Counselors must be able to identify what these metaphors are within the client's reality" (p.131). Farley (1996) says psychology is powerful. He wonders why we can't use this knowledge to "raise the human vision" (p.776) and to teach each other to change the world? "We specialize in bits and pieces of the puzzle, but we rarely seek the whole picture... [we] try to put the pieces together... How will children know what to aspire to? If life is reduced to avoiding the ugly things, what is there to seek?" (p.776)

Current Trends in Nature Therapy: One piece of this puzzle is the understanding of how mental health professionals can help create a more civil society. Is it possible to combine our inner psyche nature with "Mother Nature" in therapy to effect healing? Per Swanson (1995), we need to learn to "assimilate the natural world, to identify with it, to experience our kinship with the rest of nature" (p.75). Ecopsychologists express the benefits of feeling close to the earth, or nature (Cohen, 1995; Kanner, 1996). Kahn and Friedman (1995) found that to inner-city children, animals, plants, and parks are important to their lives. It is becoming

apparent that *vigorous research* is needed to show the relationship between nature and humans. As Kunc (1992) contends, by achieving a deep sense of belonging within the child's community is fundamental, and I will add, imperative, to emotional health.

It is time to change the way we relate to nature and to each other and if we neglect this challenge, our survival is at stake. True self-love derived from self-actualization and esteem is the ultimate goal. To love your neighbor as yourself could also mean *love nature as yourself*. What we love we will protect, but unless we *truly* love ourselves, there is no love for other. Previously, practical approaches have not been available to help us change our relationship to nature, per Swanson (1995), therefore, he calls for psychologists to include the natural sciences in explaining and understanding human dimensions. To augment this concept requires a digression into the world of subatomic physics.

Using science as a metaphor we find that life is a collection of probability patterns and interconnections (Capra, 1982). In atomic physics, there are no 'things' only connections. When you look at an atom within an object, there is a probability that the electrons arrange and rearrange themselves around the nucleus — they are everywhere at the same time — but the object and, or, pattern remains stable. This seems then, that because all of nature is composed of atoms, at the level of exchange of matter and energy, if we look deep enough, we are all part of one inseparable web of connections. The parts <u>are</u> the whole picture. Capra (1996) explains this metaphor as the cognitive, emotional (mind-consciousness) web of life formation and called for a paradigm shift in the understanding of development and inter-relatedness.

Psychologists could use this analogy to prescribe nature in the emotional healing process. Swanson (1995) believes that the working environment and the outdoors *need to be integrated* into a person's life; and, simultaneously, healthier relationships with the inner nature can develop. Professors have noticed that psychology students are showing a "strong interest in environmental issues" and courses are being offered in "both psychology and environmental science departments" (Murray, 1996, p.51). Roszak (1992) says that the goal of ecopsychology is "to bridge our culture's long-

standing historical gulf between the psychological and ecological" (p.14). Barrows (1995) believes that we need to transition from the paradigm of the <u>*isolated self*</u> to a new vision of "self that is permeable, and interconnected not only with other human selves, but with all living beings" (p.103).

Developmental Models: In the Centre for Psychology and Social Change Newsletter (February 1994) Hillman concludes, "psychology's attribution of a private, individual self is delusional" (in Reser, 1995, p. 238). This concept seems to lead to a <u>*new theory of child development that considers a child is born, not only within a social milieu, but also within an ecological context.*</u> Barrows (1995) reports that by insisting on being independent "has led to the popularity of a psychology that emphasizes... the theory of Margaret Mahler...[who] traces the development of the child as a process of separation and individuation" (p.105). Barrows believes that when mental health professionals acknowledge that we possess "an ecological self" it will change their therapeutic interaction. To do this, we need to acknowledge that children are connected "to all living things and to the earth itself" (p.107). Based on this, she adds, our perception of individuals, families, and social systems must expand.

