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Impact of an arts-based public health literacy program delivered online to high school students during the COVID-19 pandemic

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Abstract

The COVID-19 pandemic, coupled with the domestic socio-political unrest of 2020, provides a critical opportunity to reframe how we engage with youth around health and disease risk. *The Bigger Picture* (TBP), a spoken word, arts-based public health literacy campaign, uses a social justice and racial equity frame to activate youth around social determinants of health, including salient topics such as type 2 diabetes, COVID-19, climate change, and police violence. This quasi-experimental study determined the impact of providing an online adaptation of TBP during the COVID-19 pandemic to urban, low-income, diverse high school students (3 intervention schools assigned to receive TBP-based spoken word program; 3 comparison schools received a non-health focused spoken word program). We used outcomes derived from the Culture of Health framework, including: (1) health-related mind-sets and expectations; (2) sense of belonging; and (3) civic engagement. Students completed pre/post surveys; a subset of adults and youth from all 6 schools completed semi-structured interviews. TBP participation resulted in measurable shifts in students' mindsets around structural drivers of health and health inequity and increases in plans for future civic engagement. Arts-based programming with an intentional focus on the social ecological model and health equity appears to impact young people, even when delivered online.

Keywords

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Introduction

The COVID-19 pandemic has highlighted and exacerbated health inequities, especially among low-income individuals and people of color. (Paremoer et al., 2021)Further, the socio-political climate of 2020, coupled with clearly disparate COVID-19 outcomes, (Khazanchi et al., 2020; Macias Gil et al., 2020) amplified conversations on how to address disparities in health outcomes, bringing attention to the ways in which the environment, occupation, socioeconomic status, racism, and educational opportunities impact health and well-being. (Emeny et al., 2021)This constellation of events provides a critical opportunity to reframe how we talk and engage with youth around health and disease risk more generally.

Historically, youth health education programs have primarily focused on the importance of individual behavior change to protect health, rather than concentrate on the larger, systemic and structural contributors to health and disease that can influence exposure and behavior. (Bryan et al., 2016) Further, youth health education has not traditionally incorporated youth values, such as social justice and defiance against authority, (Bryan et al., 2016; Schillinger et al., 2017) nor used an engaged pedagogical approach – one which intentionally connects educational content to personal experiences using multiple modalities for connecting students to such content.(Hooks, 2014) Such approaches could enhance students' learning experience and promote activation around health, while promoting students' sense of belonging and advancing health-related civic responsibility. (Armstrong & McMahon, 2002; Mattson et al., 2013)

The Bigger Picture campaign (TBP, www.thebiggerpictureproject.org) is a public health literary campaign originally conceived to expand awareness of type 2 diabetes by moving the focus from individual behaviors to highlighting the social and environmental factors that contribute to disease risk and determine its unequal distribution across society. This campaign emanates from an ongoing partnership between the University of California San Francisco's Center for Vulnerable Populations and Youth Speaks (YS), a San Francisco, California-based youth arts organization, which has been delivering TBP curriculum since 2013. (Rogers et al., 2014) With TBP, youth participate in culturally relevant arts-based expression programming in a range of settings that both teaches and provides space to reflect on the social determinants of disease, including the structural, social, and environmental factors that influence exposure, behavior and disease risk. (Machado et al., 2021; Schillinger et al., 2018) Prior evaluations of TBP, most of which employed non-experimental designs, have highlighted the program's ability to engage, activate, and empower youth around health (specifically type 2 diabetes) when delivered in physical school spaces. (Machado et al., 2021; Rogers et al., 2014; Schillinger et al., 2017; Schillinger et al., 2018)

During the 2020–21 school year, in line with all educational programming in the San Francisco Unified School District (SFUSD), TBP's school-based programming was moved online due to the COVID-19 pandemic. In addition, the TBP program expanded its scope to ensure salience for youth by covering, in addition to type 2 diabetes, other urgent public health topics that had grown in visibility, such as COVID-19, climate change, police brutality, and mental illness. However, the success of this type of expanded program in

the online space, as well as its potential to serve as an important model in the future, is unknown.

Evidence about the effects of online learning varies. One study conducted prior to 2020 suggested that high school students found online classes more favorable, when compared to face-to-face teaching.(Williams et al., 2020)In another, the online format provided greater opportunity for teacher feedback and response; it helped to increase students interest in and understanding of the content; and students' perceived more positive health changes during the online class. (Williams et al., 2020) However, with the pivot to universal online schooling during the 2020–21 school year, growing evidence demonstrates that virtual learning was challenging for many adolescents, with studies demonstrating particular hardship for adolescents living in urban environments and low-income households. (Rogers et al., 2021; Wang et al., 2022) Further, digital inequities (i.e. lack of internet connectivity/ computing devices) negatively impacted low-income students' online learning.(NCES) Little is known about what type of virtual programming was best able to engage youth during this period, and specifically, if arts-based participatory programming in the online setting can engage youth around public health content.

This evaluation is grounded both in the well-established social ecological model of health (SEM; which focuses on the societal, cultural and communal factors producing policy/ environmental/structural conditions necessary for health promotion) (Golden et al., 2015) and in the newer Robert Wood Johnson Foundation's Culture of Health Framework: Making Health a Shared Value(RWJF, (n.d.)), developed through a multi-year, multi-sectoral, participatory process. (Tan et al., 2019) This nascent framework contains three domains: (1) health-related mindsets and expectations (which we defined to include an understanding of/experiences with health, health equity, and the SEM); (2) sense of belonging (defined as belonging to, and affiliation with, a community or group); and (3) civic engagement (defined as any activity where students speak about, initiate or contribute to change beyond the individual level). Because TBP was designed to drive cultural change, rather than focus solely on more traditional health education outcomes (i.e. individual self-efficacy, campaign messaging awareness), we instead combined relevant conventional health communications interventions outcomes (e.g. knowledge/awareness of both health risks and solutions)(Thesenvitz et al., 2011) with an ecological perspective (Moran et al., 2016) to assess students' understanding of the root causes of health, students' sense of community belonging, and their interest in civic engagement/action. (RWJF, (n.d.))

In partnership with SFUSD, we employed a quasi-experimental study design to determine if online delivery of TBP, when compared to an online delivery of Youth Speaks' Traditional program, can (1) shift students' mindsets and expectations toward a socio-ecological understanding of health and health disparities; (2) increase feelings of community belonging and affiliation; and (3) activate civic engagement related to health among socioeconomically and ethnically diverse, low-income high school students. We hypothesized that the two programs would not generate differences in online student engagement (as they each feature an engaged pedagogical approach and utilized virtual student engagement techniques) or sense of community (due to lack of in-person engagement at schools), but that TBP would

lead to greater changes in health-related mindsets and expectations and increased civic engagement relative to traditional Youth Speaks programming.

