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Art-based mindfulness at school: A culturally responsive approach to school mental health

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Abstract

As schools are increasingly tasked with improving student outcomes related to both academic and social and emotional wellbeing, digital interventions are becoming utilized as viable tools for successful outcomes. This study aimed to measure the effectiveness of a culturally responsive, art-based mindfulness intervention called L.A.U.G.H.® (Let Art Unleash Great Happiness), in a diverse sample of 243 elementary school students. Using an iPad app, students practiced mindful breathing and created digital art in their classrooms. The app also measured students' moods, school connectedness, and joy of learning. The study design was a one-group repeated measure intervention design where ratings were compared between Weeks 1, 4, 8, and 12 of the intervention. Results indicated that L.A.U.G.H.® time improved and increased students' moods, School Connectedness, and Joy of Learning over time. Race played a significant role in how students rated their feelings about school, with significant effects that emerged among Black/African American and Asian American/Pacific Islander students. Both groups began with the lowest ratings of school connectedness and demonstrated significant improvements by Week 8. This study revealed results from a digital mindfulness intervention and highlighted the importance of a nuanced study of differential impacts of such interventions among diverse students.

KEYWORDS
application-based interventions, mindfulness, mood regulation, school engagement

1 | INTRODUCTION

As schools are increasingly tasked with improving student outcomes, how can school psychologists, teachers, and support staff promote both academic performance and social and emotional well-being? Why do some students have difficulty navigating home and school pressures while others thrive when faced with stress or trauma? How can school personnel integrate the needs of youth and cultivate resilience with technology, art, and mindfulness? These are key questions as we move into a future where schoolwide models of support and intervention are focused on serving the needs of the "whole child" (ASCD, n.d.).

As communities grapple with the changing landscape of education especially during times of crisis, schools are renewing their commitment to cultivate safety, belonging, and educational engagement. Applying a whole child model of support in schools involves continuing the charge of delivering essential instructional content while also bolstering every student's social and emotional wellbeing. The goal of this study was to investigate and measure the effectiveness of a digital mindfulness-based intervention for youth from diverse backgrounds to address mental health and school engagement. School-based mindfulness interventions have been implicated in improved executive functioning, focus, stress management, and gains in academic performance and prosocial skills across a range of social and emotional learning (SEL) outcomes (Baer, 2003; Friese et al., 2012).

1.1 | Transformative SEL and school engagement of culturally diverse youth

Research has demonstrated that SEL programming reduces stress and improves achievement, prosocial behaviors, and student attitudes toward school (Durlak et al., 2011). For students of color and students in poverty, SEL programs can be critical in equipping students with skills to mitigate the challenges they often experience outside of the classroom while also providing consistent, sustained opportunities to experience positive emotions and accomplishments at school. There are five core competencies in SEL: (a) self-awareness, (b) self-management, (c) social-awareness, (d) relationship skills, and (e) responsible decision-making (CASEL, 2021). Schools have been perceived as the optimal place to adopt these core competencies and teach the skills through curriculum, programming, and direct interventions. There are a number of research-based SEL programs that can be utilized in the classroom (see CASEL, 2021).

More recently, the five SEL core competencies have been redefined within an equity-focused framework (Jagers et al., 2019). *Transformative SEL* refers to the potential for SEL to drive equitable educational, sociocultural, and economic outcomes among minoritized student populations. Focusing on issues of power, privilege, and social justice, transformative SEL frameworks seek to increase engagement in academic and social efforts to develop identity, agency, belonging, curiosity, and collaborative problem-solving (Jagers et al., 2019). Minoritized youth need transformative SEL to be the foundation of their learning environment so that their learning context challenges existing deficit paradigms and avoids privileging ways of thinking and feeling that are shaped solely by the dominant culture (Mahfouz & Anthony-Stevens, 2020). Through a foundation of transformative SEL, schools can offer a learning environment enhances a sense of safety and belonging for minoritized youth.

1.2 | Digital interventions to improve social and emotional wellbeing

There is also a movement toward adopting schoolwide approaches to SEL that easily fit within the school day. At the same time, as the integration of technology becomes a greater part of instructional delivery, it is logical that digital interventions have become a viable option for addressing the social and emotional needs of youth. With limited access to mental health services in the community and economic disparities that inhibit access to care, digital interventions offer an opportunity for teachers, school mental health personnel, parents, caregivers, and

even students to share the responsibility of preventing and addressing student mental health needs (Fegert et al., 2020).

A growing interest in digital tools to support student mental health and social and emotional wellbeing has emerged. While they are not intended to serve as a replacement for more intensive interventions, cellphone and tablet-based applications (apps) present cost-effective, accessible, and dynamic self-directed activities to supplement coordinated mental health efforts in schools. The focus of these apps ranges from therapeutic activities to empirically based interventions, with mindfulness-based apps gaining popularity in hopes of cultivating awareness and a sense of wellbeing in the presence of internal or external stressors (Howells et al., 2016). Digital mindfulness-based interventions have been shown to reduce depression and anxiety symptoms while increasing quality of life among adolescents and young adults (Lahtinen & Salmivalli, 2020). These interventions frequently include guided meditations, increasing attention to different activities and awareness of when the mind wanders (Nunes et al., 2020).

1.3 | Mindfulness practices for school engagement and social and emotional wellbeing

Mindfulness, the practice of intentional, sustained, and nonjudgmental attention to the present moment (Black & Fernando, 2014; Kabat-Zinn, 2003), is a skill that can be taught to children and adults with numerous demonstrated and potential benefits. Mindfulness is an active psychological and behavioral approach to attend to and respond to the environment and adopt a healthy engagement with emotions. By gathering information through all of the senses and reflecting on experiences without judgment, individuals practicing mindfulness may regulate their emotional responses and address conflicts with creative and flexible problem-solving strategies (Albrecht et al., 2012; Black & Fernando, 2014).

Neuroscience suggests three regions of the brain are directly impacted by mindfulness practices: the prefrontal cortex, amygdala, and hippocampus. By engaging in mindfulness practices, children are able to activate and regulate these regions of the brain responsible for emotion regulation, learning and memory, and decision making (Fung et al., 2019). Youth who engage in mindfulness practices reported reduced distress, anxiety, and involuntary emotional and behavioral reactivity (Mendelson et al., 2010). Likewise, greater regulation and self-awareness were also reported. As a result, a mindful child's capacity to learn, heal, connect, and engage with others is enhanced. In a randomized controlled trial, Champion et al. (2018) found that as few as 10 days of using commercial mindfulness apps significantly impacted self-reported stress, resilience, and satisfaction with life among a sample of adults representative of the general population.

For more than a decade, apps on mindfulness training have been used increasingly as a key intervention for supporting children and adolescents with stress management. The evidence is clear: implementation of mindfulness practices in schools is correlated with positive outcomes, not only for individual students, but also for improving school engagement and climate (Voight & Nation, 2016). Academic performance gains have been shown for children from diverse (e.g., socioeconomic, cultural, linguistic, and ability) backgrounds (Voight et al., 2015). Mindfulness practices have been found to decrease anxiety, depression, aggression, and noncompliant behavior by promoting awareness and self-regulation (Howells et al., 2016). At the same time, mindfulness practices increase empathy, self-control, self-satisfaction, attention, emotion regulation, and healthier interpersonal relationships (Black & Fernando, 2014).

