

Relationship of Friends, Physical Education, and State Test Scores:

Implications for School Counselors

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Abstract

This study examined the relationship between dimensions of wellness and academic performance for 634 third through fifth grade students in Title One schools in rural Mississippi, using composites of the Five Factor Wellness Inventory for Elementary Children and Reading, Language, and Math Scores of the Mississippi Curriculum Test (a state level measure of content mastery). Results supported significant correlations between performance on all three academic tests and scores on social, physical, and coping wellness composites. Implications are discussed for school counselors with support of practical wellness applications with elementary students and needs for further research.

Relationship of Friends, Physical Education, and State Test Scores: Implications for School Counselors

As school reform is examined and high-stakes testing continues, there continues to be a scarcity in examination of the impact of non-academic factors on academic achievement. Caldwell, Sewell, Parks, and Toldson (2009) indicated that schools are responsible for addressing these factors that either pose risk or provide protection. An important question of school counselors is “How are students different because of what school counselors do? (ASCA, 2003) Often, the school counselor is assigned responsibility for management of school effort with these non-academic factors. This study examined the relationship between multiple dimensions of wellness and scores on an annual state test of academic achievement.

The American School Counselor National Model (ASCA, 2003) promotes a role of school counselors as partners in student achievement through the four components of foundation, delivery, management, and accountability. Foundation promotes development of the total student as a major focus within education. As school counselors deliver and manage their program, the ASCA model promotes infusion of a guidance curriculum throughout the overall curriculum for a school with presentation through classrooms and group activities. The responsive services provided to students by a school counselor include activities to meet needs in different areas of student wellness such as family conflicts, management of emotional issues, and relationships with peers. Student competencies outlined in the ASCA National Model (2003) include a need for students to understand the relationship of academics to life at work, at home, and in the community and to understand the relationship between personal strengths,

social development, education, and the world of work. A suggested appropriate responsibility for counselors was to collaborate with teachers to present proactive prevention-based guidance curriculum, such as a framework of wellness.

The No Child Left Behind Act (U.S. Department of Education, 2001) emphasized attainment of high academic standards for all students. Although curriculum has been standardized via state benchmarks (Mississippi Department of Education, 2002), schools continued to experience variations in student academic achievement from partial mastery of content with need for intense remediation to full mastery of content with readiness for instruction at the next grade level (Dollarhide & Lemberger, 2006; Mississippi Department of Education, 2003). Achievement occurs within the complexity of a student's broader life experiences, and the school experience impacts on development of non-academic areas of life (Israelashvili, 1998; Kurdek & Sinclair, 2000). As children come to school, they bring learning potential as well as problems that could place them at risk for school failure, just as employee problems in the workplace are influenced by physical, emotional, or social problems (Els & De La Rey, 2006; Reeves & John, 1994).

The Healthy Youth Program of the Centers for Disease Control (CDC) includes counseling as one of the eight interactive components of its Coordinated School Health Program. CDC (2010) describes the school counseling role as services designed to improve mental, emotional, and social health for students. According to the CDC (2007), the ten leading causes of death in the United States in both 1980 and 2001 were health conditions that could be modified through conscious choices. National and international reports such as the United Nations Children's Fund (2007) and Action for Healthy Kids

(2007) indicated that children in the United States had risk factors present in dimensions of wellness that could negatively impact academic achievement. The United States ranked in the bottom quartile of 21 nations on measured literacy, and had the highest ranking on obesity of children (United Nations Children's Fund, 2007). Attention to wellness in childhood and in the school setting could enhance the influence of non-academic factors on academic achievement and could strengthen a child's ability to consciously choose against disease.