Methods

This was a quasi-experimental, mixed-methods study in which 6 SFUSD high schools (district-selected based on high enrollment of low-income students) were randomly assigned (stratified by total school enrollment) to receive TBP curriculum (n=3) delivered by YS, or the traditional (non-health-related) spoken word curriculum (Traditional; n=3), also delivered by YS, during the Spring 2021 academic semester (February – May). The study was approved by the Committee for the Protection of Human Subjects at UC Berkeley (# 2014–12–7010) and SFUSD's Research, Planning, and Assessment Department.

Intervention

The TBP school-based program was originally conceived as an in-person, arts-based, public health literacy program, with a SEM and equity frame focused on diabetes. Its efficacy when delivered in that format has been previously reported. (Machado et al., 2021) In response to the COVID-19 pandemic and the increase in protests for racial justice during the summer of 2020, TBP's subsequent programming expanded to include additional salient issues youth were facing (e.g. COVID-19, climate change, police violence, racial inequity, and mental illness). In addition, based on findings from a prior evaluation which determined that the integration of civic engagement opportunities into TBP curriculum might better impact students' capacity to engage in this space, (Machado et al., 2021) the updated curriculum also provided youth with concrete examples of how to take action, as well as connected youth to organizations providing real-world engagement opportunities.

Youth in all 6 study schools received their programming entirely virtually (online) once per week over the course of six-week school-day residency programs. YS staff (Poet Mentors) partnered with classroom teachers (Partner Teachers) within participating schools to deliver TBP/Traditional content. All in-class residencies took place during Partner Teachers' regular class time and were taught by one Poet Mentor per school. Poet Mentors (n=4) taught at 1–2 study schools, each. Each study school hosted an average of 2 residencies (range 1–3), with an average of 18 students attending each residency per class session (range 8–28). TBP schools spent all 6 sessions (100%) on TBP curricular content. To augment programming for virtual learning and to facilitate peer-to-peer interactions, TBP/Traditional both used break-out sessions to support small group interactions and also relied heavily on the "chat" function, which enabled students to communicate directly with each other, even if their microphone/camera were off.

In comparison (Traditional) schools, Poet Mentors led workshops on the formulation of voice and identity, often in response to Partner Teacher curriculum (e.g. using discussions, free-writes, and performances to allow students to think more deeply about their personal relationship to the themes and topics that came up in their English readings).

In TBP schools, workshops featured the same approach to voice, identity and expression. However, rather than respond to Partner Teacher curriculum, the TBP curriculum was

intentionally designed to shift mindsets and expectations by helping students recognize, understand, and engage with the structural factors that disproportionately impact the health of low-income communities and communities of color. To help increase students' interest in civic engagement, Poet Mentors further 1) emphasized that the structural and environmental conditions that affected their health were constructed and therefore could be changed; 2) affirmed there are multiple helpful ways students could get involved in changing those conditions, from writing/performing poems to volunteering in their communities; and 3) ensured that each lesson included relevant information on local organizations that students could get involved with. The supplementary materials contain sample TBP and Traditional curriculum.

Theoretical Framework

TBP aims to shift the conversation from a more traditional health communications approach of solely encouraging individual behavior change, to inspiring youth to act for health justice by reversing the social, environmental, and structural forces that determine and perpetuate health risk.(Golden et al., 2015) The program's pedagogy is aligned with both Paolo Freire's *Pedagogy of the Oppressed*, (Freire, 1975) and Augusto Boal's related performance art work, *The Theater of the Oppressed*, (Boal, 2006)which Boal describes as "always seeking the transformation of society in the direction of liberation of the oppressed. It is both action in itself, and a preparation for future actions ... it is not enough to interpret reality; it is necessary to transform it!" In addition, the TBP approach is also grounded in the RWJF Culture of Health Framework, Section 1: Making Health a Shared Value,(RWJF, (n.d.)).The nascent Culture of Health framework contains three domains, which we operationalized to serve as outcome variables to evaluate: (1) health-related mindsets and expectations (which we defined to include an understanding of/experiences with health, health equity, and the SEM); (2) sense of belonging (defined as belonging to, and affiliation with, a community or group); and (3) civic engagement (defined as any activity where students speak about, initiate or contribute to change beyond the individual level). We created an additional domain specific to student learning in an online environment. We used these 4 domains, which served as more-relevant proxies for commonly used health communications outcome variables (e.g. health information seeking, knowledge/awareness of health risks; perceived environmental barriers)(Thesenvitz et al., 2011)to develop survey and interview questions. The outcome variables collectively serve to help us assess TBP's impact on creating and supporting a broader, less individual-focused, Culture of Health within the online public school space, as well as help us test this nascent framework.

Student Survey

Student survey data were collected online at baseline (at the beginning of their first residency programming) and at follow-up (at the end of the last session). Survey questions were based on the Culture of Health Framework's 3 domains.(RWJF, (n.d.)) One health-related mindsets question asked: "Which of the following makes it more likely that someone could get type 2 diabetes?" with 9 different check-all-that apply response options, including "Being born without enough insulin" (which is incorrect) and 8 additional correct responses (e.g. "Eating fast food or drinking soda/sugary drinks"). Additional questions assessing students' (1) mindsets and expectations (e.g. "Policies and laws can have a greater impact

on my health than the choices I make"); (2) sense of community (e.g. "I am comfortable being myself around others"); and (3) civic engagement (e.g. "I care about issues in the world and am inspired to take action") were asked with response options on a 5-point Likert scale from Strongly Disagree (1) to Strongly Agree (5).Additional yes/no questions related to civic engagement were asked relative to past(I did this in the past 12 months) and future (I plan to do this in the next 12 months).

Demographic questions asked students to self-report their grade (9th-12th); race/ethnicity (collapsed to Asian, African American, Hispanic/Latinx, White, and Other/Multiple/Prefer not to state); and gender identity (collapsed to Female, Male, and Other (non-binary, transgender, and compound gender, and preferred not to state)).

Student and adult interviews

All students who participated in programming in both TBP and Traditional schools were also invited via school email addresses to participate in semi-structured interviews upon the completion of their residency program. Participants and guardians gave informed assent/consent. The interview script included questions related to perceptions of TBP/Traditional programming (particularly as delivered online), mindsets and expectations towards health and health equity, sense of community, and civic engagement. Student interviews lasted 15–30 minutes, on average.

All adults involved with delivery and/or management of both TBP and Traditional programming: Partner Teachers, Poet Mentors, and Wellness Coordinators (school counselors who helped with coordination of TBP, as well as the district-level wellness director) were invited to be interviewed. The semi-structured interview script focused broadly on the school environment as it related to health and TBP/Traditional program outcomes. Interview topics were modified based on the participant's knowledge and experience; for example, Traditional school interviewees were not asked about TBP programming. These interviews lasted between 30–60 minutes.

All interviews took place 0–4 weeks after program completion and were conducted by one researcher (JM); participants received $25 for participation. Interviews were audio-recorded and professionally transcribed verbatim. Dedoose (version 8.3.17, Socio Cultural Research Consultants LLC) was used for managing and coding all qualitative data. Interview scripts are available in the supplementary material.