Conversely, Reser (1995) argues that ecopsychologists purport the "untenability of an individual, disembodied self in contrast to the experiential and biological reality of relational self" (p.244). Conn (1992) asserts that when "we develop a way of connecting the self and the world, then the goals of therapy become not just personal release but also participation in and contribution to the healing of the world" (p.3-4). Therefore, modern therapists are trying to bring this understanding into the therapeutic domain.

Therapeutic Models: Roszak (1995a) citing a colleague, Ralph Metzner, who believes that in this day and age, therapy "could be transported to outer space and it would not make any difference" (p. 10). Therapy as a function of ecopsychology embraces holism. There is also new direction emerging within and for 'Ecological Social Work' wherein social workers are looking to "transpersonal ecologists and the ecopsychology movement" (Park, 1996, p.321) for therapeutic methods to help them "shift away from the medical

disease model toward an ecological model" (p.322). The challenge for the mental health profession, then, is to develop therapeutic programs to enhance character, to reduce negative competition, and to generate positive interaction within society.

The Basic Behavioral Task Force (May 1996) suggests that the formation of social standards begins early and should be "amenable to intervention during childhood" (p.484). They call for more research on the development of social processes that link cognitive development to social messes that result from negative parental interaction and chaotic social structures. Bellah et al. (1985) suggest that programs that support the integration of vulnerable people in social situations, reflect a society that values a sense of community. When "we understand nature as sustainer, mentor, and source of inspiration, we will be able to transform our own lives and the lives of our clients and the Earth" (Park, 1996, p.322).

Conclusion

To say that ecopsychology, as a therapeutic model, will be the ultimate answer to a just and civil society might be far-reaching. Quite possibly nothing else seems to be close to the answer, and ecopsychology is one step closer than the others. Whatever the result, I agree with Farley (1996) who says it is possible to use psychology "in the broadest sense, uplifting, ennobling, placing the mystery of life in a context, and most importantly, showing the road to generosity and love. We should accept no less" (p.776). Brown (1995) believes that we will not be able to restore our health or well-being unless we first correct the health of the Earth. This, I believe, is up to the children—but they will need our guidance!

Methods

Development of the Program: As a School Psychologist, one impetus for the formation of the model program was my concern that educators were teaching mandated environmental classes that explored disturbing issues regarding the destruction of our natural *home*, the Earth. For those who also had to endure dysfunctional personal lives, I witnessed how hearing about the desolation of nature intensified their helpless feelings. Even today, students cry when they learn about how animals are becoming extinct. Because social-emotional reciprocity seems to be similar to the connected aspects of nature, the sessions include nature as a learning model. After drafting the sessions, school administrators reviewed the outline and subsequently offered the use of their facilities. Together with a co-leader, we implemented the model program for two years using a variety of activities extracted from the biological and human sciences.

The Program and Learning Theories: The sessions are original in design, however, several models provided a methodological base. One was Seligman's "Learned Helplessness Theory" (1975) that when faced with events over which they seemingly have no control, people can feel hopeless and even depressed. Conversely, when people take action, this can bring about strength and empowerment. Skeels, (1966) found this to be true. (Also see DeAngelis, 1996.) Because interconnectedness is difficult to explain and cognitively interpret, it is arduous for those emotionally impacted, who also have difficulty with abstract reasoning, to understand and internalize its relationship to complex psychological rhetoric? People need a backdrop, an association, to understand and connect new meaning to previously learned information. This developmental framework was the basis for the model, which includes totem selection, role-play, art therapy, and nature visualization exercises.

Program Framework: The therapeutic method used in the model is also original in design. One underlying assumption was that by increasing an individual's understanding that he or she is part of an intricate web of relationships would enhance control. The six sessions that compose the program are designed to *impart social-emotional understanding and prime perceptions by vicarious observance of, and interactive participation with, nature.* Participants are encouraged to observe and participate within the cherished structures of their natural environment and relate their observations to human actions. It fosters the theory that when we project into the bigger picture of nature, an intrinsic awareness of being connected will emerge—both with the self and with others. The sessions teach participants to associate familial structures of nature with human interaction. It was hypothesized that by using nature extensively in a therapeutic model would reduce the stressful impact of life and, as a result, positive emotional well-being would

be evident. A non-directive therapeutic approach was used as the primary method of interaction.

