Creating Healthy Schools with Middle School Students as Change Makers

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Objective: The Working Together Project (WTP) is a classroom-based curriculum in which rural, low-income middle school students completed "Assess. Identify. Make it Happen," a strategic planning process to improve student health by implementing evidence-based initiatives. The curriculum consisted of 30, 55-minute lessons and 28 "workdays" for students to conduct research, create communication materials, and develop presentations. Study goals were to: (1) assess the extent to which the WTP led to the implementation of evidence-based practices; and (2) describe student-level outcomes that resulted from participating in the WTP. **Methods**: We conducted a quasi-experimental, convergent mixed-methods study with 4 intervention and 2 control middle schools located in a low-income, rural region. We carried out pre/post student surveys and interviews with teachers, principals, and students. **Results**: Two of the 4 intervention schools completed the entire curriculum and implemented evidence-based practices. Students in control schools showed a decline in school connection, academic engagement, and knowledge of health problems, whereas students in the intervention arm showed increases in personal responsibility to solve problems, 21st century skills, school connectedness, and program planning skills. **Conclusions**: When implemented fully, the WTP is a promising youth-led, adult-supported strategy for implementing evidence-based practices to promote health in schools.
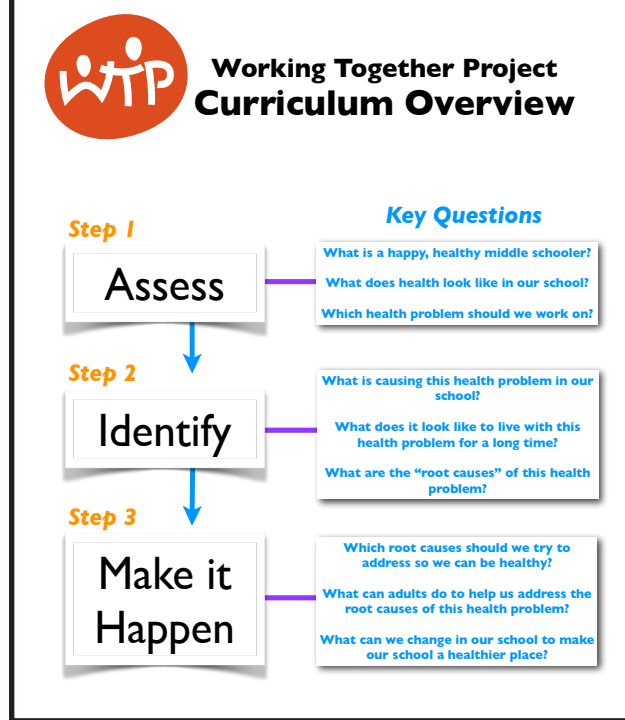
The purpose of this study was to assess the extent to which rural middle school students could successfully partner with adults in their school building to implement evidence-based practices that increase students' physical activity, healthy eating, mental health, and connection to school; and decrease students' high-risk sexual behavior, alcohol, tobacco and other drug use, and bullying. Whereas there is a rich set of protective factors related to living in rural America such as social support, rural communities also face a unique set of risk factors that contribute to poor health: a devastating opioid epidemic that can affect the parenting children receive, a lack of prosocial activities, struggling economies, and health workforce shortages.[1] Thus, it is not surprising that in rural America children face a unique set of health disparities. In comparison to children living in urban communities, rural students report higher use of tobacco, alcohol, and illegal substances, greater sexual activity, higher levels of teen pregnancy, and more weapon carrying.[2,3] In Colorado, the highest youth suicide

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Figure 1
Working Together Project Curriculum Scope and Sequence

skills, civic development, confidence, connection to peers and adults, and empowerment.[16,17,27,28] All but 2 of the youth engagement efforts cited above take place in urban settings and focus on engaging youth in implementing student-generated ideas.

