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The Association Between Student Wellness and Student Engagement in School

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School engagement is an important concept relative to achievement, school completion and student well-being (Appleton, Christenson, & Furlong 2008). Student engagement in schools is multidimensional and reflected in a number of domains, including affective (student's liking for learning and school), behavioral (students' persistence and effort in learning), and cognitive (students' use of meaningful information processing strategies in learning) (Jimerson, Campos, & Greif, 2003). Many educators and researchers consider a focus on school engagement as crucial in terms of increasing achievement and reducing dropout rates in schools (Fredrick, Blumensfeld, & Paris, 2004; Wang & Fredricks, 2014). Whereas a number of factors that contribute to school engagement have been noted, no one clear path to success has been identified (Marcus & Sanders-Reio, 2001). It is the purpose of this article to explore wellness factors (i.e., "attitudes and activities, which improve the quality of life and expand potential for higher levels of functioning," Mullen, 1986, p. 34), from the Child and Adolescent Wellness Scale (CAWS) that relate to positive perceptions of school engagement, and to contribute to the reliability and validity of the current version of the wellness scale and engagement scale designed to measure the constructs.

Supporting student engagement in school may be a natural way to support school mental health and well-being. Student engagement has been correlated negatively with health compromising behaviors (e.g., substance abuse, depression, suicide, aggression, early sexual activities) but positively with health promoting behaviors (e.g., exercise, nutrition, safe sex activities) (Carter, McGee, Taylor, & Williams, 2007). Positive school engagement shields against poor academic achievement and a number of other negative adjustment outcomes (Lam, et. al, 2014; Voelkl, 1997). There is a consistent positive association between teacher and student reports of behavioral engagement and achievement (Connell, Spencer, & Aber, 1994; Marks, 2000; Skinner, Wellborn, & Connell, 1990).

Positive school bonding contributes not only to higher academic achievement (Boekarts, Pintrich, & Zeidner, 2000; Voelkl, 1996; Zimmerman, 1990), but also a number of positive developmental and adjustment outcomes, such as reduced substance abuse and delinquency, lower antisocial behavior, and higher self-esteem (Maddox & Prinz, 2003; Li et al., 2011; Liem & Martin, 2011). Students who report a higher sense of relatedness to teachers show greater emotional and behavioral engagement (Furrer & Skinner, 2003; Gest, Welsh, & Domitrovich, 2005; Murray & Greenberg, 2001).

Other strong, positive relationships with student engagement in school include the findings of Lewis, Huebner, Malone, and Valois (2011), relative to perceived happiness or subjective well-being. In a large-scale study of middle school student's life satisfaction (LS) and engagement, the researchers found strong reciprocal relationships between LS and cognitive engagement relative to school activities, with lower relationships between behavioral and affective engagement in school and LS. Life satisfaction is a major indication of subjective well-being related to many positive outcomes in a reciprocal manner, that is, students who are happier perform well in a number a of areas, and their positive performance in turn leads to greater life satisfaction.

Lam et al. (2014) found positive but varying relationships between student engagement in school and several outcomes. Parent support, teacher support, and instructional practices respectively demonstrated moderate correlations (.43 to .50) with an engagement in school total (Student Engagement Questionnaire, SEQ); while peer support, positive emotions, academic performance, and school conduct demonstrated positive but lower relationships with the SEQ (.24 to .28). Teacher support and instructional practices are important aspects of engagement, as both are malleable practices, and teacher support is an important part of the wellness construct of connectedness in general.

Previous research has examined the relationship between a similar construct to school engagement, which is school attachment or school bonding, and the current wellness scale. Shimada, Hess, and Nelson (2013) conducted a study with Japanese middle school students, and found that the findings indicated strong and consistent relationships between school bonding and all wellness dimensions, with correlations ranging from .44 for emotional self-regulation, to .77 for a combined factor of connectedness and empathy. These findings are consistent with other school bonding research (e.g., Libbey, 2004; Juvonen, 2006; Maddox & Prinz, 2003), indicating strong relationships between a sense of being positively connected to school, and various positive outcomes.

Where schools have focused on student engagement in school, many positive outcomes have been noted. For instance, Fredericks and Eccles (2006) found students who were more engaged as indicated by greater participation in various extracurricular activities, showed improved psychological adjustment in grade eleven, greater participation in sports and clubs, greater civic engagement, and less externalizing problems. Furthermore, students who were more engaged in high school had higher educational status and civic engagement one year after high school. The broader the participation, the more positive academic, psychological, and behavioral outcomes.

McNeely, Nonnebaker, and Blum (2002), gleaning what contributes to connectedness or engagement in school, from the National Longitudinal Study of Adolescent Health (75,515 students) indicated that positive classroom management strategies, participation in school activities, tolerant discipline policies, and small school size, were the strongest contributors to school connectedness. Implementing similar strategies in an expanded School-Wide Positive Behavior Intervention and Supports (SWPBIS) model, that is, including a mentoring period each day where small groups of students met with a designated adult to not only go over rules and expectations, but to discuss various affective topics, goal setting, and academic advocacy and support, Angus and Nelson (2013) found increases in student achievement that held up over seven years in eight middle schools. This was also true relative to office discipline referrals, expulsions and suspensions.

