

Summary of research findings for *See It, Be It* (<http://seeitbeit.org/>)



Welcome to See It, Be It, a dynamic, web-based learning platform designed to empower adolescents to confidently pursue their goals



See It, Be It is comprised of 5 modules, each of which has a number of lessons and activities associated with it.

In addition to didactic elements, each lesson includes interactive activities, quizzes, and games in order to engage students in the learning process.

Use comprehensive reports of student performance on lesson tasks to facilitate discussion about their strengths and weaknesses.

The following research was conducted as part of a Phase II grant funded by the National Institute for Minority Health and Health Disparities (NIMHD) at NIH (Grant # R44MD007143) and included in the final report to NIMHD.¹

Focus Group Testing. 3C conducted preliminary focus groups with middle school aged youth at two local community organizations to determine comprehension level of course content and acceptability of course interactives, as well as receive feedback regarding video styles and graphics for the *See It, Be It* program. A total of 16 youth reviewed course material and provided comments that influenced the development of the final product. The youth sample was equal in males and females (n=8) and the majority of youth were in 7th grade (69%, n=11).

As part of the focus group, youth listened to an audio recording of didactic content from the course and commented on their ability to understand the information. They then offered suggestions on how to make it more engaging. Youth also viewed six examples of different video styles from other 3C programs and rated their top 3 favorites. The youth were not excited about videos with a live narrator on the screen as it reminded them of being lectured at school. Most youth preferred a mix of live videos or skits, drawing on a whiteboard, and motion graphics. Youth also reviewed examples of seven different types of interactives and mini-games. Based on the discussions, we learned that youth were most interested in games, as these kept them more engaged. In addition to mini-games, *See It, Be It* includes a larger game component at the end of the program with avatar customization, a 3-D world and characters, and four choice-driven scenarios related to peer pressure, conflict resolution, and difficulties in school.

When asked about their preferences for game feedback and achievements, desired game mechanics, and typical time spent playing games, we learned that many youth play games on their phones, prefer app

¹ DeRosier, M. E. & Thomas, J. T. (2017). *See It Be It: Interactive Technology to Increase School Engagement and Prevent Dropout*. Final report submitted by 3C Institute to NIMHD, Washington: DC.

games to computer games or websites, and that they only tend to spend 5-10 minutes playing games on mobile devices.

Feedback from our youth intended end users was critical to the development of *See It, Be It*. For example, as a result of negative feedback about our initial adult narrator, we decided to recruit students at a local high school to be narrators. By having teenagers narrate the didactic content, we avoided having the narration sound like a teacher lecturing in a school setting. As we created videos for the course, we also adjusted the script to allow for more skits and live videos, which the youth had found easier to understand. Further, after learning that youth typically spend only a few minutes playing games at a time, we condensed the game scripts so each scenario could be completed in a few minutes. By making each scenario shorter, youth were more willing to replay each scene at least once to explore different responses and consequences.

Pilot Testing. Once the full program was developed with iterative feedback from youth to ensure high usability and high acceptability, we conducted a preliminary pilot test to examine learning and behavioral changes as a function of the intervention.

Sample: A total of 178 youth participated in the pilot test. Over half of the sample was male (56%, n=99) with a racial distribution of 69% African American (n=122), 24% White (n=21), and 7% multiracial or other (n=12) with 17% reporting Latinx/Hispanic ethnicity (n=30). Participants included 6th graders (43%, n=77), 7th graders (29%, n=52), 8th graders (20%, n=35), and rising 9th graders (8%, n=14). The average age was 12.3 years with a standard deviation of 1.08 and a range of 10 to 16. The majority of the youth sample qualified for free or reduced lunch (63%, n=113), 31% reported academic concerns by a parent/guardian or teacher (n=56), and 10% had repeated a grade (n=17). In total, 93 youth were randomly assigned to the treatment condition and 84 participants were assigned to the waitlist control condition. Preliminary analyses showed these two conditions did not differ by any demographic variable nor on any pre outcome variable.

Methods: Youth were recruited from local community organizations and one private school to participate in the *See It, Be It* study. We approached these organizations because the population they serve fit our target population and the goals of the *See It, Be It* program complimented their core values. 3C staff distributed recruitment flyers while discussing the study requirements with parents and their children. Parents gave permission for their children to participate in the study and completed a brief demographic questionnaire. Stratified random sampling was used to assign youth to either treatment or waitlist control.

Each participant completed a pre-assessment (Pre) in the week prior to intervention and again at post-assessment (Post) at the end of a target two-week intervention period. If participants did not complete both assessments in two weeks due to absences or a more rigid schedule, they were allowed up to four weeks to complete the pilot study. During the two-week intervention period, the treatment group completed the *See It, Be It* program under the supervision of 3C staff. Participants in the waitlist group did not have access to the program, and there was no designated task or activity for them to complete during this period. Both treatment and waitlist groups completed the same pre-assessment measures, including a knowledge test before the treatment group interacted with *See It, Be It*. At the end of the two weeks, both groups completed the post-assessment measures. Upon the completion of the post-assessments, the waitlist group obtained access to the *See It, Be It* program and were allowed to go through it at their own pace.