Participants: The target population consisted of students in the 4th through 8th grades designated to be emotionally at-risk. High schoolers served as mentors. After permission forms were signed, the final sample consisted of 13 males and four females (N=17). This researcher co-led the sessions as the mental health professional along with a certified science teacher. This combination of leaders effected a balance between the scientific and the emotional aspects of the program. The control group was randomly selected from those attending regular summer school classes and subjects were not designated to be emotionally at risk. There are limitations (per O'Dell et al., 1994) in "comparing the at-risk students with a normal group....created both a matching problem and a statistical analysis problem" (p. 231) and suggested that differences should be evaluated using matched groups.

Analysis: In order to evaluate the therapeutic sessions, psychometric measures and observations were conducted pre- and post- program implementation. As theorized, emotional connectedness is multi-faceted and interactive. Thus, the benefits of participation in the sessions were also assumed to be multi-impacting. The primary purpose of the pre- and post-intervention measures was to determine the effectiveness of the sessions to enhance emotional health. Interviews, and overt behaviors documented by teachers and parents were also evaluated.

Instruments: Person drawings and the Piers-Harris Children's Self-Concept Scale (P-H) were used. These instruments were administered during the first week and the final week of the sessions. Many psychological evaluations begin with a child drawing a picture of themselves. It is an excellent way to help them feel comfortable and to break down barriers between the child-adult interaction. Drawings are less susceptible to faking, as most children do not know that their masterpiece is going to be interpreted based on its content. In such a situation, the ambiguity serves to reduce anxiety.

1. Emotional Development: Psychologists in clinical practice (Miljkovitch & Landry, 1984; Pfeffer, 1984; Cummings, 1986; Culbertson, 1987; McNeish & Naglieri, 1993) often use human figure drawings. Scoring is based on a holistic approach allowing the clinician to count *'signs'* considered to be associated with emotionality and compare them with a normal sample. The Draw A Person: Screening Procedure for Emotional Disturbance (DAP: SPED) was used in the present study to determine emotional growth (Naglieri et al., 1991). Developed on over 2,000 subjects aged 6 through 17, inter-rater reliability and retest stability are adequate. Lie (1994) used person drawings before the first offense in a longitudinal study of adjudicated boys. Findings show, without exception, that future offenders had abnormal test results and that psychopathological "differences were present before the first offense" (p.23).

2. Cognitive Development: Although human figure drawings have not been shown to be accurate measures of intellect, it is reported that a potential exists for eliciting a crude index of mental development. In the present study, the Draw A Person: Quantitative Scoring System (DAP:QSS) was used to estimate cognitive growth. It provides an objective scoring system normed on a representative sample per Naglieri (1988) who affirms that drawings have been used to estimate developmental levels since the 1800s. Criterion validity correlates significantly ($p < .01$) with other cognitive measures. (Also see Laosa, Swartz & Holtzman, 1973; Pikulski, 1972; Goodenough, 1926; Harris, 1963; Miljkovitch & Landry, 1984; Havighurst, Gunther & Pratt, 1946.)

3. Self-Esteem: The Piers-Harris (P-H) Self-Concept Scale was chosen because it can be given quickly and was primarily developed for research. Results evaluate attributes and "focuses on a child's conscious self-perception" (Piers, 1984, p.1). "Internal consistency estimates for the total score range from .88 to .93" (Page & Chandler, 1994, p.345). It is composed of 80 self-report questions in six areas of perceived esteem: Behavior, school status, appearance, anxiety, popularity, and happiness. Piers and Harris (1969) believe that a positive correlation exists between self-esteem and intellect. Page and Chandler (1994) used the measure to determine the effects of counseling for at-risk 9th graders and found

that their self-esteem significantly improved. O'Dell et al. (1994) used the P-H to analyze educationally at-risk youngsters concluding that: "Our modern society has produced numerous cases of children not getting the attention they need, and this may be a contributing factor to the increasing number of at-risk students" (p. 231).