Positive school engagement is a buffer against poor academic achievement and a myriad of negative adjustment outcomes. Exploring wellness factors within the context of positive school engagement may well contribute not only to a greater understanding of factors contributing to engagement, but ways of supporting activities to further engage students and to support student mental health and well-being.

Wellness

Wellness constructs may be a natural way of determining antecedents to student engagement at school, as they are consistent with many personal factors that contribute to school engagement, and they may be malleable characteristics leading to greater student engagement at school. Wellness has been defined as "attitudes and activities, which improve the quality of life and expand potential for higher levels of functioning" (Mullen, 1986, p. 34). The Child and Adolescent Wellness Scale (CAWS) (Copeland & Nelson, 2004) was developed to measure important wellness concepts, and is introduced in this section.

Wellness as a construct and as a measure of well-being emanates from the areas of positive psychology, risk and resilience, prevention science, and social-emotional learning. Positive psychology emphasizes *building* human strengths, virtues and competencies over the *remediation* of negative emotions and mental illness – the common "disease model" approach typically observed in treatment centers and schools today (Seligman & Csikszentimihalyi, 2000). An overarching goal of positive psychology is building factors that allow individuals, communities, and societies to flourish. The promotion of individual and societal strengths requires fostering those characteristics that "buffer" against the onset of mental illness.

Health promotion and prevention go hand-in-hand. Evidence for the effectiveness of preventive interventions for the school continues to develop (Gillham, Reivich, Jaycox, & Seligman, 1995; Greenberg et al., 2003; Weissberg, & Greenberg, 1998; Zins, 2001). Schools are in a favorable position to implement preventive and resilience-building programs that possess potentially far-reaching benefits (Copeland, 2002). The social and emotional learning (SEL) movement (CASEL, 2003) has also contributed to prevention efforts:

> by teaching students to interact in socially skilled and respectful ways; to practice positive, safe and healthy behaviors; to contribute ethically and

> responsibly to their peer group, family, school, and community; and to possess basic competencies, work habits, and values as a foundation for meaningful employment and engaged citizenship. (Greenberg et al., 2003, p. 466)

Social and emotional learning initiatives seek to build children's skills in these areas that support successful educational outcomes.

Research about children who portray resistance to stress has given psychologists a better understanding of the most suitable intervention targets for building resilience (Luthar & Zelazo, 2003; Myers & Nastasi, 1999). Resilience research findings of individual and situational characteristics predictive of psychologically healthy children guided the development of many of the wellness constructs. Masten (2001) indicated several person-focused variables contributing to resilience, which include adaptability, the ability to connect or form significant relationships with others, conscientiousness, social competence, the ability to regulate one's emotions, self-efficacy, and motivation to be effective in the environment.

The Child and Adolescent Wellness Scale (CAWS) (Copeland & Nelson, 2004) was developed to measure positive psychological factors related to health in children and adolescents. Its items originated primarily from theory and research based on the psychological and social factors that guard against the onset of mental illness, and are found among psychologically-healthy individuals. The CAWS provides for a much-needed measure of positive attributes in childhood and adolescent psychological assessment; social-emotional assessment instruments used in schools typically provide information on behavioral and emotional deficits, but provide little insight into a child's adaptive qualities (Wright & Lopez, 2002).

The CAWS reflects many of the personal factors determined as theoretical and empirical antecedents to positive student engagement. Dimensions such as Self-efficacy, Connectedness, Initiative, and Social Competence suggest significant relational and prosocial competencies as well as motivation and goal directed behavior. Wellness has previously been related to other positive mental health outcomes such as life satisfaction (Copeland, Nelson, & Traughber, 2010; Nelson et al., 2009, August); school bonding (Shimada, et al. 2013); achievement (Vreeman, Nelson, & Schnorr, 2014); school discipline and positive school attendance. Following is a brief description of the ten dimensions included in the CAWS.

Items on the *Adaptability* scale of the CAWS target respondents' ability to negotiate difficult situations as well as their preparedness for change, flexibility and acceptance. Adaptability has emerged as a critical predictor of resilience in children and adolescents (Luthar & Zelazo, 2003). The *Connectedness* scale elicits information related to children and adolescents' perceptions of belonging and acceptance in school, their family, and the community. The association between interpersonal relationships and outcomes of well-being are powerful; the positive psychological benefits of healthy relationships, along with the detrimental effects of poor relationships, have been documented consistently by researchers (Berscheid & Reis, 1998; Reis & Gable, 2003). *Conscientiousness* as assessed by the CAWS, relates to a child's concern over personal choices and the assumption of responsibility for one's actions. Roberts,

Walton and Bogg (2005) in their review of conscientiousness and health, found that conscientiousness relates to both social environmental factors and health-related factors, both contributing substantially from childhood in regards to longevity and quality of life. *Emotional self-Regulation* contributes to success in many domains of behavior, particularly social competence (Eisenberg, Fabes, Guthrie, & Reiser, 2002), and academic success (Vreeman et al., 2014). High negative emotionality has been associated with externalizing problem behavior (Nelson, Martin, Hodge, Havill, & Kamphaus, 1999), and adolescent substance abuse/use. *Empathy* was included as a component of the CAWS based on the premise that empathy-related responding is an important aspect of positive development (Eisenberg, 2003). Empathy has been linked to altruistic behavior and prosocial responding, each associated with psychological health in their own right (Batson, Ahmad, Lishner, & Tsang, 2002). The construct of initiative has been studied as a component of positive youth development, and as indicated by Larson (2000) initiative is the ability to be motivated from within to direct attention and effort toward a challenging goal. The *Initiative* dimension incorporates the elements of intrinsic motivation, self-determination (Ryan & Deci, 2000) and goal-directed activity.