When implemented in classrooms, school-based mindfulness programs have been shown to increase and enhance school engagement, classroom management and participation, prosocial behaviors, attentional control, and awareness and use of social and coping skills to solve problems (Black & Fernando, 2014; Felver et al., 2016; Klatt et al., 2013). Mindfulness practices have been shown to decrease anxiety, depression, anger/aggression, and noncompliant behavior by improving perspective-taking, self-control, self-satisfaction, attention, emotion regulation, and healthier interpersonal relationships (Schonert-Reichl et al., 2015; Sibinga et al., 2016). These effects have

been replicated across settings with lasting benefits extending to both teachers and students beyond the scope of the research study (Black & Fernando, 2014).

1.4 | Art-based mindfulness as a therapeutic intervention

Rappaport (2008) introduced the concept of integrating mindfulness into art therapy protocols. Mindfulness-based art therapy (MBAT) has become an approach to treatment implemented by psychologists and art therapists. MBAT evolved from mindfulness-based stress reduction (MBSR)—a therapy method that helps a person gain clarity about their inner self and emotions and uses techniques such as body scanning and meditation (Rappaport, 2008). MBAT allows the person to express emotions through art media rather than words. Further, people are encouraged to engage their creativity with art as a method of exploring their emotions and to reflect on experiences. MBAT has not been studied extensively with youth; however, there are numerous empirical studies demonstrating the efficacy of MBAT on adults in a variety of contexts. For example, there are studies promoting the use of MBAT to support adults with physical illnesses such as breast cancer, coronary artery disease, hypertension, multiple sclerosis, and even chronic pain management (Ando et al., 2016; Gardner-Nix & Costin-Hall, 2009; Jang et al., 2018; Newland & Bettencourt, 2020). These studies consistently show that MBAT ameliorates anxiety, reduces salivary cortisol (a stress indicator), and has been linked to positive psychosocial adjustment and improved overall wellbeing (Beerse et al., 2020; Van Lith et al., 2021). One study even showed how art-making activates the prefrontal cortex and subsequently activates the reward pathways in the brain (Kaimal et al., 2017).

In a review of research related to arts-based mindfulness interventions with children and adolescents, Coholic et al. (2020) found 27 studies using art a primary modality for intervention that showed efficacy with treating stress, eating disorders, behavior disorders, posttraumatic stress disorder, depression, anxiety, and depression. These studies consistently found that arts-based mindfulness programs increased self-awareness, emotion regulation, and coping in youth. In addition, several of the studies addressed the fact that arts-based approaches to mindfulness have the added benefit of being perceived as fun, engaging, interesting, and more helpful by youth participants (Coholic et al., 2020). Coholic and Eys (2016) used an arts-based mindfulness intervention and found increases in adolescent's emotion regulation skills and ability to focus. While Lindsey et al. (2018) used a mindfulness and mask-making intervention to determine that participation resulted in reductions in anxiety and stress.

A recent study by Bokoch and Hass-Cohen (2021) evaluated the effects of school-based mindfulness within an art therapy group curriculum and found that after 8 weeks, preadolescent youth showed significant decreases in both internalizing and externalizing symptoms as well as increases in attention and peer relationship quality. Further, in a case study with a Mexican-American male adolescent, Gambrel et al. (2020) found that mindfulness and art were successful medium for youth to express and work through internal conflicts through metaphor and without having to verbalize the emotions. The integration of art and mindfulness was therefore more accessible to nonnative English speakers and naturally incorporated the culture of the client into the therapy. Overall, the research with children and adolescents shows similar findings to the adult literature that art-based mindfulness reduces negative emotions and improves emotion regulation skills.

1.5 | Culturally responsive mindfulness interventions for school engagement and belonging

Clinicians and researchers have studied the specific impacts of mindfulness interventions on minoritized students' school engagement and belonging. In this study, school engagement has been operationalized as a sense of attachment and belonging that represents how students feel about their relationships with people at school, how integrated students are within the school community, and students' perceived feelings of happiness at school

(Johnson et al., 2001). Students from minoritized backgrounds have been found to experience lower levels of school connectedness due to factors such as stigmatization, discrimination, and disidentification from the school community (Daly et al., 2010). Similarly, a study by Voight et al. (2015), found that Black and Latinx students had significantly less favorable experiences of school connectedness, safety, and relationships with adults than White students. Their study revealed clear within-school racial/ethnic disparities in school engagement. Given this context, mindfulness interventions need to take into account the internal experience of racial and ethnic minority youth.

Studies on cultural differences in emotion regulation have suggested that emotional suppression is a helpful coping strategy among some cultures with interdependent cultural values (Fung et al., 2019; Tsai et al., 2017). However, mindfulness training focuses on authentically and nonjudgmentally acknowledging and expressing emotions rather than avoiding them. In their study on mindfulness interventions among racial and ethnic minoritized youth, Fung et al. (2019) demonstrated that, even among participants from more interdependent cultural groups, mindfulness training improved regulation by reducing emotional suppression, avoidance, and rumination. Further, the mindfulness training enhanced their ability to regulate emotions by observing and allowing stronger emotions and thoughts to pass without overly connecting with them. As a result, for minoritized youth, the negative effects of emotional suppression and rumination were mitigated by mindfulness interventions (Kwon et al., 2013).

Current studies on mindfulness-based interventions reflect improved mental health and academic outcomes (Baer, 2003; Maynard et al., 2017), including among ethnic minority students from low-income backgrounds. Ortiz and colleagues (2019) demonstrated significant decreases in anxiety and depression and increases in mental and physical health among Latino participants. Lower engagement and retention rates observed among minoritized populations have been attributed to logistical and attitudinal challenges accessing mindfulness-based interventions, including unfamiliarity with the intervention and low perceived salience of benefits (Ortiz et al., 2019). Suggested cultural adaptations for mindfulness interventions include motivational interviewing, troubleshooting potential barriers, increasing applicability to participants' needs, and positive testimonials and instruction from individuals from similar racial and ethnic backgrounds. Similarly, Hall et al. (2011) suggested mindfulness-focused approaches align with interdependent, allocentric perspectives in non-Western cultures, with significant potential to broaden the definition of psychological well-being to include cultural values.

1.6 | Study rationale

As mindfulness practices have shown promise for increasing student well-being in schools, this study sought to integrate mindfulness uniquely through technology and art. The broad goal was to explore new ways to build resilience among racially and culturally diverse students to support emotional wellbeing within school environments. Using a digital art-based mindfulness approach, one school in the process of becoming an "art-infused academy" was selected where students' creative expression was a central focus each week and displayed throughout the school. This study was designed to be a schoolwide program called L.A.U.G.H.® Time, which stands for Let Art Unleash Great Happiness. The primary purpose of the program was to implement an intervention to impact school belonging, student well-being, and relationships among students using an art-based approach to mindfulness delivered through technology in the classroom. Specific research questions included:

1. Does participating in L.A.U.G.H.® Time have an effect on a student's sense of belonging (School Connectedness), Joy of Learning, and mood state? Does this effect differ by race and gender?
2. How do a student's feelings about school (Joy of Learning and School Connectedness) relate to their mood after L.A.U.G.H.® Time? Specifically, do student ratings of Joy of Learning and School Connectedness differ significantly among participants with a positive mood state after L.A.U.G.H.® Time? Are there racial differences within these groups?

