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Abstract

The Social and Emotional Health Survey-Secondary (SEHS-S) is a widely used self-report measure of adolescents' strengths and positive mental health. However, the SEHS-S does not have a proxy (i.e., parent) informant version. A parent form of the SEHS-S could allow school psychologists to gather additional information about students' strengths for intervention and assessment purposes. The development of this measure included three phases. First, we generated items and refined them in a preliminary study. Next, a subsequent confirmatory factor analysis ($N = 613$) identified the highest-loading items for scale construction. Finally, a validation study ($N = 319$) asked parents and their children to complete respective versions of the survey. The final 36-item parent measure had strong loadings and adequate model fit matching the factor structure of the self-report version. The SEHS-S-Parent also demonstrated good reliability and correlations with the self-report version, including predicting child wellbeing as measured by life satisfaction and emotional functioning. The finding that the child and parent self-report measures were highly correlated suggests that parents might provide helpful information about adolescents' strengths, especially when a self-report is unavailable. Limitations regarding the scale's interpretability and implications of a multi-informant approach are considered.

Keywords: strengths-based assessment, strengths-inclusive assessment, multi-informant assessment, Social and Emotional Health Survey, Covitality, school psychologists

Key points for practitioners: 1. Given the study's findings, this measure can efficiently and reliably gather parent-reported asset-based information for adolescents. 2. School staff can use this measure to provide a more holistic view of the student within the intervention or

psychoeducational evaluation process.

Development and Preliminary Validation of the Parent Version of the Social Emotional Health Survey-Secondary

Efforts to promote positive psychology in schools have increased significantly in the past two decades (Allen et al., 2022; Froh et al., 2011). These efforts include expanded mental health frameworks emphasizing bidimensionality, which is the notion that complete mental health balances psychological distress and positive factors (Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008). This approach is linked to the broader positive psychology movement (Seligman & Csikszentmihalyi, 2000) with research supporting the incremental utility of incorporating both positive and problem-oriented data into assessment and treatment (Huebner & Hills, 2011; Kim et al., 2014; Owens et al., 2015).

Despite the intuitive and empirical support for this approach, some have questioned whether the practices of school psychologists adequately reflect this paradigm shift (Climie & Henley, 2016; Huebner & Hills, 2011). For example, a content analysis of school psychology journals found the percentage of positive psychology-related articles has remained relatively stable (approximately 27%) in recent decades (Froh et al., 2011). This observation led the authors to “urge school psychologists to devote more attention to making contributions to a science and practice that gives equal attention to positive wellbeing” (Froh et al., 2011, p. 110) of students, such as by “incorporation of new positive psychology constructs, measures, and interventions” (Froh et al., 2011, p. 120).

A suggested reason for the delayed paradigm shift in school psychology is related to the nature of psycho-educational assessments, which are inherently deficit-defining and often focused on disabilities and psychopathology (Huebner & Hills, 2011). There is a scarcity of

information related to the percentage of strength- versus deficit-based information in psycho-educational reports. However, a study found that the percentage of positive (i.e., strengths-based) language in multidisciplinary reports was significantly less than negative language (25% and 39%, respectively; Braun et al., 2017). Thus, assessment could represent a fertile area for school psychologists to incorporate a positive, competence-based perspective of students (Huebner & Hills, 2011).

Collecting Information about Students' Strengths

Including strengths-based information in psychoeducational evaluations enhances the understanding that all children have personal assets and that focusing on students' strengths, not just weaknesses, is essential. This approach does not imply that a student's deficits and causes are unimportant; rather, a holistic view posits that positive and negative aspects of a student's functioning should be considered and reported (Allen et al., 2022; Climie & Henley, 2016; Huebner & Hills, 2011, Nickerson, 2007). Importantly, this asset-inclusive approach communicates respect and dignity for students as they are understood more clearly and comprehensively, not just by their areas of difficulty (Oswald et al., 2001). In addition, highlighting students' strengths could be empowering, thereby increasing motivation to improve social and emotional health and academic performance (Epstein et al., 2001; LeBuffe & Shapiro, 2004; Morris & Hollenbeck, 2016).

Available Instruments for Collecting Asset-Based Information

The lack of standardized measures identified by Nickerson in 2007 has been partially addressed by the recent development of several strengths-based assessment tools (e.g., Lopez & Snyder, 2003; Simmons & Lehmann, 2013). Examples of these tools include the Student

Subjective Wellbeing Questionnaire (SSWQ; Renshaw et al., 2015) and the Strengths Assessment Inventory (SAI; Rawana & Brownlee, 2010). The Social and Emotional Health Survey-Secondary (SEHS-S; Furlong et al., 2014) is a recent strengths-based measure based on student self-report. It was developed from research from the Resilience Youth Development Module (RYDM) of the California Healthy Kids Survey (CHKS; Furlong et al., 2009). The SEHS-S measures positive psychological constructs that indicate positive, promotive factors for youth ages 12-18. It is part of the overall SEHS system, which includes measures for elementary (SEHS-Primary; Furlong et al., 2013) to college-age students (SEHS-Higher Education; Furlong et al., 2017, 2021). The SEHS-S can be used across intervention tiers, including a universal screener, a progress-monitoring tool for applied interventions, or at the individual level. The SEHS-S measures are available online (University of California Santa Barbara, n.d.) and in a web-based app (Mosaic Network, n.d.). The SEHS-S has undergone additional research and modifications (Furlong, Dowdy, et al., 2021), with the most recent version titled SEHS-S-2020 (Furlong, Nylund-Gibson, et al., 2020).

The SEHS-S includes 36 items within 12 subdomains which load onto four latent traits, *belief-in-self* (self-efficacy, self-awareness, persistence), *belief-in-others* (school support, peer support, family support), *emotional competence* (emotional regulation, self-control, empathy), and *engaged living* (optimism, zest, gratitude; see Figure 1). These four factors combine to create an overall strengths score termed “covitality” (Furlong et al., 2013, 2014). The initial validation study reported high internal reliability scores for the first-order factors, including belief-in-self ($\alpha = .76$), belief-in- others ($\alpha = .81$), emotional competence ($\alpha = .78$), and engaged living ($\alpha = .87$; Furlong et al., 2014). Further, the SEHS-S has demonstrated strong psychometric properties

across validation studies occurring with diverse samples, including evidence for its higher-order structural invariance model across U.S. sociocultural groups (You et al., 2015), as well as international populations (e.g., Lee et al., 2016; Timofejeva et al., 2016). It has also demonstrated relationships with educationally relevant outcomes for youth, such as prosocial behavior, academic perseverance, and subjective wellbeing, among others (Furlong et al., 2014; Renshaw et al., 2014).