Mindfulness, generically referred to as self-awareness, is central to the theory of emotional intelligence (Goleman, 1995), as it appears that awareness and attention to one's internal states is a fundamental component of emotional competence. Self-awareness is a cornerstone of SEL (Collaborative for Academic, Social, and Emotional Learning; CASEL, 2003). Items on the CAWS reflecting mindfulness related to intuition and knowledge of personal strengths and weaknesses. *Optimism*, as measured by the CAWS, refers to hope and expectancies for the future, and relates closely to explanatory style, or our personal explanations for events that occur in our daily lives (Seligman & Csikszentmihalyi, 2000). Optimism has consistently been linked to good mood, perseverance, achievement, and physical health (Peterson, 2000).

Self-efficacy is a key component of Bandura's social cognitive theory (Bandura, 1997a), and is defined as "people's beliefs in their capabilities to produce desired effects by their own actions" (p. vii). Self-efficacy refers to what we believe we *can* do (Maddux, 2002), and is early-on in development determined by mastery. Self-efficacy as measured by the CAWS also relates to the concept of flow (Csikszentimihalyi, 1990, 1997). *Social Competence* as a broad construct incorporates affective, cognitive, and behavioral skills that combine to determine success in interpersonal relationships (Topping, Bremner, & Holmes, 2000). Examples of skills associated with social competence include assertiveness, and the ability to cooperate with others and resolve conflicts peacefully (Copeland, 2002).

As indicated, wellness constructs may be a natural way of determining antecedents to student engagement at school. They are consistent with many personal factors that contribute to school engagement, and they may be malleable characteristics leading to greater student engagement at school. The wellness dimensions described are derived from multiple sources, and have proven robust determiners of positive outcomes in research. Although the relationship between wellness and engagement is

complex, and may include other factors such as contextual factors like family support, the culture's views of education, peer bonds, as well as individual person-centered variables, describing positive variance between the two concepts makes an important contribution to the literature.

Student Engagement in School

Contributing to school engagement are family background, relationships with teachers, peer bonds, and student variables such as academic success and engagement in the learning process (Marcus & Sanders-Reio, 2001). Two overarching sets of factors—personal and contextual—have emerged relative to student engagement in school. Research in student motivation suggests that how much students like learning and exert effort in learning is a function of their personal beliefs about learning and themselves, which in turn depends on favorable or unfavorable conditions in the school contexts.

Several beliefs seem essential to students' intrinsic interest and may be important proximal determinants of student engagement in schools (Schunk & Zimmerman, 2006). These beliefs include goal orientations (Dweck & Leggett, 1988), attribution (Weiner, 1985) and self-efficacy (Bandura, 1977a). Personal variables depend on contextual variables (Juvonen & Wentzel, 1996; Lam, 2001). They include instructional contexts, and social-relatedness contexts. How teachers teach in classrooms has tremendous impact on student motivation (Perry, Phillips, & Hutchinson, 2006). Children who report a higher sense of relatedness to teachers and peers show greater emotional and behavioral engagement (Furrer & Skinner, 2003). Wellness factors reflect many of the personal factors determined as theoretical and empirical antecedents to positive student engagement.

The concept of student engagement at school is complicated by measurement issues where there is the lack of agreement on what engagement in schools is (Jimerson et al., 2003). The development of the current measure of student engagement was part of a multi-country (twelve) project initiated by the International School Psychology Association, to clarify, agree upon and simplify the construct. Student engagement in schools is multidimensional and reflected in a number of domains, including affective, behavioral, and cognitive (Jimerson et al., 2003). For purposes of this research, the Student Engagement in School Questionnaire (SEQ) was used as part of the large scale, international collaboration to determine how engaged students are in school in the twenty countries (Lam & Jimerson, 2008). To reflect the affective, behavioral, and cognitive domains, the scales were derived from a comprehensive literature review of different student engagement scales. Reliability and validity of the SEQ will be demonstrated in detail in the methodology section.

Consistent with the positive psychology movement, research on wellness in children and adolescents supports the philosophy that the psychological and educational needs of children will most effectively be met when optimal individual functioning becomes the focus of mental health. By identifying wellness constructs that contribute to engagement in school, prevention efforts that develop adaptive and pro-social characteristics in youth, and support the development of social-emotional learning outcomes, may hopefully be developed.

