Campus Connections Digital Citizenship: Cultivating Youth Resiliency in a Virtual World

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Abstract

This digital citizenship research study includes the implementation of innovative interventions with "multiply marginalized" youth (Cyrus, 2017) participants (ages 10-18) in a therapeutic youth mentorship program at a university in the Rocky Mountain region. The project expanded upon experiential activities currently employed by the program, with the primary aim of enhancing youths' knowledge and awareness of digital use habits and skills to participate in safe self-regulated online engagement. Youth completed a pre-test and post-test with each of the four digital citizenship activities. These surveys assessed changes in the youth participants' understanding of the learning objectives addressed during each activity. Pre and post-test results reflected an increase in youths' understanding of the factors that contribute to digital wellness and knowledge of what constitutes user data and how to secure digital devices. At the completion of the program, youth also answered questions from the Youth Participant Survey (National Research Center, 2013) regarding their satisfaction with programming, and perceived changes in academic success, cultural competency, lifestyle, life skills and life choices, core values, sense of self, higher education readiness, and workforce skills. Results from the Youth Participant Survey (National Research Center, 2013) reflect a positive shift in cultural awareness, life choices, core values, sense of self, and workforce skills. The results of this study highlight the many ways that the program positively impacts the growth and resiliency of youth participants. In a post-Coronavirus Disease of 2019 (COVID-19) world, the ability to navigate technology is critical to one's ability to persist in professional and social settings (Livari, Sharma, & Venta-Olkkonen, 2020). Digital resiliency is key to young people's ability to persist in online environments (Przybylski et al., 2014). Youths' increased digital skills, knowledge, and awareness over the course of this study confirm that digital citizenship is an area of intervention well suited to youth mentorship programming.

Literature Review

Digital Citizenship & Youth Wellness. In an effort to curb the spread of Coronavirus Disease of 2019 (COVID-19), youth (ages 10-18) and adults alike are spending more time utilizing technology and virtual communication platforms to learn, work, and socialize (Wolf et al., 2020). Prior to COVID-19, youth engaged in an average of 7 hours and 22 minutes of "screen time" per day; this average excludes time spent in online school (Rideout & Robb, 2019). With the implementation of social distancing to curb the spread of COVID, many youths transitioned to online school, further increasing the amount of time spent utilizing digital devices. The necessity and utility of online engagement for youth during the pandemic (2020 to 2021) highlight the need for a curriculum that contributes to youths' knowledge and awareness of important issues and practices surrounding the use of online platforms, as well as how to be an informed digital citizen.

Digital citizenship is the understanding of one's "rights, responsibilities and opportunities of living, learning and working in an interconnected digital world" (International Society for Technology in Education, 2016, p. 1). Youth-focused digital citizenship may cover a variety of topics, including digital wellness, digital accessibility, user data and securing digital devices, personal information and the digital footprint (Common Sense Education, 2020), civic and political engagement, computational thinking, identity development, information quality, and digital economy (Cortesi et al., 2020). The increase in time spent online may increase the youth's vulnerability to adverse experiences while also providing opportunities for cultivating digital resilience (Przybylski et al., 2014).

Unregulated engagement in digital platforms such as social media, along with consumption of videos and digital messaging, can have dire emotional and psychological consequences for youth. Youth are particularly vulnerable to adverse experiences in the online environment due to a lack of knowledge regarding the function and possible consequences of sharing information or consuming messaging via digital devices (Cenat et al., 2014). For example, the amount of time teens spend engaged in social media is significantly correlated with alcohol use four years later; this data suggests that repeated exposure to images of role models and peers consuming alcohol causes a "social norming" process to occur that normalizes problematic alcohol consumption (Boers, Afzali, & Conrod, 2020). Bullying and harassment in the online environment are also a major concern, with youth who experience cyberbullying being three times more likely to consider suicide (van Geel, Vedder & Tanilon, 2014). Victims of cyberbullying are also more likely to engage in risky behavior as adults (Kritsotakis et al., 2017). Addressing this public health problem requires early intervention. The digital citizenship interventions implemented during this study aimed

to enhance the knowledge, skills, and awareness necessary to engage in the responsible consumption of digital media, as well as knowing when and how to seek support.

