

Feasibility and acceptability of a future-oriented empowerment program to prevent substance use
and school dropout among school-disengaged youth

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Abstract

Objective: To evaluate the feasibility and acceptability of a health promotion program to prevent school dropout and substance use among middle school-aged youth who display early warning signs of school disengagement.

Intervention: Youth Empowerment Solutions for Positive Futures (YES-PF), an intensive, theoretically-driven, 5-week summer enrichment program, aims to prevent school dropout and substance use by promoting youth empowerment, school engagement, and future orientation.

Design and Sample: Using a pre-post intervention design, we test feasibility and acceptability with 6th and 7th grade students (n=43) who exhibited early warning signs for school disengagement (e.g., chronic absenteeism) in 2 school districts.

Measures: Program evaluation components included: 1) program session forms completed by facilitators; 2) post-program interviews with facilitators; 3) post-intervention program evaluation surveys with youth; 4) attendance; and 5) baseline and post-intervention surveys with youth to assess behavioral and psychosocial outcomes.

Results: Facilitators routinely delivered core component lesson activities. Acceptability and program satisfaction was evidenced in strong program attendance by youth. Youth participants reported higher levels of leadership efficacy ($p < .05$) and a greater sense of control over their lives and potential problems ($p < .01$).

Conclusions: YES-PF was feasible and acceptable to school personnel and youth. Program refinement, based on implementation findings, is discussed.

Key words: risk prevention, substance use, program evaluation

Background

Secondary school dropout is associated with negative health, social, and economic outcomes (Amos, 2009; Russell, 2011). Youth who do not complete secondary school are at increased risk for unhealthy substance use (Maynard, Salas-Wright, & Vaughn, 2015; McCabe, Teter, Boyd, Wilens, & Schepis, 2018; Reingle Gonzalez et al., 2016). In addition, youth who drop out of secondary school prior to graduation have the highest prevalence of opioid misuse compared to other youth. (McCabe et al., 2018; Schepis, Teter, McCabe, 2018).

Early warning signs for school dropout (e.g., chronic absenteeism, course failure) begin during the middle school years (age 11-13, grades 6-8). Chronic absenteeism, course failure, and problem behaviors, in grades 6 through 8 (i.e., middle school) are strong predictors of poor academic outcomes in secondary school (Cohen & Smerdon, 2009); this includes leaving school prior to graduation (Franklin & Trouard, 2016; Henry, Tolan, Gorman-Smith, & Schoeny, 2012; Wang & Fredricks, 2014). These early indicators of secondary school dropout are also predictors of later alcohol, tobacco, and marijuana use (Henry & Huizinga, 2006; Trenz, Dunne, Zur, & Latimer, 2015). Yet, while school disengagement can be a risk for substance use, substance use also predicts secondary school non-completion (Kelly et al., 2015). Previous research also suggests that a reciprocal relationship exists between substance use and school disengagement (Thornberry, Lizotte, Krohn, Farnworth, & Joon Jang, 1991; Wang & Fredricks, 2014). For example, following a sample of adolescents from 7th through 11th grade, Wang and Fredricks (2014) found changes in substance use were predicted by early levels of engagement in school and, in turn, changes in school engagement were predicted by early substance use. Regardless of directionality, there is a clear relationship between school disengagement and substance use. It is critical to intervene with at-risk students during the middle school years to prevent substance use and poor academic outcomes during the secondary school years; intervening earlier will support graduation later (Balfanz, Herzog, & MacIver, 2007) and prevent potentially lifelong risky substance use.

Although numerous evidence-based universal substance use prevention programs exist, few programs are tailored specifically for a population of middle school-aged students at increased risk for substance use (i.e., students who already exhibit early warning signs for

secondary school dropout). Evidence-based selective and indicated substance use prevention programs exist for older students (age 14-18) with risk factors for school dropout (Sussman, Dent, & Stacy, 2002; Eggert, Thompson, Herting, Nicholas, & Dicker, 1994); however, we know of none for this higher risk population of middle school-aged students. Indicated programs specific to high risk secondary school students have been effective in reducing both school dropout and drug use (Sussman, Dent, & Stacy, 2002), but intervening prior to secondary school - to prevent or delay early substance use initiation - is vital to support a positive trajectory for youth during a critical developmental period.