The overall strengths score, covitality, is “the synergistic effect of positive mental health resulting from the interplay among multiple positive psychological building blocks” (Furlong et al., 2013, p. 3). It is likened to modern intelligence theory’s “g factor” (Carroll, 1993). According to this theory, the “g factor” is posited to affect all subfactors composing an individual’s intellectual functioning and is usually considered the best predictor of overall cognitive ability. Relatedly, covitality is reasoned to influence all aspects of subjective wellbeing and, thus, is a strong predictor of subjective wellbeing (Renshaw et al., 2014). Covitality has demonstrated a significant and robust predictive ability of positive youth outcomes, including prosocial behavior, academic perseverance, personal adjustment, and subjective wellbeing (Furlong et al., 2014; Kim et al., 2014; Renshaw et al., 2015). It has inverse relationships with negative predictors, such as internalizing problems and global problem behavior (Renshaw & Bolognino, 2016; You et al., 2014)

Multi-Informant Approach

Implementing a multi-informant approach to collect mental-health-related information is a complex subject with both support and critique from scholars. Although the SEHS-S has many advantages, some would argue that the measure is limited in that it only has a self-report version

and not a proxy-report version, such as a report by a parent or teacher (Merrell, 2008, 2011). The principal argument against a multi-informant approach to assessment relates to the level of correspondence between respondents. Meta-analyses have revealed weak to moderate correlations among parents, teachers, and youth (Achenbach et al., 1987; De Los Reyes et al., 2015). However, other studies have indicated higher correlations between informants on strengths-based measures (Sointu et al., 2012a, 2012b). A concern with a multi-informant approach is that one does not know someone else's internal state (Cummins, 2002). Thus proxy ratings may represent an inference of another's behavior, not "true" behavior or internal conditions (Gottlieb & Bronstein, 1996). Some argue that this could lead to over-reporting of externalizing behavioral concerns and underreporting internalizing concerns (Merrell, 1999; Papandrea & Winefield, 2011).

Support for the multi-informant approach includes the possible utility of the additional data gleaned by having a proxy reporter (Dirks et al., 2012; Johnston & Murray, 2003). Although the study of incremental validity available via a multi-informant assessment approach is relatively underdeveloped (De Los Reyes et al., 2015), a recent study noted improved generalizability and accuracy of universal screening scores when using two raters (Tanner et al., 2018). As parents can see their child across long periods and in various situations, they might provide useful information regarding their child's psychological functioning (McConaughy, 1993). Further support for a multi-informant approach came from a recent shift by some scholars. Their thinking moved away from considering informant discrepancies as measurement errors or reporting bias (De Los Reyes et al., 2015). Instead, rating differences might capture meaningful information about how youth's behavior varies across situations, as humans are

complex beings (Dirks et al., 2012).

A review of the support and critique of implementing a multi-informant approach to assessment suggests that youth should have every opportunity to self-report their functioning levels. Additionally, proxy reporters could provide meaningful information (Denham et al., 2016; Smith & Handler, 2007).

Rationale for Collecting Strengths-Based Information from Parents

The rationale for school psychologists to gather data that provide a more holistic view of a student has been elucidated. The authors further posit that collecting strengths information from a parent's perspective is essential for several reasons. First, having parents report on their child's strengths could encourage parent participation and positive relationships between the school and parent/student (Epstein et al., 2003). Imagine the reaction of a parent of an adolescent who has been through several cycles of the psychoeducational evaluation process with their child who now receives a questionnaire that includes the opportunity to reflect and report on their child's unique assets. This opportunity might represent a refreshing change for parents who typically are asked to comment on and hear more about their child's problems and deficits instead of their strengths. This shift might motivate the parent to complete this measure and communicate to the parent that the school is interested in what is strong about the student, not just what is wrong. Assessments identifying needed interventions and supports are helpful; however, we propose that employing measures that expand the holistic view of the student might positively impact the family/school relationship (Epstein et al., 2003).

Additionally, a shift in language, from deficit-defining to whole-child-defining, could provide an opportunity for parents to provide information to help reframe how school members

view the student. In a 2007 study by Donovan and Nickerson, which included intrapersonal and interpersonal strengths in mock reports, multidisciplinary team members predicted more positive academic, social, and overall outcomes than when respondents read a traditional-style report (i.e., deficit-based). Teachers given strengths-based vignettes in a 2012 study (Wellborn et al.) had more positive expectations of the student, including large effects related to short- and long-term social/behavioral outcomes, moderate effects in short-term family involvement and high school graduation likelihood, and small to moderate effects related to the student demonstrating progress in academic areas. The authors concluded that “this finding provides support for one of the major assumptions of positive psychology, that is, assessments of individuals should include identification of strengths, to more fully understand their adaptation and foster more positive expectations, relationships, and outcomes” (Wellborn et al., 2012, p. 366).

Further, an information-gathering process that includes strengths information could facilitate treatment and intervention planning (De Los Reyes et al., 2015; Dowdy et al., 2015; Epstein et al., 2003) by providing “a foundation of competence upon which to improve” (Epstein et al., 2003, p. 286) or as a building block for strengths-based interventions within the school setting. Strengths-based information could be used by capitalizing on what the student enjoys and creating positive behaviors rather than eliminating interfering behaviors (Gleason, 2017). For example, if a parent reported that their child has a particular strength in Zest, an intervention targeting school or social connections might include the student becoming the school mascot, being a leader during a pep rally, or making school announcements. For this same area of strength but with the intervention targeting the student’s on-task behavior, school psychologists might consider a behavior support system including opportunities for the student to earn social

time with friends or extra PE/recess. School psychologists or other school-based mental health providers could use a parent's perspective to inform individual student counseling sessions. For example, reviewing the strengths a student's family reported could point to the need for interventions to boost the student's self-esteem or to address family-related issues.

Lastly, federal initiatives support, albeit do not mandate, consideration and incorporation of student asset-based information. For example, the reauthorization of the Individuals with Disabilities Education Improvement Act (IDEIA; 2004) dictates that students' strengths should be considered in developing their Individualized Education Program (IEP). Furthermore, interventions considering strengths and assets in families and communities for students with emotional or behavioral disorders are recommended (U.S. Department of Education, 1994). The Every Student Succeed Act of 2015 (ESSA) requires states to collect at least one "nonacademic" measure of school quality or student success, thus emphasizing the whole child, not just their academic functioning. Finally, the inclusion of strengths-based information and family/school collaboration aligns with the National Association of School Psychologists' Practice Model (2020), including domains related to data-based decision-making, mental and behavioral health services and interventions, services to promote safe and supportive schools, and family, school, and community collaboration.

Study Overview

This present study aimed to develop and preliminarily validate a parent version (SEHS-S-Parent) of the SEHS-S. The study was conducted in phases following an adaptation of the scale development conducted by Furlong and colleagues (2017; Figure 2) and guided by the Standards for Educational and Psychological Testing Framework (American Educational Research

Association et al., 2014). The university Institutional Review Board (IRB) reviewed and approved all phases. The developmental phases included:

1. Phase 1 was a preliminary study involving conceptual grounding, item generation, and item refinement for the proposed parent version of the SEHS-S;
2. Phase 2 was a pilot study involving administration and item refinement of the resulting survey; and
3. Phase 3 was a preliminary validation study involving the administration of the parent and self-report items.

Phase 1: Preliminary Study

Phase 1 Objectives

Phase 1 objectives were to optimize subscale item content and wording for appropriateness and relevance for parent informants while aiming to replicate the SEHS- S core latent structure within a robust measure. To do this, we generated content items for the 12 subdomains, as suggested by the youth version (Furlong et al., 2013, 2014).

Method

Participants

Phase 1 participants ($N = 42$) included parents, stepparents, or guardians (hereafter referred to as parents) of children ages 12-18 within a convenience sample from the investigators' contacts. Participants were recruited from multiple settings (e.g., public school systems, community organizations) to promote sample diversity. The sample was 65.9% female and varied across age categories: 30-39 years (31.0%), 40-49 years (42.9%), 50-59 years (23.8%), and 60+ (2.4%). The parental roles included mom (52.4%), dad (28.6%), stepmom

(7.1%), stepdad (4.8%), grandparent (4.8%), and guardian (2.4%). Parental ethnicity included African American/Black (2.4%), Caucasian (81.0%), Latino (9.5%), and Native American or Alaska Native (7.1%).