The Working Together Project (WTP) extends the current literature by examining the effectiveness of engaging rural, low income middle school students in implementing evidence-based practices into school settings. The primary goal of the WTP was for schools to implement the latest evidence-based practices known to increase students' physical activity, healthy eating, mental health, and connection to school, and decrease students' high-risk sexual behavior; alcohol, tobacco, and other drug use; and bullying. A secondary goal was for WTP students to gain some personal benefit such as increased school connection, academic engagement, knowledge of health problems, and 21st century learning and innovation skills.[29]

This student-led, adult-supported, classroom-based curriculum was informed by elements of intervention mapping, service-learning, positive youth development, and youth empowerment.[24,30-33] Students used a strategic planning process called Assess, Identify, Make it Happen (AIM) that until this point had been used only with adults.[34] The AIM process was selected as a framework because of its proven track record in implementing evidence-based environmental and policy changes to increase healthy eating and physical activity by engaging rural school staff and teachers.[35] We modified the AIM process to be appropriate for middle school students through a community-engaged curriculum development process.[36]

Figure 1 describes the curriculum scope and sequence of the Assess, Identify, Make it Happen process which consisted of 30 55-minute lessons that required 27.5 hours to deliver (11 Assess, 7 Identify, 12 Make it Happen). In addition, the curriculum had 28 suggested "workdays" built in for students to conduct research such as obtaining anti-bullying policies, create communication materials, and develop presentations during class time (4 during Assess; 24 during Make it Happen).

Each principal selected the teacher, time of year, amount of days, and grade level(s) that would experience the curriculum. The university researchers provided teachers with training but were not in-

and substance use rates are in rural communities.[4]

Schools can implement several evidence-based practices to promote students' physical, social-emotional, and academic well-being.[5-12] However, it can take up to 17 years for evidence-based programs and practices to be implemented.[13,14] This research-to-practice time delay presents a pressing need for strategies to accelerate implementation of evidence-based practices.

With the right amount of adult support, caring, and scaffolding, youth have successfully led initiatives to make meaningful changes in their communities while at the same time benefiting at a personal level.[15-17] Interventions using participatory action research and youth-led participatory research frameworks have shown that adolescents can successfully partner with adults to address issues such as violence prevention, healthy eating and physical activity, environmental health, teen sexual health, school dropout, and mental health services.[18-26] These youth engagement initiatives have led to beneficial outcomes for youth such as motivation to succeed in school, leadership and teamwork

volved in curriculum delivery. Teachers attended a 2-day in-person training to learn about the curriculum and then received booster training when the Identify portion of the curriculum was ending and the Make it Happen stage was beginning. Teachers received ongoing technical assistance from a site coordinator who regularly visited and observed WTP lessons. Students received support from adults throughout the process in the form of a "Dream Team," a group of approximately 6 school administrators, teachers, and staff selected by students as caring, supportive, and capable of assisting with the process. Throughout the curriculum, students solicited input and advice from this Dream Team.

Students analyzed student-level data to *assess* health issues facing their school community. University researchers prepared district-level reports summarizing findings from the Healthy Kids Colorado Survey, the state's version of the Youth Risk Behavior Survey. Students used these reports to examine the number of middle and high school students in their district engaged in or experiencing unhealthy eating, physical inactivity, poor mental health, high-risk sexual behavior, bullying, substance use, and school disengagement. At the conclusion of that assessment, they selected the most pressing health issue by considering student health data, their own opinions about the health problems, and input they received from the Dream Team. Then students *identified* the root causes of that issue and selected evidence-based environment and policy changes the school could put in place. Students were presented with a list of evidence-based initiatives curated by the researchers from an extensive review of peer reviewed journal articles and clearinghouses such as SAMHSA's National Registry for Evidence-based Program and Practices and Blueprints for Healthy Youth Development.[37,38] The list showed students which health problems were known to be addressed by a given evidence-based practice. For example, "Making academic help available outside of class to all students via tutoring and one-on-one help" is related to decreased substance use, high risk sexual behavior, poor mental health, and checking out of school. During *make it happen,* students worked with school leaders to implement those changes and made a presentation to their school board. Using a service-learning approach, students completed self-reflections in journals throughout the process

and had a celebration with food, games, and a final reflection at the conclusion of the class.

We posed 2 research questions:

- To what extent did the WTP lead to the implementation of evidence-based practices known to promote adolescent health?
- What student-level outcomes did rural students and school staff report as a result of the WTP?