The Present Study

The research questions of the present study include the following: (a) How positively do adolescents view themselves on measures of wellness and school engagement?; (b) Do the proposed measures demonstrate acceptable internal consistency reliability?; and (c) How strongly do wellness dimensions correlate with and/or predict student engagement? Predictions are as follows: students will view themselves positively on the two measures (Diener, Lucas, & Scollon, 2006); the measures of both constructs will display adequate internal consistency (coefficient alpha exceeding .70); and wellness will reveal significant association with the criterion measure of engagement.

Method

Participants

The target population for this study were adolescents in the United States. The two scales described below were given to 200 ninth grade students in a diverse southern California high school in counterbalanced order (Table 1). The students consisted of a sample of convenience as part of a large-scale investigation of student engagement internationally (Lam et al., 2014). The ninth-grade students, ranging in age from 14 to 16, were part of an academic advisement group who agreed to participate in the study. As freshmen, they were involved in a number of exploratory activities, including a presentation on wellness after the surveys were given. The 200 students were about 40% of the ninth-grade students at the site, a school of about 3,000 students. The sample consisted of all possible students in the ninth grade, with approximately 12% in special education. About 61% of students were eligible for free and reduced lunch.

The development of the engagement measure was part of a multi-country (12) project initiated by the International School Psychology Association. The purpose of this international collaborative project was to investigate the personal and contextual antecedents of student engagement in schools across countries. This was a large-scale project that involved many variables and themes of investigation, and the relationship between engagement and wellness was assessed as part of this particular sample. Other research from this project includes Lam et al. (2011), where significant gender differences were found in favor of girls for all countries relative to engagement at school; Lam et al. (2014) where high correlations were found between the SEQ scale with instructional practices, teacher support, peer support, parent support, positive emotions, academic performance, and school conduct; and Lam et al. (2015) where consistencies in school engagement were indicated between all countries, including countries high in collectivism, and an overall decline in student engagement from grade seven to nine for those countries reporting samples at that level.

Measures

Child and Adolescent Wellness Scale (CAWS) (Copeland & Nelson, 2004). The CAWS is a pencil/paper measure consisting of 100 items. A previous version consisted of 150 items, with the present version developed to reduce examinee time for completion. CAWS items assess characteristics of respondents across ten "dimensions" associated with psychological health. Examples of individual items are listed by dimension in Table 2. The CAWS employs a Likert-type response scale. Respondents are required to circle either: *Strongly disagree/Not at all like me* (scored

1 point); *Disagree/Unlike me* (2 points); *Agree/Like me* (3 points); or *Strongly agree/Very much like me* (4 points). The scoring for negative items (e.g., "I am often bored") is reversed. The CAWS typically takes students between 25 and 30 minutes to complete. An earlier and longer version of the CAWS yielded internal consistency reliabilities of individual dimensions ranging from 0.74 to 0.86. Previous exploratory factor analysis of the CAWS dimensions resulted in a unidimensional factor structure called "Wellness" with all loadings at or above 0.83, (Copeland et al., 2010). A recent confirmatory factor analysis (Hemmy Asamsama & Nelson, 2014) also indicated a super-ordinate "Wellness" construct as a first-order factor, with secondary factors supporting the ten dimensions. Total test-retest reliability over a four-week period was 0.78. At the present time, the CAWS has only been used informally in practice or for research purposes. Part of the purpose of the present study is to contribute reliability and validity data relative to the shorter version. Items were chosen for the shorter version that had the highest internal consistency reliabilities for each of the ten dimensions, as well as consistent factor loadings.

The CAWS, in its present form, consists of 100 items divided into ten separate dimensions: Adaptability, Connectedness, Conscientiousness, Emotional Self-Regulation, Empathy, Initiative, Mindfulness, Optimism, Self-Efficacy, and Social Competence. Each dimension is theorized or has been shown through research to be uniquely associated with healthy outcomes experienced by children. A total score was used to measure general wellness with a mean score of the ten dimensions.

Student Engagement in School Questionnaire (SEQ) (Lam et al., 2014). Student engagement was measured by a scale that consists of three subscales, namely Affective Engagement, Behavioral Engagement, and Cognitive Engagement Subscales (Appendix 1). Reliability of the three SEQ subscales have been reported as high ranging from 0.80 to 0.89, with a test-retest reliability ranging from 0.60 to 0.74 for a six-month period. Both a one-factor model and a second-order model with affective engagement, behavioral engagement, and cognitive engagement as factors were tested and indicated as a reasonable representation of the data using LISREL 8.8 (Lam et al., 2014). The students were asked to indicate their agreement to the 33 items on a 5-point Likert scale with 1 for *strongly disagree* and 5 for *strongly agree*. The average of the three subscale-scores was used to indicate student engagement (SEQ). A high score indicated high engagement and a low score indicated otherwise.

***Affective engagement*.** The Affective Engagement Subscale consists of nine items that measure student's liking for learning and school (e.g., "I like what I am learning in school."). These items were adapted and modified from the works of Hill and Werner (2006); Skinner and Belmont (1993); and Rao and Sachs (1999).

***Behavioral engagement*.** The subscale consists of twelve items that measure students' persistence and effort in learning (e.g., "I try hard to do well in school."). These items were adapted and modified from the works of Miller, Greene, Mortalvo, Ravindran, and Nichols (1999); Finn, Pannozzo, and Voelkl (1995); and Skinner and Belmont (1993).