Instruments

We developed an items pool from an extensive literature review about measuring strengths in youth and the SEHS-S self-report. For each construct area of the SEHS-S, at least three items were adapted from the self-report version. The content was maintained, with the wording modified to reflect a proxy informant approach. For example, the student question changed from “I can deal with being told no” to “My child can deal with being told no.” All construct areas had the three items adapted from the SEHS-S plus three items adapted from the literature review. Consideration of items not directly derived from the SEHS-S self-report version was based on adaptations of questions with high factor loadings noted in the peer-reviewed literature on other measures examining youths’ strengths. In addition, the zest and gratitude areas included three additional items to account for SEHS-S self-report version pilot questions (for a total of six additional items). The final item count was 78 (12 content areas × 6 items each = 72 + 6 additional items for zest and gratitude).

Procedures

Test content validity was preliminarily addressed by consulting psychometrics and strengths-based assessment experts, including the Social and Emotional Health Survey System developers. Once the 78 pilot items were preliminarily developed and reviewed by consulting experts, item refinement was continued by having parent participants examine the items. Participants were contacted by email via a brief introduction to the survey. After agreeing to

participate, they received an email with a Qualtrics survey link. The opening survey description had an informed consent statement, including the study's potential risks, benefits, and confidentiality considerations, and participants provided consent before continuing. The participants reviewed pilot items to have information about the participants' response patterns as suggested by the Standards for Educational and Psychological Testing (American Educational Research Association et al., 2014). They provided feedback via the online survey about readability, relevance, and ability to answer the proposed items honestly and accurately. Although there were 78 pilot items, each parent only reviewed 13 to prevent fatigue and ensure brevity. The study continued until at least three participants examined every survey section.

Results

Based on input from the expert panel, preliminary item refinement included the removal of qualifier words (e.g., generally, since yesterday), rewording to minimize the use of he/she when possible, and slight wording changes to increase readability. Results from the reviews from the parent participants indicated that for most items, the participants were comfortable answering the questions honestly and accurately. The questionnaire items were sufficiently clear and relevant to their experiences as parents. However, participants indicated concerns with Persistence items as they did not know which setting (e.g., school, home) to consider when answering the question. To address this issue, "At home" was added to the beginning of each item in this construct. Some parents reported difficulty answering the School Support questions accurately as they did not interact extensively with their children in this setting. Rewording addressed specific item clarity issues, such as removing qualifier words (e.g., reasonable) and adding "about life" to the end of the zest items (e.g., "My child is energetic/enthusiastic"). No

changes were made to the Persistence items during this phase with the intent to consider the results of the next phase carefully.

Phase 2: Pilot Study

Phase 2 Objectives

To consider the internal structure of the survey, as outlined by American Educational Research Association and colleagues (2014), Phase 2 included administering a pilot survey and then item reduction following the confirmatory factor analysis (CFA) of the pilot survey responses. This CFA (see Figure 1) assessed the 12 subdomains and four latent traits (*belief in self, belief in others, emotional competence, and engaged living*), with the four factors combining to create an overall strengths score, termed “covitality,” as suggested by the child version (Furlong et al., 2013, 2014).

Method

Participants

Phase 2 participants were parents of children ages 12-18 with completed surveys (initial $n = 760$, after data cleaning $n = 613$). Participants included a diverse convenience sample from the researchers' contacts ($n = 47$), parents recruited via a public school in the southeastern United States ($n = 34$), and respondents recruited via the Qualtrics corporation ($n = 532$). The sample was 85.8% female, 13.5% male, and 0.7% other. It varied across age categories: 20-29 years (7.7%), 30-39 years (38.8%), 40-49 years (38.0%), 50-59 years (13.5%), and 60+ (2.0%). The parental roles included mom (75.9%), dad (12.1%), stepmom (5.9%), stepdad (1.1%), grandparent (2.8%), guardian (2.0%), and other (0.3%). The sample's parental ethnicity adequately represented of the U.S. current population and included African American/Black

(10.3%), Caucasian (65.9%), Latino (15.3%), Native American or Alaska Native (1.1%), Asian (4.9%), Hawaiian or Pacific Islander (0.7%), and Prefer Not to Say (1.8%).

Instruments

Pilot Survey: Social and Emotional Health Survey-Secondary, Proposed Parent Version. The 78 items (Table 1) were administered in randomly, with several per page. The gratitude and zest response options were: 1 = *not at all true of my child*, 2 = *a little true of my child*, 3 = *pretty much true of my child*, and 4 = *very much true of my child*. The zest and gratitude scales used the following response scale: 1 = *not at all true of my child*, 2 = *a little true of my child*, 3 = *somewhat true of my child*, 4 = *quite true of my child*, 5 = *extremely true of my child*. The Flesch Reading Ease score (Flesch, 1948) was 83.4%, indicating scale items were “easy” to read and were at a Flesch-Kincaid (Kincaid et al., 1975) grade level of approximately 4.0.

Validation Analysis Plan

The CFA results interpretation used standard fit statistics, including the comparative fit index (CFI), Tucker Lewis index (TLI), the root mean square error of approximation (RMSEA; with an accompanying 90% confidence interval), and standardized root mean square residual (SRMR). CFI and TLI values between .90 and .95 indicated adequate data–model fit, while values > .95 indicated good model fit. RMSEA and SRMR values between .05 and .08 indicated good model fit, while values < .05 indicated good data–model fit (Kenny 2019; Kline 2011). Fit indices (Meade et al., 2008) and model fit statistics were examined using the SPSS AMOS (version 25) statistical software package.

Procedures

An email informed all study participants, briefly explaining the survey purpose and link. The PI directly contacted individual contacts via email, and the schools contacted individuals using their parent email database. Due to insufficient participants, additional participants were recruited from across the United States via Qualtrics. The opening statement provided informed consent explaining the survey to parents, including the study's potential risks, benefits, and confidentiality considerations. Completing the parent survey was optional, and parents had the right to withdraw from participation at any point during survey administration without repercussion. The survey form did not collect parents' or children's names.

The pilot survey was administered electronically using the Qualtrics ® platform and continued until at least 600 viable surveys were collected. Integrity checks included excluding participants who completed the survey in less than one-half the median soft-launch time (8.7 minutes). Next, a data review ascertained if participants unexpectedly answered all items with the same choice. Lastly, a non-measure item asked the respondent to give a specific response (e.g., "For this item, please answer "a little true"). Overall, 613 total surveys passed all integrity checks.

Results

This study set out to evaluate if the SEHS-S-Parent version had a similar factor structure as the self-report version and measured the robustness of the a priori hypothesized model with a proxy-informant model (i.e., parent-report). The 78 Phase 2 pilot items ($n = 613$) were entered into the a priori hypothesized model based on the SEHS-S self-report version (see Figure 1). Individual items were entered as observable variables into their proposed latent subdomain (e.g., Self-Efficacy, Optimism). The model also included the four first-order factors (Belief-In-Self,

Belief-In-Others, Emotional Competence, Engaged Living) and the Covitality second-order latent factor.

The CFA's ($N = 613$) fit indices indicated that the model approached adequate to adequate fit and improved once the four highest-loading items per construct were retained, as noted in an exploratory analysis (Table 2). All parameter estimates were statistically significant ($p < .001$). The model identified 48 viable items, four per each of the eight SEHS-S-Parent subscales. The pattern coefficients relating the factors with the items were statistically significant (all $ps < .001$) and robust, ranging from .70 to .91. Within each area, the four items with the highest factor loadings were maintained (Table 1). When two items had the same factor loading, if one item was from the SEHS family, it was retained, and if both were not from the SEHS family, the item considered to address a unique aspect of functioning with the subscale was retained. In summary, the initial 78 items were reduced to 48 through factor analysis, then tested in Phase 3.