METHODS

Participants

This study took place during 2011-2014 in an 8188-square mile rural intermountain valley in south-central Colorado comprised of 6 counties. Whereas the region has many assets including beautiful scenery, clean air, a culture of collaboration across agencies, and close-knit communities, it also has several significant health disparities. The region has the lowest county health ranking in the state and some of the highest rates of poverty in the nation: 5 of the 6 counties have childhood poverty rates ranging from 21% to 49%.[39,40]

There are 14 school districts in the rural intermountain valley serving approximately 7500 students, with one middle school per district. The Colorado Department of Education designated these counties as rural or small rural because of their distance from the nearest large urban/urbanized area and student enrollment being less than 6500 students. Small rural districts have less than 1000 students. Approximately 69% of students qualified for free or reduced-priced lunch and 53% were Hispanic.[41]

Design

We conducted a quasi-experimental, pre-post, convergent mixed-methods study consisting of surveys, key informant interviews, focus groups, and observational data collection. We used this approach to uncover and corroborate a broad set of student outcomes. The principal investigator met individually with principals from each of the 14 middle schools to explain the study and invite their participation. Principals were not willing to have their school randomly assigned to intervention or control conditions because of factors such as an outgoing principal not wanting to commit to the intervention on behalf of an incoming princi-

pal and uncertainties about availability of a teacher who would be suitable to teach the class and/or time in the school day to devote an elective period to the curriculum. Thus, schools self-selected into the academic year they were willing to participate as well as intervention or control condition.

Nine of the 14 middle schools agreed to participate in the study. However, to test the final version of the curriculum, the present study was based on the last year of the WTP (2013-14) in which 6 middle schools participated (4 intervention schools and 2 control schools). Intervention and control schools had similar demographic characteristics: Average percentage free/reduced-price lunch: intervention 74%, control 75%; Average percentage Hispanic: intervention 57%, control 66%.[39] The intervention was conducted in 7 classrooms across the 4 intervention schools (N = 99 students). The control schools were not implementing any type of comparable service-learning or public health-oriented curriculum. All 6 schools received $3000 in compensation for participating in the study.

Instruments

Baseline student-level measures were collected fall 2013, WTP was conducted 2013-2014, and follow-up measures were collected spring 2014 (123 control; 63 intervention). Teacher (N = 4) and principal (N = 3) interviews and 5 student focus groups with 4-7 students per group were conducted immediately following the intervention. Parental consent was required for focus group participation. Passive consent was used for the student surveys such that parents could request that their student not be surveyed. Students were assented prior to both focus groups and the survey.

Student survey. This survey contained 42 closed-ended questions with a 4-point scale (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) and was adapted from Earth Force's Community Action and Problem student survey which had Cronbach alphas ranging from .79 to .92.[42] The survey assessed students' knowledge of health problems (3 items; for example, "I am aware of student health problems that exist in my school"), personal responsibility to solve problems (3 items; for example, "I feel that it is my responsibility to help solve student health problems in my school"), 21st century skills (9 items; for example, "I know what it takes

to change the rules and laws that affect my school"), importance of working together (2 items; for example, "To solve most school problems, it is important to learn how to work with others"), school connectedness (2 items; for example, "Adults in my school value my opinion"), academic engagement (6 items; for example, "At school, I pay attention in class"), and program planning skills (14 items; for example, "I can identify the steps I need to take to put a project into action"). The pre/post survey was administered to control and intervention students at the beginning and end of the 2013-14 school year. Students completed the survey in the classroom after research assistants reviewed the survey format and response options with them.

A second goal of the survey was to obtain intervention students' opinions about the curriculum. Thus, the post-intervention version of the survey was longer for intervention students and contained 74 questions, 5 of which were open-ended such as "What are 2 skills you think you developed or improved the most by participating in the Working Together Project?"