School-level demographic data—School-level demographic data are publicly available and were downloaded from the California Department of Education's website.("California Department of Education. Dataquest State Education Data Reporting. Available at: http://data1.cde.ca.gov/dataquest/. Accessed on January 20, 2022.,")

Analysis

Student Survey

To determine difference-in-change in pre-/post-residency program survey responses between TBP and Traditional students, we used mixed effects regression models with a time by

group interaction term. We carried out an *a priori* adjustment for student-level race/ethnicity, gender, and grade, and included random effects(to account for clustering) for school and student. Models looking at difference-in-change in "I plan to do this in the next 12 months" civic engagement outcomes also adjusted for whether the student "did this in the past 12 months" at baseline. Alpha was set at p<0.05.

Youth and adult interviews

We examined concepts present in the literature (i.e. deductive coding)(Bradley et al., 2007) based on RWJF's Making Health a Shared Value framework.(RWJF, (n.d.))Two researchers (JM and MZ) independently coded each transcript using an iterative coding process; codes were first refined and consolidated and sub-codes and emergent codes were then added, as needed. Once the coding structure stabilized and saturation was reached,(Urquhart, 2012) the final codes were applied to all transcripts. One researcher (JM) reviewed the coding to ensure codes were applied with reasonable consistency. In a final step, the research team examined the codes and sub-codes and reached consensus on salient themes.

Spoken Word Poetry

Central to the TBP/Traditional approach of YS, and underlying the program's theoretical framework,(Abbs et al., 2021) is the creation of spoken word pieces by individual students, and the performance of these pieces to peers. Because art is a critical component to the TBP which quantitative measures cannot duly evaluate, we also share a subset of poems authored by TBP students (see Supplementary Materials).

Results

All study schools had highly racially/ethnically diverse students and a majority of enrolled students were of lower socioeconomic status (Table 1).No statistically significant differences in student enrollment, free or reduced-price meal eligibility, race/ethnicity, or gender were seen between TBP and Traditional schools (Table 1). Student attendance was identical across groups, with 75% of both TBP and Traditional students attending each session, on average.

Students in both groups reported similar demographic characteristics: across groups, 42% of students identified as female, and 47% as Latinx, 25% as Asian, 10% as other/multiple/prefer not to state, 10% as white, and 7% as African American. TBP students were more likely to be in the 11th grade (52% vs. 8%), while Traditional students were more likely to be in the 9th (52% vs. 22%) or 10th grades (30% vs. 9%).

The overall student survey response rate was 98% and was slightly, but not significantly, higher for Traditional (100%) versus TBP schools (95%; p=0.37). Among students who completed the baseline survey, 63% also completed the follow-up survey; completion rates were similar between groups (68% vs. 58% responded to both surveys; p=0.11). The final student survey sample (complete cases) included 77 TBP and 63 Traditional students.

Online Survey Results

With respect to mindsets and expectations, there was a trend of greater increases in knowledge among TBP students with respect to the causes of type 2 diabetes. The only statistically significant difference-in-change between groups was for "Living in a neighborhood with few or no grocery stores making it more likely that someone will get type 2 diabetes" (difference-in-change +18.4%; see Table 2 for all related outcomes).TBP students reported greater difference-in-change relative to Traditional students in response to: "I am comfortable sharing my story and speaking my mind" (difference-in -change +0.5); "my country should do whatever is necessary to make sure everyone has an equal opportunity to be healthy" (+0.4); "I am comfortable standing up for what I think is right (+0.4: 95% CI: 0.107, 0.644); and "I have ideas for what I can do to improve my school or community" (+0.4; see Table 3 for all related outcomes).

With respect to civic engagement, at baseline, a greater proportion of Traditional students reported "Sending an email, letter, or other communication to a public figure or organization" and "Talking to family and friends about health and justice" in the past 12 months(see Table 4 for all related outcomes).After adjusting for students' civic engagement in the past 12 months, TBP students reported robust and significantly larger differences-in-change in plans for future (12-month) civic engagement versus Traditional students for nearly all civic engagement opportunities.(Table 4).Differential gains in "Collect signatures on a petition or ask people about their opinions on community health and justice issues" and "Send an email, letter, or other communication to a public figure or organization" were also observed but did not reach statistical significance.

Semi-Structured Interview Results

A total of 41 interviews (23 TBP, 13 Traditional) were conducted with: participating youth (n=21; TBP=13, Traditional=8; response rate 9.9%); Partner Teachers (n=11; TBP=8, Traditional=3; response rate 85%); and YS Poet Mentors (n=4; response rate 100%); Wellness Coordinators (n=4; TBP=2, Traditional=2; response rate 50%); and district-level Wellness staff (n=1; response rate 100%).Table 5 contains salient quotes from these interviews.

Overall, youth enjoyed both programs and reported a largely positive experience. Many shared that they learned a lot about the world and themselves; they also shared that they felt safe to be themselves in TBP/Traditional spaces. Both programs appeared to have emphasized the power of youth voice: youth across schools reported learning the importance of speaking up and recognizing that they have something worth saying.

Health-related mindsets and expectations—Youth interviews revealed that students across schools expressed changes in their mindsets and expectations as a result of TBP/ Traditional programing. Adults from all schools discussed how the programs' timing coinciding with relevant issues (i.e. climate change, COVID-19 and uprisings for Black lives) and supported a deepening of youths' understanding of systemic disparities. Because these issues were so salient for youth in Traditional schools, as well, they were often discussed in the Traditional residencies (having been brought up by students), even though it

was not formally in the curriculum. Youth at TBP schools, however, called out the structural factors which impact health outcomes (i.e. race, poverty, neighborhood) and more often made direct connections between racism, unemployment, lack of access to resources, and financial stress and disparate health outcomes during the COVID-19 pandemic. TBP youth also shared that TBP programming was one of the only safe spaces where they felt they could discuss issues related to racism. Youth from both groups shared that TBP/Traditional programming helped them deal with some of the adverse mental health symptoms they had been experiencing due to the pandemic and generally opened their eyes to the ways in which societal systems and structures interconnect to impact health: "I can see the whole picture now instead of that one picture" (TBP student; Table 5).

Sense of belonging—The challenges posed by distance learning presented difficulties for both adults and students in terms of feeling fully connected to the larger school community. However, both TBP/Traditional programs were able to foster a strong sense of classroom and community. Adults and youth from both groups expressed that TBP/Traditional programming enabled students to feel more connected to each other during a difficult and complicated time. Youth specifically shared that they understood their classmates more after hearing their poems and relating to them: "Once I heard them share openly, I felt like we trusted each other with this information…they gave us their trust to not laugh at them reading. Instead, we uplifted them" (TBP student).

