

EFFECTS OF FORMAL DANCE TRAINING AND EDUCATION ON STUDENT
PERFORMANCE, PERCEIVED WELLNESS, AND SELF-CONCEPT
IN HIGH SCHOOL STUDENTS

By

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Carmen Stephanie Carter

Dedicated to my Mother and Father who inspired me
to be an artist and a compassionate, empathic being.

William Dorland Carter (1926-1992)
Carmen Alene Olson Carter (1937-1995)

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By

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The purpose of this study was to examine the effects that dance education has for students who are currently receiving intensive dance education. The examination involved a comparison of students who are and are not receiving dance instruction; and focused on self-concept, overall perceived wellness, and school performance as measured by cumulative GPA, attendance, and conduct behavior. A convenience sample of 90 high school students was drawn from 3 different public schools that had a magnet program for dance, in the state of Florida. Participants completed an on-line survey in a computer lab or classroom at each of the respective schools. The survey included four demographic questions, cumulative GPA, six questions from the National Educational Longitudinal Study regarding attendance and conduct behavior, the Rosenberg Self-Esteem Scale, and the Perceived Wellness Scale for Youth. Data were analyzed using correlational comparisons and analyses of variance (ANOVA).

A significant difference was found between dancers and non-dancers for perceived wellness, self-concept, and cumulative GPA. Evidence supported a positive impact on academic performance, but there is a need for interventions that address healthier views of wellness and self-concept among the dancer population.

CHAPTER 1 INTRODUCTION

Movement is an essential human characteristic. It is happening everywhere at all times; it is a fundamental fact of life. The urge to move appears to be genetic, beginning in utero and continuing throughout prenatal and neonatal development. At birth, patterns of movement are in the form of primitive reflexes that are designed to guarantee the infants' survival. These primitive motor schemes also represent the beginning of cognitive development. As children begin to explore, understand, and interact with the environment and the people in it, the schemes become increasingly complex (Piaget, 1972, 1990).

According to Martin (1965), "In everyday life our first reaction to every object and circumstance is in terms of movement" (p.2). The relationship between motor behavior and cognitive development is a significant one. Cognitive and motor developments constantly interact; cognitive development depends on the individual's movement capabilities, and motor development depends on intellectual capabilities. As children learn to organize, adapt, and refine motor schemes in such a way that it increases their mastery of skills and behaviors needed to successfully act in one's environment, there is a parallel increase in cognitive development. Children need to learn to operate effectively and efficiently within their physical and social world. This developmental sequence has been described by Piaget (1972, 1990) as a series of four discrete stages of cognitive development, with children's thinking at any particular stage being qualitatively different

from that which preceded it or that which will follow it. The stages are age-related, and reflect a constant, reciprocal relationship between cognitive and motor development.

Piaget (1990) insisted that the order in which children progress through these stages is invariant and culturally universal; stages cannot be skipped. This assumption is a direct consequence of Piaget's belief that development is epigenetic in nature—that it proceeds gradually, with later developments being based on earlier developments (Bjorklund, 2000). While the stages are considered to be separate and unique organizational structures, they depend on each other to define progress. New cognitive skill does not arise fully formed; rather it has a history, in that the structure that underlies the new skill is a transformation of an earlier structure. This hierarchical arrangement is vital to the understanding of cognitive development.

A central concept in Piaget's theory is the idea of schemes. Piaget did not view cognitive development as the gradual accretion of knowledge or skills. Rather, he viewed it as a series of transformations or schemes, an enduring knowledge base by which children interpret and organize their world. As development progresses, schemes change. A second central concept to Piagetian theory is the notion that children are intrinsically active. They are not passive; they are active initiators and seekers of stimulation. Schemes are driven by this intrinsic activism. As children move, their schemes are strengthened, consolidated, and developed.

Educators are interested in assessing cognitive and motor development because both are directly related to learning. Learning is inextricably intertwined with activity; when students are given opportunities to manipulate material and engage in purposeful experiences, they improve motor and cognitive development. As children mature and

move through the school system, the curriculum offered by the schools provides opportunities for motor development; traditionally these opportunities were restricted to physical education courses. However, some curricula introduce students to special opportunities such as dance.

Dance is a unique form of movement; it is more than a mere physical movement, dance is aesthetic. Through dance, movement is transformed into a purposeful phrase of action that encompasses physicality, emotion, and cognition. Dance uses “the movement of the body in its reactions to the environment” (Martin, 1965, p.1). As a unique form of movement, dance is a direct and natural way to move; one that inspires creativity, motivation, self-discipline, and self-awareness.

Dance education is a structured approach to instruction and can serve as a valuable method of learning because students are exposed to a curriculum that challenges them to integrate that unique experiential education into their everyday life and culture. Dance education has been a part of the comprehensive school movement in the U.S. since the beginning of the twentieth century. Originally, dance was taught mainly as an activity within the physical education curriculum. Currently, it is recognized as an art form comparable to music, drama, and the visual arts. Both physical education and aesthetic education have embraced dance as a part of the curriculum (Carter, 1984).

Two professional organizations inform dance instruction as it is practiced in public schools: the National Dance Association (NDA) and the National Dance Education Organization (NDEO). The NDA presented the *National Standards for Dance Education* in 1994. The guidelines cited the following outcome goals for high school students in dance:

1. Identifying and demonstrating movement elements and skills in performing dance.
2. Understanding choreographic principles, processes, and structures.
3. Understanding dance as a way to create and communicate meaning.
4. Applying and demonstrating critical and creative thinking skills in dance.
5. Demonstrating and understanding dance in various cultures and historical periods.
6. Making connections between dance and healthful living.
7. Making connections between dance and other disciplines.

Of the 7 objectives, 3 have direct relevance to the relationship between cognition and movement; namely Goals 4, 6, and 7. These goals are consistent with the notion that movement is associated with the development and modification of motor and cognitive schemes. The complexity of these schemes contributes to students' sense of competence as an operator within their environment. Given that dance is taught in a structured format in public schools, it would seem that dance instruction would enhance recipients' personal competence and self-efficacy.

In light of the foregoing, one could reasonably assume that dance instruction would enhance student performance, perceived wellness, and self-concept. Specifically, the opportunity to increase skills that enable students to operate effectively within the environment would enhance students' sense of personal competence and self-efficacy. Unfortunately, no empirical evidence either supports or refutes such a claim. Thus, the purpose of this study was to conduct an empirical investigation of the relationship between participation in a dance program and selected features of students school performance, their sense of perceived wellness, and self-concept.

Purpose of the Study

The purpose of this study was to examine the effects that dance education has on student performance, overall perceived wellness, and self-concept of students currently receive dance education instruction, and compare it against students who do not. More specifically, students in grades 9-12 at magnet high schools in the State of Florida

participated in an on-line questionnaire, responding to questions related to their demographics, attendance, conduct behavior, GPA, program of study, self-concept, and overall perceived wellness.

Need for the Study

The National Dance Education Organization (NDEO), through a grant funded by the Office of Educational Research Initiatives of the Department of Education, is examining dance education research conducted from 1926 to the present. The project is an attempt to comprehend and synthesize the published and unpublished research from inside and outside of the field of dance (Bradley, 2001). Preliminary findings suggest that much of the body of work on dance education can be characterized as comprehensive and multimodal, but would be judged as lacking rigor by others in the field of educational research. The bulk of the research relies mainly on the use of observations, case studies, and persuasive writing from committed dance educators (Bradley, 2001).

Bradley's claims about the lack of empirical research to support the relationship between dance instruction and measures of school performance were corroborated by the findings of a detailed report entitled *Reviewing Education and the Arts Project (REAP)*. The REAP report set out to "deconstruct the myths about arts education by taking a careful look at the empirical evidence" (Winner & Hetland, 2000, p. 3-4) through meta-analytic procedures. The purpose of the REAP report was to clarify the reasons why the arts may be instrumentally useful to cognitive learning. Of the 3,714 potentially relevant dance studies, only 7 studies met specified scientific criteria for inclusion in the REAP report (Hanna, 2001). In 4 of the 7 studies, a small relationship between dance education and improved reading was found. The other 3 studies showed that dance education improved achievement in nonverbal reasoning (visual-spatial skills, both moving and

visualizing in space). Furthermore, the editors of the report noted that study in the arts may lead to “focusing, close observation, critical, divergent, or independent thinking, problem solving, and problem finding” (Winner & Hetland, 2000, p. 12).

Based on her review of the REAP report, Bradley (2001) concluded that it provides focus for dance education and its worth. Dance educators value programming that is effective; a program that engages children, gives them kinesthetic skills that can eventually develop into mastery, helps them feel good about themselves, supports organizational skills, fosters creativity, supports more global thinking and multicultural understanding, and even improves reading and math skills (Bradley, 2001). Clearly, a relationship between movement and cognition is evident. Likewise, a relationship between dance instruction and student performance may have potentially significant effects. The focus of this research is to investigate whether dance education leads to improved student performance, perceived wellness, and self-concept.

Theoretical Foundations

The theoretical foundations of this study are linked to the theoretical work in cognitive development, psychomotor development and movement, self-concept, and perceived wellness. Key theorists include Jean Piaget, Moshe Feldenkrais, Rudolf Laban, and Albert Bandura.

Movement and Learning

Children naturally try to make sense of the world. This includes both the physical and social phenomena that help define the child’s environment. Children consistently create and test theories to internalize information. Piaget hypothesized that infants are born with reflexes and that they use these reflexes to adapt to the environment. These reflexes are quickly replaced with behavior that is controlled through mental

organizations called schemes that the individual uses to represent the world and designate action. Adaptation is driven by a biological need to obtain balance between schemes and the environment. Piaget was also interested in how people adapt to their environment and described this adaptation as intelligence. According to Piaget, throughout certain stages in a child's development, new ways of thinking emerge and new meanings are formed. Piaget (1972) categorized this process into four stages of cognitive development and believed that biological development drives the movement from one stage to the next (Piaget, 1972, 1990).

The body learns from experience. It is always being altered in some way, producing electrical, chemical, glandular, muscular, and many other kinds of changes (Masters & Houston, 1978). The body is constantly being affected physically by our thoughts and feelings. Typically speaking, normal, daily activity is unconscious. The body is often times unaware of the constant change. For example, humans accumulate muscle tension under stress. When we are anxious, our joints stiffen and our breathing becomes impaired. When we are sad, our movements become lethargic; even our faces appear to droop.

Movement not only serves as a "vigorous medium for both expression and perception" (Martin, 1965, p. 1); it also plays a vital role in the developmental process. For an infant, movement is the "first instinctive reaction to life" (Sheehy, 1977, p.97). Newborns are constantly experiencing the environment through autonomic, reflexive movements. Eventually, through repeated experimentation, infants begin to progress through an identifiable developmental sequence in which they learn how to exercise control over their appendages so as to make voluntary movements. For example, as

infants struggle to get a finger into their mouth, they begin by feeling around in space, trying again and again until finally, the need is satisfied (Sheehy, 1977). The infant uses movement as one of the most significant means of gaining information about the self and the environment. This learning is crucial in developing a body image, influencing spatial judgment and refining motor skills.

Movement also has a profound role in emotional development. Infants' initial relationships are built on touch and movement, which in turn affect their self-concept and attitude toward life. During this pre-verbal period, all experience is linked to body sensations and movement. "Deprivation of movement and tactile stimulation at this stage has devastating effects on the individual's ability to relate and to perceive the self positively" (Duggan, 2001, p.148). In time, the child will internalize patterns of movement and interactions and integrate them with affective and cognitive processes resulting in an emotional being.

Since learning is, in large part, self-organizing, intuitive, and interactive, then dance seems a natural fit in the aid of learning. Different forms of dance within the educational experience provide for very different ways of learning. Learning a dance pattern and improvisation are both socially driven ways to learn, and are similar in physicality, but are fundamentally different in nature. One is a top-down approach—from consciousness to reflex. When learning a new pattern or concept, whether a math sequence or a dance phrase, one uses a great deal of space and wiring in the cerebral cortex. As the skill is practiced, it takes up less space in the cortex and is stored in the lower regions of the brain, where it can be used reflexively. The other is a bottom-up approach—from momentary insight to worldview. An improvisational encounter is processed and the

material is then made conscious, so the new information can become a part of the entire package that we call intelligence (Bradley, 2001).

Movement training makes people more aware by enhancing the senses, thereby making extensive changes in the brain that affect cognition and feeling. “Owing to the close proximity to the motor cortex of the brain structures dealing with thought and feeling, and the tendency of processes in the brain tissue a drastic change in the motor cortex will have parallel effects on thinking and feeling” (Feldenkrais, 1972, p.39).

The methodology of movement training is based on awareness; both the dancers and teacher focus on each and every move. It is a continual state of exploration, analysis, and self-appropriated learning. The teacher demonstrates sequential exercises for the students to model and recreate, poses tasks and problems for students to solve, or challenges the students to create their own new movement patterns. The students receive this information and send it to their brain; the brain then sends specific messages and directions to the muscles. The body then uses the language of feelings to communicate with sensations that become images for the brain to process. These images are then turned into action. At any given point, this process can be altered or adapted from moment to moment.

Dance offers a different and intriguing look at how children and adolescents learn, in addition to how they dance. How children dance may both reflect and inform how they learn other skills and understand the world around them. Dance takes place in a multimodal, highly sensory, creative, and generative context for learning; and requires practice, reflection, and refinement of skill. Dance education research can, should, and must demonstrate that when children move, they learn (Bradley, 2001).

Dance has “instrumental values and can be used to accomplish many purposes. [It] expresses and communicates emotions, ideas, values, and beliefs that reinforce or change what is; dance teaches and persuades; dance entertains, dance promotes appreciation of other cultures; and dance teaches students attributes and skills that they can transfer to other aspects of their lives” (Hanna, 1999, p. 26).

Dance comes from a coherent body of knowledge and can enhance a lifelong quality of life. It is an established part of our culture and history. Fulfillment comes from viewing, participating in, and creating dance. When a child gains an appreciation for dance at an early age, it leads to adult participation in classes and attendance of live performances. Dance education’s major contribution to a person’s well being is the mind-body interaction; benefiting the individual emotionally, cognitively, and physically. The experiences that each person encounters through dance leads to autonomy and the ability to manage the self in many given situations.

Rudolph Laban, a pioneer in movement education, believed that “physical movement could be an expression of life itself. He considered it the most viable means for discovering one’s self and one’s existence with the world. Human beings, he said, were ‘total’ only when they were moving. The multiple variables of thought, feeling, and will could only be combined in a movement medium” (as cited by Gensemer, 1979, p. 39). Laban analyzed movement from the principles of space, weight, time, and flow. “The important feature in these qualities is not so much the definitions or differences but the fact that differences in movement dimensions exist” (Gensemer, 1979, p.39). By delineating these variables, Laban gave direction to his teaching. His main objective was

to make teachers aware that learners move in various dimensions, and that the essence of teaching and self-appropriated learning is to attend to all the variables (Gensemer, 1979).

If purpose, intent, cultural influence, aesthetics, and symbolism are all integral components of dance, then one can assume that dance intertwines thinking (cognition), feeling (emotion), and acting (behavior). When the body begins moving, a process is set into motion. First, the dancer coordinates time, space, and energy; and then inserts sensory and perceptual awareness through sight, sound, smell, touch, proprioception, and kinesthetic experience. As a result, the dancer begins to attach an emotional response and thoughts, making intelligence an essential part of dance. Once the dancer learns to coordinate cognition and feeling with movement, a new powerful source for growth and autonomy is acquired.

Self-Concept and Learning

Piaget (1972) proposed that infants come to differentiate themselves from others and the objects around them gradually, with the distinction becoming fully developed sometime around 18 to 24 months of age. The development of this sense of self has important consequences for emotional, social, and cognitive development (Bjorklund, 2000).

As children enter into preschool, they generally describe themselves in terms of where they live, who is in their family, and by physical characteristics, such as “I have brown hair” or “I’m strong.” This physical definition of self is consistent with the Piagetian idea that children’s thinking is concrete and tied to specific experiences. In the early school years, this picture of self does not substantially change; however as children approach adolescence, their thinking becomes more abstract and so does the way they view themselves. Adolescents are more likely to define themselves in terms of

psychological qualities; they are apt to describe their personality characteristics and the things they like (Bjorklund, 2000).

There are a variety of ways to think about the self. Two of the most widely used terms are self-concept and self-esteem. While some use the two terms interchangeably, many theorists have drawn a distinction between self-concept, the knowledge that one possesses about oneself, and self-esteem, which is considered the evaluative component of the self-concept. Self-concept may be defined as the totality of a complex, organized, and dynamic system of learned beliefs, attitudes and opinions that each person holds to be true about his or her personal existence (Purkey, 1988); in essence it is the way we as humans think about ourselves. Whereas, self-esteem refers to the feelings of personal worth and level of satisfaction regarding one's self (Rosenberg, 1965).

Self-concept has been the focus of countless research studies and is one of the most enduring constructs in psychology and education. Positive self-concept is valued as a goal of education and socialization; and as a potential facilitator of motivation and achievement (Vispoel, 1995). Research has shown that global self-concept has been the most powerful intrapersonal correlate of life satisfaction and happiness reports in individuals (McCullough, Huebner & Laughlin, 2000). Moreover, people's successes and failures often hinge on the way they have learned to view themselves and their relationships with others.

Directly related to the concept of self is the idea of self-efficacy. Bandura (1997) defined self-efficacy as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self-

efficacy beliefs determine how people feel and think; it also influences behavior and motivation.

A strong sense of self-efficacy is required to remain task oriented in the face of demands. When people are faced with the management of difficult environmental stress, those who are beset by doubt about their efficacy become erratic in their analytic thinking, they lower their aspirations, and the quality of their performance deteriorates. In contrast, those who maintain a resilient sense of efficacy set goals and use good cognition skill, which pays off in performance accomplishments (Bandura, 1997). Ultimately, the smooth flow of cognition, and thus integration and versatility with regard to functions, is limited by one's self-concept (Schmeck & Geisler-Brenstein, 1991).

Ample empirical evidence shows that self-efficacy and self-concept beliefs are each related to and influence school performance. Moreover, they mediate the influence of other variables, such as mental ability, that predict academic achievement (Pajares & Schunk, 2001). As Bandura (1986) observed, self-beliefs "contribute in their own way to the quality of human life" (p. 410). Since the causal relation between these self-constructs and achievement is reciprocal, students' academic behaviors are a result of the beliefs they hold about themselves and about their academic potentialities. As a consequence, students' difficulties in basic academic skills are often directly related to their beliefs that they cannot learn, even when such things are not objectively true (Pajares & Schunk, 2001). The problem is that many students are capable of performing well in school, however they do not because they have come to believe they cannot; they have learned to see themselves as incapable of handling academic work and challenges.

Bandura's (1977) social learning theory emphasizes the role of thought and images in psychological functioning. He proposed a triadic, reciprocal, interaction system among a person's perceptions, behavior, and thoughts. "These three factors operate interactively, with each affecting the other two" (Sharf, 2000, p.290). At the center of this triad is the self-system, a set of cognitive structures and perceptions that regulates behavior. These cognitive structures include self-awareness, self-inducements, and self-reinforcement and can influence thoughts, behaviors, and feeling (Bandura, 1977).

An important aspect of Bandura's social learning theory is that individuals learn by observing and modeling the actions of others. An individual tends to reproduce attitudes, acts, and emotion exhibited by an observed live or symbolic (film/videotape) model (Bandura, 1986). Bandura describes the process that explains observational learning as having four basic functions: attention, retention, motor reproduction, and motivation. These functions are particularly relevant to movement and the ability to process dance.

The attention process states that it is not enough to see something; one must perceive it accurately (Bandura, 1989). This concept is particularly relevant for dancers, because not only must they display what the teacher is demonstrating, they must also pay attention to alignment, musicality, details within a movement, and phrasing. Bandura describes retention as the ability to recall the observed model into images and verbal codes. These images allow the dancer to evoke the appropriate shapes in space while the verbal codes allow the dancers to recall descriptions and definitions of steps. Motor reproduction allows the dancer to translate what was observed into action and re-create the steps with accuracy and success. This success leads to motivation. When the dancer

accomplishes a particular goal or difficult step, he or she is given an incentive to try additional and more complicated steps.

Wellness and Learning

Society reminds us of the first principle of ecology: everything affects everything else. Mind, body, spirit; work, home, play; fire, water, air; earth, sun, moon; all are interconnected. The concept of wellness has this same “global village” ecology and a cosmic consciousness that emphasizes the interconnectedness of all things; the major themes relate to wholeness in mind, body, spirit, and community (Witmer & Sweeney, 1992). “As people try to meet their daily responsibilities in work, friendship, and love relationships, there is a need to maintain a perspective not only on what is adequate health and what is normal, but also what is necessary and desirable for optimum health and functioning” (Witmer & Sweeney, 1992, p.140).

Theorists and researchers have presented a variety of wellness models over the past few decades. For example, Witmer & Sweeney (1992) proposed a model based on the interconnectedness of the being; how people accomplish life tasks and handle life forces they encounter. Ardell (1988) described eight dimensions of wellness (psychological and spiritual, physical fitness, job satisfaction, relationships, family life, leisure time, and stress management), each of which may be perceived as addressing one or more aspects of the body, mind, and spirit. Hettler (1984) proposed a six-dimensional model, including intellectual, emotional, physical, social, occupational, and spiritual wellness. However, each model reflects the notion that wellness may be defined as “the process and state of a quest for maximum human functioning that involves the body, mind, and spirit” (Archer, Probert & Gage, 1987, p. 311).

