Understanding the Mental Health Needs and Technological Treatment Implications for Vulnerable Youth: A Focus Group with Practitioners.

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Abstract

Although all youth witnessed the extreme shift in exposure to negative risks and experiences over the past century, a particular category of youth witnesses the impacts at a higher rate. This category is vulnerable youth, and includes youth who are homeless, maltreated, in foster care, lesbian, gay, bisexual, transgender, queer, and/or questioning (LGBTQ+) or Black, Indigenous and people of color (BIPOC). Vulnerable youth disproportionately experience mental health and wellbeing challenges. Literature shows that practitioners working with this population have a critical role in mitigating those challenges through technological services and resources. To explore these challenges and technological treatment implications, a total of six practitioners completed a virtual focus group. Transcripts were analyzed using content analysis. Participants shared challenges vulnerable youth face to meet basic, social and emotional, educational, technological and mental health needs. They reported limitations to in-person mental health services. Technology use, specifically applications (apps), can provide support to vulnerable youth and address the perceived challenges to meet various needs. More research is required to understand vulnerable youth's mental health and wellbeing and best practices for utilizing technology into youth mental health services.

Keywords: vulnerable youth, mental health, wellbeing, mental health services

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Introduction

An extreme shift in youths' exposure to unprecedented circumstance exists, impacting the wellbeing of this population more than ever (Finkelhor, 2020; Freed et al., 2018). Certain subgroups of youth are at an elevated risk for experiencing these negative circumstances and wellbeing effects. These subgroups include youth who are homeless, maltreated, in foster care, lesbian, gay, bisexual, transgender, queer, and/or questioning (LGBTQ+) or Black, Indigenous and people of color (BIPOC), collectively defined as vulnerable youth (Finkelhor, 2020; Gabrielli & Lund, 2020; Perrino et al., 2015; Silliman Cohen & Bosk, 2020; Zweig, 2003).

Vulnerable youth disproportionately experience life challenges, specifically challenges related to mental health and wellbeing (Gabrielli & Lund, 2020; Helweg-Larsen et al., 2011; Knapp et al., 2016; Perrino et al., 2015; Steptoe & Wardle, 2017). These aspects pose serious risks for this population, which can impact them for the rest of their lives. Some consequences of mental illness and illbeing for youth include chronic disease, infectious disease, risky behaviors, injury, school dropout, poverty, unemployment, trauma and early death (Finkelhor, 2020; Helweg-Larsen et al., 2011; Knapp et al., 2016; McGorry et al., 2007; Perrino et al., 2015; Steptoe & Wardle, 2017).

Practitioners have the ability to support vulnerable youth in mitigating these consequences and obtaining positive wellbeing (SAMHSA, 2015). Practitioners interact with vulnerable youth in various settings, such as schools, urgent cares, outpatient clinics and juvenile justice centers (Committee on Psychosocial Aspects of Child and Family Health and Task Force on Mental Health, 2009; Montague et al., 2015; Puskar & Marie Bernardo, 2007). These

practitioners assess for vulnerabilities and initiate necessary mediations. After assessments, practitioners often screen for concerns, often related to mental health and wellbeing (Committee on Psychosocial Aspects of Child and Family Health and Task Force on Mental Health, 2009). In addition to these screenings, practitioners select and provide services for these youth (Committee on Psychosocial Aspects of Child and Family Health and Task Force on Mental Health, 2009; Montague et al., 2015; SAMHSA, 2015)

Unfortunately, practitioners face several challenges interfering with their ability to provide services for not only vulnerable youth but all cliental. One study that interviewed managers at children mental health centers found funding, waitlists, staffing and complex cases as challenges to mental health treatment delivery (Reid & Brown, 2008). These challenges are not unique to the findings of that study. In fact, waitlists are some of the primary concerns providers encounter in mental health treatment (Schleider et al., 2020). The demand for mental health services far exceeds the amount of available providers, leading to an array of challenges (Blech et al., 2017; Schleider et al., 2020).