Key informant interviews. The university researchers developed the interview protocol and conducted the interviews with the WTP teacher, principal, and Dream Team members immediately following the completion of the WTP curriculum at their school. The protocol consisted of 47 questions related to implementation factors and outcomes. Specific topics included implementation of evidence-based practices, overall impressions of the curriculum, student learning outcomes, the Dream Team, ways to improve the curriculum and sustain it in the school, and the teacher's experience using the curriculum. Key informant interviews lasted approximately 45-60 minutes. All key informants provided informed consent.

Student focus groups. The university researchers developed the focus group protocol and conducted the sessions. The protocol consisted of 19 questions related to implementation factors and outcomes. Specific topics included knowledge and skills related to health issues facing teenagers, program planning skills, civic awareness and responsibility, academic engagement, working with adults, program satisfaction, and suggestions for improving the curriculum. A total of 5 focus groups were conducted immediately following the completion

Table 1
Working Together Project Implementation Information

School	Number of WTP classes	Number of WTP students	Number of WTP class sessions per week	Minutes of each class session	Total number of possible WTP hours over 15 week semester	Did the school complete the WTP?
A	1	10	4	60	60	Yes
B	2	35	4	55	55	Yes
C	3	46	1	120	30	No
D	1	8	2	58	29	No

of the WTP curriculum with a subset of approximately 4-7 students from each class. All students who participated in the WTP class were invited to participate in the focus group. Students who returned a consent form signed by their parent or guardian were able to participate. Focus groups lasted approximately 30-45 minutes. Students did not receive compensation for their participation.

Data Analysis

We included only the students who completed both the fall 2013 and spring 2014 survey in the data analysis. To test whether the change between fall and spring was different between control and intervention groups, an interaction of time and experimental condition (intervention vs control) was included in a linear mixed model repeated measures analysis with an unstructured covariance matrix. Because the random school effect was not statistically significant and the intraclass correlation coefficient was < 3.4% for all models, no random school effect was included in the model. All models were adjusted for grade and sex. A p-value < .05 was considered statistically significant. To measure the effect size for the interaction of experimental condition (intervention vs control) and time, the Cohen's d at pre-intervention was subtracted from the Cohen's d at post-intervention. Cohen's d was calculated as the intervention mean minus the control mean divided by the intervention standard deviation.[43] We conducted all analyses using SAS (version 9.3, 2011, SAS Institute Inc, Cary, NC).

Key informant interviews and focus group interviews were structurally coded by research assistants for school- and student-level outcomes.[44] Two research assistants coded responses to open-ended questions from the Student Survey to identify, group, and quantify the incidence of responses for student-level outcomes.[45] The assistants initially did joint coding and then coded separately. They reconvened to compare codes and reach consensus if there were discrepancies.

RESULTS

Table 1 describes the number of classrooms within a school that implemented the Working Together Project (WTP) curriculum, the number of WTP students per school, when and how often WTP was taught, and the length of time devoted to the curriculum. Only 3 classes (those from Schools A and B) dedicated the required amount of time to complete the curriculum and workdays.

Research Question 1: To what extent did the WTP lead to the implementation of evidence-based practices known to promote adolescent health? – We used key informant interviews and follow-up phone calls with principals to assess implementation of evidence-based practices. Schools A and B implemented a total of 5 evidence-based practices. Schools C and D did not implement change. Table 2 includes information about whether the curriculum was completed, the selected health topic, and the evidence-based changes implemented for each class.

Research Question 2: What student-level outcomes did rural students and school staff report as a result of the WTP? – We used 3 approaches to determine student-level outcomes: the pre/post Student Survey conducted with intervention and control students, an open-ended question in the post survey about skills gained by intervention students, and interviews with intervention students,

Table 2
Evidence-based Practices Implemented as a Result of the Working Together Project

School	Was WTP curriculum completed?	Health topic selected by students	Evidence-based practices implemented by school
A	Yes	Poor mental health	Academic help is available outside of class to all students such as: tutoring and one-on-one help. All (or most) teachers use classroom physical activity breaks to get students up and moving during class.
B, Class 1	Yes	Poor mental health	Staff monitor the inside and outside of school buildings throughout the day to ensure the safety of all students. The school has highly trained adults offering different types of before/after school activities such as: non-competitive and competitive sports; art, literary and music groups; clubs, community service groups and more. All (or most) teachers use classroom physical activity breaks to get students up and moving during class.
B, Class 2	Yes	Poor mental health	Same as above
C, Class 1	No	Bullying	None
C, Class 2	No	High risk sexual behavior	None
C, Class 3	No	Physical inactivity	None
D	No	Bullying	None
Total number of evidence-based changes implemented			5
Average number of changes per school			1.25

principals, and teachers. Results from each data source are described below.