The ASCA National Model, No Child Left Behind, and CDC Coordinated School Health Program all indicate involvement of school counselors in serving the whole student in the education process. Various national and international reports indicate problems currently facing our children which impact on academic achievement and overall quality of life. Existing research focuses on the relationship of some components of health, such as diet and nutrition (Kleinman et al., 2002) or exposure to family discord (Sun & Li, 2001) and school performance. Research has addressed wellness and school counselors in counselor self-care, in strategic planning of education services, and in delivery of services through examples of interventions. Research continues to be lacking on wellness as a broad construct and academic performance and on identification of wellness factors that distinguish good versus poor academic performers is lacking. Examination of available research on wellness and academic performance provides some foundation for both future intervention and further research needs.

The fourth component of the ASCA National Model (2003) is accountability and notes that school counselor performance standards include self-evaluation. Young and Lambie (2007) discussed a vital need and ethical responsibility for counselors to attain

and maintain their own wellness to avoid impairment in the delivery of their program. Young and Lambie emphasized the goal of a school counseling program as support of holistic development and growth (wellness) of all students. Just as school counselors may or may not spend their time in other appropriate school counseling services, Young and Lambie noted that the school environmental context could promote or hinder wellness. Suggestions were provided for school support of counselor wellness, but primary responsibility for counselor wellness remained with the individual school counselor.

School counselors often use small group interventions to address student needs. Villalba (2007) discussed incorporation of a wellness perspective to small group work by school counselors. Villalba noted that a wellness focus in small group work might provide a greater protective benefit for students than a focus on remediation of a particular issue that could produce an isolated versus comprehensive effect. School counselors already facilitated many wellness skills such as study skills and personal hygiene. A deliberate focus on wellness needs could promote student improvement in increased resiliency and life-long coping strategies.

Ingersoll and Bauer (2004) specifically discussed integration of spiritual wellness into school counseling settings. They noted the importance of asking how a person would act if spiritually well. School counselors could expand this to asking how a student would act if well in multiple areas of wellness (i.e., social, emotional). Integration of areas of wellness into a school counseling program included both a framework of student assessment and use of interventions with a focus on specific areas of wellness. Counselors can assess student wellness through identification of student behaviors

when well or ill in that area and through use of questionnaires or instruments designed to assess state of wellness, such as the Five Factor Wellness Inventory for Elementary Children (5F-WEL-E) (Myers & Sweeney, 2004). Ingersoll and Bauer also suggested creation of classroom guidance lessons with a specific wellness focus and peer facilitation projects.

For this study, the construct of wellness was holistic, encompassing all of the domains of life. This construct is consistent with current wellness models which include multiple components: National Wellness Institute (Hettler, 1977), Wellness Continuum (Ryan & Travis, 1981), Transtheoretical Model (Prochaska & DiClemente, 1983), High Level Wellness (Ardell, 1986), Centers for Disease Control and Prevention (2007), and The Indivisible Self (Myers & Sweeney, 2005). Common dimensions across the models were social, occupational (which could be considered school work for children), spiritual, physical, intellectual, emotional, and environmental contexts.

The specific model of wellness used in this study was the Indivisible Self model by Myers and Sweeney (2005), from which they developed the 5F-WEL-E. Myers and Sweeney based this model on the work of Adler (1956), noting that Adler considered the self to be indivisible and purpose to be central to the understanding of human behavior.

The Indivisible Self model (Myers & Sweeney, 2005) offers both empirical support for application and a comprehensive foundation of multiple dimensions across the life of an individual. Empirical studies conducted on the Indivisible Self model included samples of Native American adolescents (Garrett, 1999), adult clients of community based counseling practice (Herman & Hazler, 1999), adult military cadets (Myers & Bechtel, 2004), and poor, rural adult females (Myers & Gill, 2004). In this

study the model was applied to elementary school children, expanding the empirical base. Wellness was seen as an indivisible factor for the individual, with five factors making up overall wellness. The Essential Self components which are central to holism and wellness are spirituality, self-care, gender identity, and cultural identity. The Creative Self is a combination of attributes formed by the individual to make a unique place among others in social interactions, with components of thinking, emotions, control, positive humor, and work. The Social Self includes friendship and love, both of which exist on a continuum. The Physical Self includes exercise and nutrition. The Coping Self includes those components with which the individual manages life challenges including lack of leisure, stress management, self-worth, and realistic beliefs. This model also includes Life Contexts or systems within which a person exists at the Local, Institutional, Global, and chronometrical level (movement and change over the dimension of time).

