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FULL-LENGTH ARTICLES

Conducting Virtual Youth-Led Participatory Action Research (YPAR) During the COVID-19 Pandemic

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Youth-led participatory action research (YPAR) is an applied research methodology in which youth work in collaboration with adult stakeholders to conduct research projects. YPAR has been traditionally conducted in person, with virtual forums typically serving as ways to share resources and ideas across independent YPAR teams or collecting data. The COVID-19 pandemic, which led to the closure of most public spaces where youth congregate (including schools) and requirements to socially distance, led to translating YPAR projects into completely virtual formats. This paper aims to provide promises and challenges of conducting virtual YPAR during the COVID-19 pandemic. It describes how a team of university faculty, college students, and youth from two community-based youth organizations navigated a YPAR experience during the 2020-2021 academic year. We provide reflections on the impact of the COVID-19 pandemic on (a) the research setting, (b) the building of collaborative relationships, (c) YPAR methodology, (d) youth engagement, and (e) conceptualization of community action and engagement. We end with the implications for the future of YPAR for practitioners.

Youth-led participatory action research (YPAR) is a broad research approach based on social justice principles in which youth are actively engaged alongside researchers as collaborators throughout the research process (Penuel & Freeman, 1997). YPAR is a power-sharing approach where youth become decision-makers and change agents (Cahill, 2004). Having increased in popularity over the last 20 years, it is most commonly used in health, social inequities, educational, and violence and safety research (Anyon et al., 2018; Noonan, 2015). YPAR affords a multitude of benefits. A systematic review of YPAR (Anyon et al., 2018) finds that YPAR most frequently (a) facilitates youth empowerment (Berg et al., 2009; Reich et al., 2015; Ross, 2011; Wilson et al., 2007, 2008) and increases self-esteem (Ozer & Schotland, 2011), (b) improves the validity of research findings (Bautista et al., 2013; Brazg et al., 2011), (c) cultivates civic and community engagement in youth (Berg et al., 2009; Cammarota & Romero, 2011;

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Gant et al., 2009; Mathiyazhagan, 2020; Ozer & Douglas, 2013), and (d) develops youth leadership skills above those gained in traditional learning environments (Kulbok et al., 2015). Additional benefits of YPAR include increased communication and conflict-resolution skills, increased ability to work in teams, greater problem-solving capabilities, and development of time management, organizational, and written and oral communication skills (Anyon et al., 2018; Phillips et al., 2010; Zeal & Terry, 2013). Further, the impact of YPAR is bidirectional. Adults working with youth on YPAR projects express surprise at youths' professionalism, motivation, and ability to conduct research (Bertrand et al., 2017). Adults subsequently experience deeper connections to youth and gain new knowledge and perspectives on their experiences (Kennedy, 2018; Schlehofer et al., 2018).

YPAR takes a "learning by doing" approach to research engagement (Fernandez, 2002). Youth collaborate alongside adults such as researchers, teachers, or mentors, to learn and apply research skills and collaboratively work to address social and community issues (e.g., Anyon et al., 2018; Bertrand et al., 2017). While the approach is adaptable to any research methodology, YPAR projects typically employ surveys, interviews, or observational research methods (Anyon et al., 2018), which are more accessible and engaging to youth. YPAR methodology can range from having youth involved in selective components of the research process (for instance, partial YPAR assisting with the data collection process, providing input on the research topic, or engaging in community action), to full engagement as equal partners and collaborators in the design, execution, interpretation, and dissemination of research projects Anyon et al., 2018; Shamrova & Cummings, 2017. Few YPAR projects fully engage youth in all phases of the research process; specifically, youth are least likely to be engaged with the data analysis process due to limited accessibility to statistical softwares (Foster-Fishman et al., 2010; Jacquez et al., 2013).

Drawing on Rodriguez and Brown's (2009) identification of key principles of YPAR, Ozer and her colleagues identified five fundamental components of YPAR that differentiate it from other forms of youth engagement and organizing: (a) engaging youth in developing and practicing research skills, (b) equitable sharing of all aspects of research to include decision-making authority, (c) building supportive networks with community stakeholders, (d) thinking and talking through social change strategies, and (e) using research as a mechanism for social change (Ozer et al., 2010; Ozer & Douglas, 2015). Additionally, YPAR has several other key features, such as centering the legitimacy of youth's lived experiences as a source of knowledge (Bautista et al., 2013), opportunities to engage in group decision-making, and the flexible and dynamic nature of the research (Cahill, 2004; Fernandez, 2002; Ozer et al., 2010; Ozer & Douglas, 2015), to name a few.