***Cognitive engagement*.** Subscale consists of twelve items that measure students' use of meaningful information processing strategies in learning (e.g., "When I study, I try to connect what I am learning with my own experiences."). These items were adapted and modified from the works of Dowson and McInerney (2004); Elliot, McGregor, and Gable (1999); Greene, Miller, Crowson, Duke, and Akey (2004); Samuelstuen and Bråten (2007); and Wolters (2004).

Design and Procedure

California State University-San Bernardino Institutional Review Board approval was obtained prior to the collection of data for this study. The CAWS and the Student Engagement Scale were administered during students' daily advisement period. During this period, groups of approximately fifteen students meet with an assigned faculty advisor/mentor in classrooms. Faculty advisors, the large majority of whom are teachers, were informed of the study and agreed to administer the surveys. The advisors were asked to administer and collect the surveys according to standardized administration procedures, and to provide students with any necessary help reading or understanding items. Participants were informed of the general nature of the study (Informed Consent) and were asked to sign a form affirming their assent to participate. Students under the age of sixteen were asked to have parents complete the consent from and return to their advisor. The administration of the two surveys occurred in counterbalanced order across classrooms. Surveys and the assent forms were pre-labeled with a unique identification number for each participant. Numerical identification of the surveys linked participants to their responses on the two surveys and allowed correlation analyses to be conducted.

Data Analysis

Due to a significant number of CAWS surveys containing at least one incomplete item, missing data points were estimated using the mean score value of the subscale to which the item belonged. Participants missing more than two items on any one subscale were excluded from the analysis, as were those who missed greater than ten items overall (or greater than five items on the SEQ). Less than five percent of data points were missing. In cases where participants circled two adjacent responses (e.g., *Disagree* and *Agree*, or *Agree* and *Strongly Agree*), a mean value was assigned (e.g., 2.5). If non-adjacent response options were circled (e.g., *Strongly Disagree* and *Strongly Agree*), or if more than two responses were circled, the item was considered to be missing data. Prior to data analysis, scoring on "negative" items (e.g., "I am often bored") was reversed.

Coefficient alpha was calculated to determine the internal consistency reliability of the CAWS scale and its individual dimensions, as well as the SEQ. The total mean CAWS scores were correlated with total mean scores on the SEQ as a test of criterion-related construct validity, as well as the individual dimensions of both scales. Moderate to strong correlations with the SEQ were expected. A hierarchical multiple regression analysis predicting student engagement from dimensions of wellness was conducted. All assumptions relative to the regression model were met (Licht, 1995).

Results

Table 2 displays the mean raw scores for both the CAWS and the SEQ. Students perceived themselves as well in general, with all scores being above the theoretical midpoint score of 2.5, as would be expected (Diener, 1994; Diener et al., 2006). The distribution was slightly negatively skewed. The average total CAWS score for the sample was 3.03 (on a 4-point Likert scale), and the average total SEQ score was 3.17 (on a 5-point Likert scale). Students rated themselves as engaged in school as indicated by their responses on the SEQ, with theoretical midpoint of 3. Gender and ethnic differences were not observed for both CAWS and SEQ.

The present scores on the 100-item version of the CAWS are consistent with other research using the 150-item version. The overall mean score of 3.17 is consistent with the original sample with an overall mean of 3.08 (Copeland, Nelson, & Traughber, 2010), and 2.96 from a U.S. subsample of an international study (Hemmy Asamsama et al., 2014). The dimension scores are similar as well. The SEQ is also consistent with other research with a mean of 3.17 in the current study, consistent with Lam et al. (2014) with an overall average of 3.37.

Internal consistency coefficient alphas ranged from .51 for *Empathy* to .75 for *Self-Efficacy* for the CAWS dimensions on the 100-item scale, with an overall alpha of .94. (See Table 3.) With the exception of *Empathy*, the coefficient alphas demonstrate adequate reliability. Previous research with the 150-item version internal consistency coefficients ranged from .74 to .85, suggesting more items contribute to greater internal consistency. Also, in two other papers, (Copeland et al., 2010; Vreeman et al., 2014), Empathy evidenced alphas of.77 and .66 respectively. The SEQ internal consistency reliabilities ranged from .77 for the *Affective* subscale to .94 for the *Cognitive* subscale for the SEQ, with and overall alpha of .93.

The overall CAWS and SEQ means strongly correlated ($r = 0.50$, $p < .001$). Correlations between the CAWS and the SEQ scales are displayed in Table 4. The strongest relationships were between student engagement as measured by the SEQ and the dimensions of *Initiative, Conscientiousness,* and *Self-Efficacy*. Whereas these three dimensions exhibited the strongest relationships with engagement, all wellness dimensions related significantly to engagement, ranging from .28 to .50 between wellness dimensions and the SEQ. The SEQ, Behavioral and Cognitive subscales related moderately and significantly to the CAWS dimensions, while the majority of Affective subscale correlations evidenced smaller relationships. These strong relationships contribute to the criterion validity of the CAWS, as relationships with other positive measures/outcomes do in general. Also, important to note are the inter-correlations between various CAWS dimensions. The strength of the relationships lends further support for the overall construct of wellness as measured by the CAWS, contributing to test homogeneity (Cohen & Swerdlik, 2005).