4. Behavior: Overt behaviors (empathy, civility, aggression, cooperation) and educational well-being were recorded before, during, and after the sessions. Subjects were observed for perceptive skills while interacting with others (such as being bumped by someone accidentally). Leaders completed the behavior checklist augmenting observed behavior changes. Role-play, artwork, and totem selection can be used within a therapeutic model. The Basic Behavioral Task Force (May 1996) found that "when experimental subjects role-play in front of an audience... they persuade themselves as a result" (p.479) to change behavior. O'Dell et al. (1994) used artwork and role-play in their program. Anita Barrows (1995) discussed how tribal societies culturally practice having each person in their community "accompanied through life by a totem animal, whose name a child might be given along with other names, and whose function is to embody the child's link with the natural world" (p.102).

Procedure: Before the program began and after the six sessions, each participant was asked to draw a picture of themselves and complete the self-esteem questionnaire. The same procedure was followed for the control group subjects who participated in a regular summer school program. Psychodiagnostic indicators of the person drawings were tabulated. One point was given for the appearance of each of the indicators and the total percentage of the pre- and post-intervention drawings were tabulated.

Results

Pre- and post-intervention scores derived from the P-H and person drawings were recorded for each subject. Several students were unable to complete the second questionnaire, thus reducing the analysis group (n=10). Results show a pre-intervention mean of 43.3 and post-intervention mean of 53.6. Analysis affirmed a significant difference (t=6.01, p <.001) between the total scores, yielding an improvement in the participants' *overall* self-concept. Four of the clusters demonstrated significant increases: *Behavior* and *Physical Appearance* (p<.05); *Intellect & School Status* and *Happiness & Satisfaction* (p<.01). The *Happiness* cluster demonstrated the most pronounced difference.

Piers-Harris Children's Self-Concept Scale
T-Score Means and Standard Deviations - Study Group
(n=10)

	T-Score Means		Standard Deviations	
Cluster	pre-intervention	post-intervention	pre-intervention	post-intervention
Behavior	37.8	47.5	11.07	8.59
Intellect & School Status	40.1	52.2	10.86	11.99
Appearance	38.9	47.8	12.89	11.75
Anxiety	51.3	58.7	13.87	6.82
Popularity	42.4	51.4	8.77	7.71
Happiness & Satisfaction	38.6	51.6	12.89	10.69
Totals	43.3	53.6**	8.89	8.97

** p < .001

The control group demonstrated little difference in self-esteem pre- and post-regular summer school involvement. However, based on analysis of variance, the study group demonstrated the most significant increase (F [7, 72]=2.69, p<.016). The DAP:SPED pre-intervention mean (M=44.93) for the emotionally at-risk (n=15), (two subjects did not complete a second drawing) affirmed the validity of the pre-program selection criteria. The post-intervention mean (M=38.47) demonstrated that participation in the sessions significantly improved the overall emotional health of the students (t=4.486, p <.001).

DAP:SPED T-score Means and Standard Deviations
Pre and Post-Intervention
(n=15)

	M	SD	p value
Pre Intervention	44.93	5.02	.001
Post Intervention	38.47	3.76	

To further examine the increase in perceived intellectual ability as demonstrated on the P-H cluster, the DAP:QSS was analyzed. The pre- (M=89.5) and post-intervention (M =90.4) means did not differ to any significant degree (t=.213, p >.10). This is serendipitous in that even though the DAP:QSS scores did not increase significantly, based on the P-H Intellect and School Status cluster the participants' *perception of their intellect* was significantly higher (p < .01).

Psychodiagnostic indicators demonstrated that almost 70 percent of the pre-session drawings contained aggressive symbols. Post-intervention drawings contained no aggressive symbols. Anxiety decreased by 66 percent, serious pathology decreased 73 percent, and barriers between the self and environments decreased by 100 percent. Many post-intervention drawings were happy cartoon figures engaged in some type of enjoyable outdoor activity. Overt behaviors portrayed significant improvement as reported by the teachers with positive changes sustaining up to a year post-intervention. Nature visualization, particularly when the teacher used the term 'extinct,' helped participants become calmer and the children were amazed at how they could control their skin temperatures by using relaxation techniques. This result is similar to Zaichkowsky's et al., (1986) findings.