3. While participating in L.A.U.G.H.® Time is there a difference over time between groups of students from different racial backgrounds and grade levels, on their self-ratings of Joy of Learning, School Connectedness, and mood state?

To explore these research questions, we designed an intervention that provided an opportunity for youth to identify their mood states, practice mindful breathing, create art that was shared with the school community, and to rate their feelings on school connectedness and their joy of learning.

2 | METHOD

2.1 | Participants

The L.A.U.G.H.® Time program was conducted schoolwide in one school with 243 students in kindergarten through 5th grade. All students in attendance participated in L.A.U.G.H.® time each week. In preparation for the study, teachers were asked to provide demographic information for each student in their classroom (classroom student number, race, gender, and grade). Of the 243 students, 50.6% ($n = 123$) of the students were female, 48.6% ($n = 118$) of the students were male, and <1% ($n = 1$) were nonbinary/gender nonconforming youth. Students were racially diverse. Students were identified as Black/African American ($N = 96$; 39.5%), White ($N = 89$; 36.6%), Multiracial/Mixed Race ($N = 33$; 13.6%), Latinx ($N = 15$; 6.2%), and Asian/Pacific Islander $N = 6$; (2.5%). Overall, 68% of L.A.U.G.H.® Time participants were students of color.

The L.A.U.G.H.® Time program required engagement of all classrooms and teachers in the school. A total of 12 classrooms participated: three kindergartens, two 1st grade, two 2nd grade, two 3rd grade, one 4th grade, and two 4th/5th grade combined classrooms. A total of 12 teachers participated in L.A.U.G.H.® Time, representing kindergarten through 5th grade. Most of the teachers were female (92%), and teacher racial identities included 33.3% Latinx, 16.7% Black, and 58.3% White individuals.

2.2 | Measures

The developers of the L.A.U.G.H.® app added questionnaires into the app specifically for this study to collect data on the variables of interest. Data were collected within the app during each L.A.U.G.H.® session. Data for this study were collected between September 2018 and March 2019.

2.2.1 | The L.A.U.G.H.® app

The **L.A.U.G.H.®** app was developed by the Catherine Mayer Foundation and includes a blend of traditional mindfulness techniques of mindful and focused breathing as well as an art-based interface that encourages focused, creative movement, and self-directed activity. The app was designed to be a holistic method of art-based mindfulness and included alignments with the CASEL framework. The L.A.U.G.H.® app offers an approach to balancing the mind and body through visual, auditory, and kinesthetic elements. As shown in Figure 1, the L.A.U.G.H.® app was designed to provide experiences to balance the mind and body. As a mindfulness intervention, students were instructed to direct their attention to the "present moment" (Kabat-Zinn, 2003), to notice their mood and energy level, and to identify any feelings that might relate to their mood and energy level. These steps represented the self-awareness and self-management elements of the CASEL framework. Students activated the mind-body connection through guided breathing exercises and creating digital paintings on tablets using their fingers, while listening to

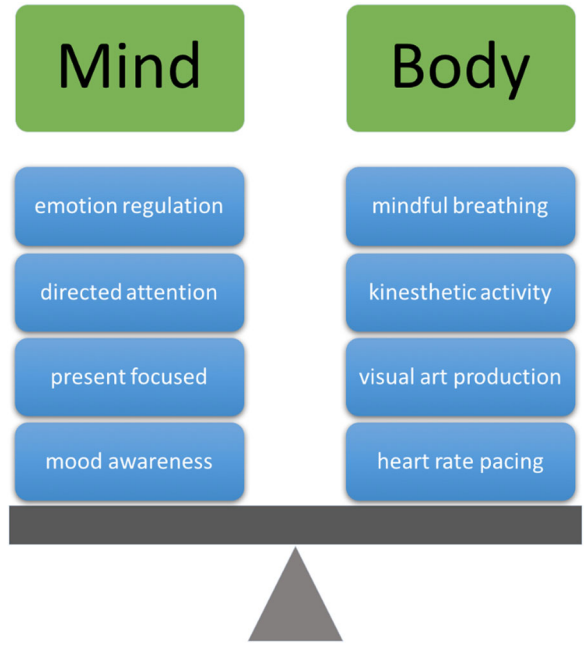

FIGURE 1 The balancing effect of the mind-body connection during L.A.U.G.H.® (Let Art Unleash Great Happiness) time

gentle reminders of the mindfulness skills for calming the body. Throughout L.A.U.G.H.® Time, students were also listening to relaxing music that held the tempo of the average resting heart rate while they created their art. The ultimate goal of L.A.U.G.H.® Time participation was to increase social and emotional well-being and cultivate resilience in students with technology, art, and mindfulness in the classroom.

2.2.2 | RULER mood meter

The RULER Approach to SEL (RULER; https://www.rulerapproach.org/), is a SEL curriculum which targets five emotional intelligence skills: Recognizing, Understanding, Labeling, Expressing, and Regulating emotion (Hagelskamp et al., 2013). The school was already implementing the RULER curriculum as their schoolwide SEL curriculum twice per week. To align with the school's existing program, we integrated a key element of the RULER curriculum into the L.A.U.G.H.® app—the RULER mood meter.

The RULER mood meter is a visual image that applies a four-quadrant color-coding system (red, yellow, blue, and green) for children to identify their mood and energy states along horizontal and vertical axes. The RULER mood meter depicts how the mood meter identifies how low or high an emotion might rank on pleasantness (*x*-axis) and energy (*y*-axis). For example, a student experiencing a low level of energy, but a high level of pleasantness would mark their response in the green quadrant, with labeled emotions such as calm, peaceful, or content. A student with a high level of energy and high feeling of pleasantness would select the yellow quadrant. The red and blue quadrants represent a low amount of pleasantness coupled with either low amount of energy (blue) or high energy (red). As part of the schoolwide programming, the color-coded mood meter was posted on the walls in every classroom and was used as a tool for checking emotional states at the beginning of the school day. The RULER mood meter aligns most directly with the self-awareness domain of the CASEL framework of socio-emotional learning.