A hierarchical multiple regression analysis predicting student engagement from dimensions of wellness was conducted with the total SEQ score as the dependent variable. The total CAWS score was entered in the first step and the following variables in the listed order: Adaptability, Connectedness, Conscientiousness, Emotional Self-Regulation, Empathy, Initiative, Mindfulness, Optimism, Self-Efficacy, and Social Competence for eleven

variables. Regression analysis yielded strong predictive relationships between the CAWS and student engagement with $R=.56$, $R^2 = 0.31$, ($p < .001$), with the dimensions of *Initiative* ($\beta = 0.39$, $p < .01$) and *Conscientiousness* ($\beta = 0.30$, $p < .05$) accounting for the most variance. With the total removed, $R=.497$, $R^2 = .247$, and with *Initiative* removed, $R = .260$, $R^2 = .06$.

Discussion

The current study provides support for the association between dimensions of wellness and measures of engagement in school. The moderate correlations suggest that the concepts of perceived psychological wellbeing or wellness and engagement at school are related, however, as they are only moderate, they seem to be assessing different constructs. Total mean scores were above the theoretical midpoint for both scales, suggesting students perceive themselves as both psychologically well and engaged in school. The SEQ mean score of 3.17 is consistent with other research (Lam et al., 2014) indicating that students as a whole perceived themselves as engaged in school.

It is an important finding that children and adolescents from an unselected sample perceive themselves as both psychologically well and engaged in school. Of course, there may be a bias towards positive ratings of health in the first place, as students from an unselected sample may want to appear healthy or well (Diener, 1994; Diener et al., 2006). There may also be a bias towards positively worded statements, although an attempt was made to reduce this bias by having 11% of the wellness items negatively-phrased.

Diener, in his multiple articles on subjective wellbeing, has found that across the globe, there is a universal portrayal of moderate happiness. Whereas the majority of Diener's work pertains to adults, recent research compilations support his findings for children and adolescents as well. Abubakar et al. (2016), looked at the construct of subjective well-being (SWB), which included a measure of life satisfaction (LS) internationally in fourteen countries for eight, ten and twelve-year-olds. They found little invariance between countries and ages across the globe that sampled five continents, and that SWB was consistently high in all fourteen countries. Dinisman and Ben-Arieh (2016), explored LS using a brief measure in fifteen countries for adolescents (including the US), spanning five continents with over 8,000 participants. They found relatively high ratings of LS across the board. These results reflect earlier findings (Gilman & Huebner, 2003; Huebner, Suldo, & Gilman, 2006), suggesting that LS or SWB is moderately high universally for children and adolescents.

Additionally, other studies using both wellness and life satisfaction by the current authors support moderate to high perceptions of wellness, SWB and LS (Copeland et al., 2010; Hemmy Asamsama et al., 2014). Asian cultures report slightly lower Wellness scores relative to western cultures, possibly due to the collectivism phenomenon (Hemmy Asamsama, et al., 2014). In studies exploring the relationship between Wellness and LS, a consistent pattern emerges where the dimensions of Connectedness, Optimism, and Self-efficacy are the strongest predictors of LS.

Whereas consistently high ratings of LS across the globe and in multiple samples may suggest we are approaching optimal happiness for children and adolescents, other reports suggest otherwise. The CDC's Mental Health Surveillance of Children

(Perou et al., 2013) indicates that upwards of 20% of children and adolescents have identifiable mental health problems, whereas the Center for Behavioral Health Statistics and Quality (2016) reports 25% of adolescents have experienced an anxiety disorder, and 12.5% of students have experienced a major depressive disorder. These reports seem to indicate that work remains to be done in improving and maintaining the positive mental health of our youth. To that end, it has been proposed that we frequently assess both pathology and wellbeing in what has been called a dual model of mental health (Suldo & Schaffer, 2008). In Suldo and Schaffer's work, they identified a group of students with optimal mental health; that is, not only an absence of mental health problems or psychopathology, but with high SWB as well. These students out performed counterparts who also evidenced an absence of pathology, but without corresponding high SWB, on a variety of academic and behavioral indices. As has been frequently called for by the positive psychology movement, it is important to identify what students do well, not just pathology. The CAWS as one measure of SWB or Wellness may contribute to an overall measure of mental health in adolescents.

Interestingly, the one-dimension score below 3.0 on the CAWS was *Emotional Self-Regulation*. Adolescents may rightfully perceive themselves as less capable of regulating their emotions at these ages. Research suggests that emotional regulation lags behind cognitive development for adolescents (McClelland, Ponitz, Messersmith & Tominey, 2010). The current findings are consistent with other wellness studies that include emotional self-regulation as a measure (Hemmy Asamsama et al., 2014; Vreeman et al., 2014). Developing strategies to improve emotional self-regulation, impulse control, delaying gratification, and cognitive rehearsal can only help students with greater focus and less conflict in a number of areas.