Discussion

The purpose of this study was to examine the benefits of the therapeutic model for the children who participated in the sessions. As hypothesized, participation lead to positive emotional development evidenced by an increased self-concept and a greater ability to show empathy and civility. After the sessions, the children reported that they felt happy, lucky, and cheerful, easy to get along with, and that they liked themselves. This researcher believes that by participating in a program that used nature as a visceral and interactive teacher, the children came to understand that they belong to a intricate community of connections and this sense of belonging was one of the factors responsible for their emotional growth. Kunc (1992) affirms that when a child achieves a sense of belonging within their milieu, this is fundamental to both psychological and physical health.

Educational Development: Even though the study program was implemented in the summer, the students discovered that education is fun. Serendipitously, the P-H School Status cluster reveals that the children felt smarter and more willing to be active students within an educational system. They became more positive about their educational capabilities. Results of this study document O'Dell et al.'s (1994) finding that "self-concept is the best predictor of academic accomplishment" (p.227), and children are motivated because of their history of success to continue to be successful.

Behavioral Development: As demonstrated, children need skills to help them handle difficult situations and give them power to effect change. Overt manifestations of empathy, cooperation, and self-efficacy were evident as they became empowered to take action to improve their personal and surrounding habitats. Aggressive behavior also decreased after the intervention. Jenson (1990) stated that increased self-esteem tends to reduce violence, others found that social exclusion is the result of aggressive behavior (Cillessen et al. 1992; Rubin et al., 1993; Leary et al., 1995). In the present study, the children became part of and accepted by the group and important in the web of life. Those who participated learned and practiced how to recognize emotions in each other by observing the behavior of animals. They seemed to overcome the emotional neglect they experienced from family members and projected themselves into a larger "family" of acceptance. When children work together and cooperate without competition, they can openly discuss their inner thoughts, thereby learning more about others (Salisbury et al., 1995).

As the sessions progressed, the children's empathy for nature clearly increased. While walking through the woods, some questioned where they stepped wondering if they were going to destroy part of the chain of life. These and other behaviors authenticate their understanding of the distress of all life forms (Hoffman, 1984). As demonstrated, the neuro-cortex controls the capacity for empathy and that it may be possible to achieve a connective healing of the pathways that underlie empathic understanding (Brothers, 1989; Goleman, 1995; Azar, 1996). The etiology of the behavior changes noted in the children is worth further exploration.

Physical Development: As demonstrated, children have many innate fears and compounding these fears with a stressful lifestyle can be virulent, posing a threat to physical health. By using nature visualization exercises, participants realized that they could take some control over their own physiology. Stress can also cause mental health problems, inaccurate perceptions, and isolation. The sessions helped the children understand that they have the power to achieve balance and physical health. Using nature to help reduce stress levels could be a part of the educational curriculum for every child, not just those who are emotionally at-risk. Supplemental evaluation demonstrates that many of the children experienced a closer kinship to the animal kingdom and wanted to associate themselves with animals. One mentor wished to acquire her pet's positive characteristics: Quiet, unassuming, strong, expressive, loving, kind, and a best friend.

Emotional Development: During the early part of the sessions, the students notably engaged in aggressive behavior using all aspects of nature. They used tree branches for swords, water for balloon fights, rocks to throw at each other and at animals, and often grabbed living species to play with and put in jars. In general, they used elements of nature in cathartic aggressive interaction. As the sessions progressed, this behavior waned. When depressive characteristics diminished, they became more empathic to the natural life found around them. Similarly, Page and Chandler (1994) write: "This research shows that small-group counseling is a viable way for mental health counselors to affect the at-risk" (p.349). The variability in the affect of the participants raises the question of transient depressive characteristics. If a client is significant for depression, and later the stresses are mitigated; therefore, depressive characteristics are no longer manifested, this is worth further review. Was it hopelessness masking as depression in the present sample? The answer to this is crucial, as environmental degradation continues to permeate our world and compound stress. Future research should explore depressive characteristics to determine the relationship between unresolved grief from loss of nature habitats, particularly for those who are in jail and live in "cement cities," totally removed from nature in their lives.