Use of Technology in YPAR

In this paper, we describe the promises and challenges of conducting fully-virtual YPAR during the COVID-19 pandemic. Technology has previously been incorporated into YPAR projects but remains underutilized. It has primarily been used as either a tool to collect data (Flicker et al., 2008; Gibbs et al., 2020) or to connect separate and independent YPAR team members so they can share ideas and resources (Kornbluh, 2019; Kornbluh et al., 2016). To our knowledge, no YPAR project has been fully conducted in a digital space. One recent community-based participatory action research project engaged graduate students in an online writing group where technological features had to be carefully thought through in order to build inclusive environments which allowed for real-time interactions (Raider-Roth et al., n.d.). Completion of participatory action research projects online required consistent internet access and subscriptions to online tools and platforms, which vary in price and may not be free (Raider-Roth et al., n.d.). Raider-Roth and colleagues (n.d.) caution that online PAR will likely require the use of multiple online platforms to re-create real-time, face-to-face experiences.

Lessons From Online Education

While technology-enhanced YPAR is an understudied area, there is a robust body of literature on students' experiences with online learning, some of which can be extrapolated to technology-enhanced YPAR experiences. Mayer's (2020) cognitive theory of multimedia learning applies cognitive psychology to understanding how principles of the instructional design process impact online learning. In accordance with the theory, online learning environments reduce extraneous information and incorporate scaffolding (learning new material in increments that build on one another). This makes the learning process more personalized and encourages cognitive processing for students (Mayer, 2019). More balanced teacher-student roles and reinforcement in online settings can also help students develop a sense of belonging amongst their peers and inspire them to better engage in their learning (Alves et al., 2021; Maples et al., 2005; Straub & Vasquez, 2015).

The COVID-19 pandemic has created a situation in which many instructors were required to quickly pivot their in-person or hybrid courses to fully online. Emerging research on educational experiences throughout the pandemic has found that the lack of face-to-face engagement and technological resources negatively affected students' transition from in-person to remote learning (Eman, 2021; Long & Khoi, 2020). Video conferencing platforms (e.g., Zoom) and engaging materials (e.g., videos and songs) can be helpful in increasing online collaboration and interactions between students and teachers (Alves et al., 2021; Souheyla, 2021). While greater teacher presence, more effective content delivery (Prijambodo & Lie, 2021), and improved quality of internet connection and distance-learning facilities (Syaharuddina et al., 2021) facilitate online learning and help students become more "successful learners" (Serhan, 2020), most students had lower

participation and fewer interactions through Zoom than in a traditional classroom. Moreover, most reported that they would be more comfortable in traditional classroom settings (Abbasi et al., 2020; Lieberman, 2020; Serhan, 2020).

Providing students and teachers with tools such as computers and tablets results in better time management and healthier routines needed for academic achievement (Baldock et al., 2021). However, some online learners still struggle due to technological issues, their environment, and a lack of in-person interaction (Eman, 2021). Internet-based learning during COVID-19 has also led students to increase their use of the Internet for things beyond school assignments, such as economic and social matters (Rathakrishnan et al., 2021). This additional use of the Internet may translate to greater Zoom fatigue, which has had a tremendous impact on active learning and disrupted engagement (Garris et al., 2022).