Theoretical Underpinnings

Theory and previous research point to the importance of identifying and enhancing individual characteristics that contribute to healthy adolescent development and the prevention of risky behaviors (Hawkins, Catalano, & Miller, 1992; Kia-Keating, Dowdy, Morgan, & Noam, 2011; Schwartz et al., 2010). Future orientation, or an individual's thoughts and feelings about the future, is consistently related to less alcohol and drug use, delinquency, and violence (Steiger, Stoddard, & Pierce, 2017; Stoddard, Heinze, Choe, & Zimmerman, 2015; Stoddard & Pierce, 2018; Stoddard, Varela, & Zimmerman, 2015; Stoddard, Zimmerman, & Bauermeister, 2011). Conversely, a negative outlook toward the future, is associated with negative outcomes including substance misuse (Bolland, 2003; DuRant, Cadenhead, Pendergrast, & Slavens, 1994). Future orientation is likely a key mechanism to target for the prevention of school dropout and substance misuse.

Empowerment Theory provides a unique conceptual framework for developing programs to enhance positive youth development. Empowerment theory incorporates the notion that health promotion requires not only that youth develop specific skills and positive assets, but also that they become motivated to actively apply these skills and knowledge to become agents of positive change for themselves and in their communities (Zimmerman, 1995, 2000). Empowerment Theory focuses on processes to engage individuals in activities that help them develop confidence, skills, and behavioral strategies to achieve self-identified goals (Zimmerman, 1995, 2000). Empowerment interventions have been effective as the basis for violence and drug and alcohol use prevention interventions (Substance Abuse and Mental Health Services Administration, 2014; Wallerstein & Bernstein, 1988; Wallerstein & Martinez, 1994; Zimmerman et al., 2018). We posit that an empowering intervention that helps youth gain

confidence, think critically, and take actions to effectively deal with stress, and to set and strive for self-determined goals can foster the development of future orientation, in turn, reducing school disengagement and substance use (See Figure 1).

The purpose of this study is threefold. First, we briefly describe YES-PF and its development. Second, we present the results of an initial study to evaluate the feasibility and acceptability of the curriculum, and preliminary outcomes in a sample of 6th and 7th grader youth. Finally, we discuss how study results were used to inform program refinement.

Method

Study Design, Context, and Sample

This feasibility study of a new intervention for 6th and 7th grade students who exhibit early warning signs for school dropout employed a pre- and post-test design. Two school districts in the Detroit metropolitan area participated in the study during the summer of 2017. These school districts had lower graduation rates (44% and 68%) than the national averages (graduation rates=85%; National Center for Education Statistics, 2019). The school districts also have high rates of chronic absenteeism, which is another risk factor for high school dropout (Warren et al., 2011), and a large portion of students (76% and 61%) who are eligible for free or reduced price lunch (XXXXX Department of Education, 2019). One middle school in each school district served as a study site. Sixty-two 6th and 7th grade students who exhibited early warning signs for school dropout in two schools were invited to participate in the study; 43 students participated in the study (mean age = 12.3 years; SD = .77). See Table 1 for demographic characteristics of student participants. Pre-intervention data was collected on the first day of the intervention; post-intervention data was collected on the last day of the intervention. Program evaluation assessed feasibility and acceptability.

The Youth Empowerment Solutions for Positive Futures Intervention

Youth Empowerment Solutions for Positive Futures (YES-PF) is a theoretically-driven, intensive 5 week summer enrichment program developed specifically for youth who are at risk for school disengagement and substance use. The program is grounded in the underlying belief that enhancing future orientation through empowerment may be a key intervention strategy to reducing adolescent substance use and school disengagement. YES-PF is an adaptation of Youth Empowerment Solutions (YES), an afterschool violence-prevention program focused on building positive assets, participation in community service events, and connecting youth with adult role

models (Zimmerman et al., 2017; Zimmerman, Stewart, Morrel-Samuels, Franzen, & Reischl, 2011). YES-PF builds on the core empowerment components of YES, but places more emphasis on future orientation and school change.