Phase 3: Preliminary Validation Study

Phase 3 Objectives

Objectives for Phase 3 included coadministration of the parent version with the self-report survey to examine the psychometric properties of the 48-item parent version for factor structure and correlation levels between parent- and self-report versions. These objectives allowed for further analyses of internal structure and considered the survey as it relates to other variables, as suggested by the Standards for Educational and Psychological Testing Framework (American Educational Research Association et al., 2014).

Method

Participants

Participants within Phase 3 were youth in Grades 6-12 and their parent or guardian (initial $N = 452$, after data cleaning $N = 319$) who did not participate in previous phases.

Participants were recruited via two public school systems in the southeastern United States ($N = 21$) and Qualtrics ($N = 298$). The parent sample was 80.3% female, 18.8% male, 0.6% gender non-binary, and 0.3% other. It varied across age categories: 30-39 years (38.9%), 40-49 years (39.2%), 50-59 years (16.9%), and 60+ (5.0%). The parental roles included mom (74.6%), dad (16.9%), stepmom (2.8%), stepdad (0.9%), grandparent (4.1%), and guardian (0.6%). The sample's parental ethnicity was representative of the U.S.'s current population and included African American/Black (12.5%), Caucasian (64.6%), Latino (15.4%), Native American or Alaska Native (1.3%), Asian (5.3%), Hawaiian or Pacific Islander (0.3%), and Prefer Not to Say (0.6%).

The child sample was 53.9% female, 45.8% male, and 0.3% gender non-conforming. The sample varied in age across grade categories: 6th grade (14.0%), 7th grade (11.1%), 8th grade (14.9%), 9th grade (13.7%), 10th grade (16.7%), 11th grade (13.2%), and 12th grade (16.4%). Child ethnicity was representative of the U.S.'s current population and included African American/Black (12.9%), Caucasian (62.1%), Latino (15.0%), Native American or Alaska Native (1.6%), Asian (4.4%), Hawaiian or Pacific Islander (0.6%), and Two or More Groups (3.4%).

Setting

The survey was conducted electronically. Participants were recruited from two school districts and Qualtrics Corporation's recruitment services. School district 1 was in rural central

Arkansas serving approximately 300 students in Grades 7-12. Roughly half (52%) of the population was considered low-income, and 9% were eligible for special education services.

School district 2 was in the suburban southeastern U.S. serving approximately 11,500 students in Grades 6-12. Seventy-one percent of the district students had low-income, and 10% were eligible for special education services.

Instruments

Social and Emotional Health Survey-Secondary, Self-Report Version. The SEHS-S (Furlong et al., 2014) is a 36-item self-report measure of positive psychological constructs that are indicators of positive, promotive factors for youth ages 12-18 (see the available assessments section above for description and psychometrics). The SEHS-S self-report version was administered to students, not parents. The SEHS-S has a four-point response option for all subscales except the gratitude and zest subscales and includes the following options: 1 = *not at all true*; 2 = *a little true*; 3 = *pretty much true*; and 4 = *very much true*. The gratitude and zest scales have the following response scale: 1 = *not at all*; 2 = *very little*; 3 = *somewhat*; 4 = *quite a lot*; 5 = *extremely*. Cronbach's alpha for the current sample was excellent ($\alpha = .95$).

Social and Emotional Health Survey-Secondary, Proposed Parent-Report Version. Phase 3 used 48 items from Phase 2. Response scaling was the same as the self-report version. The Flesch Reading Ease score (Flesch, 1948) was 81.5/100, indicating scale items were "easy" to read and were at a Flesch- Kincaid (Kincaid et al., 1975) grade level of 4.4, thus making it appropriate for the current sample. Cronbach's alpha for the present study's participants was excellent ($\alpha = .97$).

School Connectedness. The School Connectedness Scale (SCS) is a five-item self-report

measure widely used in research to measure student bonding and school attachment (e.g., Anderman, 2002; Libbey, 2004). This scale has acceptable reliability ($\alpha = .82$ to $.88$) and concurrent validity ($r = .44$ to $.55$) across 18 sociocultural groups (Furlong et al., 2011). The response scale was a five-point Likert scale in which students indicated their level of agreement with each statement. Cronbach's alpha for the current sample was excellent ($\alpha = .96$).

Subjective Wellbeing. The subjective wellbeing composite used several measures, including general life satisfaction and recent affective experience measures, to form a composite subjective wellbeing index, as recommended by Long and colleagues (2012) and Park and colleagues (2004). The first measured child participants' self-perceived life satisfaction via a sliding scale (1–100). Second, five items from the Student Life Satisfaction Scale (SLSS; Huebner 1991; Huebner 1995) were included to measure students' global life satisfaction. The students responded to various appraisal statements via a six-point response scale (1 = *strongly disagree* to 6 = *strongly agree*). Cronbach's alpha was calculated for the five scale items with the current sample and indicated good reliability ($\alpha = .84$). Finally, selected items from the Positive and Negative Affect Scale (PANAS; Watson et al., 1988) were included to measure emotional experiences within the last two weeks. The PANAS has a five-point response scale that provides options ranging from 0 = *not at all* to 4 = *extremely*, with the positive (3) and negative (3) affect items with the highest factor loadings (Crawford & Henry, 2004). Cronbach's alpha was calculated for the six-item scale and indicated good reliability ($\alpha = .82$).

Procedures

Participants were initially recruited from the two participating school districts but due to insufficient participants, additional participants were recruited from across the United States via

Qualtrics. Informed consent was provided to all participants in an opening statement explaining the survey to participants, including the study's potential risks, benefits, and confidentiality considerations. Participants had the right to withdraw from participation at any point during survey administration without repercussion. The school-based student participants had signed parent permission slips plus assented to participation after reviewing an opening statement explaining the survey. The school-recruited participants were administered the questionnaire online through the Covitality App (Mosaic Network, n.d.). Student and parent names were not collected on the survey. Instead students were provided an identification number by a school staff member. This number was paired with a unique survey link sent to parents via Qualtrics by the principal investigator (PI). The schools did not have access to the results of the parent surveys. The Qualtrics-recruited parents and their children completed the questionnaire via an online dyad survey from Qualtrics Corporation.

Several steps assessed the integrity of the parent and student responses (DeVellis, 2017). If participants unexpectedly answered all items with the same choice (e.g., all answers were “a little true”), this survey was deemed invalid and not included in the subsequent analyses. Also, the same validity check question from Phase 2 (“For this item, please answer “a little true”) was administered—if the correct choice was not selected, the survey was considered invalid. In addition, the child survey included six integrity check questions (e.g., “If you had to choose one flavor of ice cream for a year, which would you select?”). Child surveys were removed if two or more of these questions were answered with an unexpected response (e.g., answered rum raisin ice cream). Overall, 319 total dyad surveys passed all integrity checks.

Results

Confirmatory Factor Analysis of Final Parent Version

The 48 Phase 2 pilot items were entered into the a priori hypothesized model, and a CFA was conducted (see Figure 1). The individual items entered as observable variables into their respective subdomain categories (e.g., self-efficacy, optimism; see Figure 1). The model also included the four first-order factors (Belief-In-Self, Belief-In-Others, Emotional Competence, Engaged Living) and the Covitality second-order latent factor. The CFA's ($N = 319$) fit indices indicated that the model had an adequate fit (Table 3) and all parameter estimates were statistically significant ($p < .001$).