The literature on mental health care for youth discusses the possibility of technology as a service to address challenges. The U.S. Department of Health and Human Services identifies technological assessments and interventions as critical tools for practitioners to integrate into their existing work (SAMHSA, 2015). Technology has the potential to be utilized throughout the entire continuum of care, assisting practitioners with screening, assessment, prevention, treatment and recovery (Campbell et al., 2005; SAMHSA, 2015). In order for practitioners to utilize technological services, they must partake in the creation and utilization of such services (Czajkowski et al., 2015; SAMHSA, 2015).

The Obesity-Related Behavioral Intervention Trials (ORBIT) model acknowledges the role clinicians play in guiding technology-based services. Proven in many studies, this model provides a clinician-based approach to increasing the number of evidence-informed treatments available (Czajkowski et al., 2015). As stated in studies completed utilizing this model, an appropriate method and design is qualitative research methods, such as focus groups, to engage the community of participants in the development of user-centered strategies and help identify attitudes, norms and values that can affect an intervention (Czajkowski et al., 2015).

In addition to many current studies lacking the opinions, perspectives and views of practitioners, many do not specifically focus on vulnerable youth. For example, a certain study examining the wellbeing and mental health of youth identifies needs for the general population (Arslan, 2021). Although beneficial, there is a need to focus specifically on vulnerable youth as they are at higher risk of experiencing negative impacts. Another study explored the perspective of youth related to integrating technology into mental health services (Montague et al., 2015). Although these findings add to the knowledge base for integrating technology in mental health care, they cannot be applied to vulnerable youth.

When research does focus on vulnerable youth, it tends to prioritize one subcategory of the population. Several research studies explore the mental health of LGBTQ+ youth. Again, these studies provide suggestions for prevention and intervention services designed to support this population's mental health; however, each subgroup of vulnerable youth requires individualized attention. The narrowness of many studies does not address the possibilities of intersectionality among this population, a critical component in addressing wellbeing (Cairney et al., 2014; Irazábal & Huerta, 2016; Johnson et al., 2020).

The purpose of this project was to conduct a focus group with practitioners to determine how technology could be used to support vulnerable youth's well-being and mental-health needs. This study also explored what practitioners consider significant components of technology, technological implication for their practice and other considerations working with vulnerable youth. The findings from this study provide essential information on challenges associated with meeting vulnerable youths' wellbeing and mental health needs and ways technology-based services mitigate these challenges from the perspective of practitioners.

Methods

Design and Procedures

In order to understand the perceived needs of vulnerable youth and technological implications for treatment from a practitioner's view, a qualitative research design was utilized (Czajkowski et al., 2015). All participants must have met the eligibility requirements: worked with vulnerable youth, interested in discussing how technology could engage and support, access to a computer, tablet or smartphone to connect to Carmenzoom, have stable WIFI and provide consent.

The Ohio State University's Institutional Review Board approved this study as an exempt study. All participants provided informed consent prior to participation and were reimbursed for their time. The research team utilized virtual focus groups via Carmenzoom, Ohio State's private Zoom system, to keep participants, moderators and researchers safe during the COVID-19 pandemic. The participants received a private Carmenzoom invitation with a passcode to enter the virtual platform. Once designated participants arrived, no other individuals could join the focus group. The focus group was conducted in English via The Ohio State University's

Carmenzoom. The focus group was recorded and transcribed through Carmenzoom, as indicated in the participant's informed consent form.

The honor's student moderated the focus group session, and the supervisor assisted and took notes. The moderator encouraged the practitioners to share experiences, thoughts and opinions about vulnerable youth and in-person and technological interventions. She utilized information presented by Krueger, intending to create an inviting, open and safe atmosphere (Krueger, 1998).