The obtained internal consistency coefficients are promising (with the exception of *Empathy*), and suggest the subscales are adequately reliable for research purposes. Subsequent reliabilities need to be determined for diverse samples, such as multicultural and clinical ones. A secondary result of this study's findings is additional support for the reliability and validity of the SEQ. The strong correlations between the CAWS and the SEQ are encouraging. Wellness factors seem to have a strong influence on student engagement at school. Whereas all ten dimensions are significantly related to engagement, individual dimensions are not as strongly related to the *Affective* engagement subscale. CAWS dimensions statistically related to *Affective* engagement relate moderately to the SEQ as well, such as *Initiative.*

Dimensions most strongly related to engagement might be expected to do so intuitively, and have empirically. Vreeman et al., (2014) found that *Initiative, Self-efficacy* and *Conscientiousness* had the strongest moderate but statistically significant relationships with large-scale state standards assessments in language arts and math, as well as GPA. The *Initiative* dimension incorporates the elements of intrinsic motivation, self-determination (Ryan & Deci, 2000) and goal-directed activity; CAWS items under the initiative dimension gauge children and adolescents' levels of perceived engagement and motivation.

Roberts et al. (2005) examined the most comprehensive review of conscientiousness and health to date, and found that conscientiousness relates to both social environmental factors and health-related factors, both contributing substantially from childhood to longevity and quality of life. It is not surprising that *Conscientiousness* also strongly relates to a positive perception of student engagement.

Self-efficacy theory maintains that efficacy beliefs, developed over time and through experience, are influencing factors of psychological adjustment, psychological problems, and physical health (Maddux, 2002). It is listed as a crucial aspect of resiliency (Masten, 2001), and as indicated, *Self-efficacy* substantially related to engagement in this study.

Implications

Seligman et al. (2009) have found that teaching resiliency related concepts to both children and adolescents in two large-scale pilot studies resulted in a greater love for learning and higher grades in class. Knowing that certain positive traits predict greater student engagement, it makes intuitive sense to try and strengthen those traits in school-aged youth through appropriate curriculum. Community service, a Futures orientation, Advisor/Advisee Programs, and Learned Optimism are all proven ways to enhance wellness dimensions contributing to engagement.

Strengthening characteristics defined by the CAWS may enhance engagement in school. Programs like Advisor/Advisee or mentoring programs (Nelson, Campbell, Nelson, & Schnorr, 2009) strengthen the bond between students and significant adults at school, therefore increasing a student's sense of connectedness. Check and connect programs, where students meet with their teacher on a regular basis to review progress, do so as well (Sinclair, Christenson, Lehr, & Anderson, 2003) as Check-in Check-out programs (Crone, Hawken, & Horner, 2010).

A number of resiliency and SEL programs exist that focus on related concepts contributing to connectedness through developing social competency and emotional awareness, and optimism through perspective taking and explanatory style (Durlak, Weissberg, Dymnicki, Taylor & Schellinger, 2011). The Penn Resiliency Program (Reivich & Gillham, 2010) focuses on cognitive and social problem solving, and SEL programs (DeAngelis, 2010) work to develop self-awareness and self-management, relationship skills and responsible decision-making.

Mental health professionals in schools may also benefit from using the CAWS as a screening device for possible pathology as the 100-item version has been demonstrated to have a strong negative relationship with various pathology measures (Hemmy Asamsama, Nelson, Kodama, Huang, & Huebner, 2011). The current wellness dimensions would also support a strengths-based intervention approach to such endeavors as IEP development and child study teams. Both the CAWS and the SEQ could be used as pre and post tests for universal SEL curriculums. Currently the CAWS is being used by clinicians with targeted curriculums at tiers I and II (universal and secondary) in three separate interventions, including SWPBIS. Both the CAWS and the SEQ could also be included as an overall measure of school climate. Hopefully, future attempts at increasing student engagement will explore various uses for the two instruments.

Limitations

Of course, there is a bias towards positive ratings of health and wellness in

the first place, as most students from an unselected sample may want to appear healthy or well (Diener, 1994). An additional bias towards positively worded statements exists, which we attempted to correct by having 11% of the wellness items negatively-phrased. The possibility exists that the psychometric properties and structure of the CAWS may be dependent upon the age group of children being assessed. The results are certainly limited to populations similar to the one reported in the present sample, and the sample size is relatively small.

Summary and Future Research

The research questions were answered positively by the statistical data. Children and adolescents viewed themselves positively overall on measures of wellness and school engagement. The proposed measures demonstrated acceptable internal consistency reliability, and wellness dimensions correlated with, and predicted student engagement. Other studies looking at the current wellness dimensions have demonstrated relatively strong relations with school bonding (Shimada et al., 2013); achievement (Vreeman et al., 2014); and school discipline and positive school attendance. Future research will look at other relations between wellness and school outcomes. More importantly, studies need to be designed that look at teaching and enhancing wellness constructs resulting in greater engagement in school.