The model identified 36 viable items (see bolded items for Phase 3; Table 1) mirrored the self-report measure. Generally, each subscale retained the three highest loading items. Adapted SEHS-S items were maintained for subscales with the same loadings. For subscales with items with the same factor loadings and from the SEHS-S family, items were maintained that represented a unique aspect of the construct (i.e., asked about the concept in a novel manner). An exploratory CFA analysis with the final 36 items indicated an improved fit from the 48-item model (Table 3). The pattern coefficients for the final 36-item model relating the factors with the items were all robust, ranging from .67 to .93 and statistically significant (all $ps < .001$; Table 1). The final product had adequate to excellent reliability coefficients for the subscales (ranging from .74 to .95; Table 4).

Correlations of Parent and Child Versions

Pearson product-moment correlations were calculated in SPSS to analyze cross-informant correlations between the parent rating (proposed final version) and self-report SEHS-S versions. Table 5 displays the correlations between the parent rating and self-report versions for the total

covitality scores and each identified lower-order factor. All correlations were significant at the $p < .10$ level and ranged from .45 to .92. When considering the parent versus child correlation levels between the first (BIS, BIO, EC, and EL) and second-order factors (COV), the correlations were considered moderate to strong ($r = .45$ to $.82$), thus supporting the hypothesis.

After completing Phase 3 CFA, the preliminary predictive validity of the parent covitality score related to their child's subjective wellbeing was analyzed via a structural equation model (SEM) using SPSS AMOS, version 25 (see Figure 3). The analysis was considered preliminary because it used the same participants from the Phase 3 CFA. The measurement model consisted of 36 parent items that were maintained following the results of the Phase 3 CFA. Subjective wellbeing was a composite of the self-perceived life satisfaction (sliding scale 1–100), five items from the Student Life Satisfaction Scale (SLSS; Huebner 1991, 1995; Likert 1-6; 2 reversed-scored), three PANAS (Watson et al., 1988) positive items (Likert 1-5), and three PANAS negative items (Likert 1-5), as reported by the child participants. Fit indices (Meade et al., 2008) and model fit statistics were examined. The analysis revealed a significant positive relationship to subjective wellbeing, with the overall model having an adequate fit to the data, $\chi^2 = 1291.48$, $df = 726$, $p < .001$, CFI = .94, TLI = .93, SRMR = .06, RMSEA = .05, 90% CI [.045, .054], (see Figure 3). All parameter estimates were statistically significant ($p < .001$). The parent covitality score and the PANAS negative items had a strong negative relationship. Thus, the results support the hypothesis that parental rating of strengths predicted their child's subjective wellbeing with the current sample.

Discussion

The present study measured adolescents' strengths from a parent's perspective. The

overarching purpose was to develop and investigate the validity of a proposed parent version (SEHS-S-Parent) of the Social Emotional Health Survey-Secondary (SEHS-S; Furlong et al., 2014). Such a version might add to the literature by providing a new tool for collecting strengths-based information. This tool could assist school psychologists in providing an efficient means of gathering parent-reported asset-based information for inclusion in psychoeducational evaluations. Employing the SEHS-S-Parent could support positive parent and school relationships as parents understand that the school wants to better understand and serve their child by requesting and honoring parent input. Additionally, this information might help reframe school professionals' view of the student, which could lead to improved expectations and understanding of the student. Also, information collected from parents could aid in providing targeted interventions or support founded on the student's strengths. Finally, including parents' perspectives and incorporating areas of strength are supported by initiatives such as the NASP Practice Model.

The development of the SHS-S-P occurred in three phases. Phase 1 adapted the SEHS-S to represent a parent's perspective while retaining its latent constructs. Experts within the field and parents had a voice in the development and item-refinement process. Phase 2 investigated the factor structure of a preliminary version and supported the retention of the structure of the SEHS-S with a high-order (*covitality*) factor and four subdomains (*belief-in-self*, *belief-in-others*, *emotional competence*, and *engaged living*). Using another sample, Phase 3 replicated and refined scale development with results again supporting the hypothesized latent factor structure and indicating predictive utility related to youths' evaluations of wellbeing and school connectedness.

Additional analyses evaluated the understanding of the potential utility of a multi-informant approach, including a review of the correlation levels between self-report and parent rating versions of the scale. The results indicated strong correlations between parent and child factors ($r = .45$ to $.82$). These are promising findings, especially when compared to correlation levels found between self-report and parent-rating versions of another strengths-based measure ($r = .25$ to $.43$; Sointu et al., 2012b). Furthermore, the correlation levels were higher than those reported in a relevant meta-analysis (Achenbach et al., 1987), which found weak to moderate correlations between parents and children ($r = .25$) when measuring emotional and behavioral problems. These results, and other studies (Sointu et al., 2012a, 2012b), suggest that parents and other respondents agree more on students' competencies than their deficits. It also implies that school psychologists and researchers could obtain similar child strengths information from parents when self-report data are unavailable.

The core SEHS-S-Parent psychometrics are promising and support a new measurement tool. However, interpretation should consider the modest sample size and model fit at this stage of its development. We also caution that the second CFA and structural equation model predicting subjective wellbeing used the same subsample ($N = 319$). Future work should continue the examination of the theoretical structure with diverse samples.

Limitations and Future Implications

A primary limitation of the study is the sample sizes for the study's three phases. Although some could consider the sample size adequate, we encourage future studies that replicate these findings using larger, diverse samples. Despite reservations regarding the sample size, the study provided preliminary evidence of the factor structure and validity of the proposed

SEHS-S-Parent version. Other limitations are related to generalizability. Although the current study included samples representative of the U.S. population in later phases, the preliminary item refinement process included mostly White mothers. The narrow participant diversity limits the generalizability of the results to other ethnic groups or parental roles. Future work related to further understanding the internal structure of the measure, as recommended by the Standards for Educational and Psychological Testing Framework (American Educational Research Association et al., 2014), includes measuring invariance across gender and U.S. sociocultural and international populations with the proposed SEHS-S-Parent version.

Another study limitation is that the child measures were self-reported, which could lead to biases associated with self-reporting including honesty of reporting, tendency to respond in socially desirable ways, the introspective ability of participants, and response bias. Procedures to decrease the impact of potential self-report bias were used, including validity questions, gaining assent, and informing students of the confidentiality of the results. Despite these procedures, reporter biases might have affected the results. Future studies might include subjective and objective measures, such as grade point average (GPA), teacher-completed measures, or a child's social skills and relationships outside school. Examining SEHS-S-Parent associations with objective measures would further our understanding of the measure's relation to other variables, as suggested by the American Educational Research Association and colleagues (2014). In addition, some measures included proxy-reporting of internalized states or assets. Although previous research has suggested that parents are more accurate than teachers or others in reporting a child's internal states (Becker et al., 2004; Dowdy et al., 2011; Phares, 1997), one cannot fully understand another's internal processes. Reporting on another's subjective states

could lead to biases or errors.

Future considerations for the SEHS-S-Parent include continued conceptualization and refinement of the scale's constructs (Ettinger et al., 2022), including covitality. Covitality is conceptualized as a higher-order latent factor that provides one manner of structuring social and emotional experiences. However, covitality does not include all assets a youth might possess. As such, alternative hypotheses regarding the relationships between the underlying constructs should be explored, particularly from the parental perspective.