Most theorists propose holistic, multi-dimensional models of wellness that include intellectual, emotional, physical, social, occupational, and spiritual wellness. These six dimensions have come to be known as the “wellness wheel” and are supported by the National Wellness Institute (NWI). Wellness models focus on prevention over the life span and are grounded in psychological theories of growth and behavior (Smith, Myers & Hensley, 2002; Witmer & Sweeny, 1992).

The concept of wellness has been developed in several disciplines to describe the “total person” approach for improving the quality of life in proactive and positive ways. It involves a philosophy of self-respect and self-care and can be practiced by all, rather than the privileged domain of experts (Hatfield & Hatfield, 1992). In this approach, lifestyles are looked at in view of creating high-level wellness (Witmer & Sweeny, 1992). High levels of both self-concept and wellness are advantageous in that they motivate human sociability, exploratory behavior, curiosity, and coping ability.

Piaget’s theories and research in cognition and development provide a springboard for wellness. How people think and reason, and how they assign meaning to their experiences affect how they live. Like wellness, cognitive development is a process; it continues throughout the lifespan. A person’s capacity to consider his or her own situation in a reflective, inclusive, cognitively complex manner has a significant impact on the extent to which he or she can live in a truly integrated, positive way (Hatfield & Hatfield, 1992).

Dance, as an art form and formal training method, may be a valuable resource that can serve as a bridge to cognitive development, emotional growth, and psychological health in children and adolescents, which is associated with academic performance in

students. This study focused on documenting the relationship between dance and its influences on the variables by comparing students who are and are not involved in high school dance programs.

Research Questions

1. What are the effects of participation in an intensive dance education program on participants' perceived wellness? Are there differences between students who do and do not participate?
2. What are the effects of participation in an intensive dance education program on participants' self-concept? Are there differences between students who do and do not participate?
3. What are the effects of participation in an intensive dance education program on participants' student performance? Are there differences between students who do and do not participate?
4. What factors contribute to the differences in the perceived wellness, self-concept and students performance for participants and non-participants of structured dance programs?

Definition of Important Terms

Composition/choreography. The art of planning and creating movement sequences that are organized into a finished product of dance.

Dance. A unique form of movement; it is more than a mere physical movement, dance is aesthetic. Through dance, movement is transformed into a purposeful phrase of action that encompasses physicality, emotion and cognition. **Movement**, on the other hand, originates from ordinary, motor activities, and is the *medium* for dance.

Dance education. Traditional dance instruction cuts across several vastly different types of dance experiences. The curriculum often includes classes in ballet, modern, tap, ethnic, or jazz. These classes are all considered *technique* based and rely on teacher expertise and school culture. Additionally, a well-rounded intensive dance program

incorporates additional curricula and experiences in performance, composition, improvisation, history, kinesiology and critical analysis.

Dance experience. The integration of kinesthetic, spatial, visual, aesthetic, and personal intelligences within the whole person (Bucek, 1992). Also refers to the holistic approach in dance—the integration of emotional, intellectual and physical being also referred to as mind, body, spirit.

Dance program. The sequence of study or curricula relating to the art form of dance. Students in a dance program are involved in intense, rigorous training resulting in improved kinesthetic awareness.

Kinesics. The study of nonlinguistic bodily movements, such as gestures and facial expressions, as a systematic mode of communication.

Kinesthetic awareness. The perception of sensing motion, weight and position of the body and the cognition associated with such perception.

Intrinsic motivation. An inducement or incentive towards action that is genuine; real; essential or inherent; the psychological feature that arouses an organism to action; the reason for the action.

Self-concept. The mental image or perception that one has of oneself.

Self-efficacy. How well an individual perceives that they are able to deal with difficult situations.

Self-esteem. The feelings of personal worth and level of satisfaction regarding one's self.

Wellness. The condition of good physical and mental health, especially when maintained by proper diet, exercise, and habits.

Overview of the Remainder of the Study

It is the belief of the researcher that dance enables children and adolescents to be involved in positive experiences which allow individuals to express their feelings more openly, experience creativity, achieve their goals. Personal experience suggests that dance fosters a healthy self-concept and leads to a healthier perception of wellness and higher academic performance.

The remainder of the study is presented in four chapters. Chapter 2 reviews the literature related to wellness, self-concept and academic performance. The history of dance/movement therapy and dance education in the public schools is also reviewed. Research methodology and the procedures used are described in chapter 3. Results of the study are presented in Chapter 4. The summary, conclusions, discussion, limitations, implications, and recommendations are included in Chapter 5.

CHAPTER 2 REVIEW OF RELATED LITERATURE

The purpose of this study is to examine the effects that dance education has for students who are currently receiving dance education instruction. The examination will involve a comparison of students who are and are not receiving dance instruction and will focus on self-concept, overall perceived wellness, and selected indicators of school performance. The review of related literature in this chapter is organized into eight major sections: mind-body connection, wellness, history of dance, dance education in schools, research in dance education, possible benefits of dance education, dance and movement in counseling, and instrumentation for the study.

The Mind-Body Connection

As noted in Chapter 1, dance comes from a coherent body of knowledge and can enhance a lifelong quality of life. Dance education's major contribution to a person's well being is the mind-body interaction, benefiting the individual emotionally, cognitively, and physically. The experiences that students encounter through dance may help individuals become more autonomous and have the ability to manage oneself in many given situations.

Human beings seem to have always acknowledged a link between the mind and body. Literature and folklore are rife with aphorisms and anecdotes that attest to the bond. Plain and simple; the mind affects the body, the body affects the mind.

Evidence in support of the principle that the mind and the body reciprocally interact to influence overall health and well-being provides the groundwork for what has been

called the mind-body connection. While the great philosophical distinction between mind and body in western thought can be traced to the Greeks, it is to the seminal work of René Descartes that philosophers owe the first systematic account of the mind-body relationship (Wozniak, 1996). Over the course of his life studies, Descartes proposed a “mechanism for automatic reaction in response to external events. According to his proposal, external motions affect the peripheral ends of the nerve fibril, which in turn displace the central ends. As the central ends are displaced, the pattern of interfibrillar space is rearranged and the flow of animal spirits is thereby directed into the appropriate nerves” (Wozniak, 1996, <http://serendip.brynmawr.edu/Mind/Descartes.html>). For example, if a child was to put his or her hand in the flame of a fire, he or she would quickly jerk it back out to avoid getting burned. It was Descartes’ articulation of this mechanism for automatic, differentiated reaction that led to his being credited with the founding of reflex theory (Wozniak, 1996). The culmination of this study was his conclusion that body and mind were separate entities (Quinn Thomas, 1997).

Since then, studies of mind and body have, for the most part, remained two distinct and separate fields. Scientists tend to stay within the realm of the observable and quantifiable, as those religious in nature have lifted thought, reason, and emotion out of the body, into the realms of the spiritual (Quinn Thomas, 1997).

However, in the late 19th century, all trends pertaining to the mind-body connection seem to culminate in the functionalism of the American philosopher and psychologist, William James (Wozniak, 1996). In 1890, James produced *The Principles of Psychology* (James, 1890). In this text James advocated that the mind and behavior develop around a cognitive psychology of consciousness. James (1890) also wrote about

a metaphor he called the *stream of thought*, elucidating that ideas never exist in isolation; thoughts are influenced by feelings and vice-versa, like a pulsating stream. Thus, any legitimate scientific psychology must account for both the stream of thought and feeling (Taylor, 1996).

It was not until 1974, that documented evidence of a physiological link between the mind and body was established, with the discovery of a field of study now known as psychoneuroimmunology (PNI) (Quinn Thomas, 1997). This physiological link was advanced in 1981 when a hard-wire connection between the body's immune system and the central nervous system was discovered, providing the first clear verification that the brain has the ability to send signals to immune-system cells; thereby producing proof of the mind-body connection (Quinn Thomas, 1997).

Each neuron in the human brain has hundreds of thousands of receptors, and these receptors literally vibrate and constantly change shape. Information to and from the neurons is transferred electrically via chemical neurotransmitters. The communications point is called the synapse, where information is transferred from one cell to another. Dendrites serve as the input mechanism, receiving information from one cell and transmitting the message to the cell body. The axon, which extends from the nucleus, conducts messages away from the cell body (Weiss, 2001). This is the basis of how people learn.

When a cell is sufficiently stimulated, it produces certain proteins that make intercellular connections possible. Two natural brain chemicals, nerve growth factor (NGF) and brain-derived neurotropic factor (BDNF), facilitate the growth of neuronal connections between brain cells. These chemicals are released when the brain's cells are

active, such as when we think or contemplate something (Weiss, 2001). “Brains are the ultimate adaptation organs” (Weiss, 2001, p. 62). In new situations, the brain is hungry to learn how to manage all the incoming information. “The cortex is where all of the new learning takes place, in an area called the association matrix. The brain’s large prefrontal cortex enables humans to adapt to changing environments. When we adapt, we make more growth factor, which continues to be produced as we learn new things” (Weiss, 2001, p. 62). This is essentially a process of chain reaction in which one area affects many others producing a “continuous biofeedback loop in which our thoughts are influenced by our bodies and vice versa” (Weiss, 2001, p. 62).

Increasingly, brain research indicates that physical movement affects thought and health. Weiss (2001) points out that if one wants to help his or her body and brain, one must to be active. She states,

“research has proven that just by taking a brisk walk, you can reduce the risk of heart attack, hip fracture, diabetes, and colon cancer and lower your weight and blood pressure. Dozens of scientific studies have shown that sustained aerobic and anaerobic exercise increase the flow of blood to the brain. Certain endorphins—naturally occurring substances that decrease pain and induce a sense of well-being—rise when we engage in prolonged, strenuous exercise” (p. 63).

In essence, all people are kinesthetic learners. Learning does not take place solely in our brains (Hannaford, 1995; Weiss, 2001). Our mind works together with our body to help us pay attention, solve problems, and remember solutions. Physiological states support mental efforts. Movement can help enhance optimal learning states (Hannaford, 1995; Weiss, 2001). This is why when an individual is mentally exhausted; he or she will stand up and move around. Movement has a soothing effect, freshening up the mind and its ability to think and process information (Weiss, 2001). Dance involves learning a series of complex movements while coordinating one’s balance, technique and artistry.

This type of exercise has “been proven to generate a greater number of connections between neurons” (Weiss, 2001, p. 63).

Geyer states, “The physiological effects of physical activity are compelling”, (as cited by Weiss, 2001, p. 63) and that physical activity increases

“cerebral blood flow and oxygen to the brain; the development of capillaries, which permit collateral circulation; the release of dopamine and serotonin, two essential neurotransmitters that help sustain attention and the ability to concentrate; and the increase of BDNF, which facilitates neuroplasticity—the ability of the brain to continue to grow and change throughout our life span” (p. 63).

The brain depends on stimulation, whereas action produces stimulation. The primary motor cortex, basal ganglia, and cerebellum coordinate physical movement and they order the sequence of thoughts needed for thinking. Fundamental movement patterns such as walking and running trigger the most deeply ingrained neural firing patterns in these brain regions (Weiss, 2001). New research also indicates that movement and certain types of exercise affect the basal ganglia and corpus callosum, thereby sharpening memory and increasing the ability to master new information (Weiss, 2001).

Wellness

Movement and Wellness

The relationship between a sedentary lifestyle and both morbidity (Blair, Kohl, Gordon & Paffenbarger, 1992) and mortality (Blair, Kohl, Paffenbarger, Clark, Cooper & Gibbons, 1989) is well documented (Benzer, Adams & Whistler, 1999). These and numerous other findings have resulted in the strong recommendation that regular, moderately intensive, physical activity offers significant health benefits (Benzer, Adams & Whistler, 1999; U.S. Department of Health and Human Services [USDHHS], 1996).

Identifying a relationship between physical activity and wellness is challenging because of the general lack of agreement on a precise wellness definition (Benzer, Adams

& Whistler, 1999). There is, however, a substantial amount of literature that documents the effect that physical activity has on health *related* benefits (Benzer, Adams & Whistler, 1999). Rejeski, Brawley, and Shumaker (1996) conducted a comprehensive literature review on issues *related* to well-being and health and concluded exercise does indeed influence health-related quality of life. Dubbert (2002) also reported that there is a growing recognition of the importance of physical activity and its impact on health and longer life. Moreover, “a number of similar concepts, such as global perceptions of well-being, self esteem, emotional well-being, self-concept, happiness, and life satisfaction, have been found to be affected by physical activity” (Caspersen, Powell & Merritt, 1994; McAuley, 1994 as cited by Benzer, Adams & Whistler, 1999, p. 131).

Benzer, Adams & Whistler (1999) narrowed the research cause when they conducted a study that provided evidence of a relationship between measures of well-being and quantity of physical activity. Participants in the study who reported spending the most leisure time activity had greater overall perceived wellness scores compared to the sedentary group. Secondly, participants who reported higher rates of overall activity had greater perceived wellness scores within the physical and psychological dimensions of the scale than sedentary subjects (Benzer, Adams & Whistler, 1999).

As noted in Chapter 1, theorists and researchers have presented a variety of wellness models over the past few decades. Each model reflects, in some manner, the notion that wellness may be defined as “the process and state of a quest for maximum human functioning that involves the body, mind, and spirit” (Archer, Probert & Gage, 1987, p. 311). Most theorists propose holistic, multi-dimensional models of wellness that include intellectual, emotional, physical, social, occupational and spiritual wellness and is

oriented toward causes of health rather than causes of illness. Wellness involves an ongoing process rooted in prevention—as opposed to a medical model, which is exemplified by a one-time or intermittent reactive approach (Adams, Bezner & Steinhardt, 1997).

The Perceived Wellness Model presented by Adams, Bezner & Steinhardt (1997), defines perceived wellness as a multidimensional construct, which is conceptualized, measured, and interpreted consistent with (1) an integrated systems view of the mind-body; (2) a salutogenic focus (defined as causing health rather than illness); and (3) a dispositional orientation. The model includes six wellness dimensions—physical, spiritual, psychological, social, emotional, and intellectual and is described below.

Physical wellness is defined as a positive perception and expectation of physical health (Adams, Bezner & Steinhardt, 1997). A person with high perceived physical wellness appears to: 1) possess greater functional proficiency for daily activities requiring physical health, 2) make healthier decisions with respect to behaviors such as exercise and smoking, 3) feel physically healthier, and 4) have a more positive physical self-image (Adams, Bezner, Garner & Woodruff, 1998).

Spiritual wellness is defined by having a positive sense of meaning and purpose in life (Adams, Bezner & Steinhardt, 1997). Spiritually, such a person could be expected to: 1) have adopted and to live by an internal set of principles, 2) be committed to a cause or purpose, 3) have a more acutely developed sense of ethical behavior, and 4) see meaning in the world (Adams, Bezner, Garner & Woodruff, 1998).

Psychological wellness is defined as a general perception that one will experience positive outcomes to the events and circumstances of life (Adams, Bezner & Steinhardt,

1997). A person with high perceived psychological wellness is expected to: 1) be more coherent, 2) be more resilient, 3) sense a greater control over the course of life, 4) be more optimistic, and 5) expect better physical and mental health (Adams, Bezner, Garner & Woodruff, 1998).

Social wellness is defined as the perception of having support available from family or friends in times of need and the perception of being a valued support provider (Adams, Bezner & Steinhardt, 1997). Socially, such a person would: 1) value social harmony and equality, 2) exhibit towards others positive behavioral attributes such as tolerance, forgiveness, gratitude and generosity, and 3) feel a sense of worth and adequacy about roles within family specifically and society in general (Adams, Bezner, Garner & Woodruff, 1998).

Emotional wellness is defined as possession of a secure self-identity and a positive sense of self-regard, both of which are facets of self-esteem (Adams, Bezner & Steinhardt, 1997). The emotional characteristics that would be evident in a person with high perceived wellness include: 1) an ability to perform without reassurance or approval of others, 2) a clear internal picture of core identity, 3) a sense of personal adequacy and self-satisfaction, and 4) higher global self-esteem (Adams, Bezner, Garner & Woodruff, 1998).

Intellectual wellness is defined as the perception of being internally energized by an optimal amount of intellectually stimulating activity (Adams, Bezner & Steinhardt, 1997). A person with high perceived wellness could also be expected to intellectually: 1) value competence and effectiveness in cognitive function, 2) feel more involved with job

communication processes, and 3) be more satisfied and less stressed with work in general (Adams, Bezner, Garner & Woodruff, 1998).

Each construct of the Perceived Wellness Model is an essential sub-element of the larger, wellness system and an independent system with its own sub-elements. The constructs, or dimensions, are interrelated in such a way that disruption of homeostasis at any level requires adaptation of the entire system (Adams, Bezner & Steinhardt, 1997). The model also supports a salutogenic focus, which simply means “health-causing” (Adams, Bezner & Steinhardt, 1997). The emphasis is on prevention of illness—through a process of living in a healthful way, connecting mind and body.

Wellness and Counseling

Wellness could become the paradigm for counseling and development (Myers, 1991). To better understand what is meant by the term *wellness*, one could look into the historical roots of the counseling profession. Gladding (1996), reveals that a prominent focus on working with children and adolescents was among the earliest, most prevalent, and consistent aspects of the counseling profession. While, Farwell and Peters (1957) provide a definition of guidance that is very similar to the definition of wellness described above, they note, guidance is “...based on the proposition that guidance workers are concerned with all aspects of development—psychological, physical, and social” (p. 10). That is, a counselors’ role is to help develop and promote wellness in an individual.

“Developmental guidance and a philosophy of wellness are, if not synonymous, at least closely intertwined” (Myers, 1992, p.136). The term *development* is an important one to this claim. Development traditionally *was* and now *is* seen as an integral concept and core of guidance and counseling (Ivey & Rigazio-DiGilio, 1991; Myrick, 2003).

Developmental guidance approaches, like wellness, focus on education and prevention and provide students with experiences that promote interpersonal skills and self-awareness. These skills improve the student's ability to function in the environment and various situations. As students achieve developmental competencies, they acquire resources that can help them continue to grow and, consequently, they are more likely to hold favorable attitudes about themselves and their life options.

Wellness is universally available to counseling clientele and is supported by the American Counseling Association (ACA) which states that its mission is "to enhance the quality of life in society by promoting the development of professional counselors, advancing the counseling profession, and using the profession and practice of counseling to promote respect for human dignity and diversity" (ACA, 2004). Furthermore in 1989, the Governing Council of the ACA committed to a proactive stance in relation to wellness issues (Myers, 1992).

History of Dance

Human beings have a peculiar fascination with movement. They are often mesmerized while watching fish swim in a tank, waves roll onto the beach, or trees blow in the wind. Movement tends to have a soothing effect on people and calm one's nerves. During the Olympics, the fluid lines of an ice skater and the thrilling jumps of a gymnast amaze people. They become excited while watching races and even find themselves rooting for a winner. People are captivated by motion on a regular basis and often find that their mood also becomes altered in the process.

Movement is so inherent to the human race that people tend to use it instinctively as a means of communication and expression (Hanna, 1999; Hanstein, 1989; St. Denis & Shawn, 1924-1925). When speaking to others, people use spontaneous gestures and

kinesics to support the process of storytelling by describing objects with their hands, reenacting incidents, or driving home important points. It is only natural to assume that since moving is so intrinsic to human life, people would eventually learn to refine that movement and begin to dance.

The distinction between the terms *dance* and *movement* stem largely from concern over preconceived ideas of what *dance* means to different people. Dance can be graceful and pretty. It can be clumsy and ugly. It can be as simple as a spontaneous gesture, or even a pedestrian movement. It can be funny or somber, frightening or comforting, harmonious or conflicted. Movement, on the other hand, originates from ordinary, motor activities, and is the *medium* for dance (Hanna, 1999).

Dance encompasses knowledge in the arts and humanities, the social and behavioral sciences, and is influenced by culture and (Sarai-Clark, 1989). Dance is composed of purposeful, intentionally rhythmical, and culturally influenced sequences of movement. The motions in dance have an inherent and aesthetic value as well as symbolic potential (Hanna, 1999; Hanstein, 1989).

Dance engages the whole being; it is a holistic art form. Perhaps this is why anthropologist Curt Sachs (1937) has referred to dance as the mother of all the arts. When people dance, they use all their senses and integrate all of the arts; they move, emote feeling, listen to music, make pictures in space and write for inspiration. By experiencing this integration through dance, people can also experience the artist as a whole, integrated person (Halprin, 2000). Humans are all artists and dancers by nature; we all move, respond, feel, and create. In dance, the body becomes our instrument, the mind holds our wisdom and the soul maintains our emotions. The art form of dance

speaks not only to dancers, but to the human race as a whole. “Dance is symbolic of feeling, emotions, and experiences common to all humans” (Sarai-Clark, 1989, p. 134).

