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The Impacts of the COVID-19 Pandemic on Youth Violence: Insights from Professional Key Informants

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Abstract

Introduction

The COVID-19 pandemic has had drastic effects on youth violence protective and risk factors by isolating many at risk youth. While youth violence is a growing global health problem, there are limited studies exploring youth violence during the COVID-19 pandemic. Lake County in Northwest Indiana presents an opportunity for youth violence research and prevention given its socio-demographic context and its limited youth violence data. This study explored the COVID-19 pandemic's impacts on youth violence and its risk factors from the perspectives of professional key informants in Lake County, Indiana.

 Methods

This study utilized a descriptive qualitative design inspired by the constructivist grounded theory. We recruited professional key informants through purposive and snowball sampling. Data collection consisted of virtual semi-structured key informant interviews that were audio-recorded and transcribed verbatim. Data analysis consisted of inductive thematic analysis with open line-by-line coding, focused coding in Dedoose, and theme identification.

 Results

A total of six key informants were interviewed, representing diverse youth-serving occupations. These interviews revealed five general themes portraying the impacts of the COVID-19 pandemic on youth violence: mental health impacts on youth; socialization of youth; youth as victims, perpetrators, or witnesses; shifting of learning environments; and parent-child relationships. Key informants observed an increase in less visible types of youth violence, underlying pandemic-induced or-exacerbated youth mental and behavioral health issues, strained parent-child relationships, and the educational marginalization of youth in underserved communities during online learning transitions.

Conclusions

This study highlighted underserved youth's vulnerability to the COVID-19 pandemic's adverse impacts on youth violence experiences and risk factors. Our findings support the need to prioritize youth during and after crises, to utilize innovative strategies to better reach underserved youth, and to develop ethical and integrated youth violence data systems. Future research should explore youth's lived experiences with violence throughout the pandemic.

Introduction

What happened to youth during the COVID-19 pandemic? Where is the data? Emerging evidence suggests that the COVID-19 pandemic had adverse effects on youth violence protective and risk factors as it isolated many individuals in potentially unsafe situations with limited access to supportive resources.[1,2] Many early studies focused on the COVID-19 pandemic's impact on domestic violence and related psychological impacts on children,[3] with limited studies exploring youth violence during the COVID-19 pandemic in the United States. Data on youth violence in general and during the pandemic is

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even more limited in underserved communities, making it difficult to discern the burden of the issue. This study aimed to explore the COVID-19 pandemic's impacts on youth violence and its risk factors from the perspectives of professional key informants in Lake County, Indiana.

Youth violence is "the intentional use of physical force or power to threaten or harm others by young people ages 10-24".[4] It encompasses bullying, physical violence, sexual assault, threats with weapons, and gang-related violence.[4] Youth violence poses serious health, social, and economic consequences. Homicide is the third leading cause of death in youth and the leading cause of death for African American youth.[4] One in five high school students report being bullied on school property and more than one in six reported being bullied electronically.[5] Youth homicides and nonfatal physical-assault-related injuries cost an estimated $100 billion annually in medical expenses, loss of productivity, and quality of life, without including criminal justice system costs.[4]

Lake County in Northwest Indiana presents opportunities for youth violence research and prevention, given its socio-demographic context and strategic location. Lake County, Indiana comprises 19 cities/towns and a total population of 498,558, with 23.3% of the population under 18 years old.[6,7] Lake County's median income is $57 530, with 15.8% of people living in poverty.[6] While there is limited youth violence data in Northwest Indiana, some cities have reported high violence concentrations. For instance, Hammond (n=6227), Gary (n=6161), and East Chicago (n=2592) had the top three incidents of crime and violence out of ten Lake County cities included on the Federal Bureau of Investigation's Uniform Crime Reporting system in 2019.[8] In addition, Lake County experiences spillover crime and violence from neighboring areas of Chicago. For instance, reports of increased carjacking incidents between Chicago and Northwest Indiana during the pandemic led to joint violence preventive and control efforts by Chicago and Northwest Indiana Police Departments.[9] Given the violence rates in parts of Lake County, it has been the focus of youth violence prevention initiatives including Thrive Gary by the City of Gary Violence Prevention Office and Project Outreach and Prevention on Youth Violence.[10,11] Indiana University

School of Medicine-Northwest regional campus is the only medical school in Lake County and in the Northwest Indiana region. Through its longitudinal Urban Medicine and Health Care Disparities Scholarly Concentration, it is uniquely positioned to engage community, government, and health systems stakeholders in collaborative youth violence research and prevention initiatives.