Another future consideration is to adjust the wording of gender-specific labels (e.g., he, she) to a gender-neutral format (e.g., they/their). Also, providing the same response scale for all items may be helpful. The scaling for the proposed parent version was held constant (Likert 1-4 for all areas except zest and gratitude) to the original SEHS-S scaling, but all items on the SEHS-S are now on a Likert 1-4. Future work should shift the scaling for all items to a Likert 1-4 scale.

Overall, the SEHS-S-Parent offers schools a prospective vehicle for parent involvement and a tangible way to increase the presence of positive psychology. This version extends the SEHS family by providing a feasible way to include parent-reported strengths-based components in school-based assessment and intervention.

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Table 1

Standardized Factor Loadings for the Proposed Parent Version of the Social Emotional Health Survey-Secondary

Scales and items	Loadings Phase 2/Phase 3
Prompt: For the following items, you will be asked questions about your child. Please select from the options. 1 = Not at all true of my child, 2 = A little true of my child, 3 = Pretty much true of my child, 4 = Very much true of my child Zest and gratitude response choices: 1 = Not at all true of my child; 2 = A little true of my child; 3 = Somewhat true of my child; 4 = Quite true of my child; 5 = Extremely true of my child	
Belief-in-Self	
<i>Self-Efficacy</i>	
SE1. My child believes he/she can solve his/her problems.	.41
SE2. My child believes he/she can do most things if he/she tries.	.76/.63
SE3. My child believes that there are many things that he/she does well.	.69
SE4. My child feels able to overcome challenges.	.79/.83
SE5. My child believes in his/her ability to reach goals.	.80/.78
SE6. My child trusts in his/her own ability to overcome challenges.	.78/.79
<i>Self-Awareness</i>	
SA1. My child believes he/she has a purpose to life.	.71
SA2. My child understands why he/she does what he/she does.	.77/.78
SA3. My child understands his/her moods and feelings	.74/.74
SA4. My child understands the motivations for his/her actions.	.77/.74
SA5. My child has a good sense of why he/she feels certain feelings	.76/.76
SA6. My child can identify errors in his/her thinking.	.72
<i>Persistence</i>	
PR1. At home, my child keeps asking until he/she understands a concept.	.60
PR2. At home, when asked a question, my child tries to answer	.64
PR3. At home, when solving a problem, my child does not stop until he/she finds a solution.	.76/.75
PR4. At home, even when things are hard, my child keeps trying.	.80/.80
PR5. At home, my child does not stop working on a task even if it is very hard.	.76/.83
PR6. At home, my child keeps going on a task even if he/she doesn't immediately complete it.	.74/.79
Belief-In-Others	
<i>School Support</i>	
SS1. At my child's school, there is a teacher or another adult who always wants my child to do his/her best.	.76/.77
SS2. At my child's school, there is a teacher or another adult who listens to my child.	.78/.82
SS3. At my child's school, there is a teacher or another adult who believes that my child will be a success.	.77/.81
SS4. My child feels a sense of togetherness at his/her school.	.71
SS5. My child feels a sense of belonging at his/her school.	.72
SS6. People at school care about my child.	.80/.77
<i>Family Support</i>	
FS1. My child has family members who help and support one another.	.75/.70
FS2. My child feels a sense of togetherness in our family.	.79/.73
FS3. My child has a family that gets along well with each other.	.78/.78
FS4. My child is in a family that loves and supports one another in tough situations.	.72
FS5. My child interacts positively with his/her parents.	.69
FS6. My child has positive family relationships.	.80/.82

<i>Peer Support</i>	
PS1. My child has a same-age friend who cares about my child	.83
PS2. My child has a same-age friend to talk with about problems	.86/.86
PS3. My child has a same-age friend who helps my child during hard times.	.85/.86
PS4. My child has a friend he/she can talk to about anything.	.86/.90
PS5. My child has a friend who gives them emotional support when needed.	.86/.87
PS6. My child has a close friend that helps when my child needs it.	.85
Emotional Competence	
<i>Emotional Regulation</i>	
ER1. My child accepts responsibility for his/her actions.	.80/.83
ER2. When my child makes a mistake, he/she admits it.	.71/.76
ER3. My child can deal with being told no	.74/.78
ER4. My child responds to letdowns in a calm manner.	.75/.67
ER5. My child does not lose his/her temper.	.65
ER6. When upset, my child calms down quickly.	.71
<i>Empathy</i>	
EM1. My child feels bad when others get their feelings hurt.	.73/.69
EM2. My child tries to understand what others go through	.81/.82
EM3. My child tries to understand how others feel and think.	.83/.87
EM4. My child is sensitive to the feelings and needs of others.	.78/.75
EM5. My child is aware of others' hardships.	.72
EM6. When my child sees someone being treated unfairly, he/she feels sorry for that person.	.72
<i>Self-Control</i>	
SC1. My child can wait for what he/she wants.	.66
SC2. My child doesn't bother others when they are busy	.64
SC3. My child thinks before acting.	.82/.78
SC4. My child thinks about possible consequences before acting.	.84/.79
SC5. My child makes good decisions.	.80/.81
SC6. My child acts responsibly.	.82/.82
Engaged Living	
<i>Optimism</i>	
OP1. Each day, my child looks forward to having fun.	.70/.67
OP2. My child expects to have a good day.	.73/.77
OP3. My child expects more good things to happen than bad things.	.71/.65
OP4. My child expects good things to happen to him or her.	.70
OP5. My child stays positive even when facing uncertain situations.	.72/.70
OP6. My child considers problems as temporary.	.69
<i>Zest</i>	
ZE1. On most days, my child is energetic about life.	.83
ZE2. On most days, my child is active.	.70
ZE3. On most days, my child is enthusiastic about life.	.89/.90
ZE4. My child is energetic about life.	.91/.90
ZE5. My child is active.	.70
ZE6. My child is lively	.80
ZE7. My child is full of positive energy.	.84/.88
ZE8. My child is fun to be around.	.71
ZE9. My child has excitement and energy about life.	.90/.88
<i>Gratitude</i>	
GR1. My child could make a long list of things that he/she is grateful for.	.76
GR2. My child seems thankful for so much in life.	.87/.93
GR3. My child voices gratitude to many different people	.85
GR4. My child is grateful.	.88/.89
GR5. My child is thankful.	.90/.92

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GR6. My child is appreciative.	.85
GR7. My child is thankful for the relationships he/she has with loved ones.	.81
GR8. My child voices thankfulness for those who are close to him/her.	.86/.93
GR9. My child voices thanks when others help him/her.	.79

Note. Maintained items shown in **bold**. All loadings were statistically significant at $p < .05$.

Table 2*Summary of Fit Indices of Confirmatory Factor Analysis, Phase 2*

<i>Model</i>	<i># of Item s</i>	<i>N</i>	<i>Model Fit Indices</i>							
			<i>df</i>	χ^2	$\chi^{2/df}$	<i>CFI</i>	<i>TLI</i>	<i>SRMR</i>	<i>RMSEA</i>	<i>90% CI</i>
1	78	613	2909	7342.2	2.52	.88	.88	.07	.05	.048, .051
2	48	613	1064	2444.4	2.30	.94	.93	.05	.05	.044, .048

Note. CFI = comparison fit index; TLI = Tucker-Lewis Index; SRMR = standardized root mean square residual; RMSEA = root mean square error of approximation; CI = Confidence Intervals.

* $p < .001$.