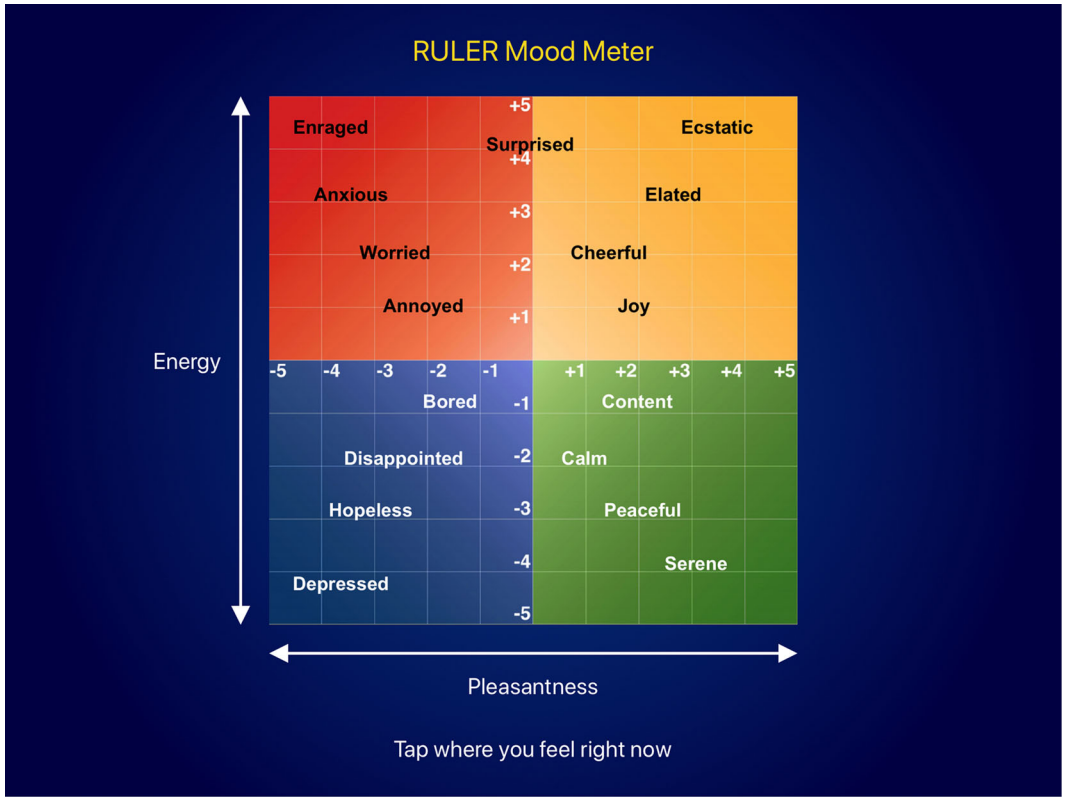

FIGURE 2 *L.A.U.G.H.*® (Let Art Unleash Great Happiness) time mood meter. Adapted from Hagelskamp et al. (2013)

To align with the school's SEL activity, an adapted version of color-coded mood meter was added as a screen to the L.A.U.G.H.® app for students to identify their current placement on the mood meter at the beginning and end of L.A.U.G.H.® Time. On the original mood meter, there are no words within the quadrants, only the words "energy" and "pleasantness" and arrows alongside the quadrants. We learned from the teachers that some youth found it difficult to represent their emotions along the intersecting dimensions. To increase the likelihood of consistency and clarity for students, we adapted our in-app mood meter by adding word anchors to help younger children make meaning of the four colors and the two-dimensional aspects of the image. Figure 2 shows the adapted version of the mood meter with the emotion words as anchor points for students to identify their mood state. When completing the mood meter, participants touched the location on the image that provided the best representation of their mood in terms of energy and pleasantness. The location identified provided a two-dimensional score that represented the coordinates along the *x*- and *y*-axis of the mood meter. This score was coded by not only its numeric location (e.g., 1.5, −2.2) but also by the quadrant on the mood meter (e.g., green), see Figure 2 for the visual representation of our adapted mood meter.

2.2.3 | School connectedness

School Connectedness is one of four scales on the self-report Student Subjective Wellbeing Questionnaire (SSWQ; Renshaw et al., 2015). As an indicator of SEL, this scale was selected for the study to assess the participants self-

awareness, social awareness as well as their relationship skills in the school environment. The School Connectedness scale includes four items that measure how much a student feels cared for and relates to others at school. The SSWQ School Connectedness scale provides four response options (1 = *almost never*, 2 = *rarely*, 3 = *sometimes*, 4 = *almost always*) which were adapted for this project to four pictures of faces ranging from sad to happy. Sample items on this scale include "I feel like I belong at this school" and "I feel like people at this school care about me." The scale development process by Renshaw et al. showed evidence of adequate internal consistency with a Cronbach alpha for the School Connectedness scale of 0.73 (Renshaw et al., 2015). For our sample, the Cronbach's alpha for the School Connectedness scale was 0.87, a high value for a scale with only four items (Tavakol & Dennick, 2011).

2.2.4 | Joy of learning

Joy of Learning is another scale on the SSWQ. The Joy of Learning scale measures of how much students experience positive emotions when engaged in academic and learning tasks. The Joy of Learning scale was selected to be another SEL indicator of the students' self-awareness in the academic context. The response options were modified as described above with the School Connectedness scale. Similar to School Connectedness, the evidence for the internal consistency of the scale was adequate at 0.76. The SSWQ Joy of Learning scale provides four response options (*1 = almost never*, *2 = rarely*, *3 = sometimes*, *4 = almost always*) which were adapted for this project to four pictures of faces ranging from sad to happy. There are four items on the Joy of Learning scale, including "I get excited about learning new things in class" and "I feel happy when I am working and learning at school." For our sample, the Cronbach's alpha for the Joy of Learning Scale was 0.90 which is quite high for a scale with only four items (Tavakol & Dennick, 2011).

2.3 | Procedures

To prepare for L.A.U.G.H.® Time to be a schoolwide intervention program, we held pre-implementation teacher training sessions, modeled the implementation process, and set up routines for the research team to assist in the delivery of each L.A.U.G.H.® Time session. L.A.U.G.H.® Time consisted of using of an iPad and the L.A.U.G.H.® application for 20 min one morning per week, review and approval of participant art, and distribution of the art on screens throughout the building.

2.3.1 | Teacher training

During an in-service training, the research team met with the teachers and provided a 90-min training on the rationale for L.A.U.G.H.® Time and the planned procedures for implementation at the school. They were provided a teacher's guide/manual and the opportunity for a practice session on the delivery of L.A.U.G.H.® Time. The teachers were trained to read a script to the students and offered guidance on the things to say (and not say) while their students completed the activities in the L.A.U.G.H.® app. Specifically, teachers were given explicit instructions on language to use with students that promoted a nonjudgmental stance toward their art, to stay in the present moment, and to experience their body sensations fully as they completed the activities of L.A.U.G.H.® Time. In the training session, teachers were also asked to experience the L.A.U.G.H.® app. They completed all of the activities within the app, debriefed the experience with the research team, and the training ended with a question and answer session in preparation for the first day of L.A.U.G.H.® Time.

2.3.2 | Intervention delivery

In addition to the teacher's guide, all teachers were provided two laminated cards that provided guidance on the implementation of L.A.U.G.H.® Time. One card included a script to introduce L.A.U.G.H.® Time and to inform the students of each of the procedures that will be completed. The second laminated card was a countdown card with a 3-min warning and a 1-min warning for the students to prepare for completing the L.A.U.G.H.® Time session. At the beginning of L.A.U.G.H.® Time, teachers read the instruction script to guide the class into using the app. Participants logged into the app by using their teacher's last name and their assigned student number. Participants were then instructed to put on a set of headphones and proceed with the instructions and prompts within the app. Students engaged in L.A.U.G.H.® Time for 20 min per session once per week.