Sample

The current study recruited practitioners working with vulnerable youth in central Ohio through The Ohio State University's College of Social Work. The student and supervisor used different non-random methodologies to recruit potential participants. We relied on nonrandom sampling methods indicative of convenience and snowball sampling techniques. The original sampling approach was based on recruiting practitioners only in Franklin County. Due to lack of availability in Franklin County, recruitment expanded to include practitioners in central Ohio. The Ohio State University's College of Social Work's Field Placement Office and Professors agreed to provide contact information for the individuals who work at qualifying agencies with potential participants. From the Field Office's provided list, the recruitment email and flier were sent to the individual listed. This individual had the option to forward materials to colleagues, who then contacted the researchers directly. The College of Social Work's Professors followed the same protocol and forwarded recruitment materials to potential participants. After these individuals forwarded the initial email and materials, they had no additional contact with potential participants regarding the study.

A total of 15 individuals indicated participation interest. After assessing for eligibility and indicating a final time through Doodle Polls, the final focus group consisted of six participants. The mean age for participations 34.8 (range = 27-50). Three participants identified “mental health” as their area of specialization, one selected “LGBTQ+” and others chose the “other” category.

Data collection

The 18 guiding questions and probes were created based on a review of literature and studies (Campbell et al., 2005; Krueger, 1998). The questions aimed to elicit information from practitioners about the needs of vulnerable youth and technological implication. The needs focused on those related to mental health and mental health resources but also included any other unmet needs or challenges for vulnerable youth. The technological implications discussed both in-person and technological interventions, with an emphasis on app development. All questions were designed to gain information for how technology may serve as a mechanism to change mental health care for vulnerable youth in the future.

Participants received a demographic questionnaire and post-focus group survey via Qualtrics. Participants completed the demographic questionnaire prior to the start of the focus group. The demographic questionnaire sought to obtain information regarding the participants age, race, gender, education, work experience and expertise (Griffith, 1999). The post-focus group survey collected information related to incentives and allowed participants the opportunity to further explain answers to the questions asked. One participant had to leave partway through the focus group and agreed to answer the remaining questions through this post-survey.

Analysis

Content analysis guided the analysis process for the focus group data. Content analysis examines the data and makes valid inferences from the meanings revealed by participants (Krippendorff, 1989). The study utilized qualitative content analysis informed by Kriukow (2018), Krippendorff (1989) and Krueger (1998). These individuals state content analysis should follow a continuum of analysis and be guided by the study objectives (Kriukow, 2018; Krippendorff, 1989; Krueger, 1998). The continuum includes gathering transcripts, describing statements, interpretating data and providing recommendations (Krueger, 1998).

The content analysis focused on identifying the practitioners' knowledge of vulnerable youths' needs, current approaches to technology in adolescent mental health, current practices to support central Ohio's vulnerable youth and ideas on complementing current interventions with technology. A combination of Kruger's, Kriukow's and Krippendorff 's methods, based on inductive reasoning, was used to analyze the focus group transcription (Kriukow, 2018; Krippendorff, 1989; Krueger, 1998). The student generated thematic codes from the transcribed data and notes taken during the focus group. The transcription data ensured the participants' words were the unit of analysis, and the notes taken throughout the focus group provided context. Carmenzoom automatically transcribed the focus group from the cloud recording. Utilizing this embedded, secure transcription service saved ample time, yet it did contain minor errors. The student corrected errors in the original transcript from relistening to the audio recording.

The transcription data was coded by the student successively line-by-line, resulting in over 150 original codes. The codes described the statements within the transcripts, as instructed by Kruger (1998). These codes were categorized into over-arching themes, guided by the

research aims. The generation of codes and corresponding themes continued until saturation existed and no additional codes or themes were identified (Kriukow, 2018; Krippendorff, 1989; Krueger, 1998).

Results

Several themes emerged from the data related to vulnerable youth's wellbeing and technology's role in health care services. All the themes are shown in Table 1. For each theme, Table 1 lists a title, provides a definition and gives an example quote. The definitions for basic needs and social and emotional needs were influenced by Maslow's Hierarchy of Needs (Mcleod, 2018).