Table 3*Summary of Fit Indices of Confirmatory Factor Analysis, Phase 3*

<i>Model</i>	<i># of Item s</i>	<i>N</i>	<i>Model Fit Indices</i>							
			<i>df</i>	χ^2	$\chi^{2/df}$	<i>CFI</i>	<i>TLI</i>	<i>SRMR</i>	<i>RMSEA</i>	<i>90% CI</i>
1	48	319	1064	1815.5*	1.71	.93	.93	.06	.05	.044, .052
2	36	319	587	1016.6*	1.73	.95	.95	.05	.05	.043, .053

Note. CFI = comparison fit index; TLI = Tucker-Lewis Index; SRMR = standardized root mean square residual; RMSEA = root mean square error of approximation; CI = Confidence Intervals.

* $p < .001$.

Table 4

Psychometric Characteristics of the Proposed Parent Version of the Social Emotional Health Survey-Secondary (36 scale items) Predicting Subjective Wellbeing (n = 319)

Parent SEHS-S Subscales (total range)	<i>M</i>	<i>SD</i>	<i>Skewness</i>	<i>kurtosis</i>	<i>α</i>
<i>Belief-in-Self (9-36)</i>	27.33	5.56	-0.42	-0.56	.91
Self-Efficacy (3-12)	9.54	1.96	-0.42	-0.78	.84
Self-Awareness (3-12)	9.03	2.03	-0.46	-0.19	.81
Persistence (3-12)	8.76	2.24	-0.39	-0.49	.85
<i>Belief-in-Others (9-36)</i>	29.91	4.99	-0.76	-0.09	.86
School Support (3-12)	10.07	2.03	-1.00	0.37	.84
Family Support (3-12)	10.36	1.87	-1.19	0.96	.81
Peer Support (3-12)	9.48	2.45	-0.78	-0.22	.91
<i>Emotional Competence (9-36)</i>	27.47	5.70	-0.56	-0.31	.91
Emotional Regulation (3-12)	8.86	2.29	-0.51	-0.45	.83
Empathy (3-12)	9.39	2.12	-0.58	-0.44	.85
Self-Control (3-12)	9.22	2.07	-0.59	-0.16	.84
<i>Engaged Living (9-45)</i>	33.20	6.91	-0.61	-0.15	.93
Optimism (3-15)	9.53	1.86	-0.60	-0.35	.74
Zest (3-15)	11.94	2.82	-0.93	0.14	.92
Gratitude (3-15)	11.73	2.84	-0.95	0.29	.95
<i>Covitality (42-153)</i>	117.92	20.44	-.58	-0.34	.97
<i>Subjective Wellbeing (12-160)</i>	131.50	21.59	-1.18	1.61	.77

Note. Means are total raw scores. Subjective Wellbeing = Satisfaction with Life Scale items (two reverse-scored items) + Global Life Scale + PANAS-positive + PANAS-negative (reverse scored).

Table 5

Pearson Correlations, Means, and Standard Deviations for Composite Variables for Proposed Parent Version of the Social Emotional Health Survey-Secondary (N = 319)

Variable	1	2	3	4	5	6	7	8	9	10
1. Covi_P	—									
2. Covi_C	.82*	—								
3. BIS_P	.92*	.76*	—							
4. BIS_C	.73*	.89*	.76*	—						
5. BIO_P	.82*	.67*	.68*	.55*	—					
6. BIO_C	.68*	.81*	.57*	.64*	.77*	—				
7. EC_P	.90*	.72*	.82*	.65*	.66*	.51*	—			
8. EC_C	.72*	.82*	.67*	.71*	.52*	.54*	.75*	—		
9. EL_P	.86*	.75*	.75*	.63*	.63*	.58*	.69*	.60*	—	
10. EL_C	.66*	.86*	.59*	.69*	.45*	.54*	.53*	.57*	.71*	—
<i>M</i>	117.92	116.39	27.34	27.32	29.91	30.10	27.47	27.48	33.20	31.49
<i>SD</i>	20.44	18.25	5.56	5.22	4.99	4.99	5.70	5.05	6.91	6.28

Note. Covi_P = Covitality Parent Total Score, Covi_C = Covitality Child Total Score, BIS_P = Belief in Self Parent Total Score, BIS_C = Belief in Self Child Total Score, BIO_P = Belief in Others Parent Total Score, BIO_C = Belief in Others Child Total Score, EC_P = Emotional Competence Parent Total Score, EC_C = Emotional Competence Child Total Score, EL_P = Engaged Living Parent Total Score, EL_C = Engaged Living Child Total Score.

* $p < .01$.

Figure 1

Model of the Social Emotional Health Survey-Secondary, with 12 Subdomains, 4 First-Order-

Factors and Covitality, a Second-Order Latent Factor.

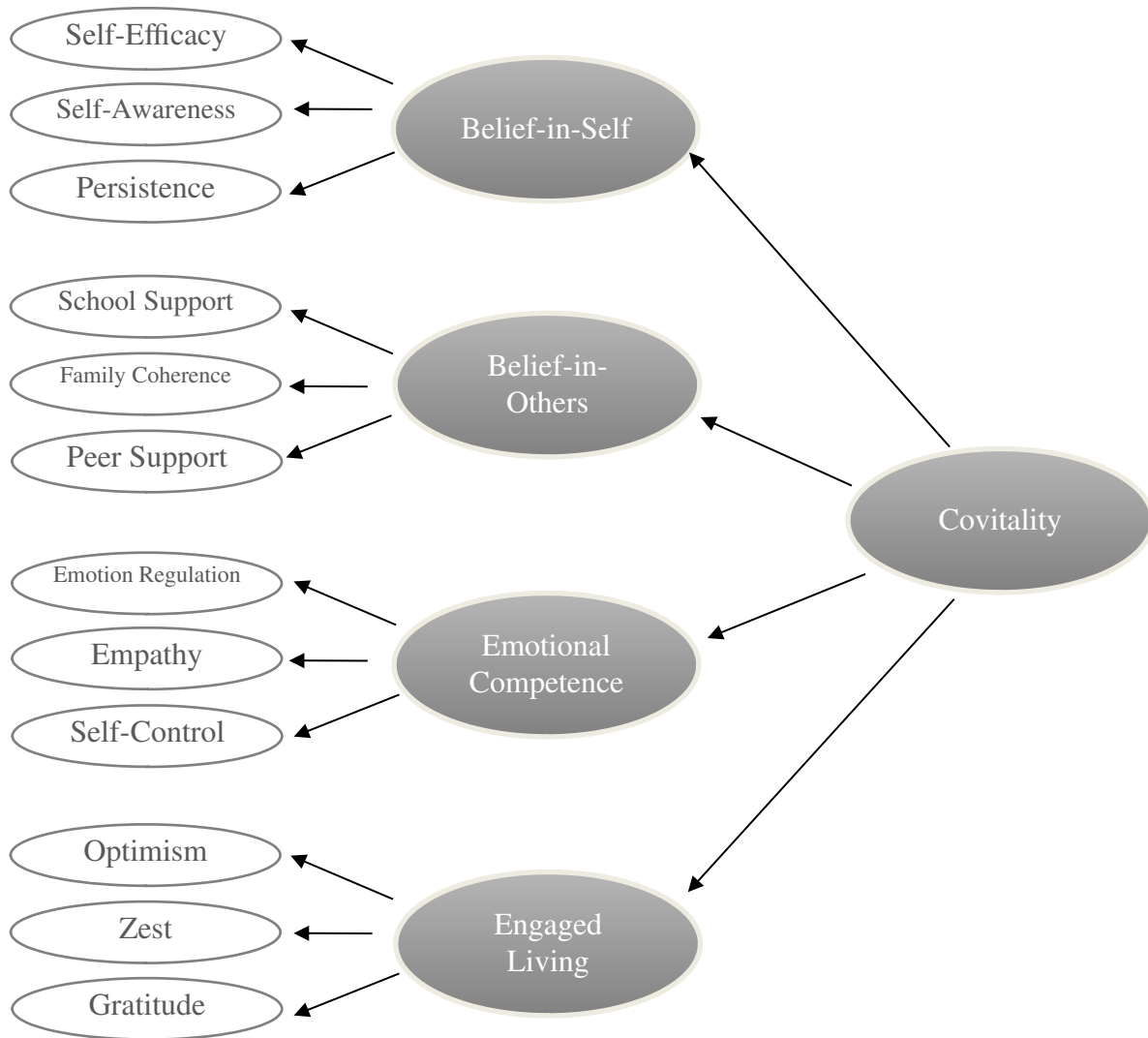


Figure 2

Overview of the Proposed Parent Version of the Social Emotional Health Survey-Secondary Development Phases.