Additional Challenges of YPAR in a Pandemic

As with online education, the process of completing YPAR projects during the COVID-19 pandemic presented significant challenges above and beyond those posed by transitioning to a fully virtual space. According to the U.S. Census Bureau (2020), nearly 93% of households with school-age children reported some form of distance learning during the COVID-19 pandemic. About 87% of undergraduate students experienced any enrollment disruption or change at their postsecondary institution, with 84% of them experiencing some or all of their in-person classes moving online (National Center for Education Statistics, n.d.). In addition to causing significant physical health effects, the pandemic created what many have called a mental health crisis among adolescent and college-aged youth (Guessoum et al., 2020; Hoyt et al., 2021; E. Power et al., 2020; Zhai & Du, 2020). Public health mitigation strategies such as social distancing and the closure of public spaces can lead to increased feelings of isolation, depression, and anxiety among youth (E. Power et al., 2020). The COVID-19 pandemic has not been experienced equally by all people but rather has exacerbated long-standing structural inequalities (Bowleg, 2020). As our work was conducted in the United States, the sweeping racial justice protests, public conversations around policing reform efforts, and socio-political upheaval surrounding the 2020 U.S. presidential election brought additional stressors. Polling by the American Psychological Association found that anxiety related to COVID-19 and the U.S. presidential election rose sharply among the general public in 2020 (Canady, 2020). These stressors and exacerbation of structural inequalities disproportionately negatively impact women, students who are LGBTQ+, and students of color (Hoyt et al., 2021), particularly Black students (Landertinger et al., 2021). Research on the past presidency also showed how media exposure increased anxiety among youth (Caporino et al., 2020), and how "Trump-related distress" was connected to symptoms of anxiety among student populations, particularly those who held at least one marginalized

identity (Albright & Hurd, 2020; Hagan et al., 2020). Thus, we anticipated that the tumultuous 2020 U.S. presidential election cycle would pose additional stressors for YPAR members.

The Current Initiative

During the 2020-2021 academic year, our team, consisting of two university faculty (co-directors of the Accelerated Mentoring Program [AMP]), undergraduate student psychology majors enrolled in the AMP, and adolescents from two community youth organizations partnered on a YPAR project. AMP is a bridge program for undergraduate psychology majors interested in advancing into graduate-level training in psychology centered around social justice and antiracism. Ten AMP students were taught community-based participatory action research methodologies by the two AMP co-directors. Fifteen youth, drawn from two local community-based youth development organizations, worked with the AMP students. Executive directors of each partnering youth organization worked alongside AMP co-directors to recruit youth for the project. The two partnering community-based youth organizations engage distinct youth populations: one organization (organization A) focuses on developing self-esteem among middle- and high school-aged girls enrolled in area public and private schools (six youth), and the other organization (organization B), while open to all youth, focuses on developing the advocacy capacity of lower-income youth (seven youth). Two youth were affiliated with both programs. Recruited youth were predominantly female. In the end, seven youth (all six from organization A and one from organization B) remained active participants in the projects. Almost all stakeholders affiliated with the project (co-directors and students affiliated with AMP, as well as executive directors and youth affiliated with the partnering youth organizations) were women and girls of color. Table 1 provides an overview of both organizations and attrition throughout the project.

At the time the collaborations were formed, the projects were planned for face-to-face settings. YPAR is most typically conducted in settings where youth spend significant amounts of time but have low agency, such as schools and community groups (Anyon et al., 2018). However, due to the COVID-19 pandemic, many of these traditional settings were closed, making face-to-face engagement impossible. For instance, the academic school year for youth in the local public K-12 system started with fully remote online learning, slowly transitioning to limited opportunities for youth to physically attend school, with the constant threat of remote learning should a COVID-19 outbreak occur in the schools. The university was closed to the public, which prohibited inviting youth to campus. Remote university courses led to having two AMP students living hours from campus. Alternative settings which would typically be a place of convergence and engagement for youth, such as the public library or local community organizations, were similarly inaccessible. Executive orders restricting the size of group gatherings, in and outdoors, negated any opportunities for face-to-

Table 1. Overview of participating youth organizations.

	Organization A	Organization B	Both Organizations	Total
Population served	Middle school and high school girls who are from public and private schools	Open to all youth, but primarily serves youth who have economic challenges		
Organizational goals	Developing girls' self-esteem	Developing advocacy potential		
N of participating youth at week 1	6	7	2	15
Gender distribution of participating youth	100% (7) female	87.5% (7) female		93.3% (14) female
N of participating youth at week 32	6	1	0	7
Retention rate	100%	14.3%	0%	46.7%

face interaction. We were also cognizant of variability in health status and living situations that necessitated some to be more cautious in in-person contacts while some had difficulties finding a reliable internet connection.