Civic Engagement—Youth from both groups reported wanting to use their voice more to stand up for what they think is right. Some also reported recent participation in civic engagement, with talking to friends/family about systemic issues and posting on social media being the most common forms of engagement. Other actions included: helping others access COVID testing, reminding others to wear masks and wash hands, distributing sanitary products, beach cleanups, joining student organizations, writing poetry, making posters, and community organizing (through Zoom). Students did not mention if their recent engagement was a result of the program, or other factors, but students reported being able to get involved in their community and use their voices for things they believed in. As one Traditional student put it, "I think that [YS] is really good at targeting real-life situations and tapping into each person that it impacts and releasing this kind of mental clearance for that mental awareness that what you do has an impact, what you do matters" (Table 5).

While interview findings demonstrated that youth were motivated by experiences of oppression and injustices that they, or people close to them, have faced, they also expressed feeling uncomfortable engaging civically due to parts of their identities (i.e. race, gender): "Because I'm a woman. And a lot of people expect woman to stay quiet. And I don't. I don't like to stay quiet. I don't like to be shut down or anything like that" (TBP student; Table 5). A Wellness Coordinator from a Traditional school shared that many youth don't take part in civic engagement because they think "that's for white people." Adults elucidated additional perceived barriers for youth civic engagement, including increased responsibilities and stresses at home, like caretaking of younger siblings, added jobs, and general mental health. Adults also shared that youth are burnt out from Zoom, and that there are not

many physical opportunities for civic engagement during this time. Students added that even though they're interested, they're not always sure where to start.

Online learning—Overall, youth and adults across schools reported a challenging year of distance learning, with youth sharing that, in general, they had a negative experience trying to learn online. While youth across groups reported that online learning often was "challenging", "boring", and "unengaging", with many reporting feeling "distracted", "unmotivated", and "stressed," youth shared that they looked forward to TBP/Traditional virtual programming, often more than they looked forward to regular school classes. TBP adults corroborated this finding, saying that TBP specifically supported youth in navigating the intense mental health challenges brought on by both the pandemic and online learning. Many adults shared that they struggled to connect with youth across a screen, a task made more difficult when youth did not turn their cameras on for the entirety of class. Many adults also shared, similarly, that facilitating relationship building between youth was much harder than it is during in-person learning, with those who worked with first year students struggling more than those who worked with older students. Additionally, adults across schools felt challenged by the need to change their curriculum and method of teaching for online schooling.

Despite this, youth across schools reported that they had very positive experiences with TBP/Traditional delivered remotely; "Honestly, it was one of the greatest experiences I experienced" (TBP student; Table 5). As another TBP student put it, "And honestly, every time when it was [TBP], I would be very excited to come to school because usually, since it has been virtual, I'm not very interested" (Table 5). Several TBP youth shared that their classmates were much more vocal in TBP sessions than in their usual online classes. Nonetheless, many adults at both TBP and Traditional schools shared that online learning does not compare to the feeling of being invigorated by a Poet Mentor's passion in person. Overall, the program at both TBP and Traditional schools went "much better than anticipated because YS was able to pivot pretty well to do things online." (Wellness Director, District).

Finally, the majority of sample spoken word TBP poems (see Supplementary Materials) tap into multiple domains of the SEM, including systemic forces, societal norms, behavioral settings, and individual factors, illustrating activation of youths' health-related mindsets and expectations.

Discussion

Findings from this mixed-methods study suggest that TBP, an engaging health education program that utilizes art as a vehicle to connect with students about public health and health equity, can advance a culture of health in the public high school online setting. Going beyond traditional youth-targeted health education campaigns, the program encourages social action rather than focusing on individual behavior change. Both TBP and Traditional programming, overall, were well-received by youth and adults across both TBP and Traditional schools, because it gave youth the space to participate and use their voices during a time when the United States was uniquely aware of so many health and equity-

related issues. TBP participation, specifically, resulted in a quantifiable reported increase in students' mindsets around structural, social and environmental determinants of health and health equity, as well as motivated future plans for civic engagement, demonstrating that programming with a specific and intentional focus on these issues can positively impact young people.

TBP's expanded focus to include salient health and social issues beyond type 2 diabetes appeared to be a strong pedagogical approach for engaging youth in a health education setting. Instead of encouraging young people to modify their own behavior for future health benefits, TBP motivates both individual and structural change by encouraging youth to write poems related to values and issues most authentic to them. This engaged pedagogical approach, whereby educational content is directly connected to personal experiences, celebrates the personal as political and the influence of power on both.(Danowitz & Tuitt, 2011; Hooks, 2014) TBP specifically focused on how the systems and environments in which youth live and engage with the world can affect health. This appears to have helped students relate the material to their personal experiences, offering a supportive and inclusive environment for self-expression and knowledge acquisition in this domain, something which is not featured in traditional health education approaches. The samples of spoken word pieces also show the range of ways that TBP students connected their lived experiences with their new understandings about the SEM of health through artistic expression. This is in line with our prior research conducted among highly skilled young poets who had engaged in more intensive, out-of-classroom TBP workshops, and provides additional support for the ways in which art can be harnessed to convey a critical but complex construct (SEM) in meaningful and accessible ways.(Abbs et al., 2021; Machado et al., 2021)

This study offers additional evidence that engaged pedagogy is promising for health promotion, specifically highlighting the value of arts-based health communication(Boal, 2006; Machado et al., 2021)and building the evidence-base around RWJF's Culture of Health Framework.(RWJF, (n.d.); Tan et al., 2019)Further, TBP/Traditional programming was designed with increased youth interaction and peer-to-peer communication in mind. Interviews with adolescents from other research during the COVID-19 pandemic demonstrate the critical need for youth social interactions and social opportunities during online schooling(Cockerham et al., 2021), which further supports the contemporary relevance of TBP/Traditionals' approach.

The deliberate integration of civic engagement opportunities into TBP curriculum appears to have positively impacted students' reported desire to work for social change. TBP made an intentional shift in their curricular approach for engaging youth around civic engagement after a prior evaluation demonstrated the need to better connect students with action-oriented civic engagement opportunities.(Machado et al., 2021)Students who participated in the current version of TBP reported significantly more plans to participate in civic engagement activities after completing TBP programming, including: talking to people about voting; volunteering time for an organization active in community change; and talking to family and friends about health and justice. To help increase students' interest in civic engagement, Poet Mentors deliberately emphasized that the structural/environmental conditions that affect peoples' health are constructed, and therefore could be changed, thus allowing students to

feel more agency. In addition, they presented multiple ways students could get involved in changing these structural conditions, from writing and performing poems to volunteering in their communities and provided concrete information on local organizations that students could get involved with in their immediate communities.

By the end of the program, TBP youth were better able to qualitatively describe the structural and systemic causes of health disparities compared to Traditional youth. However, youths' sense of community belonging was relatively strong in both groups even at baseline, and students across schools reported recent participation in civic engagement during their interviews. Differential findings between quantitative and qualitative approaches can occur when using mixed-methods. These differences could be due to selection bias (those who chose to be interviewed may have been the most engaged students) and small sample sizes. Alternatively, the lack of striking between-group differences reported qualitatively may reflect that fact that both programs utilized a similar engaged pedagogical approach, wherein youth were encouraged to voice and engage with material that mattered most to them. In addition, some curricular 'contamination' may have occurred. While TBP had an intentional curricular focus on timely health-related issues, Poet Mentors in Traditional schools mentioned that their youth also often brought up issues like COVID-19, mental health, and racial injustice on their own, ultimately leading to programming similarities across groups that were not intended in the original study design. Unfortunately, session-specific data were not collected, limiting our ability to determine if any negative findings were a result of such unintended curricular overlap.