Methods

Study Design
This study utilized a descriptive qualitative design inspired by the constructivist grounded theory (CGT) approach. The CGT analytical approach ensured that the findings were "grounded" in participants' voices and experiences.[12] The research team consisted of two medical students (DO, MA) trained in qualitative research and two faculty mentors (ER, BM) with medical education and public health expertise. This study was conducted within the Urban Medicine and Health Care Disparities Scholarly Concentration at Indiana University School of Medicine-Northwest regional campus. It was a pilot study for a longitudinal community-engaged youth violence research thread established within this Scholarly Concentration. This study was exempted by the Human Subjects & Institutional Review Boards at Indiana University (IRB Protocol Number 12149) on July 13, 2021.

Recruitment and Data Collection
We recruited participants through purposive and snowball sampling. Given youths' limited accessibility during the pandemic, eligible participants included professionals or youth service providers who worked closely with youth before and throughout the COVID-19 pandemic in Lake County, Indiana. The research team compiled a list of relevant professions and contacted potential key informants via email to explain the purpose of the study and request an interview. Those interviewed were asked to refer any colleagues who were eligible and interested in the study.
Data collection consisted of 30-minute semi-structured key informant interviews through Zoom between September 2021 and April 2022. The interview guide (Table 1) comprised five open-ended questions that elicited participants' experiences and observations of the nature and trends of youth violence throughout the pandemic. All interviews

were audio recorded and transcribed verbatim by two researchers (DO, MA). The interviews were de-identified by assigning a unique non-identifying number to each participant and by replacing identifying information with general descriptors.

Table 1. A Semi-structured Key Informant Interview Guide on Youth Violence During the COVID-19 Pandemic

Semi-structured Key Informant Interview Guide on Youth Violence During the COVID-19 Pandemic
• What is your profession?
• In your profession, what effects of the pandemic have you seen on youth?   ○ Probes: Is this something new? If not, has this increased or decreased compared to life before the pandemic?
• In your professional field, how has the pandemic affected youth violence?   ○ Probes: What aspects of youth violence changed during the pandemic? Have you seen an increase or decline in certain forms of youth violence? Tell me more about this.
• Of the forms of youth violence that you have mentioned previously, which if any are more prominent than the others?
• What aspects of the pandemic do you believe have played a major role in shaping these outcomes in the youth?
• What, if any, future effects do you think the pandemic will have on youth violence?

Data Analysis
Data analysis was conducted in three phases using inductive thematic analysis, a CGT approach. First, two researchers (DO, MA) performed an initial line-by-line coding of half of the transcripts. Coding is an analytical process of categorizing and labeling data segments to identify patterns within the data.[12] Four researchers (DO, MA, BM, ER) met to build consensus on the initial codes and develop focused codes based on the most prevalent and salient initial codes.[15] The team created a codebook comprising focused codes and their descriptions, and uploaded the codebook and transcripts into Dedoose. Second, two researchers (DO, MA) focused coded the transcripts in Dedoose. The research team adjudicated any coding discrepancies through consensus-building meetings. The focused codes and coded excerpts were exported to create analytic narratives for each focused code. Third, the focused codes and corresponding excerpts were discussed and sorted into themes.

Results
A total of six key informants were interviewed, representing the following professions: high school social worker (serves youth within 14-18 age range),

high school counselor (serves youth within 14-18 age range), prosecuting attorney (serves youth within 10-24 age range), police social worker (serves youth within 10-24 age range), college campus police lieutenant (serves youth within 18-24 age range), and officer within the special victims' unit (serves youth within 10-18 age range). These interviews brought diverse insights into youth violence issues throughout the COVID-19 pandemic, summarized into five general themes (Table 2): mental health impacts on youth; socialization of youth; youth as victims, perpetrators, or witnesses; shifting of learning environments; and parent-child relationships.