Youths' ever-growing use of digital devices and exposure to online material present opportunities for the development of digital resiliency. Resiliency in virtual environments is characterized by youth's ability to "accurately adapt to changing and sometimes stressful environments and to feel empowered to act instead of react in the face of both novel and threatening challenges" (Przybylski et al., 2014, p. 4). Factors that contribute to youth digital resilience include the ability to autonomously self-regulate time spent online, belief in the value of virtual communication, and the use of digital devices for creative expression. Digital resiliency can be enhanced by helping youth to understand how to self-regulate time spent online and engage in responsible and meaningful online engagement (Przybylski et al., 2014).

Resiliency in other realms is also critical to youths' ability to persist when confronted with new challenges. The 7 C's model of positive youth development (Barger et al., 2017; Ginsburg & Jablow, 2015) operationalizes resiliency as "the occurrence of a positive result, despite the presence of risk" (Barger et al., 2017, p. 201). Positive results indicative of increased resiliency may occur in any one of the 7 Cs, which include: Competence, confidence, character, connection, contribution, coping, and control (Ginsburg & Jablow, 2015). The interventions employed during this study utilized a digital citizenship curriculum and activities to assist youth participants in developing an understanding of the how and why of responsible online engagement. These activities were embedded in a therapeutic youth mentorship program, with the mentorship relationship and other activities serving as key interventions for supporting youth participants. The greater context of these digital citizenship activities ensured that the program supported both the cultivation of digital resiliency and the development of resiliency in a variety of other areas.

Content

Intervention. The program is an innovative university-based mentoring program targeting multiply marginalized youth ages 10-18. The program prioritizes the inclusion of youth from communities who have historically experienced social inequity and oppression, to include youth of color, Lesbian, Gay, Bisexual, Transgender, Queer plus (LGBTQ+) youth, those in the juvenile justice system, and youth who experience socioeconomic disadvantage. Youth are paired one-on-one with highly trained undergraduate student mentors and graduate student mentor-coaches from a variety of university disciplines. Graduate-level counselors-in-training are also available to interact with youth and mentors and provide therapeutic interventions, as needed. Each youth cohort meets for 12 weeks per semester, engaging in weekly 4-hour structured sessions with activities that aim to enhance connection with others and the community, foster social-emotional growth, increase study skills and other academic abilities, and cultivate positive identity development.

Currently employed experiential and social justice-focused activities are a key component of the program and are facilitated during every weekly meeting. Activities focus on skill development – from self-advocacy skills in relationships and the school environment to time management and study habits. During the Spring of 2021, a new digital citizenship curriculum and series of activities were implemented during four of the program sessions. The development and implementation of this curriculum were funded by the Cybersecurity Faculty Seed Grant. The digital citizenship interventions built upon existing experiential activities by engaging youth in structured 50-minute activities facilitated by a program graduate assistant. Each digital citizenship activity was adapted from The Common Sense Digital Citizenship Curriculum online program (Common Sense Education, 2020) and explored digital wellness, digital accessibility, user data and securing digital devices, and personal information and the digital footprint. Mentors served an essential role in helping youth mentees explore the significance and application of key concepts introduced during digital citizenship activities. This intervention and related data collection will continue in the fall of 2021 with the next cohort of youth participants and their mentors; thus, only preliminary results are presented here.

Participant Demographics. A total of 13 youth participated in the programming and digital citizenship activities during the Spring of 2021. Eight of these 13 participants elected to participate in both the digital citizenship interventions pre and post-tests and Youth Participant Survey (National Research Center, 2013) portions of this study. Two participants assented to their responses to the Youth Participant Survey (National Research Center, 2013) being used for research purposes but declined the use of their pre and post-test data. Two participants indicated that they wished to participate only in the pre and post-tests, and three stated that they did not wish to participate in research. Of those participants who assented to participate in some aspect of the research and their parent or caregiver consented to their participation, their demographic information is summarized in Table 1.