It has become clear that COVID-19-related school closures and resulting social isolation have created both academic and socio-emotional challenges for youth, particularly for adolescents living in urban environments and low-income households. (Rogers et al., 2021; Wang et al., 2022) Therefore, it comes as no surprise that delivering TBP/Traditional programming online was challenging for youth and adults alike. Specifically, Poet Mentors found it hard to engage with youth when cameras were off and challenging (though not impossible) to facilitate the interactions typical of youth participating in in-person programming. Despite these challenges, many youth shared that they looked forward to TBP/Traditional workshops, even when they weren't excited for other virtual classes. A recent evaluation of a global health and social justice summer program for high school youth which employed interactive activities similarly demonstrated that youth engagement was high after pivoting to online delivery due to COVID-related restrictions.(Wipfli& Withers, 2022)Together, this signals that class content and pedagogical approach matter when working with youth in the online setting and that providing opportunities for youth to actively interact with each other around relevant content is an important method for promoting youth engagement.(Wipfli& Withers, 2022)Indeed, social interactions with classmates and teachers are critical components of adolescents' learning experiences.(Perret-Clermont et al., 2004)In particular, the high level of student-Poet Mentor and peer-to-peer interactions built into both programs likely helped facilitate a positive online experience for students. Future mixed-methods research should further examine the impact of engaged pedagogy to teach health and other important subjects online.

There are several study limitations. First, while online survey responses rates were high, interview response rates were lower than expected because recruitment was conducted entirely online through school email addresses, which were not always actively-used accounts. The low student interview rate could impact the external validity of these findings; as such, our qualitative findings should be seen as preliminary. Second, we did not have data on student attendance for other virtual academic programing, limiting our ability to objectively determine if program participation either differed from or increased online school attendance. Also, sample poetry from Traditional schools was not retained. Lastly, our survey questions were uniquely adapted to test a nascent framework; while the outcome variables we used were approved by the developers of the framework, their validity for measuring these constructs remains undetermined.

In summary, TBP's arts-based programming related to the social ecological model and health inequities was well-received by youth and adults across schools at a time when our country was grappling with many health and equity-related issues, coupled with the challenges brought by remote learning due to the COVID-19 pandemic. TBP participation, specifically, resulted in a quantifiable increase in students' reported mindsets around the determinants of health and health equity, as well as future plans for civic engagement, demonstrating that programming with a specific and intentional focus on these issues can positively impact young people. Online youth health-related programming is not without its challenges but may still be worthwhile approach during times of limited resources or when in-person gathering isn't possible. Our findings suggest that well-designed and skillfully led arts-based, participatory programming that engages youth around public health content can advance a culture of health not only in the in-person public high school classroom setting, but also in the online setting.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1:

School- and student-level demographic characteristics, (School Year 2020–21)

	Tde Bigger Picture (TBP; Intervention)	Traditional Youth Speaks (Comparison)	P-Value [B]
School-level [A]	n=3 schools	n=3 schools	
Student enrollment, mean (SD)	643.7 (482.1)	570.3 (454.2)	0.857
Student race/ethnicity, mean % (SD)			
Black/African American	11.3 (3.9)	16.4 (5.3)	0.256
Asian	13.4 (16.2)	7.9 (7.5)	0.626
Hispanic/Latinx	56.3 (16.4)	50.0 (12.5)	0.629
White	3.6 (2.1)	11.1 (8.5)	0.213
Other	15.5 (4.9)	14.6 (4.7)	0.836
Student sex, mean % (SD)			
Female	44.0 (0.3)	42.5 (5.9)	0.675
Male	56.0 (0.6)	57.5 (5.9)	0.675
Student eligibility for free or reduced-price lunch, [C] mean % (SD)	64.1 (0.6)	61.6 (13.5)	0.765
Student-level [D]	n=77 students	n=63 students	
Grade, n (%)			
9th	22.1 ± 41.7	52.4 ± 50.3	<0.001
10th	9.1 ± 28.9	30.2 ± 46.2	0.001
11th	51.9 ± 50.3	7.9 ± 27.2	<0.001
12th	16.9 ± 37.7	9.5 ± 29.6	0.209
Student race/ethnicity, n (%)			
White	5.2 ± 22.3	14.3 ± 35.3	0.066
Hispanic or Latino	54.5 ± 50.1	39.7 ± 49.3	0.081
Asian	27.3 ± 44.8	22.2 ± 41.9	0.496
African American	5.1 ± 22.3	7.9 ± 27.2	0.514

Other/Multiple/Prefer not to state	7.8 ± 27.0	15.9 ± 36.8	0.137
Student gender, n (%)			
Female	37.7 ± 48.8	46.0 ± 50.2	0.321
Male	59.7 ± 49.4	46.0 ± 50.2	0.107
Other[E]	2.6 ± 16.01	6.3 ± 24.6	0.279

[A]School-level data were obtained from the California Department of Education

[B]P-value for difference between intervention and comparison calculated from unpaired t-tests

[C]Used as a proxy for socio-economic status. Students qualified if their household's income is less than or equal to the federal income guidelines

[D]Student-level data were obtained from the student survey

[E]Includes students who identify as non-binary, transgender, and compound gender, and those who preferred not to state

Table 2.

Adjusted[A] differences in changes in the proportion of students who answered yes to question, which of the following you think makes it more likely that someone could get Type 2 diabetes[B]