No matter what purpose dancing has for people, it has a common underlying thread and definition: communication through movement (Anderson, 1997; Hanna, 1999; Hanstein, 1989; Ranney, 1988). This concept became increasingly evident as the art form of dance developed. In the 1600s dance became formalized and performance oriented, as ballet emerged with its stories of magic and fairy tales (Levy, 1992). It was during this time that the emphasis was placed on technique, mastery, and skill, while little attention was given to how it affects the dancer. However, in the late 1800s and early 1900s, Isadora Duncan forever changed the face of dance. Duncan led the modern dance revolution and sought to replace rigid, impersonal forms of the art with natural, expressive movement that focused on spontaneity and creativity (Levy, 1992). With this came “an emphasis on deeper self expression and self-exploration, a striving toward more honest communication and interaction, a growing acceptance of the inherent interaction between mind and body, and a recognition of the uniqueness of the individual and individual needs” (Levy, 1992, p.xi).

Dance Education in the Schools

Until the 1970s, most K-12 school and university dance programs were affiliated with women’s physical education departments (NDEO , n.d.). However, in the early 1970s congress enacted Title IX (1972), which prohibited sex discrimination in education and the Equal Educational Opportunity Act (1974), which granted equal opportunity for all students to participate in instructional programs regardless of their race, color, sex, or national origin. In response to these two laws, men’s physical education departments and women’s physical education departments merged into coeducational programs that

focused on sports. Soon thereafter, artists and professionals were encouraged to attend college to become teachers in the schools. This resulted in a corresponding realignment of dance into the fine and performing arts departments (NDEO , n.d.).

With the integration of dance into performing and fine arts programs, professional preparation and pedagogy in dance changed dramatically within university settings (Bonbright, 2002). Dance educators were now being trained in all aspects of dance and dance education. University dance curricula began to include courses that involved the artistic processes of dance such as creating, performing and analyzing dance, as technique classes not only included skill and mastery but were also incorporating problem solving and critical thinking skills, deconstruction and reconstruction of material, critical and evaluative analysis, as well as in the cultural, historical, social, and artistic contexts of dance (Bonbright, 2002.).

In 1997, the National Dance Education Organization (NDEO) was established to address the needs of educators teaching dance in K-12 schools, institutions of higher education, and independent schools of dance (NDEO , n.d.). In the past twenty years, dance teachers have begun to earn certification to teach in K-12 public schools. As of 1999, only 16 states required dance teacher certification (Hanna, 1999). In states that have guidelines for dance education but no certification, classroom teachers, physical educators, and even music specialists may serve as dance teachers. No state requires a dance credential for dance educators working in private studios (Hilsendager, 1990). As of 1992, at least 15 states have developed dance curriculum guidelines, including California, Florida, Georgia, Idaho, Illinois, Indiana, Michigan, Minnesota, Ohio, North

Carolina, North Dakota, South Carolina, Texas, Utah, and Wisconsin (Hilsendager, 1990).

The National Dance Association's (NDA) standards are endorsed by the US Department of Education and many of the state curriculum guides in dance are modeled after NDA standards (Hanna, 1999). The standards contain specific content, goals, objectives, and limited measurable outcomes for each individual course such as dance techniques, aesthetics, kinesiology, choreography, and dance criticism. For example, the Florida Department of Education (FLDOE, 2003) has specific guidelines for each dance course offered in the state. The guidelines include goals and outcomes concerned with specific technical skills in varied dance styles, movement terminology, solo and ensemble performance, choreographic principles and processes, historical and cultural perspectives, performance analysis, connections between dance and healthful living, and connections between dance and other subject areas (FLDOE, 2003).

In 2000, the *Arts Education in Public Elementary and Secondary Schools, 1999-2000* was produced (NCES, 2002) in efforts to provide a national profile of the status of arts education in the nation's public schools. Findings of the report revealed that dance education does not receive the kind of commitment from schools that music and visual arts do. Only 43 percent of all public elementary schools and only 14 percent of secondary schools offer any instruction in dance. Furthermore, very few elementary schools offer dance as a separate subject or enlist certified dance teachers to provide the instruction; only 4 percent offered it as a separate subject taught by a dance specialist. Of the secondary schools that offered dance, 68 percent reported that their district had a written curriculum guide in the subject, while 74 percent reported that the guide was

aligned with their states' standards or the National Standards for Arts Education (NCES, 2002).

Research in Dance Education

Hanna (1997), in her book, *Partnering Dance and Education*, presented a compelling argument for making dance central to every student's education. While there has not been enough rigorous empirical research in dance education, Hanna (1997) states "some studies show a positive association between students being educated in dance and academic achievement and other measures of school success" (p. 36). Examples of such studies are presented below.

BrooksSchmitz (1990) examined the impact of a dance education program on the motivation, academic performance, and personal development of inner-city youth. The program, called ArtsConnection Young Talent Dance Program, was piloted in the New York City Public School system. Students in the program demonstrated an increased sense of capability, achievement, and empowerment; higher test scores; improved attendance; acquired self-discipline; and an exhibited more mature behavior, a sense of responsibility and caring for others (Hanna, 1999).

Schnitt & Schnitt (1988) found that dance may also evoke strong feeling states and may significantly change an individual's mood. "Classes in dance have been shown to enhance a 'sense of psychological well-being,' decreasing anxiety and depression and enhancing the subjects' self-perceptions of creativity, confidence, relaxation, motivation, health, intelligence, excitation, and energy" (Gurley, Neuringer, & Masee, 1984, as cited by Schnitt & Schnitt, 1988, p. 240). Furthermore, the "students taking dance classes not only felt better about themselves than a similar group who took an academic course, they

also felt better about themselves than students who participated in active sports” (Schnitt & Schnitt, 1988, p. 241).

Puretz (1978) produced similar findings in a study conducted with a large group of young girls that fell under welfare classification. At the end of four months both the dance education students and the physical education students had improved their self-concepts. However, the dance students had improved significantly more than the students enrolled in physical education alone (Puretz, 1978).

Leste & Rust (1984) conducted another study that examined the effects of dance on anxiety in 114 college students. Over a three-month period subjects participating in modern dance classes significantly lowered anxiety levels; whereas the participants in the control groups (a physical education group, a music group, and a neutral mathematics group) did not demonstrate similar decreases in anxiety as measured by the Spielberger State-Trait Anxiety Inventory (Leste & Rust, 1984).

Schnitt & Schnitt, (1988) suggest that there is something about dance itself that makes people feel better about themselves. Gurley, Neuringer, & Masee, (1984) support this claim, concluding that dance may promote these feelings differently than sports because cognition and emotion are purposefully associated with dancing, and because a dancer emphasizes the expressive, creative and aesthetic aspects of the activity itself.

Other studies have shown that dancers have a greater sense of control over their lives, abilities and interactions with others (Schnitt & Schnitt, 1988). One study (Dasch, 1978) suggested that well-trained dancers may exhibit a highly developed internal control orientation. Another study (Thomason, 1983) found that dancers desire and strive for greater control over their bodies. And Schnitt, Schnitt & Del A’une (1987) found that

serious modern dancers have the highest scores for internal locus of control and that the dancers believe strongly in their ability to influence and control their health as well as the rest of their lives.

There is, however, one specific dilemma facing researchers in the field of dance education; comprehensive dance programs are rare in the nation's public schools. Three reports produced by the U.S. Department of Education and the National Center for Education Statistics provide evidence for this claim: *Arts Education in Public Elementary and Secondary Schools*, 1995; *National Assessment of Educational Progress 1997 Arts Report Card*, 1998; *Arts Education in Public Elementary and Secondary Schools, 1999–2000*, 2002. The difficulty arises in that the desired research requires large numbers of participants and longitudinal studies in order to yield appropriate data that will support necessity and viability. Since dance education is faced with the problem of being unable to cull resources to do large-scale studies, the dilemma becomes apparent (Bradley 2001).

Despite the paucity of dance education programs in public education, evidence suggests that arts education on the whole has a positive impact on students. In the *Champions of Change* (Fiske, 1999) report, researchers found that “learners can attain higher levels of achievement through their engagement with the arts. Moreover, one of the critical research findings is that the learning in and through the arts can help ‘level the playing field’ for youngsters from disadvantaged circumstances” (Fiske, 1999, p. vii).

Presented in the *Champions of Change* report is Catterall's (1988) analysis of the Department of Education's NELS:88 database. The analysis “demonstrates that students with high levels of arts participation outperform ‘arts-poor’ students by virtually every measure” (Fiske, 1999, p. vii). The *Champions of Change* studies also found substantial

evidence that learning in the arts has significant effects on learning in other domains and that student achievement is heightened in an environment with high quality arts education offerings and a school climate supportive of active and productive learning (Fiske, 1999).

Further findings show that the grade averages of high school students who concentrate in the arts are generally higher than those of the student body as whole (NCES, 1995). Furthermore, the College Board revealed that students who take arts courses tend to score higher on the Scholastic Aptitude Test (SAT) than those who do not (Hanna, 1999).

Possible Benefits of Dance Education

Currently, educators rely mostly on anecdotal material as the best evidence for the benefits of dance education. Over the past 50 years, teachers, administrators, parents, and students have made observational and experiential assessments for the benefits of dance education.

Dance is a performance art, “intrinsic in value and meritorious in itself” (Hanna, 1999, p.26). However, it is also a liberal art, with a history, context and ecology. Similarly, it holds philosophical and psychological importance for dancers as they learn to critically perceive, respond to, and judge the elements of dance and their connections (Hanna, 1999; 1989). Dance is also a physical art form within the realm of science as indicated in anatomy, biomechanics, health, physiology, and physics (Clarkson, 1988; Hanna, 1999; 1989). Dance can be both experiential and academic at the same time (Hanna, 2001; 1999).

Dance education can help prepare students for success in all dimensions of their life and help prepare them to function better in the world they live in (Bannon & Sanderson, 2000; Hanna, 1999). There is also “indirect evidence to suggest that dance does

significantly affect its students' motor abilities, self-esteem, attitudes, and worldview" (Schnitt & Schnitt, 1988). Dance education promotes the three main domains of development: cognitive, social and personal.

Cognitive Development

One potential application of dance education is to transfer the experience and knowledge of movement to other academic subjects and aspects of life. Nureyev, once said, "If you know one subject very well, then you have a key to another subject" (as cited in Hanna, 1999, p.27). However, the transfer of knowledge acquired in dance to other contexts is not automatic (Hanna, 1999; Perkins & Salomon, 1988). "The potential transfer centers on the contrast between meaningful and rote learning. Class instruction, student discovery, apprenticeship, or coaching require students' reflection to gain an awareness of what they did and learned; this creates transfer potential to other settings" (Hanna, 1999, p.27). In order to do this, dance educators need to help students link the material they learn in dance to the material they learn in their academic subjects. Dance teachers need to make clear the rationale behind the concepts and explain to their students how the processes, skills and concepts they master in their dance education can be applied to other academic subjects, the world of work and various aspects of life (Hanna, 1999; Perkins & Salomon, 1988).

Many academic factors have the potential to be influenced by dance training. In formalized dance technique classes, the students practice specific physical exercises that "stimulate mental alertness, modeling, sequencing, attention to detail, and memorization skills" (Hanna, 1999, p. 91). Moreover, dance education fosters critical thinking, extended reasoning, critical analysis, and organization of thought—thereby promoting the learning process (Bannon & Sanderson, 2000; Hanna, 1999; McGreevy-Nichols, 2000).

Specific, direct crossover applications to math, science, reading and writing are prevalent in dance (Carter, 2004). For example, the spatial designs and angles of the body are expressed with geometric terms; an understanding of anatomy and physics are needed to properly negotiate the body in space with proper technique and alignment; historical and cultural concepts are important to the understanding of intention and style, and the most apparent conception is that dance is language-like. “Through physical movement, we can make dances with concepts found in verbal language” (Hanna, 1999, p. 18). Writing a book is similar to the process of making a dance (Carter, 2004). The art of choreography can be simply defined as composition of movement. When writing authors combine words to make up a sentence, as choreographers combine movements to make up a phrase. Sentences turn into paragraphs, as phrases turn into combinations. Paragraphs form chapters, while combinations form sections of a dance. Once these elements are put together, you are left with a finished product—a book or a dance (Blom & Chaplin, 1982; Carter, 2004). Finished dances are essentially “human sociolinguistic phenomena” (Williams, 1991, p.209). Both dance and verbal language have vocabulary, grammar, and semantics. In dance—the style, steps and gestures create a dancer’s vocabulary, the rules for constructing choreography make up the grammar, and the intention and theme gives the dance meaning. In essence, dances are stories told through movement.

Dance education can also fuel artistic creativity and critical thinking skills (Hanna, 1999; McGreevy-Nichols, 2000). When a teacher asks students to reflect and comment on different aspects of a specific dance or phrase of movement, critical thinking skills

become engaged. These skills can be advanced further if the student is then encouraged to pose questions, tests hypothesis and examine themes that were presented in the dance.

As teachers pose choreographic tasks, reasoning skills can also be improved (Hanna, 1999). Many times these tasks are posed as problems to solve. The student has to make decisions about which movements are appropriate and form judgments regarding the meaning behind their movements. Furthermore, the movements they choose need to convince an audience of a particular feeling or theme. This process provides the opportunity for students to recognize that there are multiple solutions to problems (Hanna, 1999). Many variations can work; students can learn to transfer this knowledge into authentic situations in which there are many possible resolutions.

Social Development

“A dance, like flags and anthems or even one’s clothes, conveys messages of self, generation, gender, ethnicity, social class, and nationality reflecting collective conscience” (Hanna, 1999, p. 144). Philosophy, style, thematic content and culture are embodied in the art of dance; it can serve as a window to a person’s worldview. When people dance, they communicate ideas and underlying meaning through their movement. However, in order to understand the meanings behind the movement, the intentions in which the movement was created must first be considered.

Unless a dance is analyzed in the context of the culture it was intended, true meaning may be misinterpreted. However, people from different cultures have universal themes, such as love vs. hate, good vs. evil, and duty vs. desire in the context of their stories; by looking at the commonalities of these themes, people can gain a deeper understanding of self and identity. When studying dance of other cultures, students are exposed to various aesthetics, history and sociocultural contexts. As students begin to

explore these concepts and learn about cultural assumptions and biases, they begin to understand diversity, which may help dissolve prejudice and promote tolerance of others. Furthermore, “exposure to other cultures gets people out of their own frameworks, stimulates curiosity, and develops imagination. Awareness of alternatives and borrowing can stimulate cutting-edge critical thought, a key element in sound decision making” (Hanna, 1999, p. 149).

Social skills are also expanded through dance education (Hanna, 1999). Students often have to work together on compositional tasks, improving teamwork. They learn to work collaboratively, persuading others to see their point of view, just as they are required to respect others opinions. Working with peers requires negotiation, cooperation, active listening, clear communication, and the ability to stay focused and on task (Hanna, 1999).

Personal Development

Dance education can also foster personal development (Hanna, 1999). The nature of the discipline requires the serious student to practice and train on a regular basis. Many times a secondary family emerges within the dance setting, based on the sheer hours that are devoted to the art. It promotes a certain citizenship and responsibility among its members (Hanna, 1999). From there respect, empathy, and aesthetic appreciation emerges.

Self-discipline and independence are also cultivated through the art form (Hanna, 1999). Students quickly realize that the physical and mental demands of the regimen require them to self-monitor and be organized in order to keep up with their demanding schedules. For example, a dance student must learn to organize their schedule successfully in order to accommodate school-work, rehearsals and family obligations.

Self-efficacy is also affected. According to Bandura (1997), self-efficacy is the individual's perception of his/her ability to deal with different types of situations. People with high self-efficacy expect success. They can visualize themselves doing well and think confidently about executing things properly. The strongest influence that can bring about self-efficacy is an individual's performance accomplishments (Bandura, 1997). Students who choreograph a dance for a performance exhibit a certain badge of honor and pride when completing such a task. Likewise, when an audience receives the performance, the student is offered congratulatory remarks regarding his or her success; thereby prompting the student to attempt more things in the future.

Proponents of dance and dance educators would argue, "dance ultimately affects the subject's consciousness of himself as a person and as a personality within his environment" (Poretz, 1989, p.241). The art of dance and choreography provides an avenue for outward expression of the self. Students of dance are allowed to explore their personal experiences and internal feelings and then provided with opportunities to express those feelings in tangible forms of movement. A common compositional task is to have the students create a phrase based on a concern they have in their life at that time. Hawkins (1964) supports this claim stating, "the dance is a symbolic form which reveals the creator's inner vision" (p. 4).

Values are also examined (Hanna, 1999; Hodes, 1995). Many works, particularly in modern dance, explore common themes such as struggle, death, fear, joy, love and tragedy. Students are asked to identify the underlying themes and talk about how these themes relate to their life and reality. When the student reflects on these themes, emotions and feelings are shared (Hanna, 1999).

Biological and physical side effects are also a beneficial factor of dance (Clippinger-Robertson, 1988; Hanna, 1999). The physicality of the movement releases endorphins into the brain, producing feelings of joy, satisfaction and empowerment (Hannaford, 1995). Anatomical correctness is stressed as stamina and the physical condition are increased. Dance can help emphasize the importance of physical fitness and concern for sound health practices; appreciation of the body; and effective stress management (Clippinger-Robertson, 1988; Hanna, 1999).

At a certain point, the dance studio becomes a sanctuary of sorts, a safe, comfortable place in which one can explore. The students begin to feel successful and gain acceptance for themselves. Their self-esteem then affects all their other activities and future endeavors. It begins to have a snowball effect on their life as involvement and motivation soar and they start to feel comfortable enough to take risks.

Dance and Movement in Counseling

Movement training is not only pertinent to teachers of the arts, it is also applicable to counselors. Many times when people are asked why they dance, they respond by saying, “because it feels good” or that it makes them “feel free from burden.” The movement becomes a vehicle in which individuals are able to explore their boundaries, expand their self-awareness and gain insight into their life. As people begin to question why they dance, they subsequently may analyze the experiences they have while they are dancing and how they might relate these experiences to life in general.

Movement also broadcasts a person’s relationship to life. It is the bridge between what goes on inside and what is expressed to the world (Hendricks, 1982). People tend to approach movement the same way they approach life, be it cautious or risky. Dance

encourages people to “critically reflect upon who they are and how that is influenced by the larger culture in which they live” (Shapiro, 1999, p. 136).

From ancient communities to modern time, people have recognized and revered the nature of movement in the healing and helping process (Gladding, 1998). In many ancient cultures dancing was considered as important as eating and sleeping and was directly associated with healing (Levy, 1992). In societies and cultures that still follow an oral tradition dance serves as an instrument of consciousness and a vehicle for releasing pent-up emotions, promoting individual transformation and participation in the community (Beaudry, 1997).

“Yet, despite the importance society places on dance and movement, these two action-oriented artistic forms are often neglected aspects of counseling” (Gladding, 1988, p. 34). Counselors tend to use sedentary, sit and talk models of counseling in their sessions. This staid model of reflection and talk has dominated traditional counseling theory and practice in the 20th century (Gladding, 1996). Counselors are usually exposed to very little, if any, dance and movement practices in their education and are often uncomfortable with the process, so they are less likely to try implementing it in the therapeutic process.

However, counselors may want to begin considering movement interventions for treatment alternatives. Literature suggests that movement and exercise are cost-effective, viable interventions for depression, anxiety and many health related issues such as heart disease, cancer and stress (Dixon, Mauzey & Hall, 2003).

Movement Applications in the Promotion of Wellness

History reminds us that all dance is processed through culture and that the arts have usually been in the service of something else, such as art, religion, morality, identity,

stress relief or recreation. While the outcome of dancing may be better technique and skill, it may also be an entry point to other kinds of learning, mental stability and wellness.

Dance/Movement Therapy (DMT) is a theoretical approach that helps “individuals grow and interrelate psychological and physiological processes by using movement or dance as a means” (Sharf, 2000, p.290). It is a “holistic approach that, in recognition of complex body/mind interaction, deals with disturbances of emotional, cognitive, and physical origin through intervention on a body movement level” (Duggan, 2001, p.148). It is a particularly useful intervention with children because “play is normally a central feature of childhood, as is action” (Payne, 1992, p. 39). This action-based therapy takes the focus off of verbal interaction and language and places it on communication through movement and expression. It serves as a method of therapy in which people become involved in a “creative, relationship-building experience with the aim of definition of self” (Payne, 1992, p. 42).

DMT emerged from many different theoretical frameworks, hence the various branch names such as movement psychotherapy, psychoanalytic movement therapy, psychomotor therapy, mind-body therapy, authentic movement, and so on. However, regardless of the theoretical orientation, all dance/movement therapists hold a “holistic philosophy that recognizes the complex interaction and interdependence of mind and body” (Duggan, 2001, p.146) and “operate under the assumption that movement reflects personality (Schmais, 1974)” (as cited in Siegel, 1984, p.17).

In short, DMT generates change by enhancing an individual’s movement repertoire through movement techniques and affinities, thus increasing the capacity for adaptive

response and developing more appropriate coping behaviors. “Trudie Schoop, a pioneer dance therapist, wrote in 1971: ... where psycho-analysis brings about change in the mental attitude, there should be a corresponding change in physical behavior. When a dance therapist brings about a change in body behavior, there should be a corresponding change in the mind. Both methods want to change the total being, body and mind” (Siegel, 1984, p.12).

Body-Mind Centering (BMC) is an integrated approach to transformative experience through movement re-education and hands-on repatterning. It is an experiential study based on the embodiment and application of anatomical, physiological, psychophysical and developmental principles, utilizing movement, touch, voice and mind. This study leads to an understanding of how the mind is expressed through the body and the body through the mind (Bainbridge Cohen, 1993).