Pre/post student survey. Survey participation rates were 64% in intervention schools (100% School A; 86% School B, 46% School C, 25% School D) and 35% in the 2 control schools (26% and 55%). Among the 63 intervention group students who completed the surveys, 53% were girls and 47% were boys. Among the 123 control group students who completed the surveys, 49% were girls and 51% were boys. Table 3 presents means and standard errors for knowledge of health problems, personal responsibility to solve problems, 21st century skills, importance of working together, school connectedness, academic engagement, and program planning skills. These numbers were adjusted for grade and sex.

Students in the intervention condition reported a significant increase in program planning skills. There were non-significant increases in all other areas with the exception of academic engagement. Students in the control group reported significantly lower school connection and academic engagement from the beginning to the end of the school year. The level of school connection and academic engagement from the beginning of the school year to the end varied depending on intervention versus control conditions. Students in the intervention condition maintained their level of school connection and academic engagement throughout the year whereas students in the control group dropped in both of these areas (school connection: $F(1,182) = 6.22$, $p = .01$; academic engagement: $F(1,182) = 4.01$, $p = .04$). In addition, change in knowledge of health problems over time varied for intervention versus control students such that intervention students showed an increase (0.12, 95% confidence interval (-0.01, -0.26)) in knowledge by spring whereas control students showed a decrease (-0.07, 95% confidence interval (-0.17, -0.03)), (interac-

Table 3
Student Outcomes, by Intervention versus Control

Construct	Intervention students N = 63				Control students N = 123				Intervention vs control and time interaction
	Pre mean[a] (SE)	Post mean (CE)	Difference (CI)	Pre vs post p value	Pre mean (SE)	Post mean (SE)	Difference (CI)	Pre vs post p value	p value (ES[b])
Knowledge of health problems	2.55 (0.06)	2.68 (0.07)	0.12 (-0.01 - 0.26)	.08	2.55 (0.04)	2.48 (0.05)	-0.07 (-0.17 - 0.03)	.2	.02* (0.42)
Personal responsibility to solve problems	2.72 (0.07)	2.75 (0.08)	0.02 (-0.14 - 0.19)	.8	2.86 (0.05)	2.81 (0.05)	-0.04 (-0.17 - 0.08)	.5	0.5 (0.17)
21st century skills	2.71 (0.05)	2.73 (0.06)	0.02 (-0.10 - 0.14)	.7	2.64 (0.04)	2.62 (0.04)	-0.01 (-0.10 - 0.07)	.8	0.6 (0.07)
Importance of working together	3.09 (0.07)	3.13 (0.07)	0.03 (-0.14 - 0.21)	.7	3.17 (0.04)	3.06 (0.05)	-0.11 (-0.24 - 0.02)	.09	0.2 (0.27)
School connectedness	2.45 (0.09)	2.57 (0.09)	0.12 (-0.08 - 0.32)	.2	2.52 (0.06)	2.32 (0.06)	-0.19 (-0.34 - -0.05)	.009**	.01* (0.40)
Academic engagement	3.30 (0.06)	3.27 (0.07)	-0.03 (-0.16 - 0.10)	.6	3.31 (0.4)	3.11 (0.05)	-0.19 (-0.29 - -0.10)	< .001***	.04* (0.31)
Program planning skills	2.75 (0.05)	2.89 (0.06)	0.14 (0.03 - 0.26)	.02*	2.65 (0.04)	2.70 (0.04)	0.05 (-0.04 - 0.13)	.3	0.2 (0.20)

Note.
[a]Means (standard errors) and differences (95% confidence intervals) were produced from a linear mixed model for repeated measures adjusting for sex and grade assuming equal proportions in each category.
[b]Effect size (ES) was calculated as Cohen's d at post-test minus the Cohen's d at pre-test.
*p < .05
**p < .01
***p < .001

tion: $F(1,182) = 5.12$, $p = .02$).

