

WellSAT-I

Wellness School Assessment Tool for Implementation

DEVELOPMENT OF THE WELLNESS SCHOOL ASSESSMENT TOOL INTERVIEW

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SUMMARY

This document describes the process of developing and testing the WellSAT-I, an interview measure designed to assess the implementation of school wellness policies. A national team of researchers created a series of interview questions for (a) district-level staff (e.g., head of curriculum, food service director, information technology administrator) to assess the implementation of district-level policies, and (b) school-level staff (e.g., school principal, health teacher, physical education teacher, cafeteria manager) to assess the implementation of policies at the school building level. First, cognitive interviews were conducted to ensure that the interview questions were clear to the intended respondents. Next, an expanded team of university-based researchers, local government, and non-profit staff members in eight states were invited to test the measure with school districts in their areas. During the 2016-2017 school year, data were collected from a diverse group of 95 schools within 42 school districts across eight states. The original WellSAT-I was based on WellSAT 2.0; however, in 2019, the interview measure was updated based on user feedback and to match WellSAT 3.0 items. The final, WellSAT-I (3.0 version) is available on the www.wellsat.org website.

BACKGROUND

In 2006, local district wellness policies (hereafter called SWPs for School Wellness Policies) were required in all school districts participating in Federal Child Nutrition Programs.¹ The original federal language stated that SWPs were required to include: (a) goals for nutrition education and physical activity to promote student wellness; (b) nutritional guidelines for all foods available on each school campus during the school day; (c) an assurance that reimbursable school meals follow federal law; (d) a plan for measuring policy implementation; and (e) the involvement of parents, students, the school food authority, school board, school administrators, and the public in the development of the policy.¹ In 2016, the U.S. Department of Agriculture (USDA) released updated regulations that required district policies to also: (a) review and consider evidence-based strategies to promote student wellness; (b) comply with federal competitive food nutrition standards (i.e., Smart Snacks) for all foods sold on campus during the school day; (c) prohibit marketing of all foods and beverages that do not meet Smart Snacks standards; (d) permit all stakeholders to participate in policy development, implementation, review and updates; (e) report annually to the community about policy content, implementation and updates; (f) complete triennial assessments on compliance, alignment with model policies, and progress towards goals; and (g) designate one or more officials as responsible for school-level compliance with the policy.²

To quantitatively assess the strength and comprehensiveness of written school wellness policies, a team of researchers developed the Wellness School Assessment Tool (WellSAT), originally published in 2009.³ The WellSAT was shortened and put online in 2010, and has subsequently been updated twice to versions 2.0 (in 2015) and 3.0 (in 2018) to reflect changes in the federal law, research evidence, best practice recommendations, and feedback from users.⁴

As the field of study of school wellness policies grew, it became clear that tools were needed to assess not only the quality of the written policy, but also the degree of policy implementation within the school environment. A wide variety of methodologies have been used to study wellness policy implementation. Some researchers have developed implementation specific questionnaires,⁵ while others have used questions from existing state-level questionnaires,⁶⁻¹⁰ or questions from within resources created to improve school wellness efforts across the nation,^{11,12} such as the Alliance for a Healthier Generation's Healthy Schools Program¹³ or the Center for Disease Control's School Health Index.^{14,15} Several studies have attempted to evaluate the quality of written wellness policies using the WellSAT and the degree of policy implementation using varied sources,^{11,16,17} but the ability to match

policy quality with implementation at the item level have been very limited due to the specific nature of the WellSAT and the broader nature of the implementation assessment tools. A need emerged in the field for a research tool that would allow a direct comparison between the language in a written school district policy and reported implementation of the relevant practices by individuals who work in the school and district. The WellSAT Interview (WellSAT-I) was developed to meet that need.