The study of Body-Mind Centering is a creative process in which students learn to meet and recognize themselves and others through the exploration of embodiment. Each person is both the student and the subject matter. Principles and techniques are taught in the context of self-discovery and openness. Students and practitioners learn to engage themselves and others non-judgmentally, starting from where they are and the place where others are. This allows practitioners to find the ease that underlies transformation (Bainbridge Cohen, 1993).

Body-Mind Centering has numerous of areas of application. It is currently being used by people in movement, dance, yoga, bodywork, physical and occupational therapy, psychotherapy, child development, education, voice, music, art, meditation, athletics and other body-mind disciplines (Bainbridge Cohen, 1993).

Bioenergetic Analysis is a form of psychotherapy that has a psycho-developmental basis, which works with the mind-body connection to help reduce psychological problems. In bioenergetic analysis the individual is viewed as a psychosomatic unity—things that affect the body will also affect the mind and visa-versa. The psychological defenses one uses to handle pain and stress are manifested in rationalizations, denials, and suppressions, which are also anchored in the body as unique muscular patterns that inhibit self-expression. These patterns can be identified and understood by a bioenergetic psychotherapist who knows how to look at the structure, movement and breathing patterns in a person's body (IIBA, 2004).

Bioenergetic psychotherapists study a person's muscular patterns and then explore the relationship these patterns have to movement, breath, posture and emotional expression. For example, every physical expression of the body is examined—the quality of a handshake, the posture, the look in the eyes, the tone of the voice, the way of moving, the amount of energy, etc. The therapist then introduces the client to physical expressions or exercises to help them experience in present time these patterns of constriction in their body. The therapist explores with the client what it would feel like to begin to release these patterns and recover some of the feelings they have repressed during childhood and continue to repress in their adult life. The bioenergetic psychotherapist also helps their clients come to understand how and why their patterns of constriction developed; how these very defenses that are hindering their life today, allowed them to survive in an early environment that was not supportive of their being (IIBA, 2004).

The Feldenkrais Method is an educational system that develops a functional awareness of the self in the environment. The method utilizes the fact that the body is the primary vehicle for learning and makes the assumption that all human beings, regardless of their age or condition, have the potential to change and the ability to learn (FEFNA, 2004). Feldenkrais practitioners stipulate that well being is improved when individuals learn about their self fully and that intelligence depends upon the opportunities that people take to experience and learn on their own. This learning about the self leads to full, dynamic living.

The Feldenkrais Method uses movement to teach people how to improve their ability to function in daily life. Feldenkrais (1972), defined function as the interaction between the self and the environment. By expanding a person's movement repertoire, self-awareness becomes more enhanced and individuals learn to express themselves more fully. The movement patterns and physical touch from the instructor are meant to bring attention and sensory re-education to the individual studying Feldenkrais thereby promoting ease and comfort, improving coordination and flexibility, expanding self-awareness and evoking greater vitality.

The Alexander Technique is a method that works to change movement patterns in everyday life and activity. It is a simple and practical method for improving ease and freedom of movement, balance, support and coordination. The technique teaches the use of the appropriate amount of effort for a particular activity, giving you more energy for all your activities. It is not a series of treatments or exercises, but rather a reeducation of the mind and body. The Alexander Technique is a method, which helps a person discover a new balance in the body by releasing unnecessary tension.

Other therapeutic movement practices such as yoga, rolfing, Pilates, and Gyrokinesis, Bartenieff FundamentalsTM, Ideokinetic Facilitation, and Labananalysis are growing in popularity and seem to have health and wellness related values. The common underlying thread of all these practices is the theoretical connection of the mind-body interaction and common goals, such as altering motor function for the purpose of adaptability to the environment, improving ease of movement and alignment, and aid in dissolving psychophysical blocks in the body (Meyers, 1988).

Application in Schools

The use of dance and movement in counseling has appropriate application in school settings for many reasons. For starters, it gives students an opportunity to express their feelings in other ways than through language and verbal counseling practices. This may be especially important for students who are uncomfortable with talking about their feelings and emotions. It also gives students a chance to move around and helps keep them from becoming fatigued, possibly renewing interest and energizing one's imagination (Gladding, 1998).

Movement may also help students internalize the possibility for change through the experience of movement. Initial awareness of the self is through the body (Freud, 1923). "Movement conveys truth" and is a "direct printout from the unconscious" (Hendricks, 1982, p. 166). Using movement as vehicles for expression helps students heal their fragmentation and alienation from themselves and others (Beaudry, 1997).

Dance is founded on social and interpersonal relations. The basis of dance and movement is to "establish or reestablish a sense of relatedness to self and others" (Stark & Lohn, 1989, p. 107). When people dance they feel a "heightened sense of oneself (a flow of energy, a feeling of aliveness, and a sense of wellbeing), [which facilitates]

bonding and empathic response in the body with others” (Stark & Lohn, 1989, as cited by Gladding, 1989, p. 35).

Lastly, movement allows students challenge themselves so cognitive development and self-esteem will rise. Developmental theory is grounded in movement and acquisition of motor skill. As children pass through the different stages of physical development, learning and cognition is affected. The use of dance and movement techniques may improve students’ ability to better process information in many given situations and the world they live in.

Instrumentation

Perceived Wellness Scale for Youth

As mentioned earlier, a compelling body of both anecdotal and empirical evidence supports the notion that the mental condition has a very real and powerful influence upon the health of the body (Adams, Bezner, Garner & Woodruff, 1998). The Perceived Wellness Scale for Youth (PWS-Y) is built on this theoretical concept.

The PWS-Y is a 36 item self-report instrument that measures how individuals perceive themselves to be functioning on the six life dimensions specified as important within the Perceived Wellness Model. The PWS-Y represents a modified version, for the sole purpose of readability ease, of the Perceived Wellness Scale (PWS). According to Adams, (personal communication, March 3, 2004) the structure and psychometric properties of the PWS-Y are thought to be consistent with those reported on the PWS.

The PWS-Y measures how individuals perceive themselves to be functioning on the six life dimensions specified as important within the Perceived Wellness Model. The PWS-Y is unique from other wellness measures because it determines an individual’s

perceived functioning within each dimension, as well as assessing how an individual balances the six dimensions.

Adams, (1995) defines perceived wellness as a multidimensional construct, which is conceptualized, measured, and interpreted consistent with (1) an integrated systems view of the mind-body; (2) a salutogenic focus (defined as causing health rather than illness); and (3) a dispositional orientation. Consistent with this conceptualization, the wellness dimensions are defined as: physical (positive perceptions and expectations of physical health), spiritual (positive sense of meaning and purpose in life), psychological (perception that one will experience positive outcomes to the events and circumstances of life), social (perception of being able to call upon family or friends in time of need; perception of being a valued support provider), emotional (secure sense of self-identity and a positive sense of self-regard), and intellectual (perception of being internally energized by the appropriate amount of intellectually stimulating activity).

Much of the philosophical and theoretical support for the overall wellness construct has been derived from related theories (Adams, Bezner & Steinhardt, 1997). According to systems theory, each part of a system is both an essential constituent of a larger system and an independent system with its own constituents. The elements of the system are reciprocally interrelated in such a way that disruption of homeostasis at any level requires adaptation of the entire system (Adams, Bezner & Steinhardt, 1997). The perceived wellness dimensions are completely integrated and function simultaneously. In essence wellness, because of its constructs, is multidimensional.

To predict an individual's level of wellness, the instrument should include several dimensions, which are operationalized and interpreted consistent with the systems

approach (Adams, Bezner & Steinhardt, 1997). Specifically, the wellness magnitude within each dimension and the balance among them should be simultaneously considered. The PWS [Y] is unique in that it is the only wellness measure that simultaneously accounts for both wellness magnitude and balance (Adams, Bezner & Steinhardt, 1997). According to wellness theorists, balance is a particularly important aspect of wellness because of the relationship to systems theory (Adams, Bezner & Steinhardt, 1997).

Psychometric properties. Published literature does not exist for the PWS-Y. According to Adams, (personal communication, March 3, 2004) the psychometric properties of the PWS-Y are thought to be consistent with those reported on the PWS. Yet a pilot study was conducted to establish reliability. The random sample was composed of 47 high school students from the state of Florida. The reliability coefficient for PWS-Y was .88 indicating that approximately 88% of the subscale variance was attributed to true score variance.

Initially, a total of 69 content-related items from six separate scales were combined to form the Perceived Wellness Survey, which was piloted several times. Included in this pool were items that tapped perceptions of; physical health, sense of meaning and purpose in life, positive expectancies, self-identity and self-regard, and both social support received and provided. The two social support scales were consolidated into one reducing the number of original scales to five but an additional scale created by the authors was later added, thus the final number of subscales was six. Three item reductions schemes were employed. First, an item correlation matrix was examined to determine whether any sets of items were redundant ($r \geq .70$). Redundant sets or pairs of items were reduced to the single best item. Second, the magnitude of the item-to-total-

scale correlation was considered. Items with coefficients smaller than .40 on the total scale were excluded. Third, all items were reviewed to determine the degree of content match between the items and subscale definitions. After the six best items were selected to represent the physical, spiritual, psychological, emotional and social dimensions, six items written by the authors were added to represent the intellectual dimension. In addition, a few of the items were revised to add clarity and consistency to the subscales. Ultimately, six items for each of the six dimensions were included giving the Perceived Wellness Survey a total of 36 items (Adams, Bezner & Steinhardt, 1997).

Initial development and validation of the PWS presented statistically significant ($p < .05$) evidence of validity including, factorial (over 90% of items loaded above .30), discriminant (difference between well and ill groups nominated by health professionals, $t = 5.46$, $df = 38$), convergent ($r = .53, .59, .70$), divergent ($r = -$), and face (subject matches of the PWS items with appropriate subscale definitions compared to the intended grouping, $r = .98$). The sample ($n = 558$) was composed of employees from 3M Inc., in Austin, Texas ($n = 393$), and MuRata Electronics, Inc., College Station, Pennsylvania ($n = 53$); and undergraduate students from The University of Texas, Austin ($n = 112$) (Adams, 1995). Racial, gender, and age distribution was, respectively, 6.3% African-American ($n = 35$), 8.2% Asian ($n = 46$), 73.3% Caucasian ($n = 409$), 9.5% Hispanic ($n = 53$), and 2.7% other ($n = 15$); 47.8% male ($n = 267$), and 52.2% female ($n = 291$); and 36.8 yrs (Adams, Bezner & Steinhardt, 1997). Subsequently produced in four pilot studies, the PWS demonstrated evidence of convergent validity ($r = .37$ to $.56$) and internal consistency ($= .89$ to $.91$). In the samples considered independently, total scale internal consistency ranged from $= .88$ to $.93$. The internal validity of the total scale is

demonstrated by a high percentage of items (90%) with an item to total scale correlation greater than .30 in the four samples considered independently (Adams, Bezner & Steinhardt, 1997).

The unidimensional nature of the PWS suggests that perceptions of wellness in various dimensions are intertwined by their affective nature (Adams, Bezner & Steinhardt, 1997). The scale was designed so that each of the subscale scores could also be used independently to assess wellness in each dimension. The internal consistency estimates for each of the subscales in this sample were, physical ($=.81$), spiritual ($=.77$), psychological, ($=.71$), social ($=.64$), emotional ($=.74$), and intellectual ($=.64$). Nunnally (1978) has suggested that an alpha coefficient of .70 is the minimum acceptable value for internal consistency reliability. However, the internal consistency coefficient is directly dependent on the number of items in a given scale. Thus, to assess the degree to which the coefficients were a function of subscale length, the split-half reliability of each subscale was assessed. Correspondingly, the split-half correlation coefficients were, physical ($r=.71$), spiritual ($r=.68$), psychological, ($r=.62$), social ($r=.52$), emotional ($r=.61$), and intellectual ($r=.53$) (Adams, Bezner & Steinhardt, 1997).

Further studies provided additional support for the construct validity of the PWS. Six samples collected over a three-year period were divided into quartiles based on PWS scores. Three corporate and three student convenience samples were used in this study. Employee samples included participants from 3M in Austin, Texas (N=380); Information Technology Company in Austin, Texas (N=178); and employees of St. David's hospital in Austin, Texas (N=238). Student samples included undergraduate health education students (N=105) at The University of Texas at Austin and two sets of undergraduate

students enrolled in a leadership program at Oklahoma State University (N=81 and N=95). One-way ANOVA with post hoc analyses were conducted to determine if the highest and lowest PWS quartiles were different with respect to several theoretically related independent measures. The highest and lowest perceived wellness groups were significantly different. In all but two instances (emotional autonomy and organizational communication), the independent variable scale reliabilities were more than adequate ($Mu = .70$) adding strength to these findings. Temporal stability estimates ranged from $r = .73$ in the 3M sample, to $r = .81$ in the student sample, indicating that in these samples, the PWS was reasonably stable (Adams, Bezner, Garner & Woodruff, 1998).

Rosenberg's Self-Esteem Scale

The Rosenberg Self-Esteem Scale (SES) is a 10 item self-report instrument which was designed to measure global self-esteem in the sense that “the self-concept is not a *collection* but an organization of parts, pieces, and components, and... these are hierarchically organized and interrelated in complex ways” (Rosenberg, 1979, p.73). The SES was originally constructed to measure the self-esteem of high school students (Rosenberg, 1965, 1989). Rosenberg's perspective differs from that of others who consider general self-esteem to be multidimensional, representative of a sum of self-judgments relative to specific aspects of one's daily functioning. Rosenberg (1965) defines self-concept as the “totality of the individual's thoughts and feelings having reference to himself as an object” (p. 7).

In developing the SES, Rosenberg (1965, 1989) worked from the premise that individuals acknowledge the phenomenological experience of general self-worth over and above the evaluations of the more discrete characteristics of the self, thus developing the SES to be a unidimensional scale designed to measure perceptions of global self-

esteem. In other words, the SES “taps the extent to which a person is generally satisfied with his or her life, considers him- or herself worthy, holds a positive attitude toward him- or herself, or alternatively, feels useless, desires more respect, and so on” (Byrne, 1996, p.141). As such, the SES “yields a single score that represents only the level of an individual’s overall (i.e. global) self-esteem (or general self-concept)” (Byrne, 1996, p.14). The SES does not tap into the more specific, or multidimensional, perceptions of the self that are quite likely combined in a very complex and obscure manner of which the individual is unaware (Rosenberg, 1979)

Psychometric properties. Although the SES is brief, it is “thorough in measuring self-esteem” (Chiu, 1988, p. 299). Multiple studies have been conducted to investigate the SES and considerable evidence of its reliability and validity has been established across a large number of different sample groups. It is a highly recommended, widely used measure (Burns, 1979; Crandall, 1973; Wylie, 1974).

The initial study conducted by Rosenberg in the 1960s tested self-concept in a sample of 5, 024 high school juniors and seniors from ten randomly selected schools in New York State. Subsequent research has involved thousands of college students, high school students, and adults from a range of professions and occupations.

While the instrument was originally designed as a Guttman scale, the SES is now commonly scored as a Likert scale. The 10 items are answered on a four point scale ranging from strongly agree to strongly disagree. Scores for the scale are obtained by adding the participants’ responses to the items, with the higher scores indicating higher levels of self-esteem. Positive and negative items are presented alternately in order to reduce the danger of a respondent set.

The scale generally has high reliability: test-retest correlations are typically in the range of .82 to .88, indicating excellent stability and Cronbach's alpha for various samples are in the range of .77 to .88 (Silber & Tippett, 1965). The SES has a reproducibility index of .92 and scalability of .72, suggesting that the items are internally consistent and unidimensional (Rosenberg, 1989).

A great deal of research demonstrates the concurrent, known-groups, predictive and construct validity of the SES. The scale correlates .59 with the Coopersmith Self-Esteem Inventory (Crandall, 1973), and from .56 to .83 with similar measures providing evidence of convergent validity (Silber & Tippett, 1965).

Although there have been studies that demonstrated a two-factor (self-confidence and self-deprecation) structure to the scale, the investigations that used high school or college students supported the scale's unidimensionality (Silber & Tippett, 1965; Crandal, 1973; McCarthy & Hoge, 1982), or obtained factors that were interdependent and had similar patterns of correlates (Rosenberg, 1979; Hagborg, 1993). All in all, enough research has accumulated to indicate that the SES is a powerful predictor of self-esteem in adolescents (Nunnally, 1967).

National Education Longitudinal Study

The National Education Longitudinal Study of 1988 (NELS: 88) is a study developed, administered, and researched by the National Center for Education Statistics (NCES) and the National Opinion Research Center (NORC). The study includes a nationally representative sample of eighth-graders that were first surveyed in the spring of 1988. A sample of these respondents was then resurveyed through four follow-ups in 1990, 1992, 1994, and 2000. On the questionnaire, students reported on a range of topics including: school, work, and home experiences; educational resources and support; the

role in education of their parents and peers; neighborhood characteristics; educational and occupational aspirations; and other student perceptions. Additional topics included self-reports on smoking, alcohol and drug use and extracurricular activities. For the three in-school waves of data collection (when most were eighth-graders, sophomores, or seniors), achievement tests in reading, social studies, mathematics and science were administered in addition to the student questionnaire (NCES).

Attendance and conduct measure. To measure attendance and conduct the investigator selected items that were derived from the NELS questionnaire. The items have been widely used and have proven to be highly reliable and valid. Both the attendance and conduct categories included 3 items each to give multiple data points of reference.

CHAPTER 3 METHODOLOGY

This study was designed to investigate the effectiveness of formalized dance education and training on student performance (GPA, behavior and attendance), overall perceived wellness and self-concept of high school dance students in grades nine, ten, eleven and twelve. Dance, as an art form and formal training method, may be a valuable resource that can serve as a bridge to cognitive development, emotional growth and psychological health in children and adolescents, which is associated with academic performance in students. This study focused on documenting the relationship between dance and its influences on the variables by comparing students who are and are not involved in high school dance programs.

The theoretical framework and a review of the theoretical and empirical research relevant to this study have been provided in Chapter 2. In this chapter, methods used to address the research questions are presented. Included in this chapter are descriptions of the research participants, sampling procedures, relevant variables, research and data collection procedures, research design, instrumentation, data analysis and hypotheses.

Participants

Participants were drawn from the population of students enrolled in public high schools in the State of Florida. The state of Florida has a total of 362 high schools (2001-02 FLDOE School Report File) that enroll approximately 2.6 million students. Florida PK-12 enrollment for Fall 2003 by number and percentage, for each racial/ethnic category is provided in Table 1.

Representation by each racial/ethnic group in the total pre-kindergarten through twelfth grade membership for Fall 2003 was 49.75 % White, non-Hispanic; 23.88 % Black, non-Hispanic; 21.70 % Hispanic; 2.04 % Asian/Pacific Islander; 2.34 % Multiracial; and 0.29 % American Indian/Alaskan Native. Total minorities represent 50.25 % of the total PK-12 membership (FLDOE, 2004).

Table 1. Student Enrollment for PK-12, Number and Percent by Racial/Ethnic Category

White; Non- Hispanic	Black; Non- Hispanic	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	Multiracial	Total Membership
1,292,719	620,426	563,779	52,955	7,662	60,690	2,598,231
49.8%	23.9%	21.7%	2.0%	0.3%	2.3%	

Survey Data, October 13-17, 2003, as of November 24, 2003

Florida 9-12 enrollment for Fall 2003 by number and percentage, for each grade-level is provided in Table 2. Representation by each grade level in the total ninth through twelfth grade membership for Fall 2003 was 33.6% ninth grade, 25.4% tenth grade, 21.9% 11th grade, and 19.1% twelfth grade.

Table 2. Student Enrollment for PK-12, Number and Percent by Grade Level

9 th Grade	10 th Grade	11 th Grade	12 th Grade	Total
254,697	192,445	165,697	144,977	757,816
33.6%	25.4%	21.9%	19.1%	

Survey Data, October 13-17, 2003, as of November 24, 2003

In 2002-2003 the state of Florida had 148 public high schools that offered dance education (Haynes, FLDOE, personal communication, March 13, 2004). Dance education courses are offered in two types of programs, magnet programs and elective programs. Magnet programs offer intensive dance training and technique classes in ballet, modern dance, tap, and jazz. Additionally, they offer supplemental dance curriculum that is more academically based, such as choreography, dance history,

improvisation, kinesiology, aesthetics, career preparation and critical analysis. Students enrolled in a magnet program must reside within a particular county zone. While the school is public and provides free education, a student must have the appropriate skill, talent, potential and motivation in order to be selected to participate in the program. Acceptance into an arts magnet program is determined by an audition. For example, theatre students are required to perform a monologue and participate in improvisations, visual artists must provide a portfolio, musicians must play certain scores with their instruments, and dancers must complete an audition technique class. Elective programs only provide courses in dance technique as a coursework to fulfill a performing arts credit. An audition is not required of students that take dance as an elective. Only schools that have a magnet program in dance were selected to participate in the study.

Students from the following eight schools (from eight different counties in Florida) have magnet dance programs and were invited to participate:

8. Broward County; Dillard Center for the Arts
9. Dade County; New World School of the Arts
10. Duval County; Douglas Anderson School of the Arts
11. Hillsborough County; Blake High School
12. Orange County; Dr. Phillips High School
13. Palm Beach County; Dreyfoos School of the Arts
14. Polk County; Lois Cowles Harrison Center for the Visual and Performing Arts
15. Sarasota County; Booker High School

Enrollment data of the eight selected schools were compared with the statewide data. The demographic composition of each of the county school districts in the study is provided in Table 3. The data represents student enrollment for Fall 2003 by racial/ethnic category. Dade County has the largest total minority membership (333,846 students or 89.82%) while Sarasota County has the smallest total minority membership

(9,173 students or 23.21%). The average minority population in the selected counties is similar to that of the state averages. Total minority representation for the state is 9.92%, while the selected county minority representation is slightly higher at 11.04%.