The sessions had a positive impact on the students. They perceived the change, others perceived the change and, above all, they were not the only benefactors of this change—their parents, siblings, pets, peers, teachers, community, and nature were all benefactors. If people are depressed about the environment and their perceived participation in its destruction, it has been shown by the present research that empowerment can reduce environmental grief through self-efficacy. The sessions provide a resource for mentoring. Hamburg (1992) believes there is a lack of dependable role models that can be mentors or cross-age peer helpers for children. Mentors provide an important aspect for the developmental process of a child--so often needed as called for in our Nation's Philadelphia Presidential Conference (April 1997).

Mitigation of Hopelessness: If the greatest sorrow is to feel powerless to effect change and if children are more powerless than adults because of their circumstantial hopelessness, the participants in the sessions found a way to engage themselves. They demonstrated that they did not feel helpless anymore. This may have been instrumental in reducing depression. Ward (1996) states that when children present as being depressed, instead, they *could be feeling hopeless* and cannot or may not know how to find solutions to their problems. This, he says, is "more predictive of suicidal risk than a diagnoses of depression" (p. 31). The students projected the need to clean up their inner life by finding ways to clean up their surroundings. This type of emotional projection can be an example for the youth of America. While the propensity for violence results from powerlessness, rejection, and loss of ego control (Cillessen et al., 1992; Rubin et al., 1993), learning how to work and play together and improve immediate environments has a positive impact that may help to reverse violent tendencies.

Neural Development: The children in this study could have experienced autonomic changes in the neural pathways that prime perceptions. Behavior change was evident even in those youngsters who had stopped taking their medication for ADHD during the summer. Rosemond (1997) believes that some children demonstrate pseudo ADD due to the highly wired and rapid images found in electronic communicative technology and this certainly demands further review.

Development of Well-being and Ecopsychology: The study activities were designed to effect a balance between the natural sciences of biology, geology, and herpetology and the health sciences. In addition, Native American history, art, and music were used throughout the sessions. This integration of the sciences is the essence of ecopsychology and what its proponents are asking of mental health professionals. However, the sample size of the present study, along with other cause and effect inferences may dictate caution in generalizing the results. It has been shown that using nature did improve development and this researcher, as the mental health professional, gained invaluable information in the process. If the proponents of ecopsychology wish to catapult to a new theory of development, the data from the present study clearly show the benefits of such a model. It incorporates the synergism of emotions with the synergism of natural life forms. Reser (1995) finds that ecopsychologists are "throwing out a challenge to psychology as a discipline and profession to get involved with 'the real work' " (p.237) of finding ourselves real within the world. Conn (1992) says: "We need a way to view the self, a new experience of our place in the whole, to develop true ecological responsibility"(p.5).

Holtzman (1997) recently expressed that "community psychology is based on systems and ecological thinking that integrates health, human resources, education, social interventions, citizen empowerment, and cultural values into one strategy" (p.382). The economical poverty of children confined to the inner cities leaves wide-open future implications for such an ecopsychological model. Kahn and Friedman (1995) found that animals, plants, and parks are very important to these children. Quite possibly, the communal nature of gangs could be transferred to a more constructive form of communal interaction with nature.

In the program, we were able to show the children that a cooperative network of interactions complements competition in nature. "In the natural systems competition within species is always constrained by cooperative strategies such as territoriality and dominance hierarchy" (Clark, 1989, p.60). Clark believes that ecological principles should not be studied in isolation and affirms that nature systems demonstrate cooperative strategies. Gestalt therapy helps clients to open up, explore, and develop an expanded awareness.