Meeting basic needs

Vulnerable youth lack consistent, reliable access to food, water, clothing and housing. In relation to the previously listed needs, participants discussed experiences of unstable home environments and lack of parental supervision. Specifically, one discussion centered around the absence of caregivers. Caregivers usually take the responsibility of providing basic needs. When caregivers are not present, the responsibility to obtain these needs is placed on the youth. Lacking adequate knowledge, access and/or resources, these needs often go unmet. One participant stated that vulnerable youth hold responsibilities they are incapable of meeting, like caregiving for self and siblings, because of their developmental maturity.

Meeting social and emotional needs

Each of the participants acknowledged vulnerable youth face challenges interfering with their ability to meet social and emotional needs. Most of this discussion focused on the lack of healthy relationships vulnerable youth have. The participants identified the lack of healthy relationships not only with peers but also with adults. Within this discussion, the participants

stated the way vulnerable youth measure or understand healthy relationships is often flawed. One practitioner provided an example of a youth having a romantic partner that lived across the nation, and the two never met. These individuals fought weekly, often leaving the practitioner's client upset and unstable. Despite these concerns, the youth believed this relationship was beneficial and healthy.

A few participants stated that primary problems and concerns vulnerable youth share with relationships revolve around trust. They discussed this population often experiences various types of trauma from older individuals, which inherently disintegrates the preexisting trust and impacts the trust these youth hold going forward (Nader, 2007). One participant explained youth in foster care have often lived in various homes and worked with various workers, whether it be doctors, nurses, social workers, therapists, etc. Some of these workers broke confidentiality agreements, impacting the vulnerable youth's ability to trust as well (Nader, 2007).

Meeting educational needs

Several participants said vulnerable youth often experience unmet educational needs. As the practitioners identified, several concerns related to education exist outside of the classroom. The participants discussed the varying systemic levels that exacerbate educational challenges, including societal, environmental and interpersonal. There was discussion about lack of money and funding within the communities these vulnerable youth live. Once these youth leave school, they enter environments that lack adequate resources. In addition to lacking resources, these youth also lack support outside of the classroom. Many times, the caregivers of vulnerable youth do not and/or cannot assist the youth with their schoolwork. One participant that works within an agency offering after-school programs stated several of the youth come in with concerns about

their homework. The youth want to complete their homework and succeed throughout the education system, but the lack of resources holds them back.

Accessing technology

Several barriers to accessing proper technology exists for vulnerable youth. The first part of this discussion among participants stemmed from the conversation about vulnerable youth and education. The participants mentioned an elevated need for technology, especially with school shifting to more at-home work. Several of the assignments require access to technology, such as laptops, tablets, smartphones, etc. One participant stated one of the primary resources youth are seeking is laptops. In relation to school, laptops are required not only for the youth to complete assignments but also for the youth to even be present in virtual classes. The participant mentioned the agency itself is struggling to access these resources, which trickles down to the youth also struggling to access these resources.

Mental health needs

Vulnerable youth face various mental health challenges consistent with Adverse Childhood Experiences (ACEs), as pointed out by participants. Few participants noted the connection between ACEs and mental health challenges vulnerable youth face. In this discussion, the complex interplay of the ACEs contributing to mental health, as well as mental health contributing to risk of experiencing ACEs.

Two of the most prevalent mental health disorders, consistent with the ACEs, examined among this population are anxiety and depression. Specifically, the practitioners discussed how anxiety and depression exist in nearly all the vulnerable youth they interact with. Vulnerable youth also suffer with undiagnosed and diagnosed paranoia. A particular participant stated

paranoia exists especially within the LGBTQ+ community, as well as eating disorders. A discussion arose about the varying factors contributing to eating disorders within the vulnerable youth population, such as societal pressure, unrealistic body standards and body dysmorphia.