Table 3. Public School Counties Included in the Study; Student Membership, PK-12
Number and Percent by Racial/Ethnic Category

	White; Non- Hispanic	Black; Non- Hispanic	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	Multiracial	Total Membership
Broward	96,635 35.43%	98,625 36.16%	62,869 23.05%	8,157 2.99%	867 0.32%	5,629 2.06%	272,782
Dade	37,845 10.18%	106,563 28.67%	218,889 58.89%	4,236 1.14%	346 0.09%	3,812 1.03%	371,691
Duval	59,898 46.23%	55,762 43.04%	6,193 4.78%	3,988 3.08%	200 0.15%	3,512 2.71%	129,553
Hillsborough	84,457 46.47%	41,235 22.7%	43,878 24.14%	4,400 2.42%	589 0.32%	7,178 3.95%	181,755
Orange	65,628 39.56%	46,744 28.18%	44,089 26.58%	6,343 3.82%	690 0.42%	2,387 1.44%	165,881
Palm Beach	75,452 44.33%	49,158 28.88%	34,790 20.44%	3,866 2.27%	964 0.57%	5,984 3.52%	170,214
Polk	49,923 59.39%	18,731 22.28%	12,949 15.40%	952 1.13%	146 0.17%	1,365 1.62%	84,066
Sarasota	30,346 76.79%	3,640 9.21%	3,593 9.09%	626 1.58%	83 0.21%	1,231 3.11%	39,519
Total Representation	54.57%	27.39%	22.80%	2.30%	0.28%	2.43%	

Survey Data, October 13-17, 2003, as of November 24, 2003

Fall 2003 membership by grade level for each of the counties included in the study is presented in Table 4. Membership in each of the grades nine through twelve ranged from a low of 77,222 for the twelfth grade to a high of 139,257 for the ninth grade. Ninth grade enrollments have the highest percentages (between 31 and 36 percent), while twelfth grade enrollments have the lowest enrollment numbers (between 18 and 20 percent) in all counties. This is primarily due to dropout rates. Dade County has the largest high school membership (110,491 students) while Sarasota County has the smallest high school membership (11,983 students).

Table 4. Public School Counties Included in the Study, 9-12 Membership by Grade

	9 th grade	10 th grade	11 th grade	12 th grade	Total 9-12 Membership
Broward	28,054 36%	16,654 22%	17,425 22%	15,676 20%	77,809
Dade	37,211 34%	28,880 26%	23,393 21%	21,007 19%	110,491
Duval	12,144 36%	8,662 25%	7,592 22%	5,952 17%	34,350
Hillsborough	15,279 31%	13,372 28%	10,360 21%	9,634 20%	48,645
Orange	17,260 36%	11,364 23%	10,925 22%	9,184 19%	48,733
Palm Beach	18,099 36%	13,603 27%	9,492 19%	8,766 18%	49,960
Polk	7,409 32%	5,994 26%	5,234 22%	4,669 20%	23,306
Sarasota	3,801 32%	3,285 27%	2,563 21%	2,334 20%	11,983
Total All Counties	139,257 34%	101,814 25%	86,984 22%	77,222 19%	405,277

Survey Data, October 13-17, 2003, as of November 24, 2003

Magnet programs were initially developed as a means to desegregate schools. For example, if a school was located in a neighborhood that was predominantly comprised of a minority population, the district may have been inclined to add an arts magnet to attract white students. Table 5 presents the Fall 2003 membership by ethnicity and grade level for each of the individual schools. Dr. Phillips High School has the largest high school membership (3,541 students) while Harrison Center for the Visual and Performing Arts has the smallest high school membership (359 students).

The majority of students in the eight schools are white. However, there are some distinct differences. For example, Dillard Center for the Arts has a different minority population in comparison to the state; the school is nearly 90% black. Likewise, New World School of the Arts has a higher Hispanic population at 42%.

Table 5. School-Wide Profile Averages, Ethnic Category & 9-12 Membership by Grade

County	School	White	Black	Hispanic	Other	9 th	10 th	11 th	12 th	Total Enrollment
Broward	Dillard	114 5.3%	1,918 89.3%	84 3.9%	32 1.5%	935 43.5%	271 12.6%	461 21.5%	481 22.4%	2,148
Dade	New World	159 33.9%	89 19%	197 42%	24 5.1%	118 25.2%	122 26%	116 24.7%	113 24.1%	469
Duval	Douglas Anderson	766 73%	199 19%	32 3%	52 5%	332 31.6%	260 24.8%	260 24.8%	197 18.8%	1,049
Hillsborough	Blake	Not available								1,688
Orange	Dr. Phillips	1,994 56.3%	843 23.8%	704 19.8%	0% 0%	1104 31.2%	756 21.3%	788 22.3%	864 24.4%	3,541
Palm Beach	Dreyfoos	908 70.9%	122 9.5%	144 11.2%	107 8.4%	348 27.2%	332 25.9%	303 23.7%	298 23.2%	1,281
Polk	Harrison	279 81.3%	41 12%	21 6.1%	2 0.6%	94 27.4%	80 23.3%	78 22.8%	91 26.5%	343
Sarasota	Booker	935 62%	377 25%	166 11%	31 2%	488 32.3%	410 27.2%	344 22.8%	267 17.7%	1,509

Survey Data, Spring 2004

Spring 2004 profile averages for each of the dance programs within the various schools are presented in Table 6. Of the schools that provided data, Dr. Phillips High School has the largest dancer population (120 students) while the Harrison Center has the smallest number of dancers (33 students).

Gender is not included in the table because dance is predominately studied by females; very few boys enroll in dance programs so the trends will indicate sparse enrollment for males. This phenomenon is due largely to the fact that in American culture, dance has a certain stigma attached to it for males; it is considered to be a feminine art form. Boys who participate are usually labeled homosexual (Dils, 2004; Hanna, 1999; Nagrin, 1988; Risner, 2002); therefore many boys choose not to enroll in dance related curriculum or will soon drop out (Gray, 1989).

Table 6. Dance Program Profile Averages by Gender, Racial/Ethnic Category, & 9-12 Membership by Grade,

School	White	Black	Hispanic	Other	9 th	10 th	11 th	12 th	Total
Dillard	Not available								
New World	25 29.1%	23 26.7%	37 43%	1 1.2%	27 31.4%	20 23.3%	21 24.4%	18 20.9%	86
Douglas Anderson	Not available								
Blake	Not available								
Dr. Phillips	49 40.8%	38 31.7%	28 23.3%	5 4.2%	40 33.3%	30 25%	29 24.2%	21 17.5%	120
Dreyfoos	Not available								
Harrison	22 66.7%	6 18.2%	4 12.1%	1 3%	14 42.4%	5 15.2%	4 12.1%	10 30.3%	33
Booker	23 51.1%	10 22.2%	9 20%	3 6.7%	14 31.1%	13 28.9%	16 35.6%	2 4.4%	45

Survey Data, Spring 2004

Sampling Procedures

Permission to conduct the study was requested of the University of Florida's Institutional Review Board. In addition, the Departments of Research and Evaluations from each district School Board were asked to approve the study.

As noted above, the pool of potential participants included all students who were enrolled in one of the eight (8) Florida high schools that have an arts magnet program, which includes dance, and elected to participate in the study. Permission to participate was obtained by first seeking permission from the building principal to conduct the study (appendix A). With the principal's approval, a letter of invitation to participate was sent to the dance director of each school, requesting her or his assistance in contacting dance students (appendix B). Next, a letter of invitation to participate was distributed to all the students and their parents in the building (appendix C). This letter included a brief explanation of the purpose of the study, a description of what participants would be asked

to do, and a discussion of the benefits and risks of the study. Participation in the study was done solely on a voluntary basis.

For each participating high school, two target groups were identified. The first group included students enrolled in the dance program, the second group consisted of students who did not participate in the dance education program. All participants completed the same set of instruments over the Internet.

Relevant Research Variables

Dependent Variables

The dependent variables for this study included student performance as measured by cumulative GPA, attendance behavior and conduct behavior; self-concept as measured by the Rosenberg Self-Esteem Scale (SES); and perceived wellness as measured by the Perceived Wellness Scale for Youth (PWS-Y). Included in the wellness variable are the following constructs: physical, spiritual, psychological, social, emotional and intellectual. Individuals who are high on perceived wellness appear to: 1) be more physically healthy, 2) have a greater sense of meaning and purpose in life, 3) expect that positive things will occur in their life no matter what the circumstances, 4) be more connected with family or friends, 5) be more secure and happy with who they are, and 6) be intellectually vibrant (Adams, Bezner, Garner & Woodruff, 1998). If wellness is a "quest for maximum human functioning that involves the body, mind, and spirit" (Archer, Probert & Gage, 1987, p. 311) then there may be an obvious link between dance and wellness. Dancers need to connect body, mind and spirit for successful performance. Dance, like wellness, is holistic in nature; thus, there may be important parallels between dance education and wellness, which subsequently influences students' academic achievement and self-

concept. Students will use self-report methods to track perceived wellness, self-concept, cumulative GPA, attendance behavior, and conduct behavior.

Independent Variables

The relevant independent variables used in the study were the dancer and non-dancer groups and the four levels of ability/training. When significant differences between groups were observed, gender, ethnicity, and grade-level were examined to investigate contributing factors. Level of training/technical ability is assigned at the beginning of the year by the dance faculty at each school. Students are placed into the appropriate level, by way of an audition process, according to their skill level and technical ability. Students used self-report methods to respond to items regarding school location, gender, ethnicity, grade-level, and level of ability.

Research Procedures

The survey was conducted via the Internet in a computer lab or classroom at each of the respective schools. Teachers escorted their students to the computer lab and monitored student progress throughout the questionnaire. The entire survey took participants approximately 15-20 minutes to complete. To ensure confidentiality, all surveys were tallied anonymously. The survey did, however, include questions regarding school, grade, gender and race of each individual participant for use in the analysis.

The survey was administered only to those students that returned an informed consent form signed by a parent. Once in the computer lab, students were given the web address of <http://grove.ufl.edu/~tdbaker/surveys/index.php?survey=s1654697285> which will brought them to an opening page entitled "Welcome to the survey." On this page, an explanation of informed consent is listed. Students read the explanation and then clicked on the button reading "Take me to the survey" which subsequently brought them to a

page that has the additional informed consent form that precludes the survey questions. Next, students clicked the button reading, “I have read the document and agree to participate” which brought students to a page containing the survey items (see appendix D) and directions for filling out the questionnaire. Once the survey was completed, students clicked the button that reads “I’m finished—submit my survey so it can be counted.” Finally, students were brought to a confirmation page that explained they were finished.

Data collection. After students submitted their survey, the data was sent to and stored in a database at website address <http://grove.ufl.edu/~tdbaker/surveys/counselors/>. From this page, the investigator accessed the database by logging in to the account. After login, the data was exported from the site’s database and downloaded to a spreadsheet for statistical analysis. A random number was assigned to each data set according to which computer was used to fill out the survey.

Research Design

The quantitative research methods employed in this study included descriptive research, which uses the correlational and cross-sectional survey design. The study was conducted using a multi-site survey design that recruited a convenience sample of both dancers and non-dancers from the school’s total population. An analysis of variance (ANOVA) was used to test the hypotheses. Alpha level was set at .05.

Instrumentation

Items from three self-report measures were administered to all participants by way of the Internet. These measures were selected based on the literature review and theoretical constructs of the study.

Perceived Wellness Survey for Youth (PWS-Y)

The Perceived Wellness Survey for Youth (PWS-Y) is a 36 item self-report measure. The PWS-Y represents a modified version of the Perceived Wellness Scale (PWS). Modification was limited to decreasing the readability of the items for the purposes of making it easier for school-aged youth to comprehend (Adams, personal communication, March 3, 2004).

The government standard for public school readability is the Flesch-Kincaid Formula. There are two scores; first, is the Flesch Reading Ease Score (FRES): This index number rates text on a 100-point scale: the higher the score, the easier it is to understand the document. The recommendation is that, for most standard documents, writers should aim for a score of approximately 60 to 70. FRES scores in the 40s are “fairly difficult,” the 50s are “fairly easy,” and the 60s and 70s are “easy.” Second, is the Flesch-Kincaid Grade Level Score: This index number rates text on a U.S. grade-school level. For example, a score of 8.0 signifies that an eighth grader can understand the document. The PWS-Y yielded a FRES of 85 and grade level of 4.2.

Published literature does not exist for the PWS-Y. According to Adams, (personal communication, March 3, 2004) the psychometric properties of the PWS-Y are thought to be consistent with those reported on the PWS. However, a pilot study was conducted to establish reliability. The random sample was composed of 47 high school students from the state of Florida. The reliability coefficient for PWS-Y was .88 indicating that approximately 88% of the subscale variance was attributed to true score variance.

The original PWS instrument was developed in 1995 and is based on the comprehensive Perceived Wellness Model (Adams, Bezner & Steinhardt, 1997). Adams, (1995) defines perceived wellness as a multidimensional construct, which is

conceptualized, measured, and interpreted consistent with (1) an integrated systems view of the mind-body; (2) a salutogenic focus (defined as causing health rather than illness); and (3) a dispositional orientation. The PWS-Y includes six wellness dimensions: physical, spiritual, psychological, social, emotional, and intellectual.

The PWS-Y measures how individuals perceive themselves to be functioning on the six life dimensions specified as important within the Perceived Wellness Model. The PWS-Y is unique from other wellness measures because it determines an individual's perceived functioning within each dimension, as well as assessing how an individual balances the six dimensions (Adams, Bezner & Steinhardt, 1997).

Psychometric properties. Initially, a total of 69 content-related items from six separate scales were combined to form the Perceived Wellness Survey, which was piloted several times. Included in this pool were items that tapped perceptions of; physical health, sense of meaning and purpose in life, positive expectancies, self-identity and self-regard, and both social support received and provided. The two social support scales were consolidated into one reducing the number of original scales to five but an additional scale created by the authors was later added, thus the final number of subscales was six. Three item reductions schemes were employed. First, an item correlation matrix was examined to determine whether any sets of items were redundant ($r \geq .70$). Redundant sets or pairs of items were reduced to the single best item. Second, the magnitude of the item-to-total-scale correlation was considered. Items with coefficients smaller than .40 on the total scale were excluded. Third, all items were reviewed to determine the degree of content match between the items and subscale definitions. After the six best items were selected to represent the physical, spiritual, psychological,

emotional and social dimensions, six items written by the authors were added to represent the intellectual dimension. In addition, a few of the items were revised to add clarity and consistency to the subscales. Ultimately, six items for each of the six dimensions were included giving the Perceived Wellness Survey a total of 36 items (Adams, Bezner & Steinhardt, 1997).

Initial development and validation of the PWS presented statistically significant ($p < .05$) evidence of validity including, factorial (over 90% of items loaded above .30), discriminant (difference between well and ill groups nominated by health professionals, $t = 5.46$, $df = 38$), convergent ($r = .53, .59, .70$), divergent ($r = -$), and face (subject matches of the PWS items with appropriate subscale definitions compared to the intended grouping, $r = .98$). The sample ($n = 558$) was composed of employees from 3M Inc., in Austin, Texas ($n = 393$), and MuRata Electronics, Inc., College Station, Pennsylvania ($n = 53$); and undergraduate students from The University of Texas, Austin ($n = 112$) (Adams, 1995). Racial, gender, and age distribution was, respectively, 6.3% African-American ($n = 35$), 8.2% Asian ($n = 46$), 73.3% Caucasian ($n = 409$), 9.5% Hispanic ($n = 53$), and 2.7% other ($n = 15$); 47.8% male ($n = 267$), and 52.2% female ($n = 291$); and 36.8 yrs (Adams, Bezner & Steinhardt, 1997).

Subsequently produced in four pilot studies, the PWS demonstrated evidence of convergent validity ($r = .37$ to $.56$) and internal consistency ($= .89$ to $.91$). In the samples considered independently, total scale internal consistency ranged from $= .88$ to $.93$. The internal validity of the total scale is demonstrated by a high percentage of items (90%) with an item to total scale correlation greater than .30 in the four samples considered independently (Adams, Bezner & Steinhardt, 1997).

The unidimensional nature of the PWS suggests that perceptions of wellness in various dimensions are intertwined by their affective nature (Adams, Bezner & Steinhardt, 1997). The scale was designed so that each of the subscale scores could also be used independently to assess wellness in each dimension. The internal consistency estimates for each of the subscales in this sample were, physical ($=.81$), spiritual ($=.77$), psychological, ($=.71$), social ($=.64$), emotional ($=.74$), and intellectual ($=.64$). Nunnally (1978) has suggested that an alpha coefficient of $.70$ is the minimum acceptable value for internal consistency reliability. However, the internal consistency coefficient is directly dependent on the number of items in a given scale. Thus, to assess the degree to which the coefficients were a function of subscale length, the split-half reliability of each subscale was assessed. Correspondingly, the split-half correlation coefficients were, physical ($r=.71$), spiritual ($r=.68$), psychological, ($r=.62$), social ($r=.52$), emotional ($r=.61$), and intellectual ($r=.53$) (Adams, Bezner & Steinhardt, 1997).

Further studies provided additional support for the construct validity of the PWS. Six samples collected over a three-year period were divided into quartiles based on PWS scores. Three corporate and three student convenience samples were used in this study. Employee samples included participants from 3M in Austin, Texas (N=380); Information Technology Company in Austin, Texas (N=178); and employees of St. David's hospital in Austin, Texas (N=238). Student samples included undergraduate health education students (N=105) at The University of Texas at Austin and two sets of undergraduate students enrolled in a leadership program at Oklahoma State University (N=81 and N=95). One-way ANOVA with post hoc analyses were conducted to determine if the highest and lowest PWS quartiles were different with respect to several theoretically

related independent measures. The highest and lowest perceived wellness groups were significantly different. In all but two instances (emotional autonomy and organizational communication), the independent variable scale reliabilities were more than adequate ($Mu = .70$) adding strength to these findings. Temporal stability estimates ranged from $r = .73$ in the 3M sample, to $r = .81$ in the student sample, indicating that in these samples, the PWS was reasonably stable (Adams, Bezner, Garner & Woodruff, 1998).

Limitations. Some potential limitations of the PWS studies warrant mention. First, a selection bias may have existed because several samples of convenience were used. In some instances participants were recruited during general health appraisal programs. It is probable that the subjects, because they were volunteers, were healthier than the normal population; which would tend to skew the sample distribution towards positive health (Adams, Bezner, Garner & Woodruff, 1998; Adams, Bezner & Steinhardt, 1997). Employees who voluntarily participate in health screenings have been shown to be healthier than the normal population (Golaszewski, Lynch, Clearie & Vickery, 1989). The health-related variables in all employee samples were indeed skewed in a healthful direction supporting this assertion. Random selection of subjects and use of treatment and control groups would improve the generalizability (Adams, Bezner, Garner & Woodruff, 1998; Adams, Bezner & Steinhardt, 1997).

Second, the data associated with the PWS are subject to limitations commonly associated with self-report measures (Nunnally, 1978). Typically, the error associated with self-report measures is viewed as random error, which must be controlled. However, this “error” may be valuable client information that has been previously ignored. Wellness perceptions may explain unique variance not accounted for by other

variables such as more traditional biological indicators of health. If this were true, self-report variability could be viewed as additional information rather than error to be controlled (Adams, Bezner, Garner & Woodruff, 1998; Adams, Bezner & Steinhardt, 1997).

Rosenberg Self-Esteem Scale (SES)

The Rosenberg Self-Esteem Scale is a brief, unidimensional measure of global self-esteem. The SES consists of 10 items related to overall feelings of self-worth or self-acceptance and was originally constructed to measure the self-esteem of high school students (Rosenberg, 1965, 1989). The SES taps the extent to which an individual is generally satisfied with his or her life, considers her or himself worthy, holds a positive attitude toward him or herself, or alternatively feels dissatisfied. It has demonstrated good reliability and validity across a large number of different sample groups. Rosenberg (1965) defines self-concept as the “totality of the individual's thoughts and feelings having reference to himself as an object” (p. 7).

Psychometric properties. Although the SES is brief, it is “thorough in measuring self-esteem” (Chiu, 1988, p. 299). Multiple studies have been conducted to investigate the SES and considerable evidence of its reliability and validity has been established. It is a highly recommended, widely used measure (Burns, 1979; Crandall, 1973; Wylie, 1974).

The initial study conducted by Rosenberg in the 1960s tested self-concept in a sample of 5,024 high school juniors and seniors from ten randomly selected schools in New York State. Subsequent research has involved thousands of college students, high school students, and adults from a range of professions and occupations.

While the instrument was originally designed as a Guttman scale, the SES is now commonly scored as a Likert scale. The 10 items are answered on a four point scale ranging from strongly agree to strongly disagree. Scores for the scale are obtained by adding the participants' responses to the items, with the higher scores indicating higher levels of self-esteem. Positive and negative items are presented alternately in order to reduce the danger of a respondent set.