In the current study, canonical correlations were examined between multiple dimensions of wellness and academic achievement for students in one state, Mississippi. Wellness was defined as a state of the totality of a person's life as mind, body, and spirit interacting with environmental contexts. Wellness was measured by the Five Factor Wellness Inventory for Elementary Children (5F-WEL-E), which is based on the Indivisible Self model by Myers and Sweeney (2005). Academic achievement was measured by numerical reading, language, and mathematics scores of the annual Mississippi Curriculum Test (MCT).

Method

The purpose of this quantitative study was to examine the relationship between multiple indices of academic achievement of elementary children and multiple factors of wellness. Multivariate canonical correlation analysis was performed to test the hypothesized relationship between academic achievement and wellness. Variables included three academic test scores (Reading, Language, and Math) and five wellness variables (Essential Self, Creative Self, Social Self, Coping Self, and Physical Self).

Archival data consisted of participant scores on the most recently administered MCT in the areas of Reading, Language, and Mathematics. This data had been collected and coded by the Mississippi Public School Districts participating in the study. The researcher administered the 5F-WEL-E to obtain current data on the dimensions of overall wellness, Essential Self, Creative Self, Social Self, Physical Self, Coping Self, and Life Contexts.

Participants

Participation in this study was confined to those elementary students (grades 3-5) in participating Title One schools. This study did not include students in schools that were not categorized as Title One public schools, private or parochial schools, or elementary students who are home-schooled. A total of 615 valid participation cases were analyzed. Of these, 294 participants (48%) were males and 320 (52%) were females. The sample included 184 (30%) third graders, 209 (34%) fourth graders, and 222 (36%) fifth graders. Race/ethnicity of participants was 347 (57%) Black, 228 (37%) Caucasian, 21 (4%) Native American, and 12 (2%) Hispanic. In comparison, the race/ethnicity of students in Mississippi public schools was 51% Black, 48% White, 1%

Hispanic, and less than 0.5% Native American. Study participants were those students in participating schools who had both parental consent and student assent for study participation.

Instruments

This study examined relationship between multiple factors of wellness as represented by participant scores on the 5F-WEL-E with academic achievement as represented by student scores in Reading, Language, and Mathematics on the most recent administration of the MCT which is the annual state test for assessment of knowledge acquisition during the current school year.

The 5F-WEL-E was developed for use with children by Myers and Sweeney (2005) in which items from an earlier version-the Wellness Evaluation Lifestyle Inventory-were adapted to a 3rd grade reading level and field tested with elementary school children ages eight to eleven. Alpha coefficients are noted in Table 1. The following scales emanated from the 5F-WEL-E.

Overall wellness is defined by Myers and Sweeney (2005) as a way of life that is oriented toward optimal health and well-being in which body, mind, and spirit are integrated by the individual to live life more fully within the human and natural community.

Essential Self is composed of four components which are central to holism and wellness and through which life experiences are filtered and with which the individual acts to live long and well (Myers & Sweeney, 2005). The components are (a) spirituality, as personal belief in a higher power, hope, and optimism; (b) gender identity, as satisfaction with and feeling supported in one's gender; (c) cultural identity, as

Table 1*Descriptive Statistics for 5F-WEL-E & MCT Scales*

Dimension	Alpha	Mean	Standard Deviation
Creative Self	.76	1.20	8.69
Coping Self	.59	82.33	9.25
Social Self	.72	89.18	9.40
Essential Self	.72	90.52	7.33
Physical Self	.66	85.37	10.28
Local Context	.59	90.08	12.21
Combined (Institutional, Global, Chronometrical)	.54	87.29	8.46
Reading	.90	492.40	48.55
Language	.89	502.29	51.89
Math	.89	489.95	53.28