The YES-PF curriculum was developed through an iterative process that included the research team, frontline staff, and youth. The research team reviewed the original YES curriculum for content and structure. Activities that engaged students in leadership development, community assessment, and project planning were retained, however, with emphasis placed on the school environment. Based on the overarching goal for YES-PF, the theoretical framework, and research on future orientation, the research team revised activities and added new activities to engage youth in identifying personal passions and strengths, goal-setting, and self-representation. The 2017 YES-PF summer program included 6 units. See Table 2 for description of each unit and program content. Ten core components crosscut the sessions: leadership efficacy, leadership behavior, school engagement, self-esteem, personal passions and strengths, goal-setting, self-representation, mentors, help-seeking, and resource mobilization. Through the lessons and activities, youth master new social skills, identify character strengths, become leaders, work in teams, and plan and implement a school-change project.

Procedures

School personnel identified 6th and 7th grade students who met 1 or more of the following inclusion criteria: frequent absenteeism (i.e., missed more than 5% of instructional time), behavioral issues (e.g., school code of conduct violations such as disruptive classroom behavior, suspension), and poor academic performance (e.g., course grades less than 70% in language arts and/or math, and/or behind in grade for age). Families of eligible students were provided with an initial overview of the program by school personnel. Families who expressed interest in enrolling their child in the program received information about the study from a member of the research team. Parent consent and youth assent were obtained. The XXXX Health Sciences and Behavioral Sciences IRB approved the study (Approval #HUM00130834).

All participants attended YES-PF. Student participants attended the program 4 days a week, 4 hours per day, for 5 weeks. Students were divided into small groups (6 to 10 students; 3 groups per school district) for many of the activities and for their school change project. A trained facilitator was assigned to each small group.

Participants were given a monetary incentive for program attendance (\$5 per day; up to \$125 total). The incentive was provided in the form of two cash payments, at the end of weeks 2 and 5. Students who did not complete the full program received a monetary incentive consistent with their attendance. Given the high percentage of students with low economic status in the program, breakfast and lunch was provided each day.

YES-PF Facilitator Training

Three staff members in each school district were trained by the Research Team to deliver the YES-PF program. This included 4 teachers, 1 social worker (MSW), and 1 education paraprofessional, all of whom were current employees of the school districts. The training consisted of a full day workshop to familiarize facilitators with curriculum goals, flow and content, and to practice implementing activities. The Research Team monitored implementation and provided technical assistance to facilitators throughout the program.

Program Evaluation and Measures

The evaluation was designed to assess the feasibility and fidelity of the YES-PF implementation; gather information about the acceptability of the program by students and program facilitators; collect recommendations for program modifications; and evaluate relevant short term student outcomes. Program evaluation components included: 1) program session forms completed by facilitators after each session; 2) post-program interviews with facilitators; 3) post-intervention program evaluation surveys with youth participants; 4) student attendance forms completed daily by facilitators; and 5) baseline and post-intervention surveys with youth participants to assess behavioral and psychosocial indicators and outcomes based on our intervention conceptual model.

To assess feasibility and fidelity, facilitators completed a program session form after each session to assess coverage of the program core components and session activities completed. Forms were specific to each session; facilitators documented activity completion (yes/no) and described any deviations, adaptations, and/or recommendations for revisions to the activities and/or sessions. After program completion, interviews were conducted with facilitators using open-ended, guiding questions intended to prompt discussion of facilitators and barriers to program implementation and recommendations for program modifications.

Students completed the baseline survey on the first day of the program and the post-intervention survey on the last day of the program. Student baseline and post-intervention

surveys were comprised of standardized measures selected for established reliability and validity with similar populations of youth (described in detail in Table 3). Following our conceptual model, psychological empowerment includes three components: interpersonal (i.e., how individuals think about themselves within their social contexts and their beliefs about their competence), interactional (i.e., understanding and accessing resources needed to achieve one's goals), and behavioral (i.e., the actions individuals need to know how to use in order to achieve control over their outcomes) (Zimmerman et al., 2017). Future orientation includes aspects of motivation (i.e., one's values, expectancies about the future, and the belief that events in one's life are controllable) and behavior (i.e., the actions an individual uses in order to achieve control over their outcomes including goal setting, planning, and school engagement) (Seginer, 2009).