The scale generally has high reliability: test-retest correlations are typically in the range of .82 to .88, indicating excellent stability and Cronbach's alpha for various samples are in the range of .77 to .88 (Silber & Tippett, 1965). The SES has a reproducibility index of .92 and scalability of .72, suggesting that the items are internally consistent and unidimensional (Rosenberg, 1989).

A great deal of research demonstrates the concurrent, known-groups, predictive and construct validity of the SES. The scale correlates .59 with the Coopersmith Self-Esteem Inventory (Crandall, 1973), and from .56 to .83 with similar measures providing evidence of convergent validity (Silber & Tippett, 1965).

Although there have been studies that demonstrated a two-factor (self-confidence and self-deprecation) structure to the scale, the investigations that used high school or college students supported the scale's unidimensionality (Silber & Tippett, 1965; Crandal, 1973; McCarthy & Hoge, 1982), or obtained factors that were interdependent and had similar patterns of correlates (Rosenberg, 1979; Hagborg, 1993). All in all, enough research has accumulated to indicate that the SES is a powerful predictor of self-esteem in adolescents (Nunnally, 1967).

National Education Longitudinal Study

The National Education Longitudinal Study of 1988 (NELS) is a study developed, administered, and researched by the National Center for Education Statistics (NCES) and the National Opinion Research Center (NORC). The study includes a nationally representative sample of eighth-graders that were first surveyed in the spring of 1988. A sample of these respondents was then resurveyed through four follow-ups in 1990, 1992, 1994, and 2000. On the questionnaire, students reported on a range of topics including: school, work, and home experiences; educational resources and support; the role in education of their parents and peers; neighborhood characteristics; educational and occupational aspirations; and other student perceptions. Additional topics included self-reports on smoking, alcohol and drug use and extracurricular activities. For the three in-school waves of data collection (when most were eighth-graders, sophomores, or seniors), achievement tests in reading, social studies, mathematics and science were administered in addition to the student questionnaire (NCES, n. d.).

Attendance and conduct measures. To measure attendance and conduct the investigator selected items that were derived from the NELS questionnaire. The items have been widely used and have proven to be highly reliable and valid. Both the attendance and conduct categories included 3 items each to give multiple data points of reference.

Data Analysis.

An alpha level of .05 ($p = < .05$) was used to test all hypotheses in this study. Analyses of variance (ANOVA) were used to determine whether participation in a dance program had an effect on selected outcome measures. Analyses were performed using SPSS ANOVA.

Research Hypotheses.

The following hypotheses, stated in the null form, were predicted for participants:

1. H_0 : There will be no significant difference in perceived wellness, measured by the PWS-Y, between the participants and non-participants of structured dance programs.
2. H_0 : There will be no significant difference in perceived wellness, measured by the PWS-Y, between the levels of training/ability of the participants of structured dance programs.
3. H_0 : There will be no significant difference in self-concept, measured by the SES, between the participants and non-participants of structured dance programs.
4. H_0 : There will be no significant difference in self-concept, measured by the SES, between the levels of training/ability of the participants of structured dance programs.
5. H_0 : There will be no significant difference in GPA between the participants and non-participants of structured dance programs.
6. H_0 : There will be no significant difference in GPA between the levels of training/ability of the participants of structured dance programs.
7. H_0 : There will be no significant difference in attendance behavior between the participants and non-participants of structured dance programs.
8. H_0 : There will be no significant difference in attendance behavior between the levels of training/ability of the participants of structured dance programs.
9. H_0 : There will be no significant difference in conduct behavior between the participants and non-participants of structured dance programs.
10. H_0 : There will be no significant difference in conduct behavior between the levels of training/ability of the participants of structured dance programs.

CHAPTER 4 DATA ANALYSIS AND RESULTS

The purpose of this study was to examine the influence of formalized dance education and training on student performance (GPA, behavior, and attendance), overall perceived wellness and self-concept in high school students in grades nine, ten, eleven and twelve. In this chapter, the procedures for data collection, data analysis, and results are discussed. Descriptive data are provided where possible. Reliability coefficients for the Perceived Wellness Scale for Youth (PWS-Y) and the Rosenberg Self-Esteem Scale (SES) are reported. Finally, outcome analyses of the research hypotheses posed in this study are discussed.

Data Collection and Response Rate

Participants were drawn from eight magnet high schools in the state of Florida. The building principals were contacted by postal mail and telephone for permission to conduct the study and recruit prospective participants from their school. Likewise, the dance directors/teachers at each of the schools were contacted by telephone, postal mail, and electronic mail for aid in recruiting prospective participants for both the dance and non-dance populations. Of the eight schools invited to participate in this study, a total of three (37.5%) principals granted permission to conduct the study at their school: Booker High School in Sarasota County, Dr. Phillips High School in Orange County, and New World School of the Arts in Dade County. The sample was drawn from these three schools.

Each school participating in the study was sent 150 parental consent forms and teachers were responsible for the distribution and collection of the forms. Students that returned the signed parental consent forms completed the on-line survey in either the school's computer lab or on the teacher's classroom computer. A direct link to the survey was emailed to the principal and dance director at each of the schools that participated in the study. In all, a total of 90 students responded to the survey, all were used in the analysis. In cases where students did not answer a question(s), the data for that particular dependant variable were not included in the subsequent analysis. The total response rate for the study could not be determined because the number of potential participants given the parental consent forms is unknown.

Descriptive Data of the Research Variables

Independent Variables

The independent variables used in the study were the dancer and non-dancer groups and the four levels of ability/training. When significant differences between groups were observed, gender, ethnicity, and grade-level were examined to investigate contributing factors. Level of training/technical ability is assigned at the beginning of the year by the dance faculty at each school. Students are placed into the appropriate level, by way of an audition process, according to their skill level and technical ability. Students used self-report methods to respond to items regarding school location, gender, ethnicity, grade-level, and level of ability.

Descriptive statistics for the independent variables examined are presented in Table 7. Respondents attending Booker High School represented 78.9% of the total, respondents attending Dr. Philips High School represented 12.2% of the total, and respondents attending New World School of the Arts represented 8.9% of the total.

Female respondents comprised 73.3% of the total sample. The racial/ethnic composition of the participants was 53.3% white, 17.8% African American, 18.9% Hispanic, and 10.0% of other racial/ethnic composition. The grade level composition of the participants was 36.7% ninth graders; 16.7% tenth graders; 13.3% eleventh graders, and 33.3% twelfth graders.

The ethnic/racial breakdown of the sample was comparable to the statewide averages reported in Table 1 in Chapter 3. However, the sample gender and grade level averages differed from that of the statewide averages presented in Table 2 in Chapter 3. The sample used in this study had a larger proportion of females in (73.3%), a smaller representation of 10th graders (16.7%), a smaller representation of 11th graders (13.3%) and a larger representation of 12th graders (33.3%).

Table 7. Descriptive Data for Independent Variables (N=90)

Factor	Tier	n (Total %)
School	Booker High School	71 (78.9%)
	Dr. Phillips High School	11 (12.2%)
	New World School of the Arts	8 (8.9%)
Gender	Male	24 (26.7%)
	Female	66 (73.3%)
Ethnicity	Caucasian	48 (53.3%)
	African American	16 (17.8%)
	Hispanic	17 (18.9%)
	Other	9 (10.0%)
Grade	9 th	33 (36.7%)
	10 th	15 (16.7%)
	11 th	12 (13.3%)
	12 th	30 (33.3%)

The descriptive data regarding the dancer and non-dancer groups are presented in Table 8. The dancer population consisted of 89.1% female participants, whereas the non-dancer population consisted of 56.8% female participants. The racial/ethnic composition of the dancer group participants were 56.5% white, 13.0% African American, 17.4% Hispanic, and 13.0% of other racial/ethnic composition, whereas the non-dancer group participants were 50.0% white, 22.7% African American, 20.5% Hispanic, and 6.8% of other racial/ethnic composition. The grade level composition of the dancer group participants was 39.1% ninth graders; 23.9% tenth graders; 21.7% eleventh graders, and 15.2% twelfth graders, whereas the grade level composition of the non-dancer group participants was 34.1% ninth graders; 9.1% tenth graders; 4.5% eleventh graders, and 52.3% twelfth graders.

Table 8. Distribution of Dancer and Non-Dancer Groups by Gender, Ethnicity and Grade Level (Total N = 90)

		Dancer Group 46 (51.1%)	Non-Dancer Group 44 (48.8%)	Total n (%)
Gender	Male	5 (10.9%)	19 (43.2%)	24 (26.7%)
	Female	41 (89.1%)	25 (56.8%)	66 (73.3%)
Ethnicity	White	26 (56.5%)	22 (50.0%)	48 (53.3%)
	African American	6 (13.0%)	10 (22.7%)	16 (17.8%)
	Hispanic	8 (17.4%)	9 (20.5%)	17 (18.9%)
	Other	6 (13.0%)	3 (6.8%)	9 (10.0%)
Grade Level	9 th	18 (39.1%)	15 (34.1%)	33 (36.7%)
	10 th	11 (23.9%)	4 (9.1%)	15 (16.7%)
	11 th	10 (21.7%)	2 (4.5%)	12 (13.3%)
	12 th	7 (15.2%)	23 (52.3%)	30 (33.3%)

Dependent Variables

The dependent variables for the study were student performance as measured by cumulative GPA, attendance behavior and conduct behavior; self-concept as measured by the Rosenberg Self-Esteem Scale (SES); and perceived wellness as measured by the Perceived Wellness Scale for Youth (PWS-Y). Descriptive data on the dependent variables are presented in Table 9 and described below.

Perceived Wellness Scale for Youth (PWS-Y). The PWS-Y is a 36 item self-report instrument that is designed to measure how individuals perceive themselves to be functioning on the six life dimensions specified as important within the Perceived Wellness Model (Adams, Bezner & Steinhardt, 1997). The perceived wellness score is represented by the total of each subscale (i.e. physical, spiritual, psychological, social, emotional, and intellectual), each consisting of 6 items. Rating responses are designated from 1 through 6. The score of “1” represents the lowest perceived wellness, or unhealthy, rating; whereas a score of “6” represents the highest perceived wellness, or most healthy, rating. The total mean score for overall perceived wellness was 4.36 with a standard deviation of 0.60. Internal consistency for PWS-Y was calculated using Cronbach’s alpha formula. The observed reliability estimate for PWS-Y was .88 indicating that approximately 88% of the subscale variance was attributed to true score variance. This is consistent with what was reported from the pilot study described in Chapter 3.

Rosenberg Self-Esteem Scale (SES). The SES (Rosenberg, 1965, 1989) is a 10 item measure of self-esteem with a 4 point likert scale ranging from “strongly disagree” represented by a 0 to “strongly agree” represented by a 3 indicating the extent to which an individual is generally satisfied with his or her life, considers her or himself worthy,

holds a positive attitude toward him or herself, or alternatively feels dissatisfied. The score of “0” represents the lowest score, or unhealthy, view of one’s self; whereas a score of “3” represents the highest score, or most healthy, view of one’s self. The total mean score on the SES was 2.14 with a standard deviation of 0.50. Internal consistency for the SES was calculated using Cronbach’s alpha formula. The observed reliability coefficient for the SES was .85 indicating that approximately 85% of the subscale variance was attributed to true score variance. This is consistent with what has been reported in the literature (Rosenberg, 1989; Silber & Tippett, 1965).

GPA. Grade point averages were calculated on the basis of all the courses the student attempted for which grades and credit were assigned. Letter grades were assigned numerical values as follows: “A” = 4, “B” = 3, “C” = 2, “D” = 1, “F” = 0. Participants recorded their GPA; the total mean score on GPA was 3.05 with a standard deviation of 0.51.

Attendance behavior. The attendance behavior variable was measured using items derived from the National Educational Longitudinal Study (NELS) database. Items included questions regarding the number of times the student was late for school, skipped a day of school or was absent from a day of school that academic year. Item responses included “never,” “1-2 times,” “3-6 times,” “7-9 times,” “10-15 times,” and “over 15 times.” The responses were scored as follows: 1 represented the least serious attendance behavior problem (the student attended school regularly/was generally on time), whereas a 6 represented the most serious attendance behavior problem (the student did not attend school often/was often tardy). The total mean score on the attendance indices was 2.58 with a standard deviation of 0.96. Using Cronbach’s alpha, internal consistency for the

attendance behavior variable was calculated. The reliability coefficient for the attendance behavior variable was .79 indicating that approximately 79% of the subscale variance was attributed to true score variance.

Conduct behavior. The conduct behavior variable was measured using items derived from the NELS database (NCES, n.d.). Items included questions regarding the number of times the student had gotten in trouble for not following school rules, was put on an in-school suspension, and was put on probation or out-of-school suspension during that academic year. Item responses included “never,” “1-2 times,” “3-6 times,” “7-9 times,” “10-15 times,” and “over 15 times.” The responses were scored as follows: 1 represented the lowest conduct behavior problem (the student had generally good behavior), whereas a 6 represented the highest conduct behavior problem (the student had poor conduct behavior, or was in trouble often). The total mean score on the conduct indices was 1.36 with a standard deviation of 0.57. Using Cronbach’s alpha, internal consistency for the conduct behavior variable was calculated. The reliability coefficient for the conduct behavior variable was .64 indicating that approximately 64% of the subscale variance was attributed to true score variance.

Table 9. Descriptive Data on Dependent Variables

Factor	Mean Score	Standard Deviation
PWS-Y (Perceived Wellness Scale for Youth)	4.36	0.60
SES (Self-Esteem Scale)	2.14	0.50
Cumulative GPA	3.05	0.51
Attendance Behavior	2.58	0.96
Conduct Behavior	1.36	0.57

Homogeneity of the Sample

As noted in Table 10, the respondents in the non-dancer population came from both magnet and non-magnet programs. To establish homogeneity of variance a *t*-test of differences was used. The results of the *t*-test comparison for the magnet (n=15) and non-magnet groups (n=29) for the five dependent variables are presented in Table 10. The results of the analysis indicate that no significant difference were observed between the magnet and non-magnet groups for the perceived wellness variable [$t(35) = -0.29, p = .77$]; the self-concept variable [$t(39) = -0.19, p = .85$]; the GPA variable [$t(42) = -1.05, p = .29$]; the attendance variable [$t(41) = .13, p = 0.89$]; or the conduct variable [$t(18.732) = 1.84, p = .08$].

Table 10. Mean, Standard Deviation, *t*-score and significance of Wellness, SES, GPA, Attendance and Conduct for Magnet and Non-Magnet Groups

	<u>Magnet</u>		<u>Non-Magnet</u>		<i>t</i>	<i>p</i> (sig.)
	Mean	St. D	Mean	St. D		
Wellness	4.47	0.68	4.53	0.47	-0.29	.77
SES	2.26	0.46	2.29	0.40	-0.19	.85
GPA	2.75	0.54	2.93	0.53	-1.05	.29
Attendance	2.71	0.96	2.66	1.15	.13	.89
Conduct *	1.68	0.89	1.22	0.50	1.84	.08

Note. * Equal variances not assumed (Levene's Test for Equality of Variances $F = 10.111, p = .003$).

Intercorrelations

Intercorrelations among GPA, the perceived wellness, self-concept, attendance behavior, and conduct behavior variables were computed for the sample using the Pearson product-moment correlation formula. The results are presented in Table 11. Significant positive correlations were found between perceived wellness and self-concept

(0.77) and attendance behavior and conduct behavior (0.37). Significant negative correlations were found between GPA and attendance behavior (-0.40) and GPA and conduct behavior (-0.38). No other significant correlations were found.

Table 11. Intercorrelations of Dependant Variables

	GPA	PWS-Y	SES	Attendance	Conduct
GPA	-	0.14	0.08	- 0.40**	- 0.38**
PWS-Y		-	0.77**	- 0.19	- 0.18
SES			-	0.02	- 0.09
Attendance				-	0.37**
Conduct					-

* $p < .05$, ** $p < .01$

Tests of Hypotheses

The data for this study were analyzed using the Statistical Program for Social Sciences (SPSS). Specifically, a series of analyses of variance (ANOVA) were computed to test for differences between dancer and non-dancer groups for the dependent variables. A second set of ANOVAs was used to test for significant differences between levels of ability for the dependent variables. When significant differences between groups were observed, additional ANOVAs were conducted to investigate possible contributing factors for gender, ethnicity, and grade-level. For purposes of determining statistical significance, a Type I error rate of .05 was established to test all hypotheses.

Hypothesis 1

H₀1: There will be no significant difference in perceived wellness, measured by the PWS-Y, between the participants and non-participants of structured dance programs.

Using ANOVA, the first research hypothesis was tested; the ANOVA summary table is presented in Table 12. The result of the analysis indicates that there was a significant difference in perceived wellness between dancer and non-dancer groups [$F = 4.83$, $df = 1/80$, $p = .031$, $\eta^2 = .057$]. A higher level of perceived wellness was reported

in the non-dancer group [$M = 4.51$, $SD = 0.54$, $n = 37$], followed by the dancer group [$M = 4.23$, $SD = 0.61$, $n = 45$]. The null hypothesis was rejected.

Table 12. ANOVA Summary for Group Differences on Perceived Wellness Scale for Youth

Source of Variation	SS	df	MS	F	Sig.
Between groups (dancer, non-dancer)	1.63	1	1.63	4.83	.031
Within groups	27.10	80	0.33		
Total	28.743	81			

Significant differences were found between groups for the PWS-Y, therefore an ANOVA was conducted to investigate possible contributing factors for gender, ethnicity, and grade-level. No significant differences were found for gender and ethnicity.

However, the grade-level difference (see Table 13) was found to be significant [$F = 3.08$, $df = 3/81$, $p = .03$, $eta^2 = .10$]. The highest level of perceived wellness was reported in the twelfth grade [$M = 4.63$, $SD = 0.55$, $n = 26$], followed by the tenth grade [$M = 4.34$, $SD = 0.56$, $n = 10$], the eleventh grade [$M = 4.20$, $SD = 0.58$, $n = 10$], and the ninth grade [$M = 4.18$, $SD = 0.59$, $n = 31$]. To assess pairwise differences among the four grade-levels, post hoc comparisons were conducted. The results from the Scheffé follow-up procedure, which is considered the benchmark post hoc comparison method (Shavelson, 1996), revealed significant differences between the ninth and twelfth graders [$p = .04$].

Table 13. ANOVA Summary for Grade-Level Differences on Perceived Wellness Scale for Youth

Source of Variation	SS	df	MS	F	Sig.
Between groups (grades 9, 10, 11, 12)	3.04	3	1.01	3.08	.03
Within groups	25.69	78	0.32		
Total	28.743	81			

Hypothesis 2

H₀2: There will be no significant difference in perceived wellness, measured by the PWS-Y, between the levels of training/ability of the participants of structured dance programs.

Using ANOVA, the second research hypothesis was tested; an ANOVA summary table is presented in Table 14. The result of the analysis indicates that there is no statistically significant difference in perceived wellness between the four levels of ability [$F = 0.83$, $df = 3/41$, $p = .48$, $\eta^2 = .05$]. The highest level of perceived wellness was reported in the advanced level [$M = 4.44$, $SD = 0.48$, $n = 10$], followed by the beginning level [$M = 4.14$, $SD = 0.29$, $n = 6$], the intermediate-advanced level [$M = 4.13$, $SD = 0.76$, $n = 11$], and the intermediate level [$M = 4.08$, $SD = 0.64$, $n = 18$]. The null hypothesis was retained and no follow-up tests were conducted.

Table 14. ANOVA Summary for PWS-Y and Four Levels of Ability

Source of Variation	SS	df	MS	F	Sig.
Between groups	.93	3	.318	.83	.48
Within groups	15.534	41	.379		
Total	16.487	44			

Hypothesis 3

H₀3: There will be no significant difference in self-concept, measured by the SES, between the participants and non-participants of structured dance programs.

Using ANOVA, the third research hypothesis was tested; the ANOVA summary table is presented in Table 15. The result of the analysis indicates that there was a significant difference in self-concept between dancer and non-dancer groups [$F = 6.95$, $df = 1/84$, $p = .010$, $\eta^2 = .076$]. A higher level of self-concept was observed in the non-dancer group [$M = 2.28$, $SD = 0.42$, $n = 41$], followed by the dancer group [$M = 2.01$, $SD = 0.53$, $n = 45$]. The null hypothesis was rejected.

Table 15. ANOVA Summary for SES

Source of Variation	SS	df	MS	F	Sig.
Between groups (dancer, non-dancer)	1.64	1	1.64	6.95	.010
Within groups	19.82	84	0.23		
Total	21.47	85			

Significant differences were found between groups for the SES, therefore an ANOVA was conducted to investigate possible contributing factors for gender, ethnicity, and grade-level. No significant differences were found for gender [$F = 1.48$, $df = 1/84$, $p = .226$, $eta^2 = .02$], ethnicity [$F = .781$, $df = 3/82$, $p = .50$, $eta^2 = .12$], or grade level [$F = 2.49$, $df = 3/82$, $p = .07$, $eta^2 = .08$].

Hypothesis 4

H₀₄: There will be no significant difference in self-concept, measured by the SES, between the levels of training/ability of the participants of structured dance programs.