2.3.3 | The L.A.U.G.H.® intervention

Once logged in, students were prompted to reflect on and identify their current emotional state with regard to energy level and pleasantness by touching the appropriate location of the RULER mood meter on their iPad screen (see Figure 2). Throughout the use of the app, students followed the instructions delivered by a cartoon character on mindful breathing using both images and sounds. The visual and auditory inputs were designed to be calming where the background music was paced to a resting heartrate, the character's voice was designed to be encouraging, and the backgrounds included natural settings (beach scenes) and soft colors. The L.A.U.G.H.® app character incorporated scripted language for positive self-talk and nonjudgmental reflection which was delivered throughout each session. After completing mindful breathing, all participants were able to "free draw" art using a variety of digital tools on the screen of the iPad). If participants needed inspiration, they could select from an assortment of 50+ images to recreate during their art session. Near the end of the L.A.U.G.H.® Time session, teachers provided both 3 min and 1 min warning by showing the countdown cards to their students before asking them to choose between saving their art to finish at the next L.A.U.G.H.® Time session, or if ready for display, participants could "share" their art by uploading to television screens located in the classrooms and common areas in the school building.

The art was shared as AmbientArt®, a visual system that allows students and staff to see their art "come to life" by showing a video of each art piece developing from the beginning to the end. The AmbientArt® generated by students was displayed on large screens in the classrooms and in the cafeteria and rotated through hundreds of art pieces throughout each school day. After saving or sharing their art, participants were shown three additional screens. The first screen including completing another mood meter, the second screen included the four Joy of Learning scale items (e.g., "I feel happy when I am working and learning at school") and the third screen included the four School Connectedness items (e.g., "I feel like I belong at this school"). Participants selected their ratings by tapping on the appropriate smiley face and pressing "continue." The answers saved to the L.A.U.G.H.® Time cloud server and the session was complete. At the end of each session, the iPads were collected by the research team.

The final step of each L.A.U.G.H.® Time session was completed by the research team. Members of the research team logged into the L.A.U.G.H.® Time server and reviewed each art piece for appropriateness to display on the screens around the school. Art that included foul language, blood, violence, or weapons were not approved for display. All remaining art pieces were approved and pushed through to be revealed as AmbientArt®. Between the months of October and April, more than 7000 AmbientArt® pieces were rotating on the television screens throughout the school day.

2.4 | Study design

This study was a one-group repeated measures design to evaluate the effect of the L.A.U.G.H.® intervention over time. We selected this design because participants at the school were included in a nonrandom way. All children

opted into the intervention as a schoolwide program. The participants were exposed to the intervention over several months and the outcome indicator data were collected during each session. Data analysis focused on data collected during Week 1, Week 4, Week 8, and Week 12. Our goal was to assess change over time.

2.5 | Data analysis

Listwise deletion was used to include only the participants who completed all items for the instances of L.A.U.G.H.® Time that were analyzed. Of the 243 participants of L.A.U.G.H.® Time, after listwise deletion, the longitudinal analyses of L.A.U.G.H.® Time reduced to 138 participants. All variables were standardized to ensure clarity in the interpretation of our findings. This approach allowed for the results to be interpreted and understood in unit increases and decreases (Zhang & Savalei, 2016). As described in the measures section, reliability estimates for the School Connectedness and Joy of Learning scales were determined and the Cronbach's alphas were comparable to the values achieved by Renshaw et al. (2015).

To analyze the full range of the research questions, SPSS version 26 was used to conduct a series of linear mixed models to explore the relationships among the variables in the study. For research questions with categorical predictors, analysis of variance was used, and for those with continuous predictors, regression models were used. Before these analyses, descriptive statistics were examined to clarify the relationships among the variables of interest. To analyze the first research question, one-way repeated measures ANOVA was used to determine the effect of L.A.U.G.H.® Time on School Connectedness and Joy of Learning and mood state. When significant main effects were present, post hoc analyses were conducted to determine whether differences were apparent according to demographic variables such as race and gender. For the second research question, logistic regression was used to evaluate the relationship among the variables and the outcome of a positive mood state after L.A.U.G.H.® Time. An interaction term was applied to the analyses to determine potential moderating effects of race on the variables of interest. For the final research question, relationships among all of the variables were explored using a linear mixed model and controlled for variables such as grade, race, and mood state before L.A.U.G.H.® Time.

3 | RESULTS

3.1 | Effects of L.A.U.G.H.® time on school connectedness and joy of learning

Demographic characteristics of the sample, means, standard deviations, and analysis of variance for the School Connectedness and Joy of Learning scales are provided in Table 1. In general, the ratings on both the School Connectedness and Joy of Learning scales were relatively high, with an average rating of approximately 13 (scores ranged from 4 to 16, with greater scores indicating greater connectedness or joy). Girls' ratings were slightly higher than boys' ratings, with nonbinary student ratings falling in the middle on the School Connectedness scale. There was no statistically significant difference in gender on the School Connectedness scale.

When applying a linear mixed model without any covariates, the study team sought to determine the effects of School Connectedness and Joy of Learning as school engagement variables that may impact student well-being simultaneously. Results indicated that for every standard deviation increase in School Connectedness, there was a 0.56 increase in Joy of Learning ($z = 24.30$, $p \leq 0.0001$).

A one-way analysis of variance was conducted to explore the impact of race on School Connectedness and Joy of Learning. The average ratings varied by racial group on the School Connectedness scales. There was a statistically significant difference at the $p < 0.001$ level in School Connectedness ratings across the five racial groups in the study: $F(4, 1670) = 9.34$, $p \leq 0.0001$. Post hoc analyses showed that both Asian American/Pacific Islander and Black/African American students had significantly lower ratings on feeling connected to school. Student ratings

TABLE 1 Means, standard deviations, and one-way analyses of variance of demographic differences in school connectedness and joy of learning ($N = 243$)

Measure	School connectedness				Joy of learning			
	M	*SD*	*F*	η^2	*M*	*SD*	*F*	η^2
All participants	13.16	3.19			13.63	3.12		
Gender			2.20	0.00			4.74**	0.01
Male	13.00	3.37			13.43	3.38		
Female	13.32	3.03			13.84	2.86		
Nonbinary	13.13	0.35			12.00	0.000		
Race			9.34***	0.02			1.11	0.00
White	13.68	2.67			13.86	2.79		
Black/African Am.	12.82	3.43			13.52	3.21		
Latinx	13.15	3.67			13.56	3.90		
Asian Am/Pacific Is	11.54	3.89			13.87	1.95		
Multiracial	13.10	3.42			13.79	3.26		
Grade			13.74***	0.04			11.41***	0.03
Kindergarten	13.37	3.30			13.50	3.25		
1st Grade	14.25	2.85			14.34	2.56		
2nd Grade	12.74	3.43			13.42	3.29		
3rd Grade	12.87	3.29			14.37	2.52		
4th Grade	12.26	2.60			12.89	2.97		
4th/5th Grade	12.78	3.00			13.00	3.51		

***$p < 0.001$.

**$p < 0.01$.

were also analyzed by grade level, and significant differences for both School Connectedness and Joy of Learning were found. The difference in mean scores on the School Connectedness scale was significant at the $p < 0.001$ level: $F(5, 1692) = 13.74$, $p \leq 0.0001$. Post hoc tests revealed that 1st graders rated their connectedness to school as significantly higher than all other grades. Similarly, there was a significant difference across grades on the Joy of Learning scale: $F(5, 1687) = 11.41$, $p \leq 0.0001$. According to the post hoc *t*-test analyses with Bonferroni correction, both 1st graders and 3rd graders rated their Joy of Learning significantly higher than all other grades.