Table 2. Themes and Illustrative Quotes on Youth Violence During the COVID-19 Pandemic

THEMES AND ILLUSTRATIVE QUOTES	
Theme 1: Mental Health Impacts on Youth	
Codes:	
• Experiencing Behavioral and Mental Health Issues	• "A very heightened level of anxiety, depression, and then subsequent behaviors in kids who are isolated in a way they have never experienced before." (Key Informant 1, Police Social Worker)
• Availability and Accessibility of Mental Health Resources	• "… I think we all recognize that we all went a little haywire during all of this because we all felt trapped but especially as a kid, who are they talking to? And why don't we have more mental health services available at these kids' finger-tips." (Key Informant 1, Police Social Worker)
• Coping "Individual"	• "I think COVID has affected all of us mentally in a way but for kids who don't have that brain development to be able to process those emotions tend to spin that in a negative way and act out …" (Key Informant 6, Supervising Attorney)
• Stigma around Mental Health	• "And they become kind of a joke to people like you get a mental health day, you're a wimp. You know what I think it makes you really strong to be able to say I'm having a bad day and I need to stay home." (Key Informant 1, Police Social Worker)
• Isolation of Children (mental health)	• "I think it's inevitable that you will see a major spike in child abuse cases, child molestations because again you're isolating these children from anyone else and putting them with the predator that is doing these things to them." (Key Informant 2, University Police Officer)
Theme 2: Socialization of the Youth	
Codes:	
• Dealing with Generational Differences	• "… these kids have access to each other 24 hours a day and they're frightened that if they're not checking social media or checking their cell phones that somebody said something terrible about them and they can't defend themselves. It's like this constant crisis that they're in" (Key Informant 1, Police Social Worker).
• Hyper sexualization of the Youth	• "I think it's inevitable that you will see a major spike in child abuse cases, child molestations because again you're isolating these children from anyone else and putting them with the predator that is doing these things to them" (Key Informant 2, University Police Officer)
• Impacts of COVID on Youth (socialization)	• "It's almost as if they're not used to sitting still for 8 hours a day. They're asking to go to the nurse a lot, the bathroom a lot, the counselors office a lot to where you could see that they're just not used to having to be in one place for such a long amount of time." (Key Informant 5, School Counselor)
• Isolation of Children (social/peers)	• "For a lot of kids their safe haven was school. So when the pandemic hit now they're stuck at home where they don't even want to be and they have no one to turn to, no adults." (Key Informant 1, Police Social Worker)
• General Impacts of the COVID Pandemic	• "you're having kids come into second grade that have never been in school in kindergarten and first grade. So, I think it's the