Note: The possible score range for each 5F-WEL-E subscale is 25 to 100 percent, with 100 percent representing the highest level of wellness. Proficiency level score ranges for the MCT were assigned at cut points for each subscale, with minimal mastery as the lowest cut point and advanced mastery as the highest cut point. Reading minimal mastery was scores ranging 424 and below and advanced mastery was scores ranging 551 and above. Language minimal mastery was scores ranging 427 and below and advanced mastery was scores ranging 576 and above. Mathematics minimal mastery was scores ranging 402 and below and advanced mastery was scores ranging 568 and above.

satisfaction with and feeling supported and assimilated into one's culture; and (d) self-care, as exercise responsibility for one's wellness through proactive self care and prevention.

Creative Self is a combination of attributes formed by the individual to make a unique social place among others (Myers & Sweeney, 2005). The components are (a) thinking, as being mentally active and open minded with the ability to be creative and

experimental; (b) emotions, as being aware of one's feelings with ability to appropriately express positive and negative feelings; (c) control, as beliefs about one's competence, confidence, and mastery to achieve personal goals; (d) positive humor, as being able to use humor with self and to accomplish even serious tasks; and (e) work, as feeling that one's skills are being used and appreciated, satisfaction with one's work, and sensing job security.

Social Self includes a continuum of the components of friendship and love (Myers & Sweeney, 2005). Friendship encompasses social relations that involve an individual or community connection with others, but without a marital, sexual, or familial commitment. Love is the ability to be intimate, trusting, and self-disclosing with another person.

Physical Self includes the components of exercise and nutrition (Myers & Sweeney, 2005). Exercise is engagement in sufficient physical activity to keep in good physical condition. Nutrition is eating a nutritionally balanced diet, maintaining a normal weight, and avoiding overeating.

Coping Self includes those components with which the individual manages challenges and stresses of life and moves beyond any negative effects of these (Myers & Sweeney, 2005). The components are (a) leisure, as activities done in one's free time; (b) stress management, as a general perception of one's own self management or self-regulation; (c) self-worth, as accepting who and what one is, including positive qualities along with imperfections; and (d) realistic beliefs, as understanding that perfection or being loved by everyone are impossible goals and the ability to perceive reality accurately.

Life contexts refer to the systems in which we live (Myers & Sweeney, 2005). These include: (a) local, as the systems in which we live most often, such as neighborhoods and communities; (b) institutional, as social and political systems that affect our daily functioning and either empower or limit our development; (c) global, as factors such as politics, culture, global events, and the environment that affect us and others around the world; and (d) chronometrical, as movement and change over the dimension of time. Three of the context scales (Chronometrical, Institutional, and Global) were combined into a single scale to increase reliability.

Each item of the 5F-WEL-E is a statement to which response is made on a four point Likert-scale: strongly agree, agree, disagree, or strongly disagree. Responses were converted to numerical scores with a sum composite computed for each subscale.

The MCT measured academic achievement in the three areas of reading, language, and mathematics. This study used archived scores from the May 2007 administration of the MCT. The three subscales of the MCT constituted the dependent variables for this study.

Mississippi Curriculum Test Reading Assessment refers to the numerical score attained in the reading component of the 2007 administration of the MCT. Constructs covered in the Reading subscale were reading comprehension and understanding vocabulary usage.

Mississippi Curriculum Test Language Assessment refers to the numerical score attained in the language component of the 2007 administration of the MCT. Constructs covered in the language subscale were writing and grammar.

Mississippi Curriculum Test Mathematics Assessment refers to the numerical score attained in the mathematics component of the 2007 administration of the MCT. Constructs covered in the mathematics subscale were number operations, algebra, geometry, measurement, data analysis, and probability.