Student participants completed an anonymous 20-item post-program evaluation survey to assess program acceptability on the last day of the program. Using a five-point Likert scale, students reported how much they liked specific program activities (1 = 'I did not like at all' to 4 = 'I liked it very much') and how helpful the program was for building core skills (1 = 'Not at all helpful' to 5 = 'Extremely helpful'). Students also responded to two open-ended questions: 1) the best things about the summer program and 2) what they learned that will help them promote a positive school environment.

Analytic Strategy

Different analytic methods were used based on the data collected for each of the four components of the program evaluation. Response frequencies from program session forms were used to evaluate program fidelity and attendance; responses to open-ended questions about adaptations, deviations, and recommendations were reviewed independently by two research team members to identify key points and themes. Responses to facilitator post-intervention interviews were also reviewed independently by two research team members to identify key points and themes. Response frequencies to youth post-intervention survey items were used to evaluate program acceptability. Responses to student open-ended questions about the YES-PF program were reviewed independently by two research team members to identify themes.

Paired t-tests were used to assess for changes in psychological and behavioral indicators. Clinical significance was determined by the t value and confidence intervals for t-tests, and by Cohen's d effect size values (.20 small, .50 medium, .80 large) (Cohen, 1988).

Results

Feasibility and Fidelity

Data from the program session forms, completed by facilitators (n = 4), indicated that the facilitators routinely delivered core component lesson activities. For Units 1 through 5, facilitators periodically skipped unit opening or closing activities, but many of these activities did not include essential content on core components. Facilitators indicated that they did not complete reflection activities in Unit 6.

Post-program interviews with facilitators focused on facilitators and barriers to program implementation and recommendations for program modifications. Facilitators reported the need to offer students 'free-time' breaks during the four hour period. Facilitators reported providing students with two 20 minute breaks each day. This routinely resulted in one lunch break and one gym/free-time break each day. Facilitators reported challenges to completing school change programs, and recommended starting the school change project planning earlier in the program. They also reported that students become more invested and engaged in the program during project planning and implementation. One facilitator suggested modifications to the community meeting presentation script (Unit 5). Finally, one facilitator suggested alternative strategies for showcasing the group projects. Facilitators also confirmed that they had difficulty completing reflection activities in Unit 6 as students needed more time to complete the school change projects.

Acceptability by Student Participants

Student participants indicated high levels of program acceptability. A majority of the students liked learning about character strengths (83.88%), leadership (83.79%), assessing the school community (88.89%), and planning and completing the school change project (89.93%). In addition, 86.84% of participants would recommend the program to a friend. Approximately 80% of students found the program to be very or extremely helpful for building character strengths and social skills.

Student participants overwhelmingly reported that the best thing about YES-PF was helping their school community and working on the school change projects. Other common themes included teamwork, making friends, having fun, and learning leadership skills. For example one participant stated, "The best things about the youth empowerment program was teaching us the importance of leadership and how much fun you can have working together." For promoting a positive school environment, the most prevalent theme was leadership. Other

common themes included respect to others, making the school/community better, and teamwork. For example, one participant stated, “Anyone can be a leader in their own way and EVERYONE has a power to make a difference in their community.”

Attendance and Retention

Attendance and retention are common concerns in intervention studies, particularly with a sample of students who were recruited based on early warning signs for school dropout, of which one indicator is chronic absenteeism. Forty-three students started the program. The majority of the students ($n = 39$; 90%) completed the program and the post-intervention survey. Overall student attendance was very good (50% of students attended every day; 36% of students missed 1-2 days).

Secondary Aims: Preliminary Outcomes.

After completing the YES-PF program, youth participants reported significantly higher levels of leadership efficacy ($p=.02$; $d = .42$) and a greater sense of control over their lives and potential problems ($p=.02$; $d = .43$) (See Table 4). There were no significant changes in substance use perceptions; however, youth participants reported that they would be less likely to try alcohol or drugs if offered in the coming school year ($p=n.s.$, $d = .20$).