• Shifting of Violence to Different Forms (social media)	*experience, I think has had a dramatic effect with children and changing their life experience."* (Key Informant 2, University Police Officer) • *"... cyber bullying, things like that it just seriously exacerbated that problem because now all of the youth interaction is going on online more so than it was even before with zero supervision or guidance from anyone."* (Key Informant 2, University Police Officer)
Theme 3: Youth as Victims, Perpetrators, or Witnesses	
Codes:	
• Isolation of Children (crime)	• *"I think it's inevitable that you will see a major spike in child abuse cases, child molestations because again you're isolating these children from anyone else and putting them with the predator that is doing these things to them"* (Key Informant 2, University Police Officer)
• Youth Being Trapped with Abusers	• *"Sadly, we just didn't have anybody looking at it because they were at home with their abusers, a lot of these children."* (Key Informant 1, Police Social Worker)
• Discussion of Crime	• *"All of our crime is up. In every aspect, whether its physical attacks with juvenile crimes."* (Key Informant 3, Special Victims Unit Detective)
• Discussion of Domestic Violence	• *"I believe that it would be inevitable that we would find out as far as child abuse, child molestations, anything with child victims, I think you will see skyrocket through these times of the pandemic."* (Key Informant 2, University Police Officer)
• Discussion of Sexual Abuse	• *"With the sexual abuse on the children's side, we really experienced a lot of, we had an increase in a lot of the victims between the ages of 3-6"* (Key Informant 3, Special Victims Unit Detective)
• Lack of Data (Important)	• *"Numbers wise things decreased because they weren't being recorded like we talked"* (Key Informant 1, Police Social Worker)
• Shifting of Violence to Different Forms (violence)	• *"some of these problems, not necessarily decline, but like what we talked about moved to cyberbullying instead of putting my hands on someone in school."* (Key Informant 2, University Police Officer)
• Women Being Trapped by their Abusers	• *"There is no really place for them to go in a time where a lot of the shelters [were under lockdown] due to COVID. [So] They were really stuck in their own prison, unfortunately."* (Key Informant 3, Special Victims Unit Detective)
• Youth as Crime Perpetrators vs. Victims	• *"Them being victims, and them being the suspects, with all levels [whether] it be sexual assault or a robbery, carjacking, shooting"* (Key Informant 3, Special Victims Unit Detective)
• Exposure to Violence	• *"I think the level of violence that they were experiencing, I'm going to use the word abuse because not all of them were being physically harmed, but I think the exposure to violence increased."* (Key Informant 1, Police Social Worker)
Theme 4: Shifting of Learning Environments	
Codes:	
• Inequities due to Socioeconomic Status	• *"I think that there are going to be a lot of kids who find themselves falling behind everyone else because not everybody is able to thrive in an eLearning environment and that kind of*
• Transition to Online Learning	*frustration just kind of snowballs into other delinquent behavior."* (Key Informant 6, Supervising Attorney) • *"Learning from home wasn't the best situation for many of them. They had a lot of brothers and sisters at home they're trying to take care of. They had a lot of distractions. Not motivated. So we're trying to play catch up right now with the grades."* (Key Informant 5, School Counselor)
• Isolation of Children (education)	• *"They've been taken away from some resources at school. You know, being able to talk to friends about things like this, so now you've isolated them in that situation."* (Key Informant 2, University Police Officer)
Theme 5: Parent-Child Relationships	
Codes:	
• Parental Duties and Responsibilities	• *"I think COVID has changed a whole mindset of how people work and how people go to school, so it will continue to be an issue until these parents face the music of how they've raised their children."* (Key Informant 3, Special Victims Unit Detective)
• Parent-Child Relationships	• *"I think that will continue to be a problem for parents who have not addressed their relationships with their children. Because most parents who fit in that lane are hoping that COVID is over with and everyone gets vaccinated and they can go on with their lives"* (Key Informant 3, Special Victims Unit Detective)

Mental Health Impacts on Youth

The COVID-19 pandemic's behavioral and mental health impacts on youth was a major theme in this study. As communities struggled for resources to overcome pandemic-related challenges, key informants reported that underserved communities and vulnerable populations were overwhelmed and deeply scarred. Although mental health issues surged in all age groups, youth were especially susceptible due to developmental and social factors affecting their coping abilities.

"I think COVID has affected all of us mentally in a way but for kids who don't have that brain development to be able to process those emotions tend to spin that in a negative way and act out and whatever their surrounding environments or their peer group is into..." (Key informant 6, Supervising Attorney)

In their professional capacities, key informants observed a rise in the prevalence and severity of mental and behavioral health issues among youth such as anxiety, depression, and substance abuse during the pandemic.

"... visits to the counseling office for social emotional issues have definitely increased." (Key Informant 5, School Counselor)

They attributed the COVID-19 pandemic surge in adverse youth mental health outcomes to social isolation, limited availability of mental health resources, mental health stigma, and inadequate coping skills among youth during the pandemic. Based on their experiences, COVID-19-related social isolation was an important contributing factor because youth suddenly lost access to protective resources provided in schools, such as counselors. Even as some resources were transferred to online platforms, the key informants noted that some youth did not feel free to speak at home and suppressed the discussion of sensitive topics such as mental health.