Procedures

A pilot study included administration to a group of 11 third through fifth graders to ascertain accuracy of anticipated completion time and any specific needs of administration. A total of 892 informed consent letters were then distributed to parents and students over a three-week period in the winter of 2008 via weekly school take home information in three rural school districts within the state of Mississippi. Each informed consent letter had a self addressed return envelope which was to be returned to the homeroom teacher for those willing to participate in the study. Of the 892 distributed informed consents, 673 participants signed and returned the informed consents. Of these, 634 participants (94%) successfully completed the study. After excluding 16 multivariate outlier cases (with Mahalanobis distance > 29.59) and 3 cases with missing data (using listwise deletion across the key study variables), 615 valid cases were analyzed. Data were matched through use of coding assigned by the researcher for each participant wellness inventory with cover sheet for entry of MCT scores in reading language, and mathematics. The homeroom teachers entered the MCT scores on the cover sheets.

Archival academic achievement data included the most recently administered MCT. Each participant school's testing coordinator collected the information from student records. The MCT had been administered in May of 2007 over three

consecutive days, with one subject area tested each day, by homeroom teachers using standard instructions and standard delivery of instruction based on test administration guidelines.

The 5F-WEL-E was administered to participants by homeroom teachers during an activity period; those choosing not to participate in the study participated in alternative activities such as library or computer lab. The 5F-WEL-E was administered to student groups orally, with teachers reading standard written instructions and then each item and response choices for students. Completed inventories were placed in a sealed container which was then given to the researcher.

Coding was used to match student wellness inventory results to student MCT scores. The researcher entered a code number on each 5F-WEL-E response form and a corresponding cover sheet which also had entry blanks for Reading, Language, and Mathematics MCT scores. Participant assent forms were stapled to the 5F-WEL-E response forms. Homeroom teachers entered the reading, language, and mathematics scores for participants on the cover sheet and then detached the assent forms and placed these in a separate envelope so that participant confidentiality could be maintained.

Results

Descriptive statistics for the five wellness composites, the two wellness context variables, and the three academic scores are presented in Table 1. The possible score range for each 5F-WEL-E subscale is 25 to 100 percent, with 100 percent representing the highest level of wellness. Proficiency level score ranges for the MCT were assigned at cut points for each subscale, with minimal mastery as the lowest cut point and

advanced mastery as the highest cut point. Reading minimal mastery was scores ranging 424 and below and advanced mastery was scores ranging 551 and above.. Language minimal mastery was scores ranging 427 and below and advanced mastery was scores ranging 576 and above. Mathematics minimal mastery was scores ranging 402 and below and advanced mastery was scores ranging 568 and above.

Because multicollinearity can adversely affect canonical correlation solutions, the set of seven wellness variables and the set of three academic achievement variables were screened for very high ($r > .80$) within set correlations. As can be seen in Table 2, correlations within the wellness set of variables ranged from .35 to .57, and correlations within the academic achievement set ranged from .65 to .67 (as well, though not tabled, tolerance values were all greater than .10, and all variance inflation factor values were less than 10). Thus, multicollinearity was not a concern.

Interim correlations between sets were also screened. As can be seen in Table 2, the Combined Contexts (Institutional, Global, and Chronometrical) composite was not significantly correlated with any of the three academic achievement variables. Also, the Local Context composite was not significantly correlated with two of the three academic achievement variables (Language and Math). As these two context variables did not meet basic assumptions of correlation with the academic achievement variables, canonical analysis was conducted using only the five wellness composite variables.