The participants identified a correlation between internalized mental health challenges and externalized mental health challenges. In this discussion, a participant stated he either sees youth whose experiences manifest in internal mental health challenges, such as depression, anxiety, paranoia, suicidality, or sees youth whose experiences manifest externally through behaviors like aggression, violence, AOD and self-harm. One participant interestingly noted behavioral health must also be included in mental health. She stated the behavioral outbursts are caused by the mental health challenges, and, therefore, the mental health becomes the root cause, not the behavior.

Accessing mental health care

During the focus group, a conversation addressing the barriers vulnerable youth face accessing mental health care emerged. A primary topic of discussion for participants was insurance. One participant spoke about the numerous challenges insurance creates for accessing mental health treatment, even for youth that do have insurance. Most insurance companies bill mental health services differently than other services, requiring many people to pay out-of-pocket. From this statement, the participants talked about the financial burden mental health services place onto individuals and families, as these services are expensive. In addition to insurance coverage, participants mentioned the challenges vulnerable youth experience navigating the basics of insurance. For example, one participant mentioned several of his clients' caregivers are unsupportive in the youth's treatment. As a result, the youth must navigate treatment and insurance without the caregivers knowing. The participant discussed the inherent

complicated nature of not only mental health services but also insurance, which creates many barriers preventing youth from receiving help.

Participants also identified several challenges for accessing mental health treatment related to transportation. The first challenge noted among participants relates to availability of transportation, which meant different aspects to different participants. The availability of transportation can simply mean the vulnerable youth does not have access to transportation, as their caregivers do not own such. Another availability issue relates to location and proximity to public transportation, such as buses. The participants mentioned that even if a youth does have available transportation, most of the time the youth is dependent on someone else. For example, a ten-year-old's parents may own a car, but the ten-year-old is dependent on the parent to provide the transportation. Another challenge the participants discussed with transportation referenced location. Depending on the treatment needed, travel times up to several hours exist. Even without these lengthy distances, one participant mentioned the cost for transportation, whether it be gas, bus fees, etc. On top of paying for the treatment, transportation also must be paid for.

Another challenge the practitioners identified was unsupportive parents and caretakers. Unsupportive parents neglect the youth's mental health, resulting in a neglect for mental health treatment as well. Within their discussion, the participants highlighted this experience for many youths but especially for LGBTQ+ youth. Many times, the parents do not approve of the youth's sexuality and/or identity. As a result, the parents will either ignore the youth's mental health needs or challenge such needs through transitional therapy. As identified by participants, these two situations exacerbate the youth's mental health struggles. In addition to the barriers unsupportive parents pose to simply accessing treatment, the parents can also interfere with the quality of treatment. One participant discussed that even when vulnerable youth with

unsupportive parents receive help, the youth often do not fully disclose their struggles out of fear. The participant said youth often state they fear that the provider will mirror the lack of support, or the provider will disclose information to the youth's parents.

One participant identified socioeconomic status as a barrier to accessing mental health care. In some cases, she believes youth in middle to upper class homes have needs that remain unmet for longer. She discussed the lack of screening and assessment for mental illness within this specific population. As a result of these youth coming from "good homes," mental illness assessments are often ignored. Without assessment, treatment cannot be administered.

State of mental health care in central Ohio

Participants discussed the current situations vulnerable youth face regarding mental health care in central Ohio: availability, accessibility and quality. Within vulnerable youths' communities, a limited number of mental health treatments exists. The participants identified varying reasons for the lack of treatment centers. The first contributing factor discussed was funding. Not only did the participants state there is a lack of funding in general for mental health care, but they also highlighted the extreme lack of funding for vulnerable youths' communities, mirroring the educational funding crisis. Another factor for limited treatment services results from community demographics, related to urban, suburban or rural. The participants discussed rural areas lack available treatment centers, just as these areas lack other pertinent resources.