Table 1

Participant Demographic Characteristics - Research Participants

Demographic Characteristic	Number of Participants	%
Race/Ethnicity		
White	3	37.5%
Black/African American, and multi-racial	1	12.5%
Undisclosed	4	50%
	Total 8	100%
Gender		
Female	3	37.5%
Male	3	37.5%
Non-binary/Gender-expansive	1	12.5%
Transgender (no other specifier identified)	1	12.5%
	Total 8	100%
Age		
12 years old	3	37.5%
13 years old	4	50%
14 years old	1	12.5%
	Total 8	100%
*n=8		

Methodology

The purpose of this study was to explore youth participant learning during digital citizenship activities and inquire about participants' perceived changes in select areas of experience over the course of the program. Although all youth attending the program completed the digital citizenship activities, only the data from those participants whose parent or caregiver provided consent, and youth provided assent, were included in data analysis. Youth were provided the opportunity to assent to each aspect of the study; thus, the number of participants in the digital citizenship activities is distinct from the number of participants who elected to participate in the Youth Participant Survey (National Research Center, 2013). Each activity started with a pretest and concluded with a posttest assessing participants' understanding of key learning objectives before and after the activity. Participants indicated their understanding of each learning objective using a 3-point Likert scale, with 1 meaning "It's new to me," two indicating "I'm familiar with this," and three stating that "I completely understand this." Descriptive statistics, to include the changes over time, are reported for this instrument and described in Table 2.

Youth also completed a demographic survey and responded to select questions from the Youth Participant Survey (National Research Center, 2013). Participants' responses to the items from the Youth Participant Survey described their satisfaction with programming, as well as perceived changes in academic success, cultural competency, lifestyle, life skills and life choices, core values, sense of self, higher education readiness, and workforce skills. Participants responded to each item indicating their level of agreement, with 0 meaning "not really," 1 indicating "kind of," and 3 stating "yes." General impressions based upon youths' reported changes over the course of CC are summarized below.

Results

This summary of the preliminary results includes an overview of participants' changes in understanding during digital citizenship activities (available in Table 2) and the mean scores for select items from the Youth Participant Survey (National Research Center, 2013) (included in Table 3). Only those items that participants reported significant change with were selected for this report. Descriptive statistics are provided for the summary of pre and post-test results and the Youth Participant Survey. No additional statistical analyses were performed.

Participants reported an increase in understanding of learning objectives for the digital wellness activity, with a .03 average increase on a 3-point scale. Of the learning objectives explored during this activity, youth reported being highly knowledgeable on the pretest about "what it means to be online" and how much time they spend online. Youth reported the most growth in digital wellness regarding how to balance their time spent online, time spent in in-person activities (change over time=.5), and how to self-assess their digital use behaviors (change over time=.17). Participants also reported an increase in understanding of learning objectives for the user data and securing devices activity, with a .12 average increase on a 3-point scale. Youth reported having a complete understanding of all 5 learning objectives during the posttest. Participants also indicated existing knowledge regarding all the learning objectives on the pretest, with the most growth occurring in the areas of "how to create a strong password" and "how to develop healthy habits and maintain the security of my passwords."

During the digital accessibility activity, two participants indicated that they completely understood all learning objectives during the pre- and post-tests. One participant shared that they were familiar with "how someone's race or ethnicity, ability status, socioeconomic class, and where their caregiver or parent works (or doesn't work) may impact access to digital devices and the internet." This same participant indicated that they were still only "familiar" with this concept on the posttest. Overall, participants reported no change over time for this activity, as the majority reported mastery of the topic before engaging in the activity. Following the final activity regarding "the digital footprint," participants reported a decrease in understanding of learning objectives, with a .42 average decrease on a 3-point scale. Two of the four participants who completed the pre and post-tests for this activity selected "I completely understand this" for all of the learning objectives for this activity. One of the three participants reported an increase in learning about how personal information is shared online (change over time=1) and "where the information we share online goes, and who may see it" (change over time=1). Two incidents occurred during this final activity that resulted in a decline in overall change over time.

The first was that two of the initial four participants that completed the pretest dropped out of the activity and failed to complete the posttest. The participants who dropped out had reported the highest pretest scores, stating that they "completely understand" all learning objectives. The second contributing factor was that midway through the activity, a new participant joined and completed the posttest without having completed the full activity or completing the pretest. This participant's posttest score was midrange (6 out of 9 points possible) as they indicated that one learning objective was "new to me," one was "familiar," and the other "I completely understand." The high scores provided on the pretest by the participants who dropped out, followed by the low score on the posttest provided by the participant who completed only part of the activity and the posttest only, skewed the mean change over time for "the digital footprint" activity.