In order to accommodate for these limitations, the YPAR projects were transitioned to a fully remote project, conducted entirely over the Zoom platform. Zoom was selected because it was accessible with no additional cost to the AMP co-directors and students through their university, was already used by the public school system and thus familiar to many of the participating local youth, and it allowed for real-time interaction, which increases engagement in online learning (Souheyla, 2021). Community youth, college students, AMP co-directors, and organizational stakeholders (either the executive director of both community youth organizations and/or a designated staff or intern) met for one hour a week over Zoom for a period of 31 weeks. Executive directors of partnering youth organizations provided internet access and electronic devices to youth for whom these were barriers to participation. This meeting frequency is consistent with other YPAR projects, which meet for an average of 1.6 hours a week for 60.1 weeks (Anyon et al., 2018).

Development of YPAR Projects

The development of these YPAR projects first started with a series of discussions surrounding the interests of participants. Youth and AMP students held a wide range of interests centered around social and environmental justice issues. The AMP co-directors and executive directors of the two partnering youth organizations (or their designees) guided this discussion. From this broad list of interests, YPAR participants indicated their priority topics. The AMP co-directors then placed YPAR participants into research teams. Participants were placed into initial teams based on their selected interests, with an effort to balance the number of youth and

college students within each team and to keep group sizes equivalent. Initial team groupings were discussed and negotiated with YPAR participants, and some participants moved groups based on expressed interests or the need for additional assistance. This process ultimately resulted in the development of four YPAR teams, each with five to seven members, centered around four topics: recycling, exposure to racist stereotypes on social media, homelessness, and the impact of incarceration on family and community systems.

Description of Projects

After groups were assigned, YPAR teams worked to develop an action research project around their selected topic. AMP co-directors and the executive directors of the partnering youth organizations provided advice, guidance, and feedback as projects progressed; however, project development was youth-led. Each of the four projects used a distinct methodology, decided upon by the consensus of YPAR team members in consultation with the AMP co-directors. Methodology ranged from conducting phone interviews to content analyses to online surveys to a collection of photography. The recycling project entailed a content analysis of recycling information on county websites in the state of Maryland, United States, to determine differences in adaptation of plastic recycling procedures during the COVID-19 pandemic. The exposure to racist stereotypes on social media project used an online survey to examine relationships between social media use, perceived racial cyber-aggression, and complimentary and negative stereotypes of Black people among individuals ages 18 to 22. The homelessness project entailed conducting phone interviews with staff and volunteers of area shelters, supplemented with publicly available information, to identify gaps in services for people experiencing homelessness during the COVID-19 pandemic. Finally, the impact of incarceration on family and community systems project focused on the youths' lived experiences and how they portrayed its effects within their communities. Using snowball sampling, the team recruited people who were formerly incarcerated and their loved ones to participate in a photovoice project, which would allow both the youth and community to share their stories without taking away each individual's lived experience, allowing their message to be life-altering to the public.

Impact of Fully-Online YPAR on the Projects

Transitioning to a fully-online YPAR experience significantly affected the trajectory of the project in multiple areas. This included impacts on: (a) the research setting, (b) the building of collaborative relationships, (c) the YPAR methodology, (d) youth engagement, and (e) the conceptualization of community action and how research findings were disseminated. Each of these is discussed in turn.

Impact on the Research Setting

Aforementioned lack of access to spaces that traditionally serve as YPAR research sites (e.g., schools, community centers, and other spaces for youth but where they do not hold agency; Anyon et al., 2018) necessitated that we move the research setting to a fully virtual space. As a result, instead of engaging in a research topic centered around a youth-engaged setting, the research topics took a community turn. The "community" was broadly defined and not always constrained to a particular setting or neighborhood. One research team (homelessness project) focused on the city as a geographical area for their project, whereas another (recycling project) engaged in a state-wide project, and two additional teams (impact of incarceration on family and community systems and exposure to racist stereotypes on social media projects) moved their projects to a fully virtual space, creating the possibility for data collection across state—and even national—borders.

Impact on Building Collaborative Relationships

Despite the challenges faced due to the pandemic, we worked hard to provide a space where all members could participate virtually. The importance of shared physical space was painfully realized throughout the academic year as it affected us in many ways. Our initial connections were shorter than they would have been in person, and daily interactions were at times interrupted by poor Internet connections. Thus, developing trusting relationships with one another took significantly longer than it would have in a face-to-face environment.