Which of the following do you think makes it MORE LIKELY that someone could get Type 2 Diabetes? (proportion responding "yes")	The Bigger Picture (TBP; Intervention) (n=77)			Traditional Youth Speaks (Comparison) (n=63)			Difference-in-change between groups mean± SE (95% CI)
	Pre mean± SE	Post mean± SE	Difference mean± SE (95% CI)	Pre mean± SE	Post mean± SE	Difference mean± SE (95% CI)	
Being born without enough insulin.[B]	37.6 ± 5.7	36.6 ± 5.7	-1.9 ± 4.9 (-11.461, 7.607)	48.4 ± 6.4	48.4 ± 6.5	1.1 ± 6.6 (-11.7, 14.0)	-1.0 ± 8.1 (-16.926, 7.283)
Having that disease run in your family.	74.2 ± 5.1	71.5 ± 5.1	-2.1 ± 5.1 (-0.120, 0.079)	80.6 ± 5.7	78.8 ± 5.8	-1.3 ± 4.4 (-9.986, 7.305)	-0.8 ± 6.9 (-14.377, 12.819)
Eating fast food or drinking soda/sugary drinks.	84.1 ± 4.0	93.5 ± 4.0	**8.5 ± 4.2 (0.347, 16.781)**	86.5 ± 4.4	83.2 ± 4.5	-2.6 ± 5.0 (-0.123, 0.072)	12.7 ± 6.5 (-0.147, 25.462)
Living in a neighborhood that has lots of fast food.	49.9 ± 5.8	63.0 ± 5.8	**12.4 ± 5.3 (19.697, 22.827)**	60.1 ± 6.5	59.6 ± 6.5	0.6 ± 6.0 (-11.215, 12.446)	13.7 ± 8.1 (-2.067, 29.506)
Not exercising regularly.	79.8 ± 5.0	73.3 ± 5.0	-7.6 ± 6.0 (-19.331, 4.033)	74.8 ± 5.6	75.6 ± 5.6	1.9 ± 6.7 (-11.262, 15.051)	-7.3 ± 8.9 (-24.920, 10.301)
Living in a neighborhood with few safe parks and playgrounds.	19.3 ± 4.9	25.9 ± 4.9	7.0 ± 4.7 (-2.183, 16.159)	18.7 ± 5.5	25.7 ± 5.5	6.9 ± 6.2 (-5.352, 19.082)	-0.5 ± 7.5 (-15.360, 14.364)
Seeing lots of ads for unhealthy foods and drinks.	40.6 ± 5.8	55.5 ± 5.9	**15.0 ± 6.4 (24.309, 27.561)**	32.5 ± 6.5	39.0 ± 6.6	6.3 ± 7.2 (-7.861, 20.494)	8.4 ± 9.6 (-10.321, 27.203)
Not having enough money to buy the kinds of food you want.	21.4 ± 5.0	23.6 ± 5.1	2.8 ± 5.7 (-8.388, 13.968)	17.7 ± 5.6	27.6 ± 5.7	9.9 ± 6.4 (-2.591, 22.384)	-7.6 ± 8.5 (-24.329, 9.125)
Living in a neighborhood with few or no grocery stores.	41.0 ± 6.0	58.2 ± 6.0	**17.5 ± 5.1 (7.470, 27.511)**	52.1 ± 6.8	51.0 ± 6.8	-0.8 ± 5.4 (-11.572, 9.783)	**18.4 ± 7.5 (3.671, 33.074)**

[A] Data derived from mixed effects regression models, adjusted for student race/ethnicity, gender, and grade, and with random effects for school and student.

[B] All response options are correct, with the exception of "Being born without enough insulin," which is linked to type 1 diabetes.

Table 3:

Adjusted differences in changes in pre- and post-online residency program survey responses between intervention and comparison students for questions related to health-related mindsets and expectations, sense of community, and civic engagement[A,B]

RWJF Culture of Health Framework Construct(s)[A]	Survey Question, with response options on a Likert scale from Strongly Disagree (1) to Strongly Agree (5))	The Bigger Picture (TBP; Intervention) (n=77)			Traditional Youth Speaks (Comparison) (n=63)			Difference-in-change between groups mean± SE (95% CI)
		Pre mean± SE	Post mean± SE	Difference mean± SE (95% CI)	Pre mean± SE	Post mean± SE	Difference mean± SE (95% CI)	
HME	I am comfortable sharing my story and speaking my mind.	3.1 ± 0.1	3.4 ± 0.1	**0.3± 0.1 (0.071, 0.499)**	3.6 ± 0.1	3.4 ± 0.1	**−0.3 ± 0.1 (−0.498, −0.015)**	**0.5 ± 0.2 (0.205, 0.865)**
HME	I believe that my voice matters and is powerful.	3.7 ± 0.1	3.9 ± 0.1	0.2 ± 0.1 (−0.043, 0.376)	3.8 ± 0.1	3.8 ± 0.1	**−0.08 ± 0.1 (−0.269, −0.101)**	0.2± 0.2 (−0.070, 0.618)
HME	Policies and laws can have a greater impact on my health than the choices I make.	3.2 ± 0.1	3.3 ± 0.1	0.1 ± 0.1 (−0.124, 0.317)	3.3 ± 0.1	3.4 ± 0.1	0.1 ± 0.1 (−0.140, 0.336)	0.0 ± 0.2 (−0.320, 0.330)
HME	My country should do whatever is necessary to make sure everyone has an equal opportunity to be healthy.	4.3 ± 0.1	4.4 ± 0.1	0.1 ± 0.1 (−0.071, 0.354)	4.4 ± 0.1	4.1 ± 0.1	**−0.3 ± 0.1 (−0.524, −0.024)**	**0.4 ± 0.2 (0.069, 0.719)**
HME, SC	I understand what leads to health or disease in my community.	3.6 ± 0.1	3.9 ± 0.1	**0.4 ± 0.1 (0.099, 0.516)**	3.5 ± 0.1	3.6 ± 0.1	0.0 ± 0.1 (−0.140, 0.203)	0.3 ± 0.1 (−0.003, 0.558)
SC	I am comfortable being myself around others.	3.5 ± 0.1	3.7 ± 0.1	0.2 ± 0.1 (−0.012, 0.383)	3.8 ± 0.1	3.7 ± 0.1	0.0 ± 0.1 (−0.239, 0.196)	0.2 ± 0.2 (−0.085, 0.068)
SC	I understand perspectives different from my own.	3.9 ± 0.1	4.0 ± 0.1	0.1 ± 0.1 (−0.038, 0.269)	4.1 ± 0.1	4.1 ± 0.1	−0.1 ± 0.1 (−0.221, 0.111)	0.1 ± 0.1 (−0.092, 0.386)
CE	I know who I am and the things I care about.	4.2 ± 0.1	4.1 ± 0.1	0.0 ± 0.1 (−0.180, 0.209)	4.0 ± 0.1	3.9 ± 0.1	−0.1 ± 0.1 (−0.289, 0.104)	0.1 ± 0.1 (−0.223, 0.362)
CE	I could see myself becoming a writer, performer, or leader in my community.	2.6 ± 0.1	2.7 ± 0.1	**0.1 ± 0.1 (0.227, 0.330)**	3.1 ± 0.1	3.1 ± 0.1	0.0 ± 0.1 (−0.263, 0.257)	0.1 ± 0.2 (−0.302, 0.497)
CE	I care about issues in the world and am inspired to take action.	3.5 ± 0.1	3.7 ± 0.1	0.1 ± 0.1 (−0.076, 0.339)	3.8 ± 0.1	3.7 ± 0.1	−0.1 ± 0.1 (−0.250, 0.058)	0.2 ± 0.1 (−0.223, 0.505)
HME, CE	I am comfortable standing up for what I think is right.	3.7 ± 0.1	3.9 ± 0.1	**0.2 ± 0.1 (0.027, 0.424)**	4.0 ± 0.1	3.8 ± 0.1	**−0.2 ± 0.1 (−0.313, −0.010)**	**0.4 ± 0.1 (0.107, 0.644)**
HME, CE	I am aware of the social and racial issues going on	4.1 ± 0.1	4.1 ± 0.1	0.1 ± 0.1 (−0.102, 0.260)	4.1 ± 0.1	4.1 ± 0.1	0.0 ± 0.1 (−0.170, 0.203)	0.1 ± 0.1 (−0.188, 0.353)