MEASURE DEVELOPMENT

Determining measure structure: A national team of researchers actively involved in assessing school wellness policies and practices (EH, JC, KG, LT) were convened to discuss the structure and the questions for the WellSAT-I. The WellSAT-I was originally created to match the WellSAT 2.0. It included interviews with eight different respondents, including four district level respondents: Head of Curriculum, Information Technology administrator, District Level Official, and Food Service Director; and four school level respondents: Cafeteria Manager, Physical Education teacher, Teacher, and School Principal. Several questions were repeated across multiple respondents. This measure provided a four-level coding scheme, as illustrated in the figure below. This scoring system was consistent with the School Health Index.^{14,15}

FIGURE 1. ORIGINAL 4-LEVEL CODING SCHEME

Implementation Rating	Explanation
0 = No Implementation	Assign a rating of “0” when: <ul style="list-style-type: none"> • The practice is not in place at all.
1 = Low Partial implementation	Assign a rating of “1” when: <ul style="list-style-type: none"> • The practice has been discussed and partially implemented.
2 = High Partial implementation	Assign a rating of “2” when: <ul style="list-style-type: none"> • The practice is mostly, but not perfectly or entirely consistently, implemented.
3 = Full Implementation	Assign a rating of “3” when: <ul style="list-style-type: none"> • The practice is fully and consistently implemented.

For each question, guidance was provided for each coding level. Such guidance referred to specifics about the practices, level of implementation or the interviewee’s confidence level that a practice was implemented fully. See Example from Figure 2 below.

FIGURE 2. SAMPLE ITEM FROM ORIGINAL 4-LEVEL CODING SCHEME

Do teachers use food as a reward in the classroom for good student behavior (e.g., giving out candy for a right	0	Teachers regularly use food as a reward in the classroom
	1	Teachers are discouraged from using food as a reward but the interviewee believes many do it

answer; having a pizza party when students finish a unit)	2	Teachers are prohibited from using food as a reward and the interviewee is confident most teachers only use nonfood rewards.
	3	Teachers are prohibited from using food as a reward and the interviewee is confident all teachers only use nonfood rewards.

After determining the overall structure for the tool, Rudd Center staff (MS and MR) drafted a list of interview questions that corresponded to each item on the WellSAT 2.0 measure. The team convened for a series of calls to review the wording of each question and provide feedback, including refining the question and scoring criteria. Additional expertise was provided for the sections on food marketing (Jennifer Harris, Sally Mancini, Faith Boninger, Michele Polacsek), physical activity and physical education (Carly Wright), and implementation science (Robert Franks).

Cognitive Interviews. Cognitive interviews were conducted with school personnel to determine whether the questions were being interpreted as intended. These interviews were conducted by two of the authors in Connecticut (MR) and Minnesota (NL). Responses were used to revise the interview questions.

Pilot Test. A snowball sampling approach was used to identify research groups around the country with the capacity to add WellSAT-I interviews to ongoing school wellness projects. Members of the original team (MR and NL) collected data in Connecticut, Rhode Island, and Minnesota. Additional groups were invited from West Virginia, Oklahoma, Kentucky, South Dakota and California. A coordinator from a state government agency or university oversaw data collection within each state. Coordinators and respective research teams were sent materials to obtain informed consent, conduct and audio-record the interviews, and return the materials back to the University of Connecticut. Rudd staff provided each state with a training session on how to utilize the WellSAT-I. All procedures were approved by the IRB of the University of Connecticut and informed consent was received from each district and school. The study was deemed exempt from review by the IRBs of the University of Minnesota, University of Oklahoma, and South Dakota State University. All data were collected during the 2016-2017 school year.

Analyses. Interrater reliability was tested by double coding all of the recorded interviews. Frequencies were calculated to show the degree of policy implementation for each item included within the WellSAT-I. Because some implementation occurs at the district level and some occurs at the school level, each item was designated as district-level or school-level and items were grouped for presentation based on this distinction.

PILOT TEST RESULTS

The final sample included 95 schools within 42 districts across eight states. Two thirds of the schools (66%) were elementary schools. School enrollment ranged from 40 to 1916 students. Nearly two-thirds (65%) of the schools were located in city or suburban areas; the remainder were in rural areas. Approximately half of all students were non-white and over 60% were eligible for free or reduced-priced meals.