Definition of Ecopsychology: Based on the impetus for the development of the sessions, and the ideas of contemporary writers, the following conceptual definition of ecopsychology is proposed: (1) It is a therapeutic model that combines individual or group therapy within nature. (2) It uses nature as a means to parallel human behavior by observation. (3) It incorporates ecology, psychology and systems' ideation within a therapeutic model in order to help individuals understand the self in relation to life's web. (4) It uses nature to help individuals understand the self and our relationship to all life forms. (5) It teaches participants to use their senses in order to prime perceptions. (6) It addresses fears about the loss of nature and global catastrophes relative to all forms of environmental degradation. (7) It helps clients understand the need to improve themselves along with nature environments.

New Theory of Development: In this study, the children demonstrated that they are eminently connected with nature and that by understanding this connection, they were able to bring about significant developmental growth. The results of the present study affirmed that, quite possibly, by knowing and feeling part of a vast synergistic structure elicits positive self-esteem and efficacy. Therefore, this researcher proposes that a new developmental model should consider that:

(1) A child's connective nature does not substantiate the theory of an isolated self because the development of self is not separate from the environment of other human beings and nature. (2) A child needs to understand and feel his or her intricate place in all of life's synergistic structures. (3) Global interactive connections are intrinsic and a child must experience a vast number of natural and familial connections in all aspects of life. (4) All of the human senses need to be primed by being exposed to nature's sensations in order to effect maximum perceptual development. (5) From birth, a child needs to be exposed to positive multi-environmental empathic models in order to effect maximum emotional development. (6) Strategies to reverse our isolated developmentally destructive spiral are needed.

Future Implications: Farley (1996) says that we as psychologists need to find the whole picture—just having the pieces does not work anymore. The gestalt encompasses all the various aspects of humans and nature. Swanson (1995) believes that the long-time separate disciplines of the natural and human sciences need to come together. The "bridge into the 21st Century" (proposed by President Clinton) would be completed, I believe, by those who understand and are part of a system of connections (natural, physical, emotional, and social). "As we develop a way of connecting the self and the world, then the goals of therapy become not just personal release but also participation in and contribution to the healing of the world" (Conn, 1992, p.3-4). This research has demonstrated how mental health professionals can help humanity learn to live in a global community.

Conclusion

B. F. Skinner (1948) said the "problems of society call for something more than individualism" (p. vii). He suggested that an ideal life must consist of people who can live together in trust, love, and cooperation—not in suspicion, competition, and quarreling. Many studies have since focused on how to live cooperatively together—particularly for those children who are not accepted by their peer groups. These children present many problems for clinical intervention, but they are the group needing the most help. Ward (1996) says that if globally destructive issues "are not addressed, experts fear that youth suicide will remain widespread" (p.35). Children need to find connectedness to a whole, "a relationship with the spiritual, and make clearer the transition from adolescence to adulthood" (p.35). The dynamic interactive structure and mission of ecopsychologists seems to be close to this need.

Reser (1995) in an attempt to determine if psychology should embrace ecopsychology states that he has problems with it as a "useful conceptual platform" (p.252). He does, however, admit, "ecopsychology has invested heavily in the power of metaphor and myth. There is also no question but that these are very effective vehicles for shaping human understanding and behavior" (p.244). The present research has shown that by including nature in a therapeutic format can help improve the overall health of children. It has shown that individuals are able to learn to be empathic with natural (plant and animal) environments as well as each other. Goleman (1995) says that the optimal design of these programs must be developmentally age-related; begin early in life, and involve schools, families, and communities. Also, qualities such as empathy involve well-defined skills related to ***accurate perceptual ability***.

There is little doubt that society is toxic and professionals have a responsibility to enhance health and bring about emotional intellect within individuals. By combining developmental psychology and the interactive attributes of ecology will enable humans to take power and create a connective society. It is time for a paradigm shift -- to come together as professionals from our individualistic disciplines: Sociology, Ecology, Archaeology, the Humanities and bring our intricate collection of knowledge to form a communal network—to learn from each other. The psychological profession abounds with research on human (and animal) behavior, now it is time to act. We can help society heal. *We have the power.*

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