Canonical loadings are correlations between each item and linear combinations of variables for that same set, such as Reading and the canonical variate formed by the combined set of academic variables. Cross loadings are correlations between each variable and the canonical variate formed by linear combinations of variables for the

Table 2*Correlations for Wellness Composites and Academic Subjects*

Variable	Creative	Coping	Social	Essential	Physical	Local	Combined	Reading	Language	Math
Creative	1.000**	.524**	.572**	.558**	.483**	.352**	.571**	.093*	.037	.086*
Coping	.524**	1.000	.504**	.464**	.434**	.359**	.443**	.177**	.130**	.151**
Social	.572**	.504**	1.000	.534**	.450**	.388**	.435**	.210**	.157**	.163**
Essential	.558**	.464**	.534**	1.000	.510**	.429**	.561**	.142**	.106**	.112**
Physical	.483**	.438**	.450**	.510**	1.000	.341**	.410**	.178**	.147**	.172**
Local	.352**	.359**	.388**	.429**	.341**	1.000	.438**	.112**	.053	.032
Combined	.571**	.443**	.435**	.561**	.410**	.438**	1.000	.060	.002	-.014
Reading	.093*	.177**	.210**	.142**	.178**	.112**	.060	1.000	.650**	.674**
Language	.037	.130**	.157**	.106**	.147**	.053	.002	.650**	1.000	.656**
Math	.086*	.151**	.163**	.112**	.172**	.032	-.014	.674**	.656**	1.000

*Note: *p < .05, **p < .01*

other variable set, such as Reading and the set of wellness predictor variables. A simple solution is one in which the rank order of the variables is consistent across the standardized coefficients, canonical loadings, and cross loadings. This is the case for the three academic variables. For the wellness variables, the canonical loadings and cross loadings are consistent in rank order, but different from the standardized loadings, primarily in relegating the importance of the Creative Self score to last rather than second place among the wellness variables. In fact, the magnitude of the Creative Self cross loading coefficient, relative to the other four wellness variables, renders it essentially unimportant in predicting academic performance. Thus, the results suggest that low academic performers on all three achievement tests (reading, language, and math) tended to also score low on social, physical, and coping wellness composites, and that inversely, high academic performers in Reading, Language, and Math tended to have high scores on Social, Physical, and Coping wellness composites.

Discussion

Results supported a relationship between academic achievement and scores on Social Self, Physical Self, and Coping Self wellness composites. Examination of the multivariate patterns between the criterion set of academic achievement and the predictor set of wellness composites revealed a discernable wellness pattern distinguishing low academic achievers from high academic achievers. Low academic achievers on all three measures (Reading, Language, and Math) tended to be those with low scores on Social Self, Physical Self, and Coping Self wellness composites. Inversely, high academic achievers on all three measures tended to be those with high scores on Social Self, Physical Self, and Coping Self wellness composites.. While the

multiple factors of wellness contribute to total wellness, higher levels of wellness in some factors could compensate for lower levels of wellness in other factors and be sufficient to support satisfactory academic achievement.

This study indicated a relationship between the Social Self composite (components of friendship and love) and academic achievement. Previous research findings indicated that social influences such as family and peer relationships influence academic achievement. Amato & Keith (1991) and Sun & Li (2001) indicated that problems in family relationships such as conflict and divorce were related to lower scores on measures of academic achievement. The social composite of the 5F-WEL-E assessed participant perception of family relationships such as family problem solving and family love for participant. Gest, Domitrovich, & Welsh (2005) found that peer relations were associated with academic engagement and skills. The Social Self composite of the 5F-WEL-E assessed participant perception of peer relationship strength and ability to make and keep friendships. High Social Self composite scores were aligned with high MCT scores and low Social Self composite scores were aligned with low MCT scores.

Personal coping strategies such as stress management (Clarke, 2006; Omizo, Omizo, & D'Andrea, 1992) and sense of self-worth (Gose, Wooden, & Muller, 1980) have influenced academic achievement. The Coping Self composite of the 5F-WEL-E included assessment of participant perceptions about self in both stress management and self worth. This study indicated a relationship between the Coping Self composite and academic achievement, as high scores in the Coping Self composite of the 5F-

WEL-E were aligned with high MCT scores and low scores in the Coping Self composite of the 5F-WEL-E were aligned with low MCT scores.