Youth measures were intended to assess: social-emotional coping skills, perceived self-efficacy, academic motivation, and school engagement. The pre- and post- knowledge tests assessed their understanding of the concepts listed previously. The youth in the treatment group also completed a product evaluation questionnaire about the *See It, Be It* program at the end of the two-week period.

Results: We expected to see an increase in all measures and knowledge test scores at Post for the youth in the treatment condition, as well as a greater increase in scores compared to the waitlist group.

Knowledge Gains: Youth in the treatment group had the chance to learn and review relevant material before completing the post-knowledges quizzes while the youth in the waitlist condition had no such instruction during the intervention period. The questions on the knowledge tests were the same for both groups at both time points. For the knowledge test, at Pre, both groups scored similarly with the treatment youth averaging 65% correct and the waitlist group averaging 66% correct. At Post, the treatment group had gained 11 percentage points on average for a correct score of 72% on average. In contrast, the waitlist group lost an average of 2 percentage points for a Post score of 64% correct on average. Therefore, youth who completed the *See It, Be It* online course components showed a significant gain in knowledge about social emotional coping skills, school engagement, and their own possible selves compared to those youth who did not participate in the intervention.

Behavioral and Attitudinal Outcomes: At pre and post time points, youth completed several measures we expected to be associated with content learned through the *See It, Be It* program. The following table displays mean scores for each measure as well as change scores for each group.

Outcome Area	Condition	Pre Mean (SD)	Post Mean (SD)	Change Score	Effect Size (d)
Social Emotional Coping Skills ²	Treatment	3.08 (.62)	3.26 (.58)	+.18	.18
	Waitlist Control	2.97 (.60)	3.04 (.65)	+.07	
Academic Efficacy ³	Treatment	4.46 (.59)	4.64 (.58)	+.18	.00
	Waitlist Control	4.45 (.60)	4.63 (.50)	+.18	
Emotional Self-Efficacy ⁴	Treatment	3.42 (.85)	3.80 (.89)	+.38	.32
	Waitlist Control	3.43 (.82)	3.54 (.87)	+.11	
School Attitudes/Motivation ⁵	Treatment	6.09 (.89)	6.35 (.76)	+.26	.16
	Waitlist Control	6.04 (.87)	6.16 (.98)	+.12	
Conflict Resolution and Peer Pressure	Treatment	4.22 (.91)	4.51 (.72)	+.29	.13
	Waitlist Control	4.38 (.69)	4.57 (.62)	+.19	

Remarkably, given the very brief intervention period where students were exposed to *See It, Be It* for only 2 weeks, the results showed positive treatment effects in most target outcome areas. As expected, all youth showed growth over time (either due to development or to familiarity with the outcome measure). However, youth in the treatment group showed gains that went beyond those due to simply the passage of time. The largest effect size (i.e., impact) of the intervention was for emotional self-efficacy which reflects the belief that one can control their own emotions, calm down when needed, and prevent yourself from becoming worried or anxious. The intervention also positively impacted youth's social emotional coping skills (e.g., standing up for yourself and others, asking for help when needed) and their ability to resolve conflict successfully and respond appropriately to peer pressure. While academic efficacy did not show a differential gain for treatment youth, youth in the intervention were more likely to express positive attitudes towards school (e.g., working hard at school, being self-motivated, being responsible).

² Gresham & Elliott (1990). Social Skills Improvement System Rating Scales, Assertion Subscale.

³ Midgetly et al. (2000). Patterns of Adaptive Learning Scales (PALS), Academic Efficacy Subscale.

⁴ Muris, P. (2001). Brief Questionnaire for Measuring Self-Efficacy in Youths, Emotional Self efficacy Subscale.

⁵ Suldo, Shaffer, & Shaunessy (2008). An Independent Investigation of the Validity of the SAASR School Attitude Assessment Survey-Revised, Motivation/Self-Regulation Subscale

Product Evaluation: Youth in the treatment group completed a product evaluation in which they answered questions about the content and components of the *See It, Be It* program. For the questions related to content relatability, comprehension, engagement, and helpfulness, the mean score was 4.30 (0.78) on a scale of 1 (Not at All) to 5 (Extremely). Youth also rated the following components: avatar builder, career library, course videos, mini-games (jeopardy game, social media game, and cloud popping game), interactives (e.g., drag and drop, open-ended questions), SMART goal creation activities, feedback reports, and the final game at the end of the course. Component ratings were made on a 5-point scale with higher scores indicating more positive views of that component. The majority of components were rated a mean score of 4 or greater with just two averaging slightly less: videos ($M=3.98$, $SD=1.07$) and cloud popper game ($M=3.99$, $SD=1.17$). Based on quantitative ratings combined with qualitative feedback from youth, the *See It, Be It* program was seen as both fun and engaging as well as educational and a valuable learning experience for youth.