Table 2

Results Summary: Student Learning Objectives Pre and Post Tests

Digital Citizenship Interventions	n	Pretest	n	Posttest	Change Over Time
Digital Wellness	6	2.58	6	2.61	0.03
Digital Accessibility	4	3	4	3	0
User Data and Securing Digital Devices	5	2.88	4	3	0.12
The Digital Footprint	4	2.75	3	2.33	-0.42

*Total n=6

The most notable results in this study emerged from the Youth Participant Survey (National Research Center, 2013). Participant responses to these questions indicated a shift in cultural awareness, life choices, core values, sense of self, and workforce

skills (summarized in Table 3). Participants described themselves as growing in cultural awareness, with all participants reporting "car[ing] more about other people," "about the feelings of other people," "hav[ing] respect for members of [their] own community," and "know[ing] more about people of other cultures." Youth also reported that their involvement in CC programming helped them to "stay out of trouble" and "feel I have more control over things that happen to [them]." Furthermore, participants described an improved sense of self as evidenced by "feel[ing] better about [themselves]." All participants reported changes in workforce skills, indicating improved ability to "follow the rules at my job when I'm at work (or when I start working)," and "finish job tasks on time (when I start working)," and knowledge of "careers that interest me."

Table 3

Youth Participant Survey (select items)

Questions/Response Items	Yes	Kind of	Not really
Cultural Competency			
Being involved in the program has helped me to...			
Know more about people of other cultures, races or ethnic groups	17%	83%	0%
I have more respect for members of my own community	17%	83%	0%
Healthy Lifestyles			
Because I came to the program...			
I spend more time doing sports, exercise and/or recreation activities	33.3%	33.3%	33.3%
I play video games less often	0%	33%	17%
Life Choices			
Coming to the program has helped me to...			
Stay out of trouble	50%	50%	0%
Core Values			
Because I came to the program...			
I care more about other people	50%	50%	0%
I care more about the feelings of other people	33%	67%	0%
I am better at speaking up for people who have been treated unfairly	50%	50%	0%
Sense of Self			
Coming to the program has helped me to...			
Feel better about myself	50%	50%	0%
Feel I have more control over things that happen to me	33%	67%	0%
Workforce Skills			
Coming to the program has helped me to...			
Learn to follow the rules at my job when I'm at work (or when I start working)	67%	33%	0%
Finish job tasks on time (when I start working)	33%	67%	0%
Because of attending the program...			
I am more aware of careers that interest me	33%	67%	0%

*Total n=6

Limitations

All instruments were administered using online platforms, with intake paperwork shared via email then reviewed and signed using Adobe Sign; and the pre and post-tests and Youth Participant Survey (National Research Center, 2013) questions administered using Qualtrics online surveys. The pre and post-test and Youth Outcomes Toolkit survey links were shared during online CC programming and facilitated using the Zoom teleconference platform. The all-virtual nature of programming and data collection resulted in a number of difficulties, including incomplete data (e.g., participants complete the pre-test but fail to complete the post-test; answer only some demographic questions) as well as participant responses that seem to indicate a lack of understanding of the question asked. The results of this study are further limited by the small sample size and challenges related to the consistency of the collection of data from participants. These limitations resulted in an inability to complete statistical analysis beyond mere descriptive items.

Conclusion

These areas of growth reflect an increase in social and emotional wellness and align with those areas associated with resiliency and positive youth development (Barger et al., 2017; Ginsburg & Jablow, 2015; Lerner et al., 2005). Participants reported changes in cultural awareness, life choices, core values, sense of self, and workforce skills seem to align with several of the 7 C's model of positive youth development (Barger et al., 2017; Ginsburg & Jablow, 2015). Youths' changes in cultural awareness and sense of self parallel "connection" and "confidence" of the 7 C's. Connection is an aspect of resilience reinforced by unconditional positive regard and a meaningful relationship with a trusted adult that reinforces the youth's sense of self-worth (Barger et al., 2017). Youth participants reported increased connection with both members of their community and those from other backgrounds. They also reported increased confidence – an aspect of resilience that includes youths' belief in their ability to make good decisions. The program's investment in youths' social and emotional health provides youth with a solid foundation upon which to build decision-making skills, self, and other awareness and enables youth to navigate and persist in virtual settings.

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