RWJF Culture of Health Framework Construct(s)[A]	Survey Question, with response options on a Likert scale from Strongly Disagree (1) to Strongly Agree (5))	The Bigger Picture (TBP; Intervention) (n=77)			Traditional Youth Speaks (Comparison) (n=63)			Difference-in-change between groups mean± SE (95% CI)
		Pre mean± SE	Post mean± SE	Difference mean± SE (95% CI)	Pre mean± SE	Post mean± SE	Difference mean± SE (95% CI)	
	that affect my community right now.							
HME, SC, CE	I have ideas for what I can do to improve my school or community.	3.1 ± 0.1	3.3 ± 0.1	0.2 ± 0.1 (−0.043, 0.467)	3.4 ± 0.1	3.1 ± 0.1	**−0.2 ± 0.1 (−0.390, −0.045)**	**0.4 ± 0.2 (0.091, 0.749)**

[A]The Robert Wood Johnson Foundation (RWJF) Culture of Health Framework Section 1: Making Health a Shared Value contains three domains: health-related mindsets and expectations (HME; understanding of and experiences with health, health equity, and the social determinants of health; (2) sense of community (SC; belonging to, and affiliation with, a group); and (3) civic engagement (CE; any activity where students speak about, initiate or contribute to change beyond the individual level).

[B]Data derived from linear mixed effects regression models, adjusted for student race/ethnicity, gender, and grade, and with random effects for school and student.

Table 4:

Adjusted differences in change in pre and post survey responses between The Bigger Picture (intervention) and Traditional Youth Speaks (comparison) students for questions related to civic engagement

	Proportion of youth responding they DID this in the past 12 months at baseline (pre)[A]			Proportion of youth responding they PLAN TO do this in the next 12 months[B]						
				Intervention (n=77)			Comparison (n=63)			
	Intervention (n=77)	Comparison (n=63)	p-value for difference between groups	Pre	Post	% Change (95% CI)	Pre	Post	% Change (95% CI)	Difference-in-change between groups (95% CI)
Write/make a presentation about a community health and justice issue.	44.7	39.2	0.3550	31.5	40.0	9.2 (−1.971, 20.450)	44.2	34.5	−9.8 (−21.307, 1.783)	**17.9 (1.919, 33.915)**
Plan or participate in a meeting or event (like a march or rally) directed at community change or a local health and justice issue.	17.1	22.6	0.2556	26.2	38.2	**11.3 (1.070, 21.582)**	48.5	41.3	−5.9 (−19.463, 7.672)	**19.1(2.406,35.829)**
Collect signatures on a petition or ask people about their opinions on community health and justice issues.	11.8	15.2	0.4155	20.6	26.3	5.0 (−3.902, 13.976)	23.7	25.6	2.2 (−7.815, 0.123)	3.6 (−9.887, 17.032)
Talk to people about voting.	39.2	48.8	0.1096	29.8	51.5	**21.6 (10.039, 33.234)**	48.0	39.0	−8.3 (−20.578, 39.635)	**30.8 (13.950, 47.647)**
Send an email, letter, or other communication to a public figure or organization.	13.2	32.0	**0.0001**	28.6	37.2	8.8 (−3.604, 21.111)	42.3	39.6	**−4.4(−14.878, 5.978)**	11.4 (−5.272, 27.980)
Post my views on a blog, Facebook, Instagram, Twitter, other social media, or online platform.	36.8	44.0	0.2279	34.5	49.4	**15.2(3.668, 26.791)**	50.0	46.4	−3.453 (−14.250, 7.342)	**18.4 (1.863, 35.032)**
Volunteer time for an organization active in community change.	12.5	18.5	0.1652	34.7	44.0	9.3 (−3.107, 21.816)	60.9	48.7	−12.9 (−26.489, 0.794)	**21.5 (2.916, 40.007)**
Change my online profile picture to demonstrate solidarity with a health and justice cause or movement.	18.7	29.6	**0.0337**	26.7	52.6	**26.0(14.573, 37.502)**	32.5	35.6	2.9 (−7.924, 13.721)	**22.8 (6.651, 38.999)**
Attend a (virtual/in person) meeting of a government or public agency	13.8	12.0	0.6561	16.2	28.4	12.3 (2.249, 22.407)	41.1	31.6	−9.614 (−23.674, 4.447)	**21.7 (3.828, 39.580)**

	Proportion of youth responding they DID this in the past 12 months at baseline (pre)[A]			Proportion of youth responding they PLAN TO do this in the next 12 months [B]						
				Intervention (n=77)			Comparison (n=63)			Difference-in-change between groups (95% CI)
	Intervention (n=77)	Comparison (n=63)	p-value for difference between groups	Pre	Post	% Change (95% CI)	Pre	Post	% Change (95% CI)	
Talk to family and friends about health and justice.	59.5	80.8	0.0001	65.2	79.5	14.6(3.714, 25.505)	75.3	70.0	−6.0(−16.328, 4.294)	19.7 (4.428, 34.897)

[A]Data derived from unpaired t-tests.

[B]Data derived from linear mixed effects regression models, adjusted for whether student did that activity in the past 12 months, student race/ethnicity, gender, and grade, and with random effects for school and student.

Table 5:

Themes and salient quotations from key-informant interviews

Theme and sub-themes	Sample Quotations
Health-related mindsets and expectations (understanding of and experiences with health, health equity, and the social determinants of health, including, but not limited to, COVID-19, Climate Change, Racial Justice, Police Violence, and Mental Health)	• [Students] definitely talked a whole lot about food habits and why food habits are the way they are. And the proliferation of fast food and how much easier it is to get fat as opposed to healthier options. So those are I think two or three, which also they are very clear how they're interconnected that they bring up in terms of Type 2 Diabetes and how it's connected too. It's yet another way to ridicule someone who's African American. That comes up a whole lot and evidently so. I really did notice the fact that they aren't desensitized to it. They're very aware that it happens, and they know why it happens too. And very often, they are ready to speak up about that. – **Poet Mentor, TBP School** • … starting off conversations and asking them like… "Who's most heavily impacted by something like COVID-19?"…On the very first day, a lot of the first responses are probably rather literal, right. It was like what the science said: elderly folks, people with pre-existing medical conditions. And a couple of them maybe really early on would be like, "Homeless people," or something. I was like, "Okay, I see. That's not an obvious one. That's not the one that the news is telling you. How do you know that?" And already showing them how some of those connections were being made…. When it came to who's least affected, their answers went from young people or able-bodied people to wealthy people or people who have the privilege to stay… in the house or people who have the privilege to order delivery… when it came to type 2 diabetes, it was like, if we look at a map, it's the same folks in the same neighborhoods that maybe are most impacted by type 2 diabetes because they are food deserts, and they don't have any clean facilities, outdoor facilities for folks to get exercise and whatnot. These also happen to be the neighborhoods where most of the people work low-wage jobs as essential workers …it was just really eye-opening to see in real-time it start to make sense to them. – **Poet Mentor, TBP School** • In our school, specifically, our student population and their families have been hit really hard by the experience of the pandemic. A lot of our students' parents are immigrants or frontline workers. People with a lack of resources when it comes to financial resources and other things like that that I think have really impacted families in really serious and extreme kind of ways. When people don't have a way to earn a living to provide for their family or don't have stable housing, [there's] a number of health issues. So I think that… poverty, immigration. There's always issues related to the trauma connected to community violence, health. I think all of those things. And then, the mental health of students for sure. The depression and anxiety and lack of a healthy connection is a big challenge. – **Wellness Coordinator, TBP School** • There's a lot. There are issues related to the pandemic. There's issues related to racial injustice. There are issues related to immigration status. There are issues related to just housing and affordability living in San Francisco. It's pretty widespread, I would say. – **Partner Teacher, Traditional School** • I'll say it influenced me really good because now– so first, I just knew what I knew. But when I went to YS, it opened my mind up to me knowing more things and new things, and it's not just that part where I see. It's the whole picture, stuff like that. I can see the whole picture now instead of that one picture. – **Student, TBP School** • I think a lot of mental health is being undermined by a lot of people, especially in the pandemic, people have felt very depressed or very– yeah, very depressed or very tired. And they don't have those support systems where they could find mental health. And I think it's very important to have those systems, which a lot of people may not have. - **Student, Traditional School**
Sense of community (belonging to, and affiliation with, a group, including the school environment)	• Yeah. I mean, it's painful. I'm the school social worker, so got my little finger on the pulse of the emotional well-being of the school, and it was pulsing, and it was pulsing, it was high blood pressure all year long for these kids, a lot of increased anxiety and depression, and then just the inability to really address it in a meaningful way. And then we have five therapists working for me, and they were busy all year long. I was proud of that. They did a great job, but there are so many barriers to success there, like kids not having a private space to talk, being around family. Just an increase in anxiety and depression. So it was a tough year, and there was some trauma the school went through, suicide, staff that was killed, and another boy who died, accidental health condition like a medical condition. So the traumas this school went through that– about as bad as anything I've seen in 15 years, or worse than anything I've seen in 15 years there. So it's hard to do all that. Now, it's all done online. It was crazy. Trying like that with all this trauma and stress, it's just a little debilitating to see the students go through this. So it's the whole thing if students to go through it, and it was just– so a lot of us felt really powerless trying to figure out how to best help them and support them. So we all did the best we can. The teachers were all amazing. I popped into lots of classes to see how kids were doing, but it was like– the children are not meant to be learning through computers, screens, so. That's all. – Wellness Coordinator, Traditional School • [The Bigger Picture] made me feel connected. Yeah. Because I got to understand where everybody was coming from and the struggles. I mean, everybody's going through some stuff. They're just not saying it out loud.– **Student, TBP School** • It did change my opinion about my community. That not everybody has the chance to– how can I say this? Everybody has a voice. And that they need to be heard no matter what. And that they're humans and they have feelings and they also go through stuff in life too. And as any other human, they need help and– yeah. And they should receive it.– **Student, TBP School** • I don't think [Youth Speaks] really changed my opinion of my community, because I think I already had a pretty positive idea of it.– **Student, Traditional School**
Civic engagement (any activity where students speak about, initiate or contribute to change beyond the individual level)	• Because I'm a woman. And a lot of people expect woman to stay quiet. And I don't. I don't like to stay quiet. I don't like to be shut down or anything like that. So if I want to talk, I will say it, and I don't care if you don't want to hear me. It's just how I feel. And no one's going to block my feelings out just because they don't want to hear my feelings. I'm as human as you are. And I have a right to be heard, no matter what. – **Student, TBP School** • [The program] provides them with a sense of empowerment and a tool for really feeling like they can change the world with their words. And I really hope that the students in my particular program… continue to use those skills that they developed in the workshop to change the world around them because they have this– there's just this innate natural skill that develops throughout the course of the workshop that was really special and that energy needs to be cultivated and shared with the rest of the world. – **Partner Teacher, TBP School** • They make me excited for just this next generation that's coming up. They know so much… And a lot of them, also, are down to create community farms and go learn…

Theme and sub-themes	Sample Quotations
	• *about gardening. A lot of the students, too, are newcomer students. So they're used to being out on the horizon and instead of either being out with nature and greenery and then they come here to a concrete jungle, and the only thing that they see are buildings and concrete on the floor. But a lot of them have asked for trying to reconnect to the Earth. They're trying to do something about it.* – **Partner Teacher, TBP School** • *Yeah, once again, I think that YS is really good at targeting real-life situations and tapping into each person that it impacts and releasing this kind of mental clearance for that mental awareness that what you do has an impact, what you do matters. And whether it be study skills, help school skills, and mental skills, it really is something that-- it's something that took me a long time to understand. But one little thing can lead up to another thing and another thing, and eventually snowball to this big effect. So I think that, yeah, YS definitely helped bring awareness to that. And it really helped me look at it in a broader picture.* – **Student, Traditional School** • *I think more than any program we have, the world around them is influencing their perspective on police violence and health than anything we've done. Our space is more like a place of expression and safety than a deep dive into causes or interest in change.*– **Partner Teacher, Traditional School**
Online learning	• *Honestly, it was one of the greatest experiences I experienced because, honestly, I didn't really know anything about YS. But then once, the person who was representing YS, she was introducing it to us. And I was like, "That sounds very interesting." We're basically just expressing ourselves by writing. And at first, I was like, "Writing, I'm not really good at writing." But then later, it was just writing about yourself and how you felt about this whole pandemic.* – **Student, TBP School** • *And honestly, every time when it was YS, I would be very excited to come to school because usually, since I has been virtual, I'm not very interested. Well, I am interested [but it's] mandatory. But other than that-- I was very excited to come to class because it was YS. I was like, "Okay, I'm ready for this class. I'm going to do it. And I like it anyways. I'm just going to go." And then, it was really fun. The instructor that was representing YS, she was very nice, and she always had a positive energy, and that just inspired me to keep going no matter what.* – **Student, TBP School** • *[The Bigger Picture] was extremely influential. Students were able to just go really deep into how they were feeling about a lot of different issues, about depression, about family trauma. YS gave them the platform that allowed them to really open up about those things that clearly had been bothering them for a long time and the poetry and the assignments in the way they were framed gave them a voice and an outlet to really speak about that. And I'd say that's across the board. For the eight to nine students who pretty much engaged in the program for all six weeks, that they're all able to make really big, deep emotional breakthroughs into what their experiences were and how they were feeling.*—**Partner Teacher, TBP School** • *[Youth Speaks] just added a bit more. It felt just more interactive because we don't really-- it's not a very-- school right now isn't that interactive because it's just the teachers talking and then everyone else doing the work, but [Youth Speaks] felt very interactive.* - **Student, Traditional School**