Despite mental health treatment being available, the participants identified accessibility issues specifically related to heavy caseloads and waitlists. The providers working at mental health treatment agencies often have heavy caseloads with many clients. The participants discussed how nearly every provider has a waitlist, and these waitlists often have many

individuals on them. One participant shared some providers have waitlists upwards of 12 months. Other participants agreed with this statement, stating almost every provider has a waitlist for clients.

Another issue many vulnerable youth experience with mental health treatment is quality care. The participants identified a connection between waitlists and quality providers, stating the quality providers have longer waitlists. This circumstance inherently makes it more difficult to access quality care. Additionally, the participants discussed a limitation to the number of quality providers within central Ohio. They briefly mentioned challenges to finding quality providers who understand the unique, various experiences vulnerable youth witness. Beyond locating quality providers who understand vulnerable youth, it is another challenge to identify providers who work with vulnerable youth.

Understanding of technology's role in mental health treatment

The participant discussed ways technology could be used in mental health services. The most discussed type of technology among participants were applications (apps). Participants identified the varying types of apps available for mental health. Apps that offer mindfulness practices and therapy were among the most discussed within the focus group. The participants stated apps provide information related to mental health and treatment, something useful for vulnerable youth. In addition to apps, the participants discussed the possibility for paperwork and forms to be implemented into technology, transitioning from assessments and questionnaires being administered via paper or in-person to being administered via tablets.

Usage of technology in mental health treatment

Participants identified the following roles that technology can have to support service delivery: accessibility, cost-effectiveness, and crisis response. Within their discussion, the participants made a connection between how technology could remove some of the barriers to accessing in-person services. Specifically, for youth who are LGBTQ+, in rural areas, who have lack of transportation, and/or who are in foster care, COVID-19 forced agencies to provide services through technology, and this shift had to occur in a relatively short amount of time. One participant stated that because of moving their in-person services to a virtual format, the agency is now able to meet the needs of more youth, who previously were not able to access their services. He believes that their agency has created a more comprehensive support system that provides youth with options to engage in services.

Challenges of technology usage in mental health

Throughout the focus group, participants discussed possible risks for vulnerable youth with technology usage. Human connection and face-to-face interactions are key for vulnerable youth, according to the participants. So, technology taking away that human connection and negatively impacting interpersonal and communication skills were of concern among this group of practitioners. Another challenge with technology discussed was monitored usage. A participant identified similar to the way youth need supervision with in-person actions, youth also need supervision with virtual actions. Stemming from this conversation, participants talked about challenges to properly using technology. A lot of participants discussed the challenges associated with user-friendliness. The participants themselves have struggled to properly navigate technological devices and systems without guidelines, which they predict will be a similar challenge for youth. Additionally, participants mentioned some vulnerable youths do not

own phones, laptops, computers, tablets, etc. If these youth do own a technological device, stable connection becomes a challenge, as pointed out by a participant.

Discussion

This study examined practitioners' views about required areas of support vulnerable youth need and technological implications to mitigate those needs. The results show practitioners perceived the existence of several challenges for vulnerable youth, which interfere with their ability to meet basic, social and emotional, educational, technological and mental health needs. The data also demonstrates how technology could address some of those perceived challenges to meet vulnerable youths' needs.

A notable concern of participants relates to the safety of vulnerable youth with the varying unmet needs. When support and treatment are unavailable, the youths' needs remain unmet for extended periods of time, which often exacerbates the negative impacts on youths' wellbeing. Without proper interventions, the youths begin to slip further and further into the cracks of society.

Slipping further into the cracks of society poses serious safety risks and puts youth at danger for experiencing crisis situations. Because traditional support services are not available in these communities, reliable crisis services are even less available. One solution for crisis situations is technological crisis hotlines. For example, The Trevor Project is a national technology-based organization that provides crisis interventions specifically for LGBTQ+ people under the age of 25. Not only does The Trevor Project offers a 24/7 phone lifeline, but it also offers 24/7 digital services through messaging. In 2020 alone, The Trevor Project answered over 150,000 crisis situations, highlighting the magnitude of outreach technological crisis services alone provide (*The Trevor Project*, 2020).