Additionally, as a result of not "seeing each other" occupying the same physical space, getting and keeping in touch with one another outside of the scheduled Zoom meetings posed challenges. This resulted in unbalanced distributions of work and decision-making. While the equal distribution of work and decision-making responsibility was hard to achieve pre-pandemic, it was even more difficult to balance during the pandemic. This could be related to many of us being under the stress of negotiating COVID-19 life changes, grief, and losses.

The use of icebreakers became an integral part of getting to know each other and facilitating similar sentiments to small talks in between activities we would have had. Prior to interacting with the youth, AMP students collaborated over Zoom to develop unique icebreaker questions and discussion prompts that would keep youth engaged and interactive. AMP students took a lead in generating icebreakers as they realized that such activities helped to get to know the youth better and helped them to be more engaged in small-group research project discussions that followed. After deciding on icebreaker questions and prompts, two to three AMP students volunteered each week to facilitate the icebreakers. Mid-year, youth from the partnering organizations became more deeply involved and requested stronger leadership roles in leading icebreakers. Thus, at the end of each session,

youth were paired up with AMP students and tasked with preparing and co-facilitating icebreakers in the upcoming week. AMP students and youth coordinated outside of the programming time via Google Docs and group texts to work on this task. This gave youth opportunities to develop deeper relationships with AMP students outside of the structured programming time, greater ownership over the direction of group discussions, and experience facilitating discussions.

At the beginning of our collaboration, there were many awkward silences over Zoom. They were often slightly longer than in-person silences due to anticipation of Internet lags. It felt as though we were dealing with "everything at once": trying to get to know each other, learning how to facilitate conversations, figuring out how Zoom works, and carrying all the feelings associated with all the changes we were navigating. As AMP students and youth felt more comfortable with each other, and the structure of the weekly meeting became streamlined, they learned some effective and compassionate facilitation skills. More specifically, AMP students in particular became good at noticing when someone had missed the information (e.g., distractions in their physical environments, internet disruptions) and providing a summary to get the members up to speed. All types of communications via Zoom were embraced, including youth who exclusively participated in chat and waited patiently as a collective for their comments. This acceptance of an individual's specific needs for communication is rare to see, and it may be a result of giving grace to each other during the pandemic.

The U.S. socio-political climate added an additional layer of complexity to the process of building collaborative relationships. Most of the youth involved in the project (both drawn from the two participating community organizations, and AMP students) were youth of color who were deeply impacted by the socio-political context occurring during this time. This added a layer of stress and anxiety to our YPAR work. Some youth appreciated the fact that these larger socio-political issues could be "left outside" the proverbial Zoom room. At the same time, participating youth saw our weekly YPAR work as a place in which they could talk freely and openly about some of the larger events happening nationwide. The AMP co-directors and executive directors of the participating youth organizations (or their representatives) followed the youths' lead regarding the extent to which socio-political topics were discussed—or deliberately put aside—while working on the YPAR projects.

Impact on YPAR Methodology

Modification of research projects into a fully virtual setting entailed some changes to the project methodology. YPAR projects seldom engage youth in all phases of the research process (Foster-Fishman et al., 2010; Jacquez et al., 2013). Transition to a fully virtual setting created additional complications involving youth in all stages of YPAR methodology, as well as impacted the overall trajectory of the projects.

Of all the projects translated into an online space, the group which collected photographs was the most heavily modified. Initially, this group wanted to work directly with people affected by incarceration to conduct a photovoice project. Photovoice is a qualitative research methodology in which participants use photography to express their views on and experiences with a social or community problem (Wang & Burris, 1997). In the photovoice process, participants are provided with a social or community problem and are asked to take photographs that exemplify the problem and potential solutions as well as participant reactions and experiences (Wang & Pies, 2004). Participants provide a description for each photo which provides contextualizing information (Wang & Pies, 2004). Photovoice is typically an empowering experience that provides strong tools for community advocacy and is perceived as more powerful and effective, making it an excellent methodological choice for YPAR (Bashore et al., 2017; N. G. Power et al., 2014; Strack et al., 2004). The team chose to use photovoice in a virtual space. Unfortunately, this did not have the intended impact and resulted in an experience akin to a survey in which photographs were collected in addition to text responses. Engagement was low and despite verbal commitment to participating in the project and widespread recruitment efforts by the YPAR team, there were difficulties in getting participation and acquiring photographs for the project.