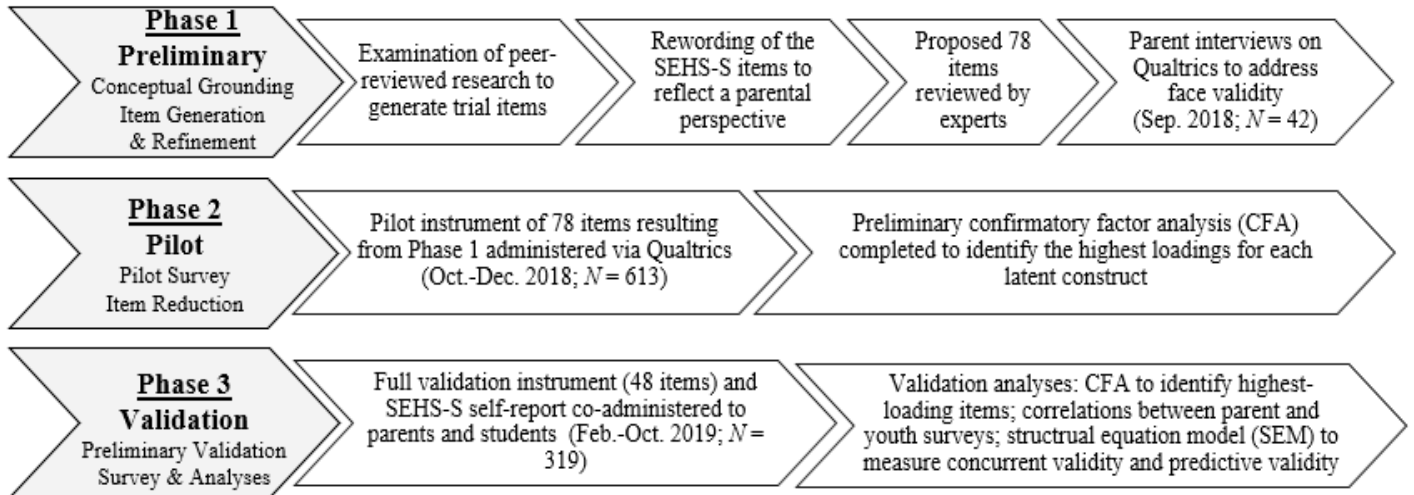
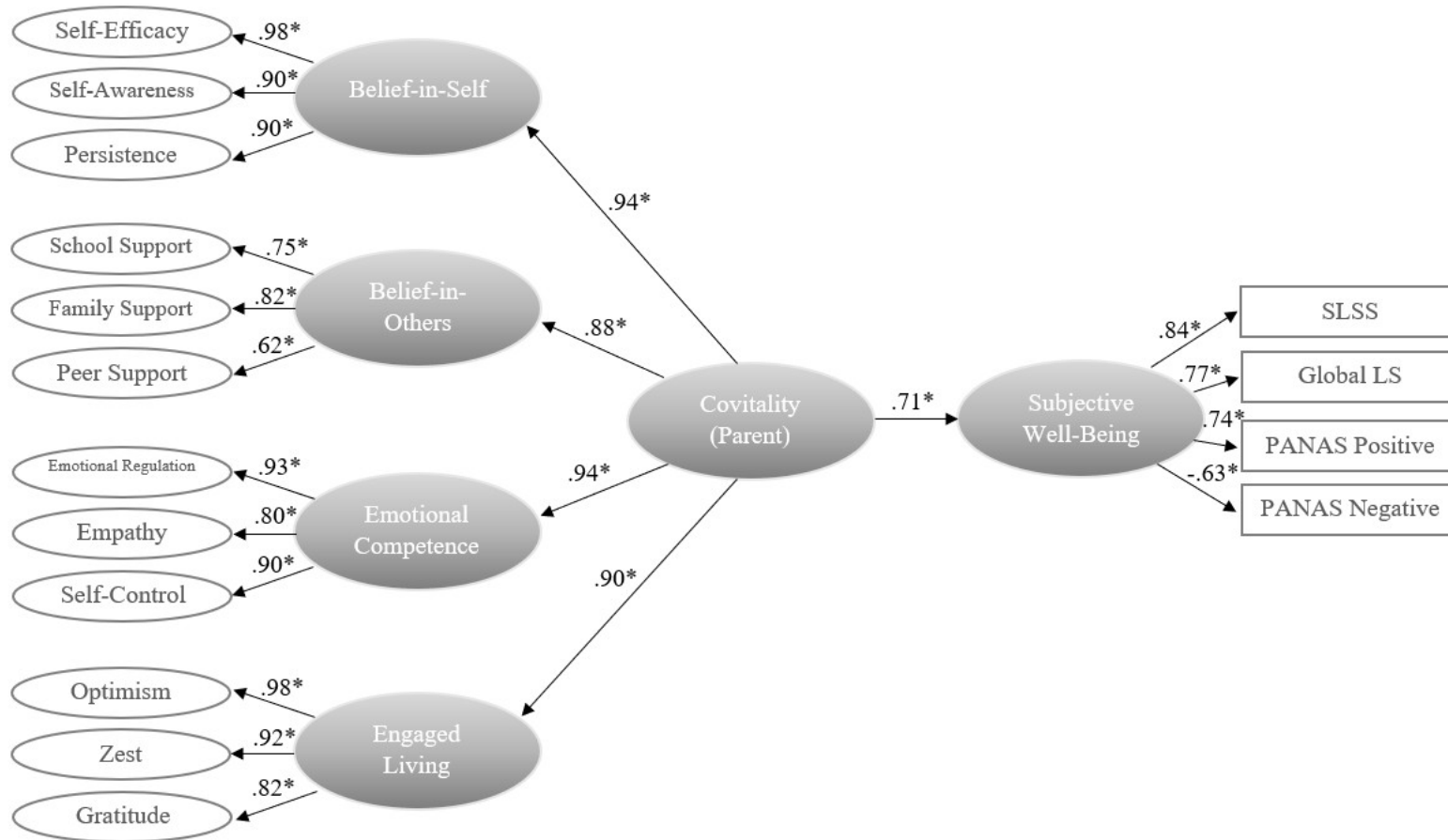


Figure 3

Standardized Coefficients for the Proposed Parent Version of the Social and Emotional Health Survey–Secondary, Hierarchical Covitality Model Predicting Subjective Wellbeing (N = 319).



Note. SLSS = Student Life Satisfaction Scale (2 items reverse-coded). Global LS = Global Life Satisfaction. * $p < .01$.