"They've been taken away from some resources at school. You know, being able to talk to friends about things like this, so now you've isolated them in that situation." (Key Informant 2, University Police Officer)

Key informants also cited the limited accessibility of mental health resources as an important contributor to the exacerbation of mental health issues among youth during the pandemic. The isolation and limited accessibility of mental health resources left many to cope with stressors on their own. For instance, key informants observed an increase in self-medication and substance abuse among youth. While not new in this population, they asserted that these issues were exacerbated by the youths' environments during and after the pandemic.

"...a lot of these kids are self-medicating much younger than they used to. And I'm glad you said that because the substance abuse in schools is crazy what these kids get their hands on." (Key Informant 1, Police Social Worker)

On a positive note, key informants reported the ongoing expansion and adaptation of mental health resources to address the pandemic's adverse mental health impacts on youth after the peak of the pandemic.

Socialization of Youth

The key informants generally observed drastic changes in youths' socialization and lifestyles across generations and described ways in which these inherent features made the current generation of youth more susceptible to the pandemic's adverse effects. Key informants converged on youths' heavy reliance on social media for socialization and the hyper sexualization of youth on these platforms. With little to no real-life social interactions outside their homes, many young people felt the need to consistently immerse themselves into the digital world. While this was an issue before the pandemic, key informants suggested that excessive and inappropriate social media use during the pandemic exacerbated its negative impacts on youth. This was especially dangerous when it occurred in the absence of adult supervision, where youth were able to "run their own little world."

"So, these kids are never really shut off, they're always connected and when they're not connected, they're panicked because oh my god where is everybody, I need to connect. So, I think the bullying aspect is the most frequent because these kids have access to each other 24 hours a day and they're frightened that if they're not checking social media or checking their cell phones that somebody said something terrible about them and they can't defend themselves. It's like this constant crisis that they're in" (Key Informant 1, Police Social Worker).

Key informants indicated that the combination of increased social media utilization with social isolation, limited in-person interactions, limited parental supervision, and low "emotional intelligence" increased opportunities for online youth violence such as cyberbullying.

Youth as Victims, Perpetrators, or Witnesses

When discussing the forms of youth violence, key informants described three main positions of youth in relation to violence, spanning from direct or active involvement to exposure: youth as victims, youth as perpetrators, or youth as witnesses of crime and violence. The key informants encountered circumstances in which youth were the direct victim and target of violence from fellow youth and adults or instances in which youth were the perpetrator of violence toward fellow youth. The role of youth as witnesses relates to circumstances in which youth were not the direct targets or perpetrators of violence but were rather indirectly exposed to violence at home, on social media, or in the media.

"Them being victims, and them being the suspects, with all levels [whether] it be sexual assault or a robbery, carjacking, shooting." (Key Informant 3, Special Victims Unit Detective)

"So I think people hear violence and they think gun violence, physical violence, and weapons and things like that but the exposure is really important. That does things to you neurologically." (Key Informant 1, Police Social Worker)

Key informants described various types of crime and violence experienced by youth, including domestic violence, sexual abuse, carjackings, bullying, and fighting. They observed shifts in violence from physical violence to more virtual forms such as cyberbullying due to pandemic-related social isolation and increased social media use. In addition, many young people were isolated in their homes with perpetrators of abuse throughout the pandemic, thus increasing abusive episodes. Many in such circumstances had limited opportunities to reach out for help without alerting their abusers. For instance, youth were away from teachers and peers who would have noticed signs of abuse and from whom they would have sought help.

"I think it's inevitable that you will see a major spike in child abuse cases, child molestations because again you're isolating these children from anyone else and putting them with the predator that is doing these things to them." (Key Informant 2, University Police Officer)

"All of our crime is up. In every aspect, whether its physical attacks with juvenile crimes" (Key Informant 3, Special Victims Unit Detective)

Key informants suggested that the limited help-seeking due to social isolation and fear of abusers led to underreporting, a misleading decrease in reports of violence, and a lack of data on abuse and violence among youth throughout the pandemic.