However, other projects were additionally impacted. Conducting YPAR virtually meant that, although all participating youth had access to Zoom, they did not all have access to the necessary software to conduct data analyses. For instance, the exposure to racist stereotypes on social media group conducted a survey that needed to be analyzed with quantitative statistics. However, while AMP students had SPSS software access, there were difficulties accessing it off-campus; further, youth affiliated with the partnering organizations had no access to the software, either on- or off-campus. Thus, youth were less involved in the data analysis process than desired.

Impact on Youth Engagement

Youth engagement via collaborative partnerships is a key cornerstone of YPAR and, when well-executed, YPAR is more engaging than traditional methodology and can lead to youth empowerment (Berg et al., 2009; Reich et al., 2015; Wilson et al., 2007, 2008), leadership development (Kulbok et al., 2015), increased civic engagement (Berg et al., 2009; Cammarota & Romero, 2011; Gant et al., 2009; Mathiyazhagan, 2020; Ozer & Douglas, 2013), and other positive impacts on youth development (Anyon et al., 2018; Bautista et al., 2013; Brazg et al., 2011; Ozer & Schotland, 2011; Phillips et al., 2010; Zeal & Terry, 2013). In line with the research with online learning environments (Souheyla, 2021), translating YPAR into a fully virtual space negatively impacted youth engagement. Anticipating this, the co-directors (second and fifth authors) partnered with the directors of the participating youth organizations to increase participation and instituted

a few processes, such as email and phone call reminders about upcoming meetings, and follow-up contacts with any youth who did not attend a weekly session. Executive directors also assisted with providing youth access to the Internet and devices on which to participate; strategies that increase engagement in online learning (Baldock et al., 2021). However, participation and engagement continued to be a concern throughout the project. Aside from the aforementioned stilted conversations brought about via interacting in a video conferencing platform, youth engagement was difficult to sustain.

The pandemic and transition to online spaces increased time spent online across all activities, not just in academic environments (Baldock et al., 2021). Increased time online led to greater Zoom fatigue. It was difficult to determine the level of participation if people kept their cameras off. We also experienced increased mental drain due to simultaneously monitoring chat and video screens, and managing and working around distractions in the environments in which people were participating (Spataro, 2020).

Students such as the fourth author, who had a deeper initial investment in psychology as a discipline or who immediately saw the connections between the project and later educational and career goals, were easier to retain and engage throughout the project. However, youth that society systematically marginalizes (e.g., youth that were in precarious housing situations or home environments) were those most likely to lose engagement with the program. Of the initial partnering youth organizations, Organization B served youth with more precarious situations, focusing on youth experiencing inconsistent housing or having interactions with the juvenile justice system. We saw the deepest loss of participation and engagement among youth from this organization. While we were able to retain almost all students recruited from Organization A which served more youth living in a more stable condition, we retained only one youth from Organization B serving marginalized youth. This suggests that engaging in fully-virtual YPAR may not work best for youth who are marginalized by society, and if components of YPAR are presented virtually with youth experiencing various marginalizations, additional resources and support above and beyond that which we were able to provide are needed to facilitate their involvement.

Impact on Community Actions and Engagement

YPAR projects are a form of community-based participatory action research, which not only engages youth throughout the course of the research process but includes a focus on community action (Anyon et al., 2018). As opposed to more traditional research, where research findings are disseminated in peer-reviewed journals, conferences, or other professional outlets, this form of research entails publicly disseminating research findings in the broader community (Mosavel et al., 2019). Research dissemination can take many forms, including but not limited to the creation of music (Levy et al., 2018), spoken word, street art (Altares et al., 2020), and community theater (Guzman et al., 2003; Mosavel et al., 2019). The lack of access to shared public spaces created by the COVID-19 pandemic posed limitations