Using ANOVA, the fourth research hypothesis was tested; an ANOVA summary table is presented in Table 16. The result of the analysis indicates that there is no statistically significant difference in self-concept between the four levels of ability [$F = 1.36$, $df = 3/42$, $p = .26$, $eta^2 = .08$]. The highest level of self-concept was reported in the advanced level [$M = 2.30$, $SD = 0.26$, $n = 10$], followed by the intermediate-advanced level [$M = 2.02$, $SD = 0.66$, $n = 11$], the intermediate level [$M = 1.92$, $SD = 0.59$, $n = 18$], and the beginning level [$M = 1.85$, $SD = 0.33$, $n = 7$]. The null hypothesis was retained and no follow-up tests were conducted.

Table 16. ANOVA Summary for SES and Four Levels of Ability

Source of Variation	SS	df	MS	F	Sig.
Between groups	1.14	3	.38	1.36	.26
Within groups	11.73	42	.27		
Total	12.82	45			

Hypothesis 5

H₀₅: There will be no significant difference in GPA between the participants and non-participants of structured dance programs.

Using ANOVA, the fifth research hypothesis was tested; the ANOVA summary table is presented in Table 17. The result of the analysis indicates that there was a significant difference in GPA between dancer and non-dancer groups [$F = 11.96$, $df = 1/88$, $p = .001$, $\eta^2 = .12$]. A higher level of GPA was reported in the dancer group [$M = 3.22$, $SD = 0.40$, $n = 46$], followed by the non-dancer group [$M = 2.87$, $SD = 0.54$, $n = 44$]. The null hypothesis was rejected.

Table 17. ANOVA Summary for GPA

Source of Variation	SS	df	MS	F	Sig.
Between groups (dancer, non-dancer)	2.73	1	2.73	11.96	.001
Within groups	20.14	88	0.23		
Total	22.88	89			

Significant differences in GPA were found between groups therefore an ANOVA was conducted to investigate possible contributing factors for gender, ethnicity, and grade-level. No significant differences were found for ethnicity and grade-level. However, the gender difference (see Table 18) was found to be significant [$F = 8.10$, $df =$

3/89, $p = .006$, $\eta^2 = .08$]. The highest level of GPA was reported in the females [$M = 3.13$, $SD = 0.48$, $n = 66$], followed by the males [$M = 2.08$, $SD = 0.49$, $n = 24$].

Table 18. ANOVA Summary for Gender Differences on GPA

Source of Variation	SS	df	MS	F	Sig.
Between groups (male, female)	1.92	1	1.92	8.10	.006
Within groups	20.95	88	0.23		
Total	22.88	89			

Hypothesis 6

H₀6: There will be no significant difference in GPA between the levels of training/ability of the participants of structured dance programs.

Using ANOVA, the sixth research hypothesis was tested; an ANOVA summary table is presented in Table 19. The result of the analysis indicates that there is no statistically significant difference in GPA between the four levels of ability [$F = 2.14$, $df = 3/43$, $p = .10$, $\eta^2 = .13$]. The highest level of GPA was reported in the advanced level [$M = 3.38$, $SD = 0.25$, $n = 11$], followed by the intermediate level [$M = 3.25$, $SD = 0.37$, $n = 18$], the intermediate-advanced level [$M = 3.15$, $SD = 0.52$, $n = 11$], and the beginning level [$M = 2.91$, $SD = 0.39$, $n = 7$]. The null hypothesis was retained.

Table 19. ANOVA Summary for GPA and Four Levels of Ability

Source of Variation	SS	df	MS	F	Sig.
Between groups	1.00	3	.33	2.14	.10
Within groups	6.73	43	.15		
Total	7.74	46			

Hypothesis 7

H₀7: There will be no significant difference in attendance behavior between the participants and non-participants of structured dance programs

Using ANOVA, the seventh research hypothesis was tested; the ANOVA summary table is presented in Table 20. The result of the analysis indicates that there is no statistically significant difference in attendance behavior between the dancer group and non-dancer group [$F = .95$, $df = 1/86$, $p = .33$, $\eta^2 = .01$]. The lowest level of attendance problems was reported in the dancer group [$M = 2.48$, $SD = 0.82$, $n = 45$], followed by the non-dancer group [$M = 2.68$, $SD = 1.08$, $n = 43$]. The null hypothesis was retained.

Table 20. ANOVA Summary for Attendance

Source of Variation	SS	df	MS	F	Sig.
Between groups (dancer, non-dancer)	.88	1	.88	.95	.33
Within groups	79.66	86	.92		
Total	80.55	87			

Hypothesis 8

H₀8: There will be no significant difference in attendance behavior between the levels of training/ability of the participants of structured dance programs.

Using ANOVA, the eighth research hypothesis was tested; an ANOVA summary table is presented in Table 21. The result of the analysis indicates that there is no statistically significant difference in attendance behavior between the four levels of ability [$F = 1.00$, $df = 3/42$, $p = .40$, $\eta^2 = .06$]. The lowest level of attendance problems was reported in the beginning level [$M = 2.23$, $SD = 0.49$, $n = 7$], followed by the intermediate level [$M = 2.29$, $SD = 0.71$, $n = 17$], the advanced level [$M = 2.60$, $SD = 0.89$, $n = 11$], and the intermediate-advanced level [$M = 2.75$, $SD = 1.02$, $n = 11$]. The null hypothesis was retained.

Table 21. ANOVA Summary for Attendance and Four Levels of Ability

Source of Variation	SS	Df	MS	F	Sig.
Between groups	2.01	3	.62	1.00	.40
Within groups	28.11	42	.66		
Total	30.12	45			

Hypothesis 9

H₀9: There will be no significant difference in conduct behavior between the participants and non-participants of structured dance programs.

Using ANOVA, the ninth research hypothesis was tested; the ANOVA summary table is presented in Table 22. The result of the analysis indicates that there is no statistically significant difference in conduct behavior between the dancer group and non-dancer group [$F = .18$, $df = 1/87$, $p = .66$, $Eta^2 = .002$]. The lowest level of conduct behavior problems was reported in the dancer group [$M = 1.33$, $SD = 0.43$, $n = 45$], followed by the non-dancer group [$M = 1.38$, $SD = 1.38$, $n = 44$]. The null hypothesis was retained.

Table 22. ANOVA Summary for Conduct

Source of Variation	SS	df	MS	F	Sig.
Between groups (dancer, non-dancer)	.06	1	.06	.18	.66
Within groups	28.87	87	.33		
Total	28.93	88			

Hypothesis 10

H₀10: There will be no significant difference in conduct behavior between the levels of training/ability of the participants of structured dance programs.

Using ANOVA, the tenth research hypothesis was tested; an ANOVA summary table is presented in Table 23. The result of the analysis indicates that there is no

statistically significant difference in conduct behavior between the four levels of ability [$F = 1.06$, $df = 3/42$, $p = .37$, $\eta^2 = .07$]. The lowest level of conduct behavior problems was reported in the intermediate level [$M = 1.19$, $SD = 0.29$, $n = 7$], followed by the advanced level [$M = 1.36$, $SD = 0.37$, $n = 17$], the beginning level [$M = 1.38$, $SD = 0.29$, $n = 11$], and the intermediate-advanced level [$M = 1.48$, $SD = .67$, $n = 11$]. The null hypothesis was retained.

Table 23. ANOVA Summary for Conduct and Four Levels of Ability

Source of Variation	SS	df	MS	F	Sig.
Between groups	.59	3	.20	1.06	.37
Within groups	7.84	42	.18		
Total	8.44	45			

CHAPTER5 DISCUSSION

The purpose of this study was to examine the influence of formalized dance education and training on student performance (GPA, behavior, and attendance), overall perceived wellness and self-concept in high school students in grades nine, ten, eleven and twelve. Provided in this chapter is a brief overview of the study and a description of the participants and the procedures used. The overview is followed by an in-depth discussion of the results, implications and limitations. Finally, recommendations for future research are reported.

Overview of the Study

Dance is a unique form of movement; it is more than a mere physical movement, it is aesthetic. Dance employs “the movement of the body in its reactions to the environment” (Martin, 1965, p.1). As a unique form of movement, dance is a direct and natural way to move; one that inspires creativity, motivation, self-discipline and self-awareness. Through dance, movement is transformed into a purposeful phrase of action that encompasses physicality, emotion and cognition.

Dance, as an art form and formal training method, may be a valuable resource that can serve as a bridge to cognitive development, emotional growth and psychological health in children and adolescents, which is associated with academic performance in students. This study focused on documenting the relationship between dance and its influences on perceived wellness, self-concept and student performance by comparing students who are and are not involved in high school dance programs.

A convenience sample of 90 high school students was drawn from 3 different public high schools in the state of Florida, which had a magnet program for dance. Participants completed an on-line survey in a computer lab or classroom at each of the respective schools. The survey included four demographic questions, a question regarding GPA, six questions from the National Educational Longitudinal Study (NELS) Attendance and Conduct Behavior indices, the Rosenberg Self-Esteem Scale (SES), and the Perceived Wellness Scale for Youth (PWS-Y). Teachers were responsible for distributing and collecting parental consent forms, escorting students to the computer lab, and monitoring progress throughout the questionnaire. Data were analyzed using analyses of variance (ANOVA). The alpha level was set at .05 for all tests.

Conclusions and Discussion

The hypotheses in this study were used to address the four research questions posed in Chapter 1, both of which are discussed below. The discussion provided in this section is organized around the research questions and the results of the tests of hypotheses provided answers to the research questions.

Research Question 1

- What are the effects of participation in an intensive dance education program on participants' perceived wellness? Are there differences between students who do and do not participate?

Based on the review of literature it was expected that the dancers would score higher in perceived wellness than the non-dancers. In support of this assumption is the notion that the mind-body connection provides a foundation for wellness (Archer, Probert & Gage, 1987; Witmer & Sweeney, 1992), and successful performance in dance education is often dependent on the connection of mind and body.

Two research hypotheses were established for the purpose of answering the first research question. H₀₁: There will be no significant difference in perceived wellness, measured by the PWS-Y, between the participants and non-participants of structured dance programs. H₀₂: There will be no significant difference in perceived wellness, measured by the PWS-Y, between the levels of training/ability of the participants of structured dance programs.

Results from the ANOVA indicated that there was a statistically significant difference in perceived wellness between the dancer and non-dancer groups. An unexpected higher level on both perceived wellness was reported in the non-dancer group. However, the total mean score on the PWS-Y for all the participants was 4.36 on a 6-point scale, so although there was a significant difference between groups, there was not much room for an increase in scores since the overall mean of the sample was high, whereas in the pilot study there was a normal distribution of scores ($M = 3.22$). Based on the main effect differences between dancer and non-dancer groups, hypothesis H₀₁ was rejected. Results of the ANOVA yielded no significant differences in perceived wellness between the four levels of ability therefore H₀₂ was retained.

Given the result of H₀₁, participation in an intensive dance education program did not lead to an increased level of perceived wellness in the participants. However, the findings of H₀₁ contradict literature presented in earlier chapters. Specifically, previous research findings suggest that movement and moderate levels of activity are indeed positively associated with higher levels of perceived wellness (Bezner, Adams & Whistler, 1999; U.S. Department of Health and Human Services, 1996) and have numerous health related benefits such as self esteem, emotional well-being, self-concept,

happiness and life satisfaction (Caspersen, Powell & Merritt, 1994; McAuley, 1994), longer life (Dubbert, 2002), a better quality of life (Rejeski, Brawley, and Shumaker, 1996). Furthermore, movement and physical activity has been shown to protect against physical ailments such as heart attack, diabetes, high blood pressure, colon cancer and lower weight (Weiss, 2001). Further explanations of this finding are presented later in the Implications section of this chapter.

It is also noteworthy to comment on the PWS-Y instrument. While the reliability of the overall scale was acceptable ($\alpha = .88$), the sub-scale internal consistency was not acceptable (psychological $\alpha = .58$; emotional $\alpha = .65$; social $\alpha = .59$; physical $\alpha = .73$; spiritual $\alpha = .78$; and intellectual $\alpha = .54$) therefore the subscales were not taken into account. Although the overall mean scores were high and the internal consistency among the sub-scales was not acceptable, the instrument has sufficient promise to warrant further research.

Research Question 2

- What are the effects of participation in an intensive dance education program on participants' self-concept? Are there differences between students who do and do not participate?

Based on the review of literature it was expected that the dancers would score higher in self-concept than the non-dancers. Supporting this assumption is the notion that an individual's thoughts, behaviors, and feeling are influenced by self-awareness, thus influencing one's self-concept level (Bandura, 1986, 1989); and dance education promotes and encourages self-awareness and self-reflection. Additionally, dance may be a viable instrument for discovering one's self and one's existence within the world (Laban, as cited by Gensemer, 1979).

Two research hypotheses were established for the purposes of answering the second research question. H₀₃: There will be no significant difference in self-concept, measured by the Rosenberg SES, between the participants and non-participants of structured dance programs. H₀₄: There will be no significant difference in self-concept, measured by the Rosenberg SES, between the levels of training/ability of the participants of structured dance programs.

Results from the ANOVA indicated that there was a statistically significant difference reported in self-concept between the dancer and non-dancer groups. An unexpected higher level in self-concept was observed in the non-dancer group. These findings do not support the notion that dance education can help improve self-concept levels in high school students. Although there was a significant difference, the total mean score on the SES for all the participants was a 2.14 on a 3-point scale. This indicates the sample was skewed; since everyone scored well, there was not much room for an increase. Based on the main effects between dancer and non-dancer groups, the hypothesis H₀₃ was rejected. Results for the ANOVA yielded no significant differences in self-concept between the four levels of ability, therefore hypothesis H₀₄ was retained.

Given the result of H₀₃, participation in an intensive dance education program did not lead to an increased level of self-concept in the participants. However, these findings contradict literature presented in earlier chapters. Specifically, previous research findings suggest that movement and dance have been shown to have positive effects on self-concept (BrooksSchmitz, 1990; Puretz, 1978), psychological well-being (Schnitt & Schnitt, 1988), lower levels of anxiety (Leste & Rust, 1984), and internal locus of control

(Dasch, 1978; Schnitt, Schnitt & Del A'one, 1987). Further explanations of this finding are presented later in the Implications section of this chapter.

Research Question 3

- What are the effects of participation in an intensive dance education program on participants' student performance? Are there differences between students who do and do not participate?

Based on the review of literature it was expected that the dancers would score higher in measures of school performance than the non-dancers, specifically as to having a higher GPA, a better attendance rate, and better conduct behavior. This assumption is based on the idea that cognitive development is intertwined with motor development (Piaget, 1972, 1990) and that dance promotes self-discipline, academic achievement, critical analysis, and organization of thought—thereby promoting the learning process (Bannon & Sanderson, 2000; Hanna, 1999; McGreevy-Nichols, 2000).

Six research hypotheses were established for the purposes of answering the third research question. H₀₅: There will be no significant difference in GPA between the participants and non-participants of structured dance programs. H₀₆: There will be no significant difference in GPA between the levels of training/ability of the participants of structured dance programs. H₀₇: There will be no significant difference in attendance behavior between the participants and non-participants of structured dance programs. H₀₈: There will be no significant difference in attendance behavior between the levels of training/ability of the participants of structured dance programs. H₀₉: There will be no significant difference in conduct behavior between the participants and non-participants of structured dance programs. H₀₁₀: There will be no significant difference in conduct behavior between the levels of training/ability of the participants of structured dance programs.

Results from the ANOVA indicated that there was a statistically significant difference reported in GPA between the dancer and non-dancer groups. A substantially higher GPA was reported in the dancer group. The findings support the idea that dance education can help improve students' academic performance as measured by GPA. Based on the main effects between the dancer and non-dancer groups, the hypothesis H₀5 was rejected. No significant differences were noted in hypotheses H₀6 (GPA and levels), H₀7 (attendance and groups), H₀8 (attendance and levels), H₀9 (conduct behavior and groups), and H₀10 (conduct behavior and levels) therefore the hypotheses were retained. It is worth noting that all participants reported a relatively low number of problems in both attendance and conduct, indicating a possible floor effect in the scores.

Given the result of H₀5, participation in an intensive dance education program may lead to positive effects on participants' student performance as measured by cumulative GPA. The result may be indicative of the notion that self-discipline and independence are cultivated through the art form and that dance can lead to higher academic achievement (BrooksSchmitz, 1990; Hanna, 1999, 2001).

However, it is worth noting that at most magnet schools, a minimum GPA must be maintained in order to remain in the program. For example, if a student in a magnet program drops below a 2.0 GPA, he or she would be placed on a probationary period in which to bring their GPA level back up. This notion may have further consequences for wellness and self-concept levels. Because students of the sample came from a magnet program there was a restricted range in GPA scores.

Research Question 4

- What factors contribute to the differences in perceived wellness, self-concept and students performance for participants and non-participants of structured dance programs?

Results of the ANOVAs conducted for gender, ethnicity and grade-level, yielded significant differences in grade-level between groups for the PWS-Y. The post hoc comparison results indicated that twelfth graders scored significantly higher in perceived wellness than the ninth graders. A possible explanation of the difference is that as students get older, they mature and tend to become more self-aware. This is consistent with literature presented in Chapter 1. For example, as children age, they learn to operate more effectively and efficiently within their physical and social world (Piaget, 1972, 1990). Students learn from experience, ninth graders have fewer experiences in which to draw from; therefore their development is significantly less than a twelfth grader.

Significant differences in gender were also found between groups for GPA. A higher GPA was reported in the females. This finding could possibly be attributed to the fact the sample was predominately female (73%). While certain effects on perceived wellness may be attributed to grade-level, it is unlikely that gender is a contributing factor in regards to higher GPA scores; rather since the gender groups were unequal the female group scores were inflated.

Implications

Piaget's (1972, 1990) theory of cognitive development provided the theoretical framework for this study. According to Piaget, cognitive development is the gradual accumulation and reorganization of knowledge or skills, called schemes, which are driven by the intrinsic activism found in children. Children are active initiators and seekers of stimulation; as children move, their schemes are strengthened, consolidated and developed (Piaget, 1972, 1990). A corollary of this theory is that cognitive and motor developments are directly related to learning while learning is inextricably intertwined with activity. When students are provided with opportunities to manipulate

material and engage in purposeful experiences, they may improve emotional, motor and cognitive developments.

The results of this study offer empirical evidence in partial support of Piaget's theory of cognitive development; the dancers GPAs were significantly higher than non-dancers. This finding suggests that dancers are able to manage themselves better in a variety of academic situations, have higher levels of self-discipline, and have better coping skills thereby achieving higher academic success. Given that GPA has been shown to be a highly reliable predictor of success after school (Camara & Echternacht, 2000) students of dance education may be better positioned to experience success after graduation.

Given that society is obsessed with academic performance and success, it may be wise to add courses in movement, rather than remove them from the curriculum. Students have needs beyond the straightforward academics. When students are provided with alternative ways of learning, their needs as a whole, complete person are attended to. Learning does not take place solely in the brain; it is in large part, self-organizing, intuitive, and interactive (Hannaford, 1995; Weiss, 2001). The mind works together with the body to assist in the attention process, the ability to solve problems, and remember solutions. Physiological states support mental efforts and movement can help enhance optimal learning states (Hannaford, 1995; Weiss, 2001).

When an individual dances, the physicality of the movement releases endorphins into the brain, producing feelings of joy, satisfaction and empowerment, thereby affecting the process of learning (Hannaford, 1995). The methodology of movement training is based on awareness, perception, interpretation, and adaptation. Both the dancers and

teachers focus on every move that is made; it is a continual state of exploration, analysis, and self-appropriated learning. Through the practice of teaching, dance educators have both a direct and indirect impact on their students' education, behavior and emotions. Dance teachers demonstrate sequential exercises for the students to model and recreate; teachers also pose tasks and problems for students to solve; likewise, teachers may also challenge their students to create their own new movement patterns or choreographic studies. As the students receive this plethora of information and send it to their brains, their brains then have to interpret the information and provide feedback to the body, which consequently influences cognition and emotion.

While this concept is important to the process of learning and may directly benefit academic achievement, it alternatively can have a negative, indirect effect on students' self-concept and perceived wellness levels. Since the art of dance is purposefully associated with cognition and emotion (Gurley, Neuringer, & Masee, 1984) and dancers feel a "heightened sense of oneself" (Stark & Lohn, 1989, as cited by Gladding, 1989, p. 35), then students enrolled in dance education programs could struggle with the emotions triggered by teacher influences and the requirements of such a highly demanding art form. At times, certain dance settings can indirectly breed an intense, competitive atmosphere. Dance educators encourage students to systematically evaluate their progress and compare their progress to others. Under the strain caused by the demanding, competitive environment, some students may succumb to the pressure and have difficulty managing the stress and consequences of the self-evaluations.

Not only are dancers encouraged to look into a metaphorical mirror through the process of self-evaluation, they are also required to look into a literal, mirror-image of

themselves the majority of the time they spend in class. Bandura (1989) claims that it is not enough to see something; one must perceive it accurately. This plays an important role in an adolescent dancer's self-concept. Since dancers are being forced to stare at their image, they may tend to see things inaccurately and become self-deprecating or over-analytical of themselves, particularly if teachers do not use positive reinforcement and praise (Hanna, 1999). When dance educators provide students with positive reinforcement for their achievements and praise for their accomplishments, it has a direct effect on the student's performance, emotion and behavior.