Discussion

YES-PF is an innovative health promotion program, grounded in empowerment theory, and designed to increase psychological empowerment and future orientation, improve school outcomes, and decrease the acceptability of substance use for youth at risk for school dropout. This is a unique program because few programs are designed to enhance future orientation through a process of fostering psychological empowerment (i.e., confidence, skills, and behavioral strategies to achieve self-identified future goals). Identifying and connecting to future goals is an important developmental task during adolescence, and early adolescence, specifically, may represent a poignant turning point for adolescents’ expectations for the future and imbue possible future selves with new and unique content. Identifying obtainable, future-oriented goals fosters intrinsic motivation and expectations, which are, in turn, related to behavioral choices that increase the likelihood of achieving those goals (Stoddard & Pierce, 2018). Providing students with skills prior to the high school transition may help reduce these academic fears and bolster future expectations; in turn, reducing school disengagement and substance use.

Our findings support the feasibility and acceptability of YES-PF. Evaluation results confirmed that facilitators routinely delivered session activities, and that facilitators and youth participants indicated high levels of program acceptability. Facilitators noted the importance of the lesson topics on positive youth outcomes. Program dose was strong as almost 90 percent of participants missed fewer than 2 days and 50 percent attended every day. This is a strong indicator of youth acceptability and satisfaction with the program because they voted with their feet by staying involved. Youth also reported, however, that they liked the curriculum and the activities of the YES-PF program in self-reported anonymous evaluation forms.

Although not powered to test intervention effects on psychosocial or behavioral outcomes, we found clinically relevant changes in leadership efficacy and in sense of control over their lives and potential problems post-intervention. This is consistent with the goals of empowerment-based interventions, which is to engage youth in activities to help them develop confidence, skills, and behavioral strategies to achieve self-identified goals (Zimmerman, 1995, 2000). In addition, students reported they would be less likely to try alcohol or drugs if offered in the coming school year post-intervention, albeit non-significant with a small, but notable, effect size. Although, even a small effect is remarkable as pressures to use substances increase across adolescence. This is consistent with previous research supporting the relationship between indicators of empowerment (i.e., leadership ability) and substance use intentions (Stoddard et al., n.d.). These post-intervention differences indicate that YES-PF is promising and worthy of further refinement and study.

This study is an example of implementation science in a ‘real world’ context. The intervention was delivered by trained facilitators (predominately teachers) employed by the school district in the school setting. This is important because it increases the ability to generalize our findings to non-research settings and provides insight into the feasibility, acceptability, and efficacy of the intervention as it would be delivered in the practice setting.

Application of Results for Curriculum Revisions

Implementation data obtained from facilitators through the program session forms and post-program interviews were used to inform the following curricular and implementation revisions:

1. Need for student breaks during the four hour period. Facilitators reported that students needed unstructured breaks (e.g., gym time, lunch, etc.) during the four hour period. In

the revised curriculum, session components are now structured in two 75-90 minute blocks per day to accommodate a schedule that includes unstructured breaks.

2. Core component session activities. Evaluation results indicated that facilitators reported challenges to completing all session components, particularly in Unit 6. Based on facilitator feedback, we revised, shortened, and/or removed some of the session components and restructured the curriculum into 5 modules to be completed over a minimum of 5 weeks.
3. School change projects. Two themes related to the school change projects emerged from post-program feedback from the facilitators: a) start school change projects earlier, and b) more time for school change project completion. School change projects were originally introduced in Unit 3. In the revised curriculum, school change projects are now introduced in Unit 2. Also in the revised curriculum, the planning and obtaining of school administrator approval of the school change projects occurs in Unit 3, with time in Units 4 and 5 focused on completing the project. This revised schedule provides 2 - 3 weeks to complete the school change projects.

Even with changes to the curriculum, considering the facilitator feedback, a 6 week program may be ideal for delivering the intervention in the future to ensure that there is adequate time to cover all core program content.