In addition to addressing immediate safety concerns for vulnerable youth, technology can also reach the otherwise geographically alienated populations. Opposed to in-person interventions, technological resources are not bound by location, meaning they are available for use at any location. This feature of technology directly addresses the concerns participants discussed with accessibility and transportation. Technological resources do not require a physical building like in-person interventions do. Furthermore, clients do not need to drive somewhere to receive supportive care.

Technology can serve as a link to in-person care, a critical component for the participants in this study. Technology provides extensive information about in-person resources through web-browser searches. These searches pull information related to numerous needs, which mitigates some challenges related to vulnerable youth accessing basic needs. For example, youth can enter "food pantries near me" into a browser, and the browser can provide addresses, websites and phone numbers for food pantries. A similar search can be completed for the different needs related to housing, clothing and adult support. Furthermore, searches for any of the challenges discussed can be completed.

Just as technology aids in addressing challenges with meeting basic needs, it can also address some education challenges. Participants identified that vulnerable youths' parents often cannot assist with homework. Several resources exist online to help youth with a variety of topics, like online tutoring websites. A free tutoring platform for vulnerable youth is Learn To Be, which is a non-profit organization offering one-on-one, online tutoring for youth living in marginalized communities.

As pointed out by participants, issues with waitlists arise once youth identify and contact providers. Technology-based interventions provide immediate access, meaning waitlists do not

exist. While patients are on these waitlists, providers can suggest certain websites, apps or other technological services to address relevant needs. This eliminates situations related to patients' circumstances and symptoms being ignored. Immediate access to supportive services helps prevent these circumstances from exacerbating and leading to an additional array of needs. For clients struggling with anxiety, providers can suggest an app like Sanvello that allows users to understand triggers, monitor anxiety levels, learn coping skills and contact therapists immediately.

Technology mitigates several concerns the participant discussed regarding the cost and insurance barriers associated with mental health care. There are thousands of low-priced resources available online, and thousands more free resources. One free resource is ReachOut, an Australian-based online mental health service, which provides self-help, peer support and referrals. Because ReachOut, and various other technological services, is free, insurance information is not needed. This immediately removes any challenges families or youth have navigating insurance.

With the access to millions of technological resources, its crucial for the resources utilized by vulnerable youth to be empirically informed. The participants expressed concerns with the quality of in-person and online treatments. Although not all online services require empirically informed practices, many do. Providers and clients can identify empirically informed services through Head to Health Australia. This website provides trusted resources for a variety of issues.

Limitations

As with similar studies, limitations exist for this study as well. The findings from this study are based on a self-selected sample of practitioners working with vulnerable youth. The

participants were practitioners working within central Ohio at various organizations, which arises concerns with the external validity. The participants each had different experiences and capacities worked with vulnerable youth. Due to the possible differences in populations, comparing results between other cities, states, and countries might be problematic. Similar results with the needs and intervention attitudes, however, were observed. Furthermore, this specific population is necessary for the co-design of technological services, as it will be serving vulnerable youth in the central Ohio region. (Czajkowski et al., 2015; SAMHSA, 2015)

The diverse, small number of participants for the focus group, however, did not interfere with obtaining responses in this study. It created a calm and intimate virtual environment, which transferred over into the rich discussion of the practitioners' beliefs, opinions, viewpoints, reactions and experiences related to vulnerable youths' mental and wellbeing needs, as well as technological interventions. Compared to other methods, focus groups allow more information to be gathered by researchers in a shorter period of time (Czajkowski et al., 2015; Gibbs, 1997).