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Table 1

Summary of Characteristics of Participants

	Male	Female	Total
Ethnicity	N (%)	N (%)	N (%)
African American	33 (17.19)	29 (15.10)	62 (32.29)
Hispanic	64 (33.33)	44 (22.92)	108 (56.25)
White	11 (5.73)	5 (2.60)	16 (8.33)
Other	4 (2.08)	2 (1.04)	6 (3.12)
Total	112 (58.33)	80 (41.67)	192 (100)

Table 2

Mean Raw Scores by Subscale

Dimension	Mean Score	SD
Child and Adolescent Wellness Scale[1]		
Adaptability	2.91	0.30
Connectedness	3.10	0.44
Conscientiousness	3.11	0.36
Emotional Self-Regulation	2.72	0.44
Empathy	3.00	0.30
Initiative	3.00	0.39
Mindfulness	3.03	0.35
Optimism	3.07	0.43
Self-Efficacy	3.16	0.39
Social Competence	3.22	0.35
Overall	3.03	0.28
Student Engagement in School Questionnaire [2]		
Affective	3.24	0.64
Behavioral	3.19	0.62
Cognitive	3.11	0.91
Overall	3.17	0.62

[1]CAWS item scores range from 1 to 4

[2]SEQ item scores range from 1 to 5

Table 3

Internal Consistency Coefficients

Dimension	α	N
Child and Adolescent Wellness Scale		
Adaptability	0.65	211
Connectedness	0.73	212
Conscientiousness	0.72	212
Emotional Self-Regulation	0.72	214
Empathy	0.51	212
Initiative	0.68	213
Mindfulness	0.66	213
Optimism	0.74	214
Self-Efficacy	0.75	213
Social Competence	0.69	215
Overall	0.94	210
Student Engagement in School Questionnaire		
Affective	0.77	212
Behavioral	0.81	212
Cognitive	0.94	209
Overall	0.93	206

Note. Coefficient Alpha reported. Pairwise deletion of missing SEQ data resulted in smaller Ns.

Table 4

Summary of Intercorrelations for Wellness and School Engagement

	AD	CD	CS	EM	ER	IN	MD	OP	SE	SC	CAWS	A	B	C
CD	.27													
CS	.58	.47												
EM	.52	.39	.53											
ER	.30	.30	.50	.29										
IN	.57	.40	.62	.50	.30									
MD	.54	.39	.64	.40	.44	.63								
OP	.42	.60	.52	.34	.42	.43	.49							
SE	.58	.52	.67	.47	.45	.60	.67	.64						
SC	.57	.46	.66	.66	.37	.54	.55	.50	.62					
CAWS	.70	.67	.83	.67	.61	.75	.77	.75	.84	.79				
Affective (A)	.17*	.25	.27	.25	.12+	.31	.13+	.12+	.22	.19	.27			
Behavioral (B)	.32	.27	.49	.23	.39	.44	.35	.35	.39	.28	.49	.61		
Cognitive (C)	.27	.33	.41	.31	.18	.49	.37	.31	.34	.31	.44	.54	.60	
SEQ	.32	.35	.48	.33	.28	.50	.37	.34	.40	.33	.50	.79	.85	.90

Note. AD = Adaptability; CD = Connectedness; CS = Conscientiousness; EM = Empathy; ER = Emotional Self-Regulation; IN = Initiative; MD = Mindfulness; OP = Optimism; SE = Self-efficacy; SC = Social Competence; CAWS = overall CAWS score; SEQ = Student Engagement in School Questionnaire

+Value not significant, $p > 0.05$. *Significant at $p < .05$; all other values were significant at $p < .01$

Appendix 1

Sample CAWS Items by Dimension and SEQ Sample Items

Children and Adolescent Wellness Scale (CAWS)

Adaptability (10 items)
13. I am agreeable
70. It's important to be flexible
84. I try to find new ways of looking at things

Conscientiousness (10 items)
23. I am dependable
82. The choices I make are thoughtful ones
93. I can admit to mistakes I make

Connectedness (15 items)
11. I am cared for and loved
31. I get plenty of support from friends and the community
66. I don't like to volunteer to help others*

Emotional Self-Regulation (17 items)
72. I feel in control of my emotions
88. I acknowledge my anger but don't express it with hostility
90. It's important to analyze events before we over-react

Empathy (12 items)
13. I enjoy differences in people
26. I can see things through other peoples' eyes
35. I accept another's point of view

Initiative (13 items)
3. I am not engaged in life*
74. I set challenging goals
12. I envision what I want, and make a plan on how to get it

Mindfulness (13 items)
12. I know what I am good at and not good at.
61. I am aware of how I make other people feel
68. I lack confidence in my abilities*

Optimism (17 items)
8. My problems seem to be never ending*
37 I keep on trying, as I know I will get there
51. My future is bright

Self-Efficacy (16 items)
58. My life is empty*
62. I take pride in my accomplishments
99. I am confident and self-assured

Social Competence (16 items)
1. I am respectful of others
17. Listening is a very important skill
33. I enjoy participating in activities with others

Student Engagement in School Questionnaire (SEQ)

Affective Engagement (9 items)
2. I think what we are learning in school is interesting
5. I think learning is boring*

Behavioral Engagement (12 items)
3. When I'm in class, I participate in class activities
7. When I'm in class, my mind wanders*

Cognitive Engagement (12 items)
1. When I study, I try to understand the material better by relating it to things I already know
9. I try to understand how the things I learn in school fit together with each other

Note. *Negative items; responses to these items are reversed for scoring purposes.