"Numbers wise, things decreased because they weren't being recorded" (Key Informant 1, Police Social Worker)

Shifting of Learning Environments

The shift from in-person to online learning environments was one of the major pandemic-related changes affecting youth. Some key informants perceived online learning as "dehumanized" compared to the more interactive in-person teaching. During this transition, an overwhelming amount of information was delivered through virtual formats that were not familiar to many students and teachers. Many students did not thrive in online environments as they struggled with "catching up" and consequently lost significant time. In addition, critical student resources such as college preparation programs and supportive services were interrupted during the pandemic. Key informants believe that these pandemic-related interruptions in educational endeavors will have lasting adverse effects on youth.

"That's another thing, getting them into college. I don't know how many students would have gone to college had we been in person during the 2020 school year. There is probably many that didn't because we tried to Zoom with them and encourage them and have them apply for FAFSA but without that encouragement and that like hand holding for the process, there are probably a lot of students that didn't go to college and that's going to have a lasting effect." (Key Informant 5, School Counselor)

Key informants reported that online learning further marginalized youth who could not afford the necessary amenities to facilitate this transition. This was the reality for many families in socio-economically disadvantaged communities.

"... *in the end you have to be super careful in a world where you're not marginalizing people who are already at risk, but you are also trying to make sure that at-risk kids aren't being hurt anymore."* (Key Informant 1, Police Social Worker)

Overall, the key informants asserted that these aspects of online education throughout the pandemic have impacted the youth in numerous ways and have played a role in shaping adverse behavioral and mental health outcomes that increase the risks of youth violence.

"I think that there are going to be a lot of kids who find themselves falling behind everyone else because not everybody is able to thrive in an eLearning environment and that kind of frustration just kind of snowballs into other delinquent behavior." (Key Informant 6, Supervising Attorney)

Parent-Child Relationships

The interviews highlighted issues in parent-child relationships during the pandemic as parents and children spent more time than ever within shared spaces. Pandemic-related restrictions and stressors complicated many parent-child relationships and exacerbated pre-existing complicated relationships, exposing youth behavioral issues in some cases and poor parenting practices in others.

Key informants encountered youth who used social media with limited parental supervision or guidance on appropriate online behaviors. This limited supervision created hostile social media environments with rampant bullying and violence. In addition, some youth assumed caregiving responsibilities for their families and siblings, taking away time from schoolwork.

"During the pandemic it just gets worse because now you have taken that time out of schools and having teachers and people overseeing the behavior of children and stuff. They're in their homes and their only function with other children is going to be through social media and computers where they run their own little world then and don't have that influence of adults." (Key Informant 2, University Police Officer)

Key informants reported that some parents worked on improving complicated relationships with youth while others waited for the post-pandemic period where relationship issues could be overlooked as families resumed their normal routines.

"*I think COVID has changed a whole mindset of how people work and how people go to school, so it will continue to be an issue until these parents face the music of how they've raised their children."* (Key Informant 3, Special Victims Unit Detective)

Discussion

This qualitative study provided rich insights into the COVID-19 pandemic's impacts on youth violence and its risk factors based on the professional experiences of key informants in a predominantly urban county in Northwest Indiana. These findings are discussed through the lenses of empirical and theoretical evidence related to youth violence.

First, our key informants suggested a limited availability of youth violence data, underreporting of youth violence, and perceived increase in youth violence during the COVID-19 pandemic. These findings are corroborated by a review of 48 studies on

the early effects of the COVID-19 pandemic on children's exposure to violence, which attributed the limited youth violence data to the lack of baseline data and of standard measurements of youth violence incidence.[13] Our study particularly highlighted a perceived predominance of less visible and commonly underreported forms of youth violence during the COVID-19 pandemic such as cyberbullying, domestic violence, and sexual abuse. Similarly, previous studies have reported a decrease in the public visibility of youth violence despite its increase during the COVID-19 pandemic.[14,15] A meta-analysis on the global effects of COVID-19 on violence against women and children reported a rise in domestic abuse associated with limited healthcare accessibility, more time spent at home, and low income.[16] Our key informants attributed cyberbullying to increased social media use and limited parental supervision of youth social media use during the pandemic. While some studies have reported increases in cyberbullying during the pandemic, there is mixed evidence on cyberbullying during the pandemic given the variability in underlying contextual factors.[17] A study on psychological distress among middle school youth during the COVID-19 pandemic found that relationships between distress and cyberbullying among adolescents were moderated by negotiable fate and parent-child relationships, with low-quality parent-child relationships and low personal agency increasing risks of cyberbullying perpetration.[18]