Finally, based on the preliminary outcomes assessed in the youth pre-post program surveys, we increased content, and place greater emphasis, on positive future orientation throughout the program. Across a variety of sessions, additional content on overcoming both personal and project obstacles was added to sessions to empower youth to recognize ways to overcome obstacles. In addition, across all Units, a greater emphasis was placed on youth reflection about themselves (e.g., passion, strengths), their future goals, and the identification of character strengths used and developed during the school change project. See Table 5 for a description of the revised program units, activities, and core components.

Limitations

There are limitations inherent in implementation studies focused on feasibility and acceptability. First, we had only six facilitators in two school districts with significant school dropout. This might limit generalizability of the feasibility assessment, but as the program was intended for school-disengaged students, results may be most useful for similar districts.

Similarly, student participant feedback was limited to students attending the two school districts. Second, we did not include fidelity observations, so program adherence was based solely on facilitator self-report. There are several significant limitations with our preliminary outcomes including low power and immediate post-intervention surveys only with no control group, but the results are promising and provide useful preliminary support for the intervention, and provide useful feasibility for measurement process and quality. It is also interesting to note that students ranked several of the measures fairly high at baseline. This may have contributed to fewer significant results, as there was less opportunity to detect change. Yet, it is also notable that despite these issues we did find support in the hypothesized direction for the intervention. A future study that includes a larger sample size, a comparison condition, fidelity observations, and a longer follow-up period is planned to better assess intervention efficacy. Finally, we do not have data on each student's specific warning signs for school disengagement (e.g., school attendance). School personnel identified students based on study inclusion criteria (i.e., the early warning signs). This information will be important in future studies to inform whether intervention efficacy differs by level of student disengagement, for example.

Overall, our findings support the feasibility and acceptability of YES-PF and provided insights to inform future implementation and research of this program. YES-PF addresses an important public health issue, namely, that youth who do not complete secondary school are at increased risk for substance use and other negative outcomes. Intervening early with students who are at increased risk of substance misuse is vital to support a positive trajectory for youth during a critical developmental period, and our findings suggest that a future-oriented, empowerment-based summer enrichment program is a promising approach for prevention and health promotion for at-risk youth.

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Table 1. Demographic Characteristics of Youth Participants (n=43)

Sample Characteristics	Percent
Age (n=43)	
11	13.95%
12	48.84%
13	32.56%
14	4.65%
Gender (n=42)	
Female	78.57%
Male	21.43%
Race (n=36)	
African American	47%
White	33%
Mixed	17%
Other*	3%
Grade level in upcoming school year	
7th	45.95%
8th	54.05%
Baseline Substance Use (Ever used) (n = 41)	
Cigarette	0%
Smokeless tobacco	0%
Alcohol	5%
Binge drink (5 or more drinks in a row)	0%
Marijuana	5%
Inhalants	0%
Other drugs	0%

Note. *other includes Asian and American Indian/ Alaskan Native

Table 2. 2017 YES-PF curriculum content.

Unit	Title	Session Activities
1	Youth as School Leaders	Students build group norms and team identification, learn about youth leadership, leadership styles, and leadership roles, and identify individual character strengths.
2	Learning about Our School Community	Students complete a Photovoice project of their school environment, identify school risks and assets, and discuss how the environment influences students' feelings about their future.
3	Improving Our School Community	Students brainstorm school improvement projects and the results of their school assessment.
4	Building Intergenerational Partnerships	Students learn strategies for working with adults; develop confidence speaking and communicating with adults.
5	Planning for Change	Students develop a proposal for their school improvement project that includes project description and goals, a budget and a time line. Students plan a meeting with school leaders and present their school improvement project proposal to school leaders.
6	Action and Reflection	Students develop project work plans and implement their school improvement projects. Students learn about overcoming obstacles to personal and project goals. Students reflect on individual and group strengths, skills used to complete their project, and how projects changed their school.