Previous research findings had been mixed of influence of physical factors on academic achievement. Kleinman et al. (2002) found a relationship between nutrition and improvement in academic achievement in math... (2002). A study by Taras (2005) did not substantiate relationship between physical activity and academic achievement and physical activity (Taras, 2005). In this study, a relationship was present between the Physical Self composite (components of exercise and nutrition) and academic achievement. High scores in the Physical Self composite were aligned with high MCT scores and low scores in the Physical Self composite were aligned with low MCT scores. Results of this study indicated non-significant correlations for a relationship between academic achievement and the wellness composites of Essential Self, Creative Self, and the Life Contexts. Academic scores were distributed across the range of scores in these wellness composites, suggesting that the diversity of wellness status for those composites was not aligned with the level of academic achievement on the MCT. Previous research and some theoretical foundations suggest reasons for non-significant correlation.

The Essential Self composite included exercise of responsibility for one's self care. Snyder and Lopez (2002) indicated that positive psychology viewed childhood as a time when children acquire competencies for later life. As children, study participants were still developing responsibilities and competencies such as self care. According to Bandura (1982) individual behavior was not regulated by self-directed influence alone,

but also social support. The focus of the 5F-WEL-E was assessment of self-directed influence.

The Creative Self Composite is a combination of attributes formed by the individual to make a unique social place among others. In a study with 1539 elementary students on self-fulfilling prophecy and global self esteem, Madon, Jussin, & Eccles (1997) found that there was no single characteristic or cluster of characteristics that served to predict academic achievement. The Creative Self Composite also included *Control* as belief about one's competence, confidence, and mastery to achieve personal goals. Bandura (1982) would suggest that this belief would not be sufficient to regulate individual wellness behavior.

The Life Contexts Composite included systems in which children live such as family, community, school, and environmental factors from around the world such as media and politics. Daley et al. (2005) found that school quality had greater impact on academic achievement than did background factors such as socioeconomic status. In a meta-analysis of 101 studies on academic achievement and socioeconomic status, White (1982) found the measure of socioeconomic status accounted for less than 5 percent of variance in student academic achievement. Finally, several authors found that positive mediators such as supportive family functioning, parental education, and minimal exposure to community violence could counter negative contextual influences in academic achievement for children (King et al., 2005; Felner et al., 1995, Schwartz & Gorman, 2003, & McLoyd, 1998).

Limitations

Study participants were students in Title One schools who represented Native American (3.4%), Black (57.0%), Caucasian (37.4%), and Hispanic (2.0%) ethnic groups within the state of Mississippi. This restricted sample could limit generalizability of the study results to students who attend schools that are not classified as Title One Schools or who represent other ethnic backgrounds or reside in another state or region of the country. Reliability (internal consistency as measured by a Cronbach alpha) for the wellness composites and the two context variables were lower in this study than in the pilot of the 5F-WEL-E. Even with the use of aggregation and standardization to reduce error, all subscale reliabilities were below the traditional level of acceptability. This study analyzed responses from 615 participants versus 11 participants in the 5F-WEL-E pilot, thus providing greater opportunity for internal inconsistency. Lower study reliability could also have been due to differences in participant samples from multiple schools that were outside the common parameters selected for participation such as Title One status.

Implications and Use of Findings for School Counselors

This study documented a relationship between well-being and academic achievement and indicated additional needs for research about this relationship. While research has provided information on non-academic influences on academic achievement of children, this study has found a relationship to exist for participant students between wellness composites and academic achievement. Findings can contribute to enhancement of childhood preparation for healthier and more highly productive adult life. School counselors can reinforce efforts such as individualized

students enrichment projects (Baum, Renzulli, & Hebert, 1994) and promotion of parental involvement in children's education (Casonova, Garcia-Linares, Torre & de La Villa Carpio, 2005).