3.2 | Relationship between mood state after L.A.U.G.H.® time and feelings about school

To explore the concept of mood state, responses on the mood meter were analyzed by recoding the quadrants as positive and negative mood states. The yellow and green quadrants were redefined as positive mood states since they reflected higher levels of "pleasantness" while the red and blue quadrants were indicative of negative emotions. By recoding the mood meter data, the question of whether student's ratings of their mood differed by demographic group was explored using χ^2 test of independence. As shown in Table 2, there were no significant differences in mood state by gender or grade, however, there was a significant difference based on race. A χ^2 test

for independence indicated a significant association between race and mood state χ^2 (4, $N = 1608$) = 21.24, $p \leq 0.0001$, Cramer's $V = 0.12$. Latinx students in the sample had the highest proportion of students with a negative mood state after L.A.U.G.H.® Time at 28.8%.

In a comparison to the students grouped by positive and negative mood state, an independent samples t-test showed that there was a significant difference on the School Connectedness ratings. Students in the positive mood state group ($M = 13.61$, $SD = 2.77$) had mean scores on School Connectedness that were 19.2% higher than negative mood state group ($M = 11.42$, $SD = 3.94$). The magnitude of the difference in means (mean difference = 2.19, 95% CI: 1.75 to 2.64) revealed a moderate effect (Cohen's $d = 0.64$). A similar result was found on the Joy of Learning scale ratings when analyzing by mood state groupings. Students in the positive mood state group ($M = 14.09$, $SD = 2.66$) had mean scores on Joy of Learning that were 18.7% higher than those in the negative mood state group ($M = 11.87$, $SD = 4.01$). As found with the previous scale, the magnitude of the difference in means (mean difference = 2.22, 95% CI: 1.77 to 2.66) revealed a moderate effect (Cohen's $d = 0.65$). Thus, it was clear that positive mood after L.A.U.G.H.® Time was associated with higher Joy of Learning and higher School Connectedness ratings.

To further evaluate this question, logistic regression was used to explore whether race moderated the relationship between mood state and School Connectedness and Joy of Learning. According to Table 3, both Joy of Learning and School Connectedness were significantly predictive of a positive relationship, where higher ratings

TABLE 2 Counts, percentages χ^2 analyses of demographic differences in mood state during all instances of L.A.U.G.H.® time

Measure	Positive mood state		Negative mood state		χ^2	φ^c
	N	%	*N*	%		
Gender					2.52	0.04
Male	602	78.1	169	21.9		
Female	678	79.3	177	20.7		
Nonbinary	8	6.3	0	0.0		
Race					21.24***	0.12
White	548	82.8	114	17.2		
Black/African Am.	440	76.0	139	24.0		
Latinx	74	71.2	30	28.8		
Asian Am/Pacific Is	41	95.3	2	4.7		
Multiracial	166	75.5	54	24.5		
Grade					9.98	0.08
Kindergarten	235	75.6	76	24.4		
1st Grade	260	79.0	69	21.0		
2nd Grade	226	79.3	59	20.7		
3rd Grade	203	84.6	37	15.4		
4th Grade	112	83.0	23	17.0		
4th/5th Grade	251	75.8	80	24.2		
All grades	1287	78.9	344	21.1		

***$p < 0.001$.

were associated with a 1.1 times greater likelihood of falling in the positive mood after L.A.U.G.H.® group. However, that does not describe the full picture when considering race. The beta revealed an inverse relationship in racial categories where Black, Latinx, and Multiracial youth were 0.98 times less likely to be in the positive mood group after L.A.U.G.H.® Time.

For the analysis of longer-term effects of L.A.U.G.H.® Time on student mood, a *t*-test was completed to compare the average mood ratings from the first three sessions of L.A.U.G.H.® Time (October) to the last three sessions of L.A.U.G.H.® Time (April). The *t*-test revealed that there was a significant difference in means for the full sample: $t(199) = 2.27$, $p = 0.01$, $d = 0.191$. Between the Fall and Spring mood ratings, there was a 4.74% improvement in mood.

3.3 | Time effects of L.A.U.G.H.® time on feelings about school

To understand the effects of L.A.U.G.H.® over time, repeated measures ANOVA tests were conducted for both Joy of Learning and School Connectedness. The effect for time was determined by using four different time indicators: Week 1, Week 4, Week 8, and Week 12. Table 4 shows the results from the repeated measures tests. There was no statistically significant within-subjects effect for the Joy of Learning variable. Effects for time on the School Connectedness variable were also studied. Mauchly's test indicated that the assumption of sphericity had been violated for School Connectedness, $\chi^2(5) = 29.86$, $p \leq 0.0001$, therefore degrees of freedom were corrected using the Greenhouse-Geisser estimates of sphericity ($\varepsilon = 0.87$). The results showed a significant effect for time, $F(2.61, 358.15) = 2.95$, $p = 0.039$, partial $\varepsilon^2 = 0.021$. These results suggest that School Connectedness changed significantly over time across the full sample of participants.

Given the time effect found in the full sample, additional repeated measures analyses were completed on the School Connectedness variable by race and gender to determine whether there were unique findings or patterns that were accounted for by demographic variables. There was no significant effect for time evident for female, Asian American/Pacific Islander, Latinx, or Multiracial participants. However, there was a significant effect for time for male, White, and Black participants.

For males in the study, Mauchly's test indicated that the assumption of sphericity had been violated for School Connectedness, $\chi^2(5) = 17.63$, $p = 0.003$, therefore degrees of freedom where corrected using the Greenhouse-Geisser estimates of sphericity ($\varepsilon = 0.84$). The results show that there was a significant effect for time, $F(2.53, 157.07) = 2.92$, $p = 0.04$, partial $\varepsilon^2 = 0.045$. These results suggest that School Connectedness changes significantly over time for males. A review of the changes in means reveals that overall, male student's feelings about School Connectedness reduced over the course of the L.A.U.G.H.® Time intervention where there was a drop in School Connectedness after eight weeks of participation.

Figure 3 shows the time effect differences by race. For student participants who were White, there was a significant effect for time, Wilks' Lambda = 0.85, $F(3, 58) = 3.34$, $p = 0.025$, partial $\varepsilon^2 = 0.15$. There was a significant drop in mean score between Week 1 and Week 4 and a slight increase in School Connectedness score by Week 12.

TABLE 3 Logistic regression predicting likelihood of being in the positive mood group after L.A.U.G.H.® Time

	B	*S.E.*	Wald	*df*	*p*	Odds ratio	95% CI for odds ratio	
							Lower	Upper
Joy of learning	0.124	0.024	26.86	1	0.000	1.132	1.08	1.19
School connectedness	0.131	0.024	29.12	1	0.000	1.140	1.09	1.20
Race × joy of learning	−0.021	0.010	4.277	1	0.039	0.979	0.959	0.999
Race × school connectedness	−0.022	0.010	4.28	1	0.038	0.979	0.959	0.999

TABLE 4 Means, standard deviations, and repeated measures ANOVA for change in joy of learning and school connectedness over time ($n = 138$[a])

Time	Joy of learning			ANOVA test			
	M	*SD*	*df*	*SS*	*MS*	*F*	η^2
Time 1 (Session 1)	14.09	2.49					
Time 2 (1 month)	14.01	2.75					
Time 3 (8 weeks)	13.91	2.93					
Time 4 (12 weeks)	13.64	3.20					
Within-subject's effects			2.69	15.88	5.29	1.53	0.01
Time	**School connectedness**			**ANOVA test**			
	M	*SD*	df	*SS*	*MS*	*F*	η^2
Time 1 (Session 1)	13.70	2.77					
Time 2 (1 month)	13.47	3.02					
Time 3 (8 weeks)	13.38	3.11					
Time 4 (12 weeks)	12.95	3.41					
Within-subject's effects			2.61	40.48	15.49	2.95*	0.02
Males			2.53	45.69	18.04	2.92*	0.05
White youth			3	30.44	10.15	3.34*	0.15
Black youth			1	30.72	30.72	7.26**	0.14

Note: Mauchly's test of sphericity assumption was violated for both tests, Greenhouse-Geisser correction is reported.
*$p < 0.05$. **$p < 0.01$.