Interrater reliability was assessed by double coding the audio-recorded interviews from 27 schools within 16 districts across five states. The average intraclass correlation (ICC) was .93 for the district level variables, and .96 for the school level variables (i.e., items that apply to only one school level), suggesting strong interrater reliability.

WellSAT-I Scores. Table 1 contains the frequencies for each of the district-level items on the WellSAT-I. Over 80% of districts reported full implementation of four of the 16 district-level items. These included: The USDA school breakfast program is offered, there is a full compliance with Healthy Hunger Free Kids Act school meal standards, food and nutrition services staff complete required annual trainings, and all foods sold in schools stores meet Smart Snack standards. There were also four items that more than 25% of schools reported not implementing at all. These included: there is a standards-based nutrition curriculum, nutrition education is linked to the school food environment, there is a formal, written physical education curriculum for K-12, and there is a clear evaluation plan to assess wellness policy implementation at the district level.

TABLE 1. IMPLEMENTATION STATUS OF DISTRICTS (N=42)

District-Level WellSAT-I Items	% of Districts at Each Degree of Implementation			
	None	Low Partial	High Partial	Full
There is a Standards Based Nutrition Curriculum	39.0	22.0	12.2	26.8
Nutrition education is linked to the school food environment	31.0	23.8	33.3	11.9
The USDA School Breakfast Program is offered	7.1	0.0	0.0	92.9
There is full compliance with Healthy Hunger Free Kids Act school meal standards	2.4	0.0	11.9	85.7
Food and nutrition services staff complete required annual trainings	2.4	0.0	7.1	90.5
All competitive foods sold meet Smart Snacks standards	7.1	0.0	31.0	61.9
All foods sold in vending machines meet Smart Snacks standards	7.1	11.9	33.3	47.6
All foods sold in school stores meet Smart Snacks standards	9.5	2.4	7.1	81.0
There is a formal, written physical education curriculum for K-12	26.8	7.3	7.3	58.5
Schools have joint-use agreements with the community to share access to school facilities	9.5	7.1	21.4	61.9
There is no food or beverage marketing on exteriors of vending machines, food display racks, coolers, etc.	12.2	12.2	9.8	65.9
An ongoing district level wellness committee has been established	11.9	11.9	45.2	31.0
The district wellness committee has community-wide representation	9.5	14.3	54.8	21.4

There is a clear evaluation plan to assess wellness policy implementation at the district level	54.8	19.0	9.5	16.7
The wellness policy is posted on the district website	7.1	4.8	64.3	23.8
The wellness policy is reviewed and revised to reflect current best practices at least triennially	19.0	19.0	19.0	42.9

Over 75% of schools reported full implementation of eight of the 38 school-level items. These included: students have access to free drinking water during meals in the cafeteria, fundraising activities during the school day either do not involve food, or only sell Smart Snacks, physical education teachers are state certified/licensed to teach physical education, there is daily recess for all elementary school grades, there are no food and beverage logo on signs, scoreboards, or sports equipment, there is no food or beverage marketing in curricula, websites, or other educational materials, and there is no food or beverage marketing through advertisements in school publications, the public announcement system, or other in-school media. There were 13 items that more than 25% of schools reported not implementing at all. These included: nutrition education is provided in high school, there is a school garden, celebrations during the school day either do not involve food or only sell Smart Snacks, elementary school students receive at least 150 minutes per week of physical education, there is a comprehensive school physical activity plan, there are physical activity clubs and/or intramurals for all students and grade levels, all teachers are trained how to conduct PA breaks in the classroom, staff are encouraged to model healthy eating behaviors for students, staff are encouraged to model physical activity behaviors for students, food is not used as a reward, opportunities for physical activity are used as a reward, there is a school level wellness committee, there is a clear evaluation plan to assess wellness policy implementation at the school building level. Of these items, five were reported not implemented by $\geq 50\%$ of schools.