The same set of analyses were repeated comparing just those students who completed the curriculum (those from schools A and B) to control students. Thus students from schools C and D were removed from these analyses because they did not complete the 30 lessons. Intervention students from schools A and B (N = 40, survey participation rate: 93%) showed significant increases in personal responsibility to solve problems (p < .009), 21st century skills (p < .01), school connectedness (p < .03), and program planning skills (p < .0002) from the beginning to end of the school year. The rate of change across all 7 areas varied for intervention versus control students such that intervention students had statistically more favorable outcomes from the beginning to end of the school year (data not shown).

We also used a qualitative approach to identify student-level outcomes across all 4 intervention schools. At the conclusion of the WTP, intervention students completed the Student Survey and were asked to list 2 skills they developed or improved the most. The 2 most common responses pertained to increased skills for working together and increased knowledge about health behaviors and problems.

In addition, teacher interviews, principal interviews, and student focus group interviews identified the following areas of skill development and/or improvement. Illustrative quotes follow each thematic area.

• Presentation Skills

Teacher: I think having to speak to the school board the other night and knowing that they're going to speak to our staff next week, that's a skill they're having to develop; being able to speak publicly.

• Knowledge about Root Causes

Student: The different things that you can learn like the root causes of what could lead you to a specific thing that may not be the best choice.

- Problem-Solving Skills

Principal: The students were able to take something very relevant to them, to identify a problem clearly and then be able to come about a process of how to solve the problem.

- Research Skills

Student: We were doing research on the root causes and things we do. And 6% of students attempted suicide… 6% of students considered killing themselves.

- Communication Skills

Student: And so we had to come to Mr. C and ask him when he could attend and then we sent invitations out to all our board members, asked them when they could come, so I felt like we learned some communication skills there.

DISCUSSION

Adolescents in rural communities face a range of physical, behavioral, and academic challenges. There are several evidence-based practices schools can implement to promote successful outcomes in each of these areas however there is a research to practice implementation gap. The WTP was developed to shorten the time it takes to implement evidence-based practices by engaging rural youth as change makers. This curriculum integrated strategies known to increase students' motivation by providing opportunities for youth voice, decision-making, skill building, and experiences that make students feel they matter and belong.

Findings suggest that the WTP curriculum can lead to the implementation of evidence-based practices when schools allocate the required time to complete the curriculum and teachers deliver all the lesson plans. Only 2 of the 4 intervention schools allocated the required time to complete the curriculum and those were the only schools that succeeded in implementing evidence-based practices. The 2 schools that were unable to complete the curriculum faced several challenges. First, they only allocated enough time to do the lessons and did not set aside necessary "workdays." Second, one of the schools assigned a brand new teacher to implement the curriculum in 3 classes, each of which was a different grade level (6, 7, and 8).

This teacher was only able to devote a portion of a period to the WTP because of other topics that needed to be covered during that time and quickly fell behind. As a new teacher, he was also struggling with classroom management challenges. Third, the other school assigned a veteran teacher to lead the class; however, she experienced some personal challenges that resulted in her missing several days of school.

A second goal of the WTP was to increase rural students' connection to school, academic engagement, knowledge of health problems, and 21st century learning and innovation skills. Results from the Student Survey showed a small but statistically significant increase in program planning skills among intervention students. Findings also showed increased, but non-significant, trends among intervention students for knowledge of health problems, personal responsibility to solve problems, 21st century skills, and importance of working together. In contrast, students in the control schools showed significant decreases in school connection and academic engagement. Furthermore, the fall-to-spring change varied depending on control versus intervention condition such that students in the control schools showed a decline in school connection, academic engagement, and knowledge of health problems from the beginning to end of the school year, whereas intervention students maintained or slightly improved on their baseline levels. Results were even more positive when the intervention group was limited to students in schools that completed the curriculum. Although the changes from pre- to post-intervention were somewhat small, there were statistically significant increases in personal responsibility to solve problems, 21st century skills, school connectedness, and program planning skills. Qualitative data identified additional student-level knowledge and skill outcomes.