[a]Listwise deletion of cases was used to address missingness.

The within-subjects contrasts table revealed a significant quadratic for this this group, $F(1, 60) = 4.27$, $p = 0.043$, partial $\varepsilon^2 = 0.066$. A similar result was found for Black participants in the study. Mauchly's test indicated that the assumption of sphericity had been violated for School Connectedness among Black participants, $\chi^2(5) = 24.03$, $p \leq 0.0001$, therefore degrees of freedom were corrected using the Greenhouse-Geisser estimates of sphericity ($\varepsilon = 0.73$). The results show a significant quadratic effect for time, $F(1, 46) = 7.26$, $p = 0.01$, partial $\varepsilon^2 = 0.14$. These results suggest that School Connectedness changed significantly over time for Black youth where School Connectedness scores gradually increased through 8 weeks, but there was a statistically significant decline in School Connectedness between Week 8 and Week 12.

4 | DISCUSSION

As schools adopt transformative SEL and mindfulness curricula, it is essential that programs are accessible and appropriate for all students. Increasing wellbeing and student resilience is paramount for students who are impacted from environmental, societal, and individual stressors that impact their potential for learning in the classroom. This study explored the efficacy of a SEL intervention as a potentially culturally responsive tool to support the emotional wellbeing of racially and culturally diverse students. The intervention was designed to improve a student's capacity for self-awareness, self-management, and emotion regulation. In addition, the integration of the AmbientArt® displays added the element of social awareness, relationship skills, and even responsible decision

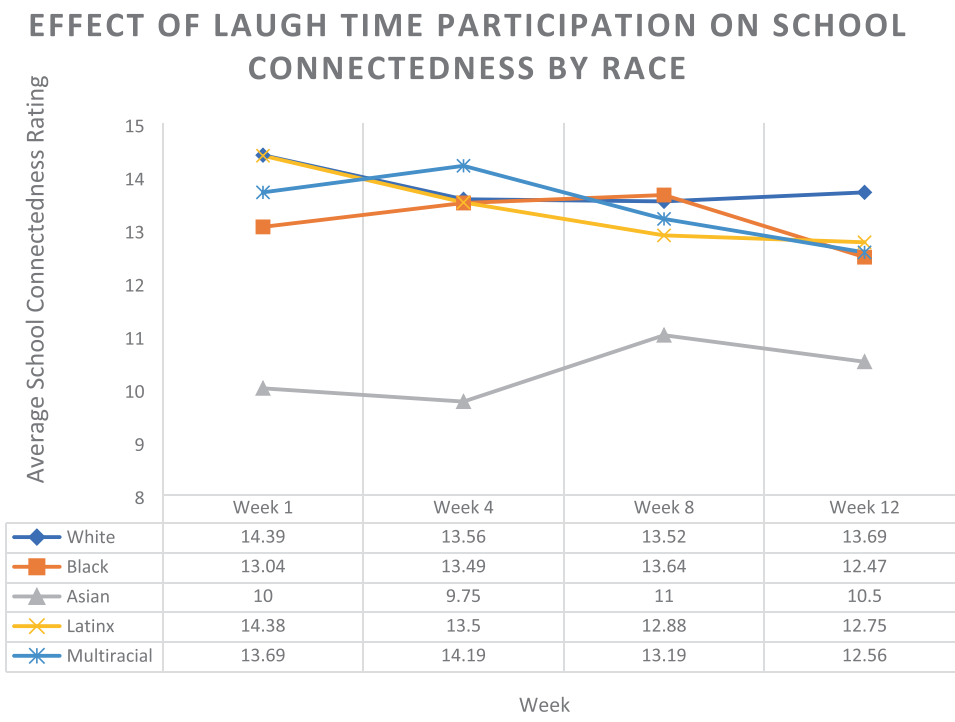

FIGURE 3 Effects of L.A.U.G.H.® (Let Art Unleash Great Happiness) time participation on school connectedness by Race. Significant within-subject effects were present for white, black, and Asian youth over time. White youth showed a significant drop in school connectedness after Week 4 ($p < 0.05$). Black youth showed significant increases in school connectedness through Week 8 ($p < 0.01$). Asian youth showed significant increases in school connectedness through Week 8 ($p < 0.01$).

making. Participants were inherently thoughtful about how others would perceive their art, drew images as "gifts" for their peers, and learned responsible decision-making because they were aware that harmful art would not be displayed for others to see. We were surprised by how important the social elements were to the youth participating in this intervention—particularly for minoritized youth. We sought to ensure that L.A.U.G.H.® Time could be a viable intervention that reaches all students without having lesser impacts on racially minoritized youth.

Findings from the current study highlight the differential impact of race on student perceptions of School Connectedness as well as reveal unique relationships among the predictors of school engagement. Race seemed to play a significant role in how a student rated their feelings about school. Based on the extant literature, it was not surprising to see that Black/African American students had significantly lower ratings on feeling connected to school. This finding was consistent with studies on school climate that show that African American youth report poor perceptions of school climate (Voight & Nation, 2016), as well as lower perceptions of safety and connectedness (Voight et al., 2015). It is also consistent with the research that shows that students from marginalized backgrounds experience lower levels of connectedness due to discrimination and stigmatization from the school community (Daly et al., 2010). In our study, feeling connected to school gradually increased for Black youth while they participated in L.A.U.G.H.® Time. We believe that L.A.U.G.H.® Time provided a judgment-free educational context where students could express their creativity without stigma, fear of critique or low expectations of adults. Further, the individualized activity of L.A.U.G.H.® Time was transformed into a communal activity by its collective distribution as AmbientArt ®. The engagement with AmbientArt ® allowed the youth to connect with one another and see their contributions to the school community. The gradual increase in school connectedness for minoritized youth reached levels consistent with White students, who were among the students with the highest ratings at the

beginning of L.A.U.G.H.® Time. This is a critical finding because the degree to which students feel connected at school is a powerful predictor for optimal academic development, especially for minoritized youth (La Salle et al., 2020). However, this positive effect on School Connectedness did not hold after 8 weeks of participation and Black students' ratings decreased thereafter.