for research dissemination. As a result of moving to a virtual space, all research-derived products consisted of digital tools. The YPAR teams created a wide range of digital tools: educational infographics on both statewide recycling and local shelters, an educational video on the impact of incarceration on the family system, and an educational Instagram account that addresses exposure to racist content on social media. Participants, and in particular AMP students, learned how to use computer software to create these digital tools that they were familiar with as consumers, and were able to make them helpful and appealing to their targeted audience. Digital tools were shared through AMP social media, with YPAR members sharing the tools from AMP social media accounts. This process was used to ensure that YPAR members were not required to create publicly-available social media posts in order to disseminate content. However, youth were involved in developing and disseminating content. For one project, exposure to racial stereotypes on social media, YPAR team members chose to focus on the community engagement strategy of consciousness-raising and created an Instagram page (@ampsocialawareness) through which to disseminate informational graphics of their research findings, news related to psychology, and tips for social media usage. In order to try and maximize the dissemination of their findings, they came up with specific captions, hashtags, and posting times for their graphics. Additionally, they reached out to specific organizations and public figures for their support in helping share the group's informational graphics and Instagram page.

Limitations

While our experience provides useful insight into online YPAR experiences during the COVID-19 pandemic, our reflections are not without limitations. As we started our project approximately six months into the COVID-19 pandemic, we had ample opportunity to plan a fully-virtual YPAR experience. Our experiences would have been very different if we had started our projects face-to-face and had to quickly pivot online. Knowing well in advance that we would be conducting a fully-online YPAR project allowed us to anticipate some of the challenges and plan accordingly. Further, the fact that we were so far into the pandemic meant that, while grappling with continued uncertainty, youth and AMP students were already relatively adjusted to "the new normal" of life during COVID-19.

Being fully remote made it very difficult to assess the impact of the YPAR project. There are challenges with assessments of youth populations, and due to a variety of restrictions and limitations on our ability to assess the impact of the YPAR project on youth in the participating youth organizations, a well-designed assessment of the YPAR project on youth outcomes was not feasible. While we did attempt to assess the AMP students on the general impact of the entirety of their participation in the mentoring program, which included the YPAR component, participation was very low.

Implications for the Future of YPAR

The transition to fully-online YPAR necessitated by the COVID-19 pandemic brought several changes to the ways in which YPAR is conducted. While some components of YPAR were retained, others were modified, dropped, or transformed. What does a year of engaging youth in participatory action research in a fully online setting mean for the future of YPAR practices, more broadly?

The pandemic-imposed incorporation of technology in YPAR may have accelerated the existing trend toward technology-assisted YPAR. It is possible that future YPAR projects will be conducted fully online, or in a hybrid format that integrates face-to-face and online components more deeply than prior technology-assisted YPAR. This raises concerns regarding equity around access to and ability to use technology, which might pose complications for technology-assisted YPAR. Our experiences suggest that technology-assisted YPAR created barriers for societally marginalized youth, with youth in economically precarious households being more likely to drop out of the project, suggesting that technology-assisted YPAR has limited utility for those who otherwise would most benefit from YPAR. With the increased use of technology in YPAR initiatives, it is important to additionally consider the availability of free software and the limitations imposed when the software or more advanced features of free software require paid licensure.

Virtual connection is unlikely to fully replace or surpass the experience of in-person interactions and connection building. Rather, sharing the same physical space was especially missed at the initial stage of the collaboration. However, if the equity issues raised by income instability could be addressed, technology may also provide opportunities to *increase* access to YPAR for certain populations, such as communities in which youth are too dispersed to allow for face-to-face interactions and thus largely build communities online. Providing periodic in-person interactions among YPAR collaborators and community stakeholders may nicely supplement online relationship-building. Conducting YPAR remotely also allowed for the participation of partners from more than one youth setting, leading to YPAR projects to be brought out of school settings and into the broader community, a feature that could be retained in future technology-assisted YPAR work. The computer and digital skills that students acquired were invaluable, and exposing participant-researchers to both more traditional advocacy tools and social media tools may provide a more exhaustive reach to targeted audiences for social changes.

While the COVID-19 pandemic certainly brought challenges and limitations, our experiences suggest that technology-assisted, fully-online YPAR work is possible, with appropriate planning and careful project management especially relationship-building mechanisms are built-in. Technology-assisted, fully online YPAR, while necessitating some modifications to traditional YPAR protocols, has the potential to remain a robust mechanism for action research and social change.

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