Our key informants described the pandemic's adverse effects on individual, interpersonal, and community-level factors that are established youth violence risk factors.[19-21] The individual-level risk factors in our study included youths' social and emotional developmental vulnerability, as well as their behavioral and mental health issues during the pandemic. At the interpersonal level, complicated parent-child relationships, limited parental involvement, and unsupervised social media interactions were the most reported risk factors. At the community-level, social isolation and living in under-resourced communities were reported to leave many in unsafe home environments with perpetrators of violence and limited accessibility to protective resources. The Routine Activity Theory (RAT) explains our key informants' perceived increase in youth violence during the COVID-19 pandemic. This

theory asserts that crime is more likely to occur when an accessible target, a motivated offender, and the absence of a guardian converge in the same time and place.[22] All three elements emerged in our study, with social isolation, the lack of adult supervision, and increased social media use during the pandemic increasing some youths' vulnerability as accessible targets and others' likelihood of becoming motivated offenders. This can also explain our key informants' reports of increased cyberbullying amid limited parental supervision.

Second, the key informants described youth mental and behavioral health issues such as anxiety, depression, and substance abuse, which they attributed to pandemic-induced social restrictions and interruptions in school-based mental health resources, coupled with pandemic-exacerbated mental health stigma, inadequate community mental health resources, and inadequate coping skills. There is overwhelming evidence on the mental health effects of the COVID-19 pandemic, particularly among vulnerable populations.[23,24] A 2021 CDC report found that 37% of high school students experienced mental health issues during the pandemic, and 44% still felt "sad and hopeless" within the past year.[24] Our key informants pointed to youth in underserved communities with limited availability of mental health resources among those vulnerable to the pandemic's adverse impacts. Other studies have reported more adverse mental health outcomes among youth living in areas with lower baseline mental health and limited mental health resources during the COVID-19 pandemic.[23,25] The shortages in mental health resources represent an important community-level risk factor of youth violence.[19]

The General Strain Theory (GST) provides a theoretical lens for understanding the pandemic's adverse mental health impacts and their relationship with youth violence. The GST postulates that stressful circumstances can increase negative emotions (e.g., anger, depression), which can result in criminal coping to seek revenge or reduce stress.[26,27] Stressful events are more likely to result in crime when perceived as 1) unjust, 2) of high degree, 3) associated with low social control, and 4) an incentive to engage in crime.[24] Youths' limited conventional coping skills, resources, and social support from parents, teachers, or peers can further promote criminal coping.[28] Our key informants linked youth behavioral and violence

issues during the COVID-19 pandemic to strained family dynamics, complicated parent-child relationships, and limited parental involvement with the youth. Both the GST and the RAT implicate the absence of a supportive, empathetic, or compassionate guardian among risk factors of youth violence.[22,26,27] Based on the GST, negative relationships with parents are "negative stimuli" that can trigger negative emotions in youth and increase their likelihood of participating in criminal acts when combined with other negative stimuli.[26] On the other hand, criminal behaviors can exacerbate relationships between youth and their parents, teachers, or peers, as also reported in our study.[27]

Third, the key informants reported that educational inequities and disruptions of school-based safety-net services during pandemic-induced virtual learning transitions further marginalized youth in under-resourced communities and exacerbated youth violence risk factors. Several studies have reported widened inequities in educational resources, activities, and outcomes during the pandemic.[28,29] A study on the pandemic's global impacts on education revealed several educational barriers, the most notable being lack of access to appropriate educational technology, poor infrastructure, and limited digital literacy.[28] A similar study commissioned by the US Department of Education to examine the impacts of the pandemic at K-12 and postsecondary levels reported several educational barriers including technological barriers, adverse psychosocial outcomes, loss of access to critical school-based services, unsupportive home and family environments, declining academic achievement, and lower entry into higher education to higher extents among racial or ethnic minorities, sexual and gender minorities, students with disabilities, and students who were caregivers.[29]