By contrast, White youth had the highest ratings of feeling connected to school at the beginning of L.A.U.G.H.® Time. Although their ratings were statistically lower after the first 4 weeks, they remained high throughout the 12-week period. There were no other effects for time for any other racial group. One surprising finding was the significantly different ratings in School Connectedness ratings among Asian American/Pacific Islander participants. These youth had the lowest School Connectedness ratings than any other racial group. However, this finding was consistent with other studies that Asian students are more likely to ruminate on negative emotions and perceived stress (Fung et al., 2019). Although L.A.U.G.H.® Time may have helped to increase Asian American/Pacific Islander participants feelings of connectedness to school, it is notable that their ratings increased by Week 8, but decreased again by Week 12. However, the sample of Asian American students in the study was very small, which limits the practical interpretation of this finding. There was a small number of Asian American students not only in the school, but also a very small number who had completed enough sessions of L.A.U.G.H.® Time by Week 12 ($n = 4$) for analysis.

Gender did not appear to play a significant role in a student's ratings of School Connectedness or their Joy of Learning. There were no findings that suggested differential effects of L.A.U.G.H.® Time on Joy of Learning by race, however, some interesting patterns were revealed by gender and grade. Girls had significantly higher ratings on Joy of Learning compared to boys. This finding is consistent with the literature that shows that elementary-age females have greater student subjective well-being than males (Furlong et al., 2013; Renshaw et al., 2015). In terms of grade, students in 3rd grade showed the highest average rating on the Joy of Learning scale. This finding may seem surprising given that 3rd grade is often a stressful year for students who are struggling readers. However, the students in the 3rd grade had two of the most experienced and dedicated teachers in the school. It is likely that the relationship with their teacher may have been the reason for such high ratings rather than the Joy of Learning being impacted as a secondary effect of L.A.U.G.H.® Time. Taking into account the positive relationship between a student's feelings of Joy of Learning and how connected they feel to school, these findings showed that both of these factors worked together to support participating youth. As L.A.U.G.H.® Time affected School Connectedness positively, Joy of Learning was also impacted positively (albeit to a lesser degree).

Adding the complex variable of student mood after L.A.U.G.H.® Time, higher ratings on the school engagement variables were expected to align with a positive mood. The findings confirmed this result for the full sample, while also revealing that race may play an important part in differentiating the student experience. Post hoc analyses showed that students who were most likely to feel racially minoritized are among the youth whose ratings were less likely to be in the positive mood group after L.A.U.G.H.® Time—even with high ratings on School Connectedness and high ratings on Joy of Learning. During the implementation of this study, the researchers noticed that many of the youth were frustrated when they had to end each L.A.U.G.H.® session. Sometimes the frustration was because they could not see their AmbientArt® immediately on the screens, other times it was having to stop working on their digital art, return the iPad to the researchers, and to resume other academic activities. These experiences may have impacted their mood ratings after L.A.U.G.H.® Time. Despite these differential findings by race, there was a clear effect over time where there was a significant improvement in mood from the early days of L.A.U.G.H.® Time to the final days of L.A.U.G.H.® Time for all youth in the school.

The goal of this study was to develop and measure the effectiveness of a culturally responsive, digital intervention for youth to address mental health and school engagement. Recognizing that children and youth experience stress and trauma at increasing rates, preventative approaches are necessary to cultivate resilience in chronically stressed youth. Implementing a digital intervention in classrooms was a viable approach for supporting the social and emotional needs of chronically stressed youth as part of SEL units. The L.A.U.G.H.® intervention provided an opportunity for students to disengage from aversive emotional stimuli, to regulate their emotions, and become

grounded in a nonjudgmental stance. It offered more time for self-awareness, self-management, and improving their emotion regulation skills. Further, the teachers were prepared to assist youth in eliminating harmful self-judgments and encourage positive affirmations both during L.A.U.G.H.® Time and throughout the school day as the AmbientArt® was continuously displayed. For some racially minoritized youth, this experience is the opposite of how they previously experienced school. L.A.U.G.H.® time elevated school belonging by providing a sense of emotional and identity safety.

This study has implications for school-wide prevention programs as well as for interventions that could be implemented at a time when a child is experiencing emotional dysregulation. Mindfulness strategies, engaging the senses, and allowing for the production of a meaningful product (art) may be just the technique that can be used by school mental health professionals, teachers, and administrators to de-escalate students when they are unable to do so by traditional verbal strategies for de-escalation and emotion regulation.

4.1 | Limitations and implications for future research

Even though the results of this study demonstrate that it is important to consider the experiences and unique needs of different racial and cultural groups, it is important to recognize that the categorization of students is an overly simplified and rudimentary approach to studying context and within-group variation. Rather than using classifying by race, approaches in the future might include student self-report measures of cultural values and other identity considerations using latent class analysis to interpret results by profiles. The findings could then be interpreted by profiles rather than by race categorization.

Latent variables such as culture, identity, and internal feelings are difficult constructs to quantify among youth. Selecting standardized measures for the student well-being variables allowed for a consistent approach for gathering the "feelings about school" data. However, the RULER mood meter proved to be a complicated variable that was implemented inconsistently in the classrooms. Each student individually defined their emotional state on the mood meter. Some selected the region of the meter based on the anchor word that was included on our adapted matrix. Other students were unable to read the anchors and selected a position on the meter that felt most representative to their emotional state by selecting a color without regard for the degree of emotion within each dimension. This may also have occurred because they were used to the original RULER mood meter posted in their classroom. Even though data provided the exact position that was selected on the mood meter, deeper inquiry into each child's intended feeling was not available. Thus, the findings using the mood meter were limited by the need to dichotomize the variable for analyses and interpretation. Future research studies using a tool like the RULER mood meter may benefit from a more precise approach of obtaining the intended emotional state of the student with not only the color identification and location, but also with a verbal/word identifier. This adjustment may reduce the need for subjective interpretation of meaning by the research team. Due to the naturalistic setting of this study, the scope of our research questions could not distinguish between gains made due to the L.A.U.G.H.® intervention and the regularly programmed RULER initiative.

Although this study was implemented before the Coronavirus 2019 pandemic, the digital nature of the L.A.U.G.H.® intervention could have been a proactive approach to improve student wellbeing in the remote learning context. An article by Gallo et al. (2021) proposes that exposure to visual art activates the reward centers in the brain and offer a stress buffering effect for individuals. They note that "art promotes wellbeing, social inclusion, and support mental health recovery and resilience" (p. 4). The recommended interventions for adults and youth that include online approaches to art therapy to enhance emotional wellbeing. With adequate access to technology for all youth, future research could be implemented with the L.A.U.G.H.® intervention not only in classrooms, but also in home environments and within their cultural context.

5 | CONCLUSION

As many schoolwide SEL interventions are designed for universal delivery, they are often void of cultural considerations and context. Thus, interventions that consider the socio-cultural norms of youth are necessary. Such interventions, need to be culturally appropriate and for some communities, are optimal when they engage the mind, body, and community simultaneously. L.A.U.G.H.® Time is ideal for people from collectivistic cultures because of the integration of AmbientArt® as a way of connecting all individuals in the community. Mindfulness techniques, while typically an individualistic intervention, can also be designed to engage all students collectively and be equally effective. The L.A.U.G.H.® Time program is an approach to art-based mindfulness that shows promise in collectively engaging youth, enhancing emotional regulation, and increasing a student's feeling of connectedness to school all within a culturally responsive approach.

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CONFLICT OF INTERESTS

The authors declare no conflict of interest.

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