Based on the aims of this study, a qualitative approach was utilized to analyze data. Content analysis and thematic coding was done on the transcriptions and used Kriukow (2018), Krippendorff (1989) and Krueger (1998) as frames of reference. Because transcripts were used, any interactions not recorded pose the risk of being excluded from the results. This analysis also creates the limitation of identifying and describing causational relationships, which should be explored in the future through the combination of other methods. Lastly, it is difficult to generalize this specific content analysis across others. Content analysis does erase the errors often associated with participant recall, allows for a richer analysis of details and can account for frequency (Downe-Wamboldt, 1992; Hsieh & Shannon, 2005).

Implications

Despite the limitations, numerous implications and recommendations arose from this study. This study investigated the needs of vulnerable youth from a practitioner's perspective. Despite most of the participants having expertise with mental health, several other challenges vulnerable youth face were mentioned. This proves that a demand for holistic approaches exists when assessing vulnerable youth to fully comprehend their unique situations.

This study analyzed the attitudes held among practitioners related to technological implications. These results show that although practitioners value in-person services, the see the value of implementing technological services. These two interventions complement one another, which should be further explored. Future research incorporating both interventions ought to be conducted to determine the potential effectiveness.

With the somewhat new awareness of technological intervention implications among practitioners, certain challenges related to insurance coverage must be addressed. Services that are not free often prevent vulnerable youth from accessing such. Future policies should target insurance plans and coverage for the cost of these resources.

Other future policies must properly address the concerns related to access for vulnerable youth. If this population does not have access to the basic needs, they will not have access to other needs by default. Future policies must examine ways to increase access to technological devices, while also increasing access to other essential resources for vulnerable youth.

This study conducted focus groups with practitioners working with vulnerable youth to learn about the experiences of vulnerable youth and technological intervention implications. Although great insight was provided, research must also include the opinions, thoughts, attitudes

and viewpoints of the vulnerable youth. Future studies conducted should be aware of this and incorporate these individuals.

Conclusion

This study highlights several perceived challenges vulnerable youth encounter, especially those related to mental health and wellbeing, while also examining technology implications for future treatment. A high demand for improved services to help vulnerable youths' wellbeing exists. The current mental health and wellbeing services in central Ohio are far from being tailored to meet the various needs of vulnerable youth, and further utilization and integration of technology-based services are necessary to assist this in-need population. More research exploring the combination of in-person and technology services could deem beneficial for addressing challenges and meeting this populations needs.

The findings from this study provide essential information on well-being and mental-health needs from the perspective practitioners and explores how these can be incorporated into the development of technological services to aid in improving lives of vulnerable youth.

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Tables

Table 1

Definitions for themes

Theme	Definition	Example
Meeting basic needs	Comments referenced physiological or safety necessities	"These youth often don't have food, water, clothes, or anything that should be provided by a caretaker."
Meeting social and emotional needs	Comments referenced relationships, trust or life skills	"Students I work with have a hard time building healthy relationships and secure connections."
Meeting educational needs	Comments referenced school or homework	"They struggle with homework because they do not have the resources to complete it."
Accessing technology	Comments referenced phones, laptops, computers, tablets or other devices	"Most of my clients don't have access to internet, a computer or phone."
Mental health needs	Comments referenced trauma, mental health disorders or dangerous behaviors	"The majority of youth have diagnosed depression and anxiety."
Accessing mental health care	Comments referenced barriers to accessing mental health care	"The services we offer patients depends on if they have reliable transportation or not."
State of mental health care in central Ohio	Comments referenced challenges with the health care system	"With the flawed system, I have patients that are on 12-month waitlists."
Understanding of technology's role in mental health treatment	Comments referenced knowledge of technological services available	"Our clients use apps to manage self-harm and suicidal ideation."
Usage of technology in mental health treatment	Comments referenced ways to use technology	"The ability to search for specific services would be very useful."
Challenges of technology usage in mental health	Comments referenced concerns or issues with technology	"I worry that technology will replace all human interaction."

Note: This table provides definitions and example quotes for each of the themes. The definitions for basic needs and social and emotional needs were based on Maslow's Hierarchy of Needs (Mcleod, 2018).