This study has multiple implications for practice, policy, and future research. By highlighting youths' vulnerability to the COVID-19 pandemic's adverse impacts, this study indicates the importance of prioritizing youth before, during, and after crises, with special attention to inequities affecting underserved communities. The data gaps reported in this study point to the need for local youth violence surveillance systems ethically collaborating across law enforcement agencies, schools, judicial systems, health care systems, youth service organizations, and

social media to inform data-driven youth programs. Identifying and addressing the less visible forms of youth violence reported in this study will require investing in innovative physical and virtual youth services and safe spaces during and beyond the pandemic. Examples of innovative strategies to reach the youth include routine physical and virtual wellness checks by school counselors or teachers, emergency hotline systems, and digital mental health applications with safe reporting functions and referrals to community resources.

As youth increasingly interact on virtual platforms, our study supports the need to develop more administrator and user guidelines, policies (e.g., anti-bullying), and enforcement mechanisms to create safer virtual environments and positive youth interactions. Youth violence prevention programs should strategically involve both youth and parents or guardians in collaborative trainings, planning, implementation, and evaluation to enhance shared accountability and parent-child relationships. Finally, given the multifactorial nature of youth violence, more integrated and holistic youth violence prevention services are needed to address multiple risk factors and enhance protective factors in the youths' social contexts. Such services can utilize Positive Youth Development, a strength-based framework that promotes positive psychosocial, socio-economic, health, and quality of life outcomes among youth by leveraging protective resources within homes, schools, communities, organizations, and institutions.[30]

This study should be interpreted in light of its limitations. First, we did not interview youth directly due to their limited accessibility during the COVID-19 pandemic as they were primarily isolated in their homes and attending school remotely. While we could not gain insights into youths' lived experiences, the key informants generated important professional insights that can be further explored in future research. Future research can examine how the pandemic has affected youth violence experiences, reporting, help-seeking, as well as its risk and protective factors from the unique perspectives of the youth, parents, and community members. Second, the small sample size may have limited the ability to reach theoretical saturation. However, the professional diversity of the key informants contributed diverse perspectives and experiences to

this study that can be further explored in larger samples of youth service providers from geographically diverse communities within and outside Northwest Indiana. Third, this study largely focused on youth violence experiences during the peak of the pandemic with less inputs on the recovery phase. Future studies should also elicit youth and youth service providers' experiences with violence, service delivery, and online-to in-person transitions during the pandemic recovery period to inform recovery and mitigation efforts. Fourth, the study's reliance on key informants' recollection of past experiences increases the likelihood of recall bias. Overall, employing mixed methods designs that account for socio-demographic characteristics, household, and neighborhood contexts will generate more comprehensive insights on this phenomenon to inform youth programming and pandemic preparedness.

Conclusions

This study explored the effects of the pandemic on youth violence and provided rich qualitative insights into the effects of the COVID-19 pandemic on youth violence experiences and risk factors through professional key informants who worked closely with youth before and during the pandemic. The key informants perceived an increase in less visible and commonly underreported types of youth violence, underlying pandemic-induced or -exacerbated youth mental and behavioral health issues, strained parent-child relationships, and the further marginalization of youth in underserved communities during pandemic-related educational transitions. These key informants' experiences are initial steps toward understanding youth violence in underserved communities during the pandemic. Future research is needed to explore youths' lived experiences with violence during and after the pandemic. As the only medical school in Northwest Indiana, IUSM-NW regional campus is intimately connected with communities and health systems in this region and uniquely positioned to engage diverse stakeholders in collaborative youth violence research and prevention through is Urban Medicine and Healthcare Disparities Scholarly Concentration.

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