TABLE 2. FREQUENCIES OF ALL SCHOOL-LEVEL ITEMS (N=95)

School-Level WellSAT-I Items	% of Schools at Each Degree of Implementation			
	None	Low Partial	High Partial	Full
Nutrition education is provided in elementary school (N=68)	17.6	4.4	23.5	54.4
Nutrition education is provided in middle school (N=25)	21.1	18.9	13.7	46.3
Nutrition education is provided in high school (N=16)	56.8	9.5	9.5	24.2
Nutrition education is skills-based and behavior-focused	21.1	18.9	13.7	46.3
There is a school garden	56.8	9.5	9.5	24.2
Strategies are used to increase participation in school meal programs	17.9	17.9	18.9	45.3
Students have adequate time to eat lunch	4.2	27.4	41.1	27.4
Students have access to free drinking water during meals in the cafeteria	0	0	6.3	92.6

Celebrations during the school day either do not serve food, or only serve Smart Snacks	30.5	17.9	29.5	22.1
Students have access to free drinking water throughout the school day	1.1	1.1	2.1	95.8
Fundraising activities during the school day either do not involve food, or only sell Smart Snacks	6.3	6.3	10.5	76.8
Elementary school students receive at least 150 minutes per week of physical education (N=69)	62.1	0	1.1	9.5
Middle school students receive at least 225 minutes per week of physical education (N=24)	7.4	3.2	0	14.7
High school students receive at least 225 minutes per week of physical education	9.5	1.1	1.1	6.3
Teacher-student ratios in physical education are set to the same standard as other classes	12.6	11.6	6.3	69.5
PE teachers are state certified/licensed to teach physical education	1.1	1.1	1.1	96.8
District provides relevant continuing education for physical education teachers	15.8	7.4	8.4	68.4
Students taking specialized classes are not granted exemptions from PE and students are not permitted to substitute other physical activities in place of PE	2.1	5.3	22.1	70.5
There is a comprehensive school physical activity plan	32.6	4.2	7.4	55.8
There are opportunities for all students to participate in physical activity before and after school	7.4	7.4	21.1	64.2
There are physical activity clubs and/or intramurals for all students and grade levels	27.4	4.2	27.4	41.1
There are interscholastic sport opportunities for all students	29.8	2.1	30.9	37.2
There is daily recess for all elementary school grades	4.3	0	1.4	94.3
Recess is scheduled before lunch in elementary schools	8.7	18.8	7.2	65.2
Teachers implement at least 15 minutes of PA breaks in the classroom	23.2	11.6	25.3	40
All teachers are trained how to conduct PA breaks in the classroom	43.2	5.3	12.6	38.9
Staff are encouraged to model healthy eating behaviors for students	28.4	10.5	25.3	35.8
Staff are encouraged to model physical activity behaviors for students	29.8	6.4	16	47.9
Staff are encouraged to be physically active	13.7	14.7	12.6	58.9
Food is not used as a reward	37.2	21.3	11.7	29.8
Opportunities for physical activity are used as a reward	25.3	6.3	28.4	40
Opportunities for physical activity are never withheld as a punishment	5.3	12.8	17	64.9

There are no food and beverage logo on signs, scoreboards, or sports equipment	8.4	7.4	3.2	81.1
There is no food or beverage marketing in curricula, websites, or other educational materials	2.1	3.2	1.1	93.7
There is no food or beverage marketing through advertisements in school publications, the public announcement system, or other in-school media	3.2	1.1	2.1	93.7
There is no food or beverage marketing through fundraisers or corporate-sponsored programs that encourage students and their families to sell, purchase, or consume products	14.9	29.8	24.5	30.9
There is a school level wellness committee	51.6	8.4	15.8	24.2
There is a clear evaluation plan to assess wellness policy implementation at the school building level	64.2	11.6	13.7	10.5

*Some items are specific for set grade levels and thus were not collected in the full sample of schools. Sample sizes are provided for these items.