Table 3. Description of Variables Assessed at Baseline and Postintervention Among Student Participants

Construct	No of Items	Sample Item	Response Format	Internal Consistency	Reference
Psychological Empowerment					
Interpersonal					
Self-esteem	3	I take a positive attitude toward myself.	5-point response (1 = Strongly disagree to 5 = Strongly agree)	$\alpha = .75$	Rosenberg Self-esteem Scale, Rosenberg, 1965
Leadership efficacy	3	I am good at leading groups.	5-point response (1 = Strongly disagree to 5 = Strongly agree)	$\alpha = .64$	Zimmerman & Zahniser, 1991
Civic efficacy	3	I can be involved to change my community	5-point response (1 = Strongly disagree to 5 = Strongly agree)	$\alpha = .68$	Zimmerman et al., 2017
Interactional					
Adults as resources	1	How many adults (no including your parents) do you know who can help solve problems at your school	5-point response (0 = None to 4 = Four or more)	N/A	Eisman et al., 2016
Behavioral					
Leadership behavior	3	How often do you serve as a leader in groups	5-point response (0 = Never to 4 = Always)	$\alpha = .82$	Zimmerman & Zahniser, 1991
Future orientation					
Motivation					
Perceived control over future	5	I have a little control over things that happen to me	4-point response (1 = Agree a lot to 4 = Disagree a lot)	$\alpha = .87$	Lachman & Weaver, 1998

Behavior					
Future time perspective	4	I finish work that is due tomorrow before playing today	4-point response (1 = Disagree a lot to 4 = Agree a lot)	$\alpha = .76$	Zimbardo & Boyd, 1999
School outcomes					
School engagement	4	I actively participate in my school's activities.	5-point response (1 = Strongly disagree to 5 = Strongly agree)	$\alpha = .72$	California Department of Education, 2004
School bonding - beliefs	4	I think it is important to try to do a good job in school.	5-point response (1 = Strongly disagree to 5 = Strongly agree)	$\alpha = .95$	Udry, 1998
Academic effort	4	I work hard at my school work.	5-point response (1 = Strongly disagree to 5 = Strongly agree)	$\alpha = .78$	Social Skills Rating Scale, Gresham & Elliott, 1990
School bonding - Enjoyment of school work	4	I enjoy learning new things at my school.	5-point response (1 = Strongly disagree to 5 = Strongly agree)	$\alpha = .81$	Udry, 1998
Social support	4	There is a teacher or some other adult who really cares about me at my school.	5-point response (1 = Strongly disagree to 5 = Strongly agree)	$\alpha = .64$	California Department of Education, 2004
Responsible decision-making	4	I say no to activities that I think are wrong.	5-point response (1 = Strongly disagree to 5 = Strongly agree)	$\alpha = .74$	Youth Asset Survey, Oman et al., 2002
Drug Use Perceptions and					

Behavior Outcomes					
AOD use perceived control	6	I believe I have the ability to avoid drugs.	4-point response (1 = Disagree a lot to 4 = Agree a lot)	$\alpha = .98$	Armitage et al., 1999
Descriptive norms	5	Now think about all the students in your grade at your school. How many of them do you think drank alcohol sometime in the past month?	5-point response (1 = None to 5 = All)	$\alpha = .96$	Arthur et al., 2002
AOD risk to future goals	2	Drug use may prevent me from reaching my future goals.	4-point response (1 = Disagree a lot to 4 = Agree a lot)	$\alpha = .91$	Stoddard & Pierce, 2018
Behavioral control	5	If you have the opportunity in the upcoming school year [like someone offers this to you], how likely is it you would... Try an alcoholic beverage?	5-point response (1 = Very likely to 5 = Not at all likely)	$\alpha = .91$	Armitage et al., 1999

Table 4. Post-intervention Effects of YES-PF on Youth Outcomes (N=37)