The outcomes of the WTP highlight both the potential of applying similar approaches in rural settings, and the importance of allotting the appropriate time and resources to fully implement the process and increase the chances of evidence-based practices being implemented. More resources are needed for a program like this to be successful. External partners such as a university need to provide teacher training and ongoing technical assistance for curriculum delivery, conduct research on the

latest evidence-based practices, and prepare easy-to-use reports so that students and school personnel can understand and access the resources, and prepare student health summary data reports. On the school side, principals have to be willing to set time aside in the school schedule for this program to be completed. They also need to find a teacher who is willing and able to take on an extra preparation and ensure that a group of adults is willing to support students throughout the process. Finally, the school has to agree to collect student-level health data. These assertions are consistent with the theories of implementation science, such as the Consolidated Framework for Implementation Research and educational theories alike.[46-48] Additionally, the student-level outcomes of the WTP support the use of service-learning curricula as a mechanism of positive youth development outcomes.[49] Finally, the inclusion of both school- and student-level outcomes illustrates the importance of evaluating not only what changes are made to an environment as a result of an intervention, but also what outcomes are experienced by those involved.

Limitations

The main limitation of this study was that a quasi-experimental design was necessary because a randomized control trial was not possible. As mentioned, principals did not feel comfortable agreeing to random assignment because of factors such as an outgoing principal not wanting to commit to the intervention on behalf of an incoming principal and uncertainties about the availability of a teacher who would be suitable to teach the class and/or time in the school day to devote an elective period to the curriculum. This meant that schools self-selected into the intervention versus control conditions and there may have been certain types of school characteristics that systematically related to whether a school could take on the intervention that year, such as the potential for principal turnover and/or the lack of a suitable teacher for a service-learning curriculum. These school characteristics could have biased study results.

A second limitation is the low student survey response rate in some of the schools. With only a minority of students completing the survey in some schools, we do not know the extent to which they are representative of the entire student body. This

points to the importance of the mixed-methods approach used in this study to uncover the full set of student outcomes given the relative strengths and weaknesses of quantitative and qualitative data collection methods. For example, student focus groups provided the opportunity to gather information beyond the questions asked in the closed-ended portion of the Student Survey but did not consistently provide a context where students could share their thoughts and/or disagree with their fellow classmates; the Student Survey had lower than desired participation rates. However, when combined, the multiple data collection approaches allowed the research team to gain a clearer picture of what students gained from the WTP.

IMPLICATIONS FOR HEALTH BEHAVIOR OR POLICY

The goal of *Healthy People 2020* is to improve the "healthy development, health, safety, and well-being of adolescents and young adults."[50] According to *Healthy People 2020*, several social environments are associated with successful adolescent development: family, school, neighborhood, and media exposure. The school environment affects both short-term outcomes such as school attendance, academic achievement, and engagement with learning as well as long-term outcomes such as lower rates of health problems and increased social-emotional well-being.

This study demonstrated the important role that rural youth can play in partnering with adults to implement evidence-based practices in schools to promote and support adolescent health. However, this process takes time and not all schools are willing to devote the hours needed to complete the process. This study also added to a growing body of evidence showing the positive relationship between service-learning curricula and maintaining students' school connection and academic engagement. Based on study findings, we recommend:

- School principals allocate sufficient time in school schedules to incorporate service-learning curricula such as the WTP given its positive effect on students' school engagement and the potential long-term health and quality of life benefits associated with academic achievement and graduation.
- Educators engage students as change makers who, when partnered with adults, can short-

en the time it takes for schools to learn about and implement evidence-based practices that create healthy, supportive, and safe school environments.

Acknowledgement

Human Subjects Approval Statement

The Colorado Multiple Institutional Review Board approved the study protocol and the Memo of Understanding - a contract describing the roles and responsibilities of the school and university.

Conflict of Interest Disclosure Statement

The authors have no conflicts of interest to declare.

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