This notion provides another possible explanation for the findings in this study. If the schools in the investigation were not directly addressing wellness and self-concept through the curriculum, then it is possible the students did not have the ability to process their experiences. Curricular standards need to be addressed regarding the pressures one faces in dance; the National Dance Education Standards (NDA, 1994) stipulate that dance educators must make connections between dance and healthful living. In this way curricular standards regarding the pressures students face in dance education programs could be developed. In contrast to this opportunity, only 68% of secondary schools that offered dance reported having a written curriculum guide by the district (NCES, 2002). As it stands, there is no way of knowing if the dance educators at the schools investigated in the study were implementing strategies at the educational and curricular stages to better facilitate healthy levels of wellness and self-concept.

Impairment of learning from symptoms of low self-concept and wellness is a significant educational issue. Processing arduous experiences and stressful situations should be a primary concern for educators. The indirect effect of this notion is that

students are at risk for low levels of wellness and self-concept when being faced with the requirements of highly demanding fields of study. It is important to understand that students in these competitive programs may need additional help when dealing with the stressors caused by the experience. This suggestion is applicable to school counselors who are responsible for creating and implementing interventions for their students. Counselors can help improve levels of self-concept and wellness in high school students through various methods of interventions and by providing students with new experiences. This will result in a reduction of at-risk behavior, refinement of life management skills, promotion of citizenship, and improvement of student performance across the board.

School counselors should also note the implications of well-designed dance education program and its effect on academic performance. The process in which dancers acquire their education is key to the mental skills they may obtain. Opportunities provided in a full-curriculum dance program may lead to a deeper focus, closer observation, critical, divergent, or independent thinking, and better problem solving skills (Winner & Hetland, 2000). Understanding the processes involved in dance education and its potential to affect other areas of study is meritorious for further examination and empirical study.

Limitations

Although the overall results may be generalizable to dance education students in magnet programs, they should be interpreted within the context of this study. There were a number of limitations in this study, which include the sampling procedures, a low response rate, methods used to conduct the investigation, and self-reporting bias.

The sampling procedure was particularly problematic. Due to parental consent policies, a random sample of students was unable to be obtained; therefore, a restricted convenience sample was used. By using a convenience sample, particularly to gather information on personal constructs such as GPA, self-concept and wellness, the type of respondents who participated in the study may have been affected. Moreover, some parents did not allow their child to participate in the study.

The low response rate posed another problem. The primary researcher in this study went to great lengths to obtain a large sample, but was unsuccessful. Therefore, it may not yield appropriate results regarding the true dancer population. Supplementing the low response rate was the issue of teachers not being able to gain access to computers; this restriction prevented students from participating as a group. Two schools had to submit surveys using only one computer, located in the classroom. Therefore, only one student could complete the survey at a time.

Another limitation of the study involved methods used to collect data. Since teachers were responsible for distributing and collecting parental consent forms, the response rate and details regarding the number of individuals the information actually reached was unclear. It is possible that not all of the 150 consent forms sent to each school were distributed therefore the student participation rate was low.

Participant self-reporting bias also represents a limitation in this study. There is no way to know whether the participants' responses accurately represented their true GPA, attendance rate, and conduct behavior. Additionally, data were gathered relatively close to the end of the year and final examinations, which may have affected students' responses regarding their self-concept and wellness levels.

Recommendations for Future Research

A majority of the research regarding dance education has been qualitative in nature, or by way of case studies exploring the benefits of the art form (Bradley, 2001).

Research must begin to focus efforts on larger, quantitative studies in order to develop empirical data in support of its benefits (Bradley, 2001). This research study adds to the limited body of quantitative research that examines the effects of dance and movement education. Further, additional research examining potential differences in the levels of wellness and self-concept for the dancer population are needed in order to adequately create and implement relevant programming and school counseling interventions.

In order to assure generalizability and expand the profession's understanding of movement education and its impact on successful achievement and health, it will be important to replicate, or disprove, these findings across a larger sample population. This study is one example for the need to continue investigating the effects of dance education. It also validates the need to enhance the understanding of how dance may affect overall student performance. Given that the study found significant differences between dance and cumulative GPA, perceived wellness, and self-concept levels, future research is necessary to identify the ways in which dance education can be most beneficial for students. Looking closer at the impact of students' sense of health and performance is warranted.

To increase the external validity of the findings, it will be important for researchers to replicate this study using different sampling procedures and methods, gathering data from a wider array of multiple sites, and from groups that are more equivalent. Research should also examine interactions among groups, giving special attention to gender as a moderating variable. In order to learn more about the relationship between dance and

wellness, self-concept, and student performance, it is important that researchers employ a research design that recruits a larger number of participants at various genders, ethnicities, grade-levels, and school settings.

It may also be prudent to expand the scope of the survey in future research. The first suggestion would be to include a survey for the teachers delivering the dance instruction and other faculty members that teach the dancers. This would provide additional data in regards to the curriculum, teaching practices and program standards of the dance education program, as well as valuable information regarding the work habits of dance students. Secondly, questions in the student survey should also be added. Items regarding the environment, competitiveness, and stressors that are prevalent in the program would provide the researcher with valuable information regarding the atmosphere; this would be helpful in delimitating the environment of each program. It would also be advantageous to add an instrument that tested personality profiles in the students. It may be possible that, by nature, dancers are perfectionists and have over-achieving attitudes, which may have contributed to the results of this study. Since the art form is so demanding and requires a certain amount of self-discipline, it is also feasible that dancers have pre-dispositional traits that emphasize self-deprecating behavior.

A final suggestion would be to examine and compare the benefits of elective and magnet dance programs. Elective programs concentrate on building an appreciation for dance, whereas magnet programs concentrate on training serious dancers. If future research examined the different purposes behind why students choose dance as a field of study, then researchers may gain a deeper understanding about what makes dance and movement appealing.

While the experiences in dance provide students with opportunities for intellectual growth and motor development, it is clear that some students may experience psychological distress. The special requirements of students in demanding fields of study, like dance, still need to be addressed in schools. However, it is hopeful that through counseling interventions and curricular programming, unhealthy levels of wellness and self-concept may be prevented or improved. Therefore, the effects of dance education are significant and essential to consider when developing policies, programming, and interventions aimed at enhancing emotional, physical and cognitive development in students.

APPENDIX A
PERMISSION TO CONDUCT STUDY FROM PRINCIPAL

Department of Counselor Education
1215 Norman Hall
PO BOX 117046
Gainesville, FL 32611-7046

Dear Principal:

My name is Stephanie Carter and I am a doctoral candidate at the University of Florida. As part of my degree requirements I am conducting a survey, the purpose of which is to learn about the possible benefits and effects that dance education has on academic achievement, overall wellness, and self-concept.

I am requesting your school's voluntary participation in this survey because your students have been exposed to rigorous dance education in a public school setting. Student identities will not be disclosed; the survey has non-identifying information and is submitted over the Internet anonymously.

I will need two separate participant groups from your school in order to conduct the study. The first sample population needs to come from students that are *not* enrolled in the dance program. The second sample population must be comprised of students that are enrolled in the dance program at your school. The dance director at your school is aware of this study and knows that this request is coming. I will need assistance in recruitment of non-dance students.

Actual data collection procedures are as follows: each separate population sample will need to devote a portion of one class period (actual test time is approximately 20 minutes) to filling out the survey on-line. Students will need to be escorted to the computer lab at your school and supervised while responding to the survey. Questions are mostly related to self-concept and perceived wellness. Sample questions from the survey are enclosed with this letter, or you may go to <http://grove.ufl.edu/~tdbaker/surveys/index.php?survey=s1654697285> to view the actual questionnaire. Students will not have to answer any question they do not wish to answer. Again, student identities are anonymous.

There are no anticipated risks, compensation or other direct benefits to your students as participants in this study. Students are free to withdraw their consent to participate and may discontinue their participation in the study at any time without consequence.

If you have any questions about this research protocol, please contact me at (941) 922-6460 or my faculty supervisor, Dr. Harry Daniels at (352) 392-0731. Questions or concerns about your rights as a research participant rights may be directed to the UFIRB office, University of Florida, Box 112250, Gainesville, FL 32611; ph (352) 392-0433.

Please sign and return this copy of the letter in the enclosed envelope. A second copy is provided for your records. By signing this letter, you give me permission to report your students' responses anonymously in the final manuscript to be submitted to my faculty supervisor as part of my degree work.

Thank you for your time and consideration.

Sincerely,

C. Stephanie Carter, Ed.S.
Counselor and Dance Educator
Graduate Student; Department of Counselor Education

I have read the procedure described above. I voluntarily agree to participate in the study and I have received a copy of this description.

Signature of Principal

Date

Name of School

APPENDIX B
PERMISSION TO CONDUCT STUDY FROM TEACHERS

Department of Counselor Education
1215 Norman Hall
PO BOX 117046
Gainesville, FL 32611-7046

Dear Colleague:

My name is Stephanie Carter and I am a doctoral candidate at the University of Florida. As part of my degree requirements I am conducting a survey, the purpose of which is to learn about the possible benefits and effects that dance education has on academic achievement, overall wellness, and self-concept.

I am asking you to participate in this survey because your students have been exposed to rigorous dance education in a public (magnet) school setting. Additionally, one of your class periods will need to be devoted to filling out the on-line survey. Actual test time runs approximately 10-15 minutes. Students will need to be escorted to the computer lab at your school and supervised while responding to the survey. Questions are mostly related to self-concept and perceived wellness. Sample questions from the survey are enclosed with this letter, or you may go to <http://grove.ufl.edu/~tdbaker/surveys/index.php?survey=s1654697285> to view the actual questionnaire. Students will not have to answer any question they do not wish to answer. The identities of your students will be not be reported; the survey is done anonymously.

There are no anticipated risks, compensation or other direct benefits to you as a participant in this study. Students are free to withdraw their consent to participate and may discontinue their participation in the study at any time without consequence.

If you have any questions about this research protocol, please contact me at (941) 922-6460 or my faculty supervisor, Dr. Harry Daniels at (352) 392-0731. Questions or concerns about your rights as a research participant rights may be directed to the UFIRB office, University of Florida, Box 112250, Gainesville, FL 32611; ph (352) 392-0433.

Please sign and return this copy of the letter in the enclosed envelope. A second copy is provided for your records. By signing this letter, you give me permission to report your students' responses anonymously in the final manuscript to be submitted to my faculty supervisor as part of my degree work.

Thank you for your time,

C. Stephanie Carter

I have read the procedure described above. I voluntarily agree to participate in the study and I have received a copy of this description.

Signature of Instructor

Date

Name of School

APPENDIX C
PARENTAL CONSENT

Department of Counselor Education
1215 Norman Hall
PO BOX 117046
Gainesville, FL 32611-7046

Dear Parent or Guardian:

My name is Stephanie Carter and I am a graduate student in the Department of Counselor Education at the University of Florida. As part of my degree requirements I am conducting a survey, the purpose of which is to learn about the possible benefits and effects that dance education has on academic achievement, overall wellness, and self-concept.

I am requesting your child's voluntary participation in this survey because he/she may be enrolled in the dance program at their school. Your child's identity will not be disclosed; the survey is comprised of non-identifying information and is submitted over the Internet anonymously.

What is involved? A teacher will escort your child to the computer lab at their school. They will spend roughly 10-15 minutes answering the survey questions on-line. Questions are mostly related to self-concept and perceived wellness. Sample questions from the survey are enclosed with this letter, or you may go to

<http://grove.ufl.edu/~tdbaker/surveys/index.php?survey=s1654697285> to view the actual questionnaire. Students will not have to answer any question they do not wish to answer. Again, your child's identity will not be reported; the survey is done anonymously.

Possible benefits and concerns. There are no anticipated risks to your child as participant in this study. You are free to withdraw your consent to have your child participate and you may discontinue that participation in the study at any time without consequence. Participation or non-participation in this study will not affect your child's grades or placement into any programs. Possible benefits may include increased self-awareness in your child.

If you have any questions about this research protocol, please feel free to contact me at (941) 922-6460 or my faculty supervisor, Dr. Harry Daniels at (352) 392-0731. Questions or concerns about your rights as a research participant rights may be directed to the UFIRB office, University of Florida, Box 112250, Gainesville, FL 32611; (352) 392-0433.

Please sign and return this copy of the letter to the school whether or not you would like your child to participate so that I know this information has reached you. A second copy of the letter is provided for your records. By signing this letter, you give me permission to report your child's responses anonymously in the final manuscript to be submitted to my faculty supervisor as part of my degree work. Thank you for your time and consideration.

Sincerely,

C. Stephanie Carter, Ed.S.
Counselor and Dance Educator
Graduate Student; Department of Counselor Education

Please check the appropriate boxes and send this form back to your child's school:

- I have read the procedure described above. I voluntarily give consent for my child to participate in the study and I have received a copy of this description.
- I would like more information before giving consent for my child to participate in this study. Please call me at _____.
- I do not wish for my child to participate in this study.

Parent Signature _____ Date _____

2nd Parent/Witness _____ Date _____

Child's Signature _____ Date _____

Please send this form back to the school or program with your child.

Thanks!!

APPENDIX D
SURVEY INSTRUMENT

1. Indicate which high school you attend?
 - Blake High School
 - Booker High School
 - Dillard Center for the Arts
 - Douglas Anderson School of the Arts
 - Dr. Phillips High School
 - Dreyfoos School of the Arts
 - Harrison Center for the Visual and Performing Arts
 - New World School of the Arts

2. What is your gender?
 - Male
 - Female

3. What category BEST describes your ethnicity?
 - White
 - African American
 - Hispanic
 - Other

4. What grade are you in?
 - 9th
 - 10th
 - 11th
 - 12th

5. What is your approximate GPA?
 - below 2.0
 - 2.0 - 2.4
 - 2.5 - 2.9
 - 3.0 - 3.4
 - 3.5- 4.0

6. How many times this year have you been late for school?
- never
 - 1-2 times
 - 3-6 times
 - 7-9 times
 - 10-15 times
 - over 15 times
7. How many times this year have you cut or skipped classes?
- never
 - 1-2 times
 - 3-6 times
 - 7-9 times
 - 10-15 times
 - over 15 times
8. How many times this year have you missed a day of school?
- never
 - 1-2 times
 - 3-6 times
 - 7-9 times
 - 10-15 times
 - over 15 times
9. How many times this year have you gotten in trouble for not following school rules?
- never
 - 1-2 times
 - 3-6 times
 - 7-9 times
 - 10-15 times
 - over 15 times
10. How many times this year have you been put on an in-school suspension?
- never
 - 1-2 times
 - 3-6 times
 - 7-9 times
 - 10-15 times
 - over 15 times

11. How many times this year have you been suspended or put on probation from school?
- never
 - 1-2 times
 - 3-6 times
 - 7-9 times
 - 10-15 times
 - over 15 times
12. Which magnet program are you currently enrolled in at your school?
- Visual and Performing Arts (VPA)
 - Leadership/Law/Public Service
 - Health/Medical
 - Business
 - Environmental
 - Technology
 - Cosmetology
 - Child Care
 - Food Production
 - None of the above
13. If you are enrolled in the Visual & Performing Arts (VPA) magnet program at your school, which of the following best describes your major? (If you are not in VPA, skip to question #17).
- Dance
 - Theatre Arts/Drama
 - Musical Theatre
 - Technical Theatre/Production
 - Visual Arts
 - Music (instrumental, vocal, etc.)
 - Film/Media/TV
 - Communication Arts/Journalism
 - Creative Writing
14. Are you currently enrolled in the visual and performing arts (VPA) DANCE program at your school? (If your answer is NO, skip question # 17).
- yes
 - no
15. If you are enrolled in the visual and performing arts (VPA) DANCE program at your school, which category best describes your current ability level?
- Beginning technique level classes
 - Intermediate technique level classes
 - Intermediate/Advanced technique level classes
 - Advanced technique level classes

16. How many years have you been in the visual and performing arts (VPA) DANCE program at your current school?

- one
- two
- three
- four

17. Have you taken dance at a private studio? (If your answer is NO, skip to question # 19).

- yes
- no

18. How many years have you taken dance at a private studio?

- 1-2 years
- 3-4 years
- 5-6 years
- more than 6 years

19. If you take dance, what is the main reason?

- Because I want dance to be my career
- To fulfill credit requirement in the performing arts
- It's an easy A
- My friends are enrolled

20. On the whole, I am satisfied with myself.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

21. At times I think I am no good at all.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

22. I feel that I have a number of good qualities.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

23. I am able to do things as well as most other people.
- Strongly Agree
 - Agree
 - Disagree
 - Strongly Disagree
24. I feel I do not have much to be proud of.
- Strongly Agree
 - Agree
 - Disagree
 - Strongly Disagree
25. I certainly feel useless at times.
- Strongly Agree
 - Agree
 - Disagree
 - Strongly Disagree
26. I feel that I'm a person of worth, at least on an equal plane with others.
- Strongly Agree
 - Agree
 - Disagree
 - Strongly Disagree
27. I wish I could have more respect for myself.
- Strongly Agree
 - Agree
 - Disagree
 - Strongly Disagree
28. All in all, I am inclined to feel that I am a failure.
- Strongly Agree
 - Agree
 - Disagree
 - Strongly Disagree
29. I take a positive attitude toward myself.
- Strongly Agree
 - Agree
 - Disagree
 - Strongly Disagree

30. I always think my future will turn out great.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
31. Sometimes I have felt like my friends or classmates were better than me.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
32. Members of my family come to me for support.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
33. My physical health has kept me from doing the things I like to do.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
34. I believe there is a real purpose for my life.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree

35. I plan on regularly doing things that will exercise my brain.

- 6= Very Strongly Agree
- 5
- 4
- 3
- 2
- 1 = Very Strongly Disagree

36. I sometimes worry that bad things will happen to me.

- 6= Very Strongly Agree
- 5
- 4
- 3
- 2
- 1 = Very Strongly Disagree

37. In general, I feel confident about my abilities.

- 6= Very Strongly Agree
- 5
- 4
- 3
- 2
- 1 = Very Strongly Disagree

38. Sometimes I wonder if my family will be there for me when I need them.

- 6= Very Strongly Agree
- 5
- 4
- 3
- 2
- 1 = Very Strongly Disagree

39. My body does not get sick very often.

- 6= Very Strongly Agree
- 5
- 4
- 3
- 2
- 1 = Very Strongly Disagree

40. Life does not hold much future promise for me.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
41. I stay away from activities that make me think too hard.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
42. I always look on the bright side of things.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
43. I sometimes think I am a worthless person.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
44. My friends know they can always trust me and ask me for advice.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree

45. My physical health is excellent.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
46. Sometimes I don't understand what life is all about.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
47. Most days, I am pleased with the amount I use my brain.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
48. In the past, I have expected the best to happen to me.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
49. I don't know whether I will be able to do things well in the future.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree

50. My family has been available to support me in the past.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
51. Compared to people my age, my physical health has been excellent.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
52. I feel like I am supposed to accomplish important things in the future.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
53. The amount of information that I have to think about in a normal day is just about right for me (not too much and not too little).
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
54. In the past, I hardly ever expected things to work out for me.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree

55. I will always be okay with who I am.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
56. There have been times when I did not have friends I could talk with about my feelings.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
57. I expect my body will always be healthy.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
58. Sometimes I have wondered whether my life had any meaning.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
59. I have always felt better after using my brain to solve a problem.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree
60. I don't think things will work out the way I want in the future.
- 6= Very Strongly Agree
 - 5
 - 4
 - 3
 - 2
 - 1 = Very Strongly Disagree

61. In the past, I have felt confident when meeting new people.

- 6= Very Strongly Agree
- 5
- 4
- 3
- 2
- 1 = Very Strongly Disagree

62. My friends will be there for me when I need help.

- 6= Very Strongly Agree
- 5
- 4
- 3
- 2
- 1 = Very Strongly Disagree

63. I think that my physical health will get worse.

- 6= Very Strongly Agree
- 5
- 4
- 3
- 2
- 1 = Very Strongly Disagree

64. My life has a purpose.

- 6= Very Strongly Agree
- 5
- 4
- 3
- 2
- 1 = Very Strongly Disagree

65. It seems like I don't get to creatively use my brain enough.

- 6= Very Strongly Agree
- 5
- 4
- 3
- 2
- 1 = Very Strongly Disagree

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BIOGRAPHICAL SKETCH

Carmen “Stephanie” Carter was born January 17, 1970, in Spokane, WA. She received her Bachelor of Arts degree in dance in 1991 from St. Leo College, in Florida, with high honors. She worked for 13 years as a dance educator in both private studios and the public school system. From 1994-2001, she served as Departmental Chair of the dance department at Booker High School Visual and Performing Arts Center in Sarasota, Florida and traveled around the country as a master teacher and choreographer in modern dance, partnering, contact improvisation, and experiential anatomy.

She obtained her Master of Education degree in counselor education in 2001 from the University of Florida, and entered the Ph.D. program after graduation. In 2002, she received her Specialist in Education degree in Counselor Education from the University of Florida, while working toward her doctorate. Later that year, Ms. Carter received the Robert O. Stripling Distinguished Scholar Award for her work at the university. During her tenure in doctoral studies, Ms. Carter served as a graduate assistant, teaching courses alongside her mentor, Dr. Robert Myrick, in Counseling Children and Adolescents and Play Therapy/Play Process. She also assisted as a supervisor on a grant working with bilingual masters-level students studying to become school counselors.

Ms. Carter's aspirations include further development of her career within the fields of dance as well as child and adolescent school counseling. She plans to expand her experience as an artist, practitioner, educator and researcher.