Intervention Outcomes	Pre-Test		Post-Test		t	p	Cohen's d (95% CI)
	Mean	SE	Mean	SE			
Psychological Empowerment							
Interpersonal							
Self-esteem ^a	3.93	0.12	3.86	0.12	0.58	.56	-.10 (-.42, .22)
Leadership efficacy^a	3.59	0.08	3.86	0.13	-2.40	.02	.42 (.06, .78)
Civic efficacy ^a	4.33	0.12	4.26	0.12	0.81	.42	-.12 (-.41, .18)
Interactional							
Adults as resources ^a	3.97	0.22	3.95	0.21	0.11	.91	-.02 (-.37, .34)
Behavioral							
Leadership behavior ^a (n=35)	3.10	0.11	3.15	0.12	-0.39	.70	.07 (-.35, .50)
Future orientation							
Motivation							
Perceived control over future^b	2.60	0.13	2.95	0.13	-2.53	.02	.43 (.09, .77)
Behavior							
Future time perspective ^b	3.52	0.07	3.57	0.07	-0.76	.45	.12 (-.24, .48)
School outcomes							
School engagement ^a	3.99	0.13	3.97	0.10	0.17	.86	-.03 (-.37, .31)
School bonding – beliefs ^a	4.59	0.15	4.70	0.07	-0.69	.49	.15 (-.25, .56)
Academic effort ^a (n=36)	3.24	0.09	3.22	0.08	0.43	.67	-.04 (-.29, .21)
School bonding - Enjoyment of school work ^a	3.91	0.14	3.94	0.12	-0.22	.82	.04 (-.26, .33)
Social support ^a	3.80	0.13	3.77	0.11	0.27	.79	-.04 (-.38, .30)
Responsible decision-making ^a	4.16	0.12	4.28	0.10	-1.13	.26	.17 (-.13, .48)
Drug Use Perceptions and Behavior Outcomes							
AOD use perceived control ^b (n=35)	3.67	0.13	3.79	0.11	-0.81	.42	.18 (-.25, .59)
Descriptive norms ^b (n=36)	1.25	0.11	1.22	0.08	0.20	.84	-.04 (-.46, .39)
AOD risk to future goals ^b (n=35)	3.74	0.10	3.72	0.12	0.20	.84	-.05 (-.47, .38)

Behavioral control ^c (n=35)	4.82	0.10	4.91	0.05	-1.28	.21	.20 (-.11, .51)
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Note: **Bold** indicates significant results.

Cohen's d: Small effect = 0.2; Medium Effect = 0.5; Large Effect = 0.8 (Cohen, 1988)

^a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree)

^b 4-point Likert scale (1 = disagree a lot to 4 = agree a lot)

^c 5-point Likert scale (1 = very likely to 5 = Not at all likely)

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Table 5. Revised YES-PF curriculum content based on study results and as described in Application of Results for Curriculum Revisions section.

Unit	Title	Session Activities	Core Components
1	Youth as School Leaders	Students build group norms and team identification, and learn about youth leadership, leadership styles, and leadership roles. Students identify personal passions, strengths, and possible selves.	Self-esteem; leadership efficacy; personal passions and strengths; school engagement; self-representation
2	Learning about Our School Community	Students complete a Photovoice project of their school environment, identify school risks and assets, and discuss how the environment influences students' feelings about their future. Students identify school improvement projects. Students learn about setting personal and project goals and timelines, and discuss barriers to meeting goals (e.g., drug use).	Leadership efficacy; school engagement; resource mobilization; leadership behavior; self-esteem; goal-setting
3	Building Partnerships & Planning for Change	Students learn strategies for working with adults, team communication, and public speaking. Students develop a proposal for their school improvement project that includes project description and goals, a budget and a time line. Students plan a meeting with school leaders and present their school improvement project proposal to school leaders.	Mentors; help-seeking; resource mobilization; leadership efficacy; school engagement; leadership behavior
4	Action-Summer Projects	Students develop project work plans and work on their projects. Students learn about overcoming obstacles to personal and project goals.	Leadership efficacy; school engagement; leadership behavior; self-esteem
5	Reflection and Celebration	Students complete their projects and reflect on how projects changed the school. Students reflect on individual and group strengths and skills used to complete their project.	Leadership efficacy; school engagement; leadership behavior; self-esteem; goal-setting

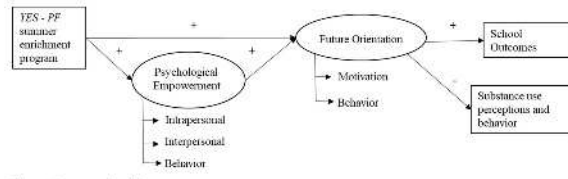


Figure 1. Conceptual model.

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