Current research has provided some examples of interventions to promote student wellness and academic achievement. Villalba (2007) suggestion group discussions of what students when upset or scared; impact of emotions on exercise and eating habits, and ways that friends and family could support substance abuse prevention. Ingersoll and Bauer (2004) noted use of the dimension of spiritual wellness in work with grieving or traumatized students. As students asked questions about what happens after death, the counselor could either turn the question back to the student or share some personal thoughts and continue the dialogue by encouraging the student to reflect further. Additional examples of potential wellness interventions are the use of team games during physical education classed to promote training in social skills, provision of training for families in coping skills such as stress management, and provision of health education as a routine class within the curriculum for elementary school children. This study reinforces those interventions that are currently in place to promote wellness for children, such as provision of breakfast at school (Kleinman et al., 2002) and provides emphasis for further research and further allocation of time and money to additional wellness interventions for children, such as school health clinics and centers for parental education in areas to support children. Furthermore, the relationship between psychological, interpersonal, and physical wellness and academic achievement provides support for a holistic approach to education that addresses the overall development of the child and more fully utilizes a team approach by education

professionals as school counselors collaborate with school nurses, physical education faculty, school dietitians, etc.

Recommendations for Further Study

Because the nature of this study was that of association, the direction of the relationship between the dimensions of wellness and the measures of academic achievement examined in it cannot be determined. Future studies could examine groups of elementary students who vary in wellness, but who have comparable levels of academic achievement, and could then assess academic achievement at later points in life to determine if wellness is predictive of future academic success. A long-term study of this nature could also determine if the relationship is the result of extraneous variables such as socioeconomic status by controlling for such variables at the outset of the study or by separating their effects using multiple regression analysis. If after controlling for the effects of extraneous variables, the level of current wellness is predictive of future academic achievement, a strong case can be made that wellness causes academic success. Such research would be important for several reasons. First, identification of the causal relationship between coping wellness and academic achievement provides a foundation to further study relationship for children between academic achievement and life areas of leisure, stress management, self-worth, and realistic beliefs. Second, identification of the causal relationship between social wellness and academic achievement provides a foundation to further study relationship for children between academic achievement and life areas of friendship and love. Third, identification of the causal relationship between physical wellness and academic achievement provides a foundation to further study relationship for children between

academic achievement and life areas of nutrition and exercise. Fourth, identification of the causal relationship between total wellness and academic achievement provides a foundation to further study relationship of wellness and academic achievement and to also conduct research on wellness interventions in coping, social, and physical components of self.

This study has served as a starting point for efforts to emphasize support of wellness interventions for children and to focus on answering questions such as:

- Does wellness cause better academic achievement?
- What are the implications of holistic versus academic-only focus for public education?
- How do we best support children's development in schools in a manner to promote psychological and physical as well as academic well-being?

While this study did indicate a non-significant relationship with academic achievement of participant students for some wellness composites, examination of these can encourage continuing study on the nature of relationship with academic achievement for such life areas as thinking, emotions, control, positive humor, spirituality, gender identity, cultural identity, and self-care. Examination of the life contexts for children can also encourage continuing study of contexts such as neighborhoods, communities, schools, politics, culture, global events, and movement and change over the dimension of time.

Conclusion

A child's work can be considered to be his or her Kindergarten through High School experience, the success of which is exhibited in measures of academic

achievement. Identification of a relationship between wellness and its components with academic achievement provides direction to school counselors for promotion of individual through community interventions that strengthen children during the formative education years to yield better preparation for healthier and more highly productive lives as adults. More healthy and highly productive adults can then promote communities, states, and a nation which functions more effectively in collective quality of life.

Attending to the wellness of children could promote physical and psychological health as well as academic achievement for children. Efforts such as family support groups (McDonald et al., 2006) and training in problem solving skills (Fleming et al., 2005) could contribute to increase in high school graduation rates, college admissions, and career preparation. This could in turn impact on reduction in crime, adolescent pregnancy, and substance abuse, all of which are associated with poor academic achievement (Schwartz & Gorman, 2003; White, 1982; & ASCD; 2006).

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