UPDATES BASED ON PILOT EXPERIENCE AND RELEASE OF WELLSAT 3.0

The original version of the WellsAT-I was created to match WellsAT 2.0. When the WellsAT 3.0 was created to include new federal regulations and best practices, the WellsAT-I was updated to match the new policy coding tool so they could be used concurrently. Additional updates were also made at this time to simplify the WellsAT-I tool based on experiences piloting use of the first version. The updates from the original WellsAT-I to the 3.0 version are as follows:

One respondent for each question. In the original version of the tool, questions were often asked of multiple respondents. This presented a challenge when analyzing the data because the researcher needed to decide which respondent’s data to use. In the updated measure, each item is listed with the names of the staff members most likely to know the answer (e.g., Principal, Food Service Director). The interviewer and district representative should decide which respondent is best suited to answer the questions based on knowledge of the district and school. If appropriate for the research question, users can still ask the same question of multiple respondents in order to compare their answers.

Use of a 3-level, not 4-level, coding scheme. The original version of the WellsAT-I used a four-level coding scheme. This posed a challenge, however, when attempting to connect WellsAT scores (which had a 3-level coding scheme) with WellsAT-I scores (which had a 4-level coding scheme). For the WellsAT-I 3.0, the coding system was updated to mirror the WellsAT with three levels instead: no implementation, partial implementation, and full implementation. See Figure 3 below.

FIGURE 3. WELLSAT 3.0 CODING SCHEME

Implementation Rating	Explanation
0 = No Implementation	Assign a rating of “0” when: <ul style="list-style-type: none"> The practice is not in place at all.
1 = Partial implementation	Assign a rating of “1” when:

- The practice is partially implemented, or the interviewee reports some uncertainty.
- 2 = Full implementation
- Assign a rating of “3” when:
- The practice is fully and consistently implemented.

Identify the match between the implementation questions from the WellSAT-I and the policy quality questions from the WellSAT. Although the original version of the WellSAT-I was based on WellSAT 2.0, it was not evident while conducting the interviews exactly which WellSAT question was being addressed with each WellSAT-I question. To make this connection clearer, the WellSAT-I 3.0 includes the text from the matching WellSAT 3.0 policy at the bottom of the coding for each item. See Figure 4.

FIGURE 4. SAMPLE ITEM FROM THE WELLSAT-I 3.0

Respondent: Head of Curriculum or Health/Nutrition Teacher

NE1: Does the school district have specific goals for nutrition education designed to promote student wellness? Does this include a standards-based nutrition education curriculum?

0	Nutrition education is not provided.
1	There is some guidance about nutrition lessons, but the interviewee is not confident that there is a standards-based curriculum that includes specific goals to promote student wellness.
2	The district uses a standards-based curriculum with specific goals to promote student wellness.

Matching WellSAT Item: NE1: Includes goals for nutrition education that are designed to promote student wellness.

Distinction of District- and School-Level Implementation. Each WellSAT-I item was classified as either district-level or school-level implementation based on where the implementation was most likely to occur. However, depending on the size and composition of the school district, these classifications may vary, and users should take this into consideration when interpreting their results.

Conclusion

Schools have invested significant time and resources in improving the quality of written wellness policies and practices since first required in 2006. The WellSAT provided an objective, quantitative tool that has been widely utilized to assess the quality of written policies created at the district level. The aim of this project was to develop an interview measure to assess wellness policy implementation. The WellSAT-I 3.0 is designed to offer researchers a set of questions that have been designed to address the same items as the WellSAT 3.0 written policy assessment tool. The creation of complementary tools opens a door for research to move beyond evaluating only written policy scores and instead assess written policy and the degree of policy implementation concurrently. Together, these complimentary assessments will allow for a more holistic view of the strengths and opportunities that exist in district- and school-level wellness efforts. The final tool is available at:

<http://www.wellsat.org/upload/docs/WellSATi%20.pdf>