

Do Lockdown Drills Create Anxiety? New Research Says No

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How does gun violence affect the youth? What are the developmental outcomes of being exposed to gun violence? Do lockdown drills provide a solution, or do they further create anxiety for children?

In this episode, *Under the Cortex* hosts Dr. Amanda Nickerson, University at Buffalo, The State University of New York. She highlights the developmental pathways and risk factors for being exposed to gun-related violence. Lockdown drills are on the table for discussion and Nickerson's research does not find a direct link between the drills and anxiety.

Nickerson also talked about this topic in APS's new webinar series *Science for Society* organized by Özge G. Fischer-Baum. For more information, check out the [webinar on Gun Violence and Anxiety](#).

Unedited Transcript

[00:00:13.730] – APS Özge G. Fischer-Baum

Does hearing about gun violence trigger anxiety in use? What about preventive measures like lockdown drills? Do they affect the well being of students? This is under the cortex. I am Özge Gürcan! Fischer-

Baum with the Association for Psychological Science. To answer these questions I have with me Dr. Amanda Nickerson from the State University of New York. She recently joined us at APS's new Webinar series, Science for Society and informed us about her research exploring the relationship between gun violence and anxiety. Amanda, thank you for joining me today. Welcome to Under the Cortex.

[00:00:55.080] – Amanda Nickerson

Thank you so much for having me.

[00:00:57.490] – APS Özge G. Fischer-Baum

So your research explores the relationship between gun violence and anxiety in youth. How did you first get interested in this topic?

[00:01:06.790] – Amanda Nickerson

Sure. Well, my research more broadly explores school crisis prevention and intervention. And within that I focus on violence, bullying and abuse, as well as strengthening the social emotional functioning of youth. And really these interests began in graduate school. I had a professor who was interested in this topic and as I did my practica out in schools as a school psychology student, I found that many times people in the schools weren't prepared for some of the situations where students either were expressing suicidal ideation or they were making threats of violence. And I decided I really wanted to be fully prepared and also to help others to know how to best deal with preventing, preparing and responding to violence in ways that would minimize the anxiety and traumatic impact.

[00:02:05.530] – APS Özge G. Fischer-Baum

So in your opinion, are there predictors of being subject to gun violence? What is the developmental pathway?

[00:02:12.880] – Amanda Nickerson

Yes. So the most consistent and powerful predictor of involvement in gun violence is a history of violent behavior or exposure to violence. Beyond that, when we look at demographics, we know that being male, particularly African American males in urban areas are at substantially greater risk for involvement in gun related homicides. And that's both as perpetrators and as victims. But when we look at gun violence, there are many other individual, family, peer and neighborhood and cultural factors that contribute to this. So in one of our studies, Rina Eiden, she's a developmental psychologist who's now at Penn State and I conducted with a high risk sample. So these were kids whose mothers had been exposed or had used cocaine or other drugs when they were pregnant, many of them living in poverty in an urban community. We studied them well, she started studying them from birth. And then our grant took us from early adolescence to late adolescence and we identified several predictors of attitudes towards gun violence. So fortunately, in our sample of about 216 dyads, very few of them said that they used weapons, that they owned weapons and guns and things like that. So really we were looking at their attitudes toward gun violence.

[00:03:50.770] – Amanda Nickerson

But one pathway that we found was from early risk. So that prenatal substance exposure being in non biological care that that predicted aggressive behavior in kindergarten which then predicted going all the way to early adolescence their more positive views towards gun violence. So we saw that this was something that started on with early, early adversity that carried all the way through. We also looked at victimization by bullying and found that that was also related to this positive ideas about gun violence, particularly aggressive response to shame, which is this idea that if I am shamed or embarrassed or something happens to me, then the best way to deal with that is through aggression and violence and with guns. So this told us that youth that may have more persistent and negative experiences may show this proclivity towards violence and guns in order to cope. And then finally another pathway that we found was that aggressive behavior in kindergarten predicted in early adolescence perpetrating bullying, which was also related to aggressive response to shame. So again, this adds to other research that has found that even perpetrators of bullying and other forms of violence like gun violence may not use guns for proactive or premeditated towards beliefs about violence, but rather as retaliation and a coping mechanism.

[00:05:42.110] – APS Özge G. Fischer-Baum

So when we look at this developmental pathway and being at risk in the way that you mentioned, do we see ethnic group differences?

[00:05:52.850] – Amanda Nickerson

Absolutely. So we do know that the burden of firearm violence really falls disproportionately on youth of color. So when we look at 15 to 24 year old black men, they are at highest risk. So just some statistics that I think are very sobering. Black Americans die from gun violence at nearly 2.4 times the rate of white Americans. And then when we look at children, in particular, black children between the ages of five and 17 were exposed to violence in their neighborhoods 4.44 times more frequently than white children. And that was prior to the COVID-19 pandemic and these disparities have been become even more pronounced since. Finally, one more statistic that's related to this was an analysis of homicides in Washington DC. This was done in 2021, found that 89% of children of color compared to 50% of white children lived within a half mile of a homicide. So this is really something that we have to pay attention to from a structural standpoint and really try to change these conditions in which some of our youth find themselves.

[00:07:26.850] – APS Özge G. Fischer-Baum

And what happens to the youth when they find themselves in this situation. So, what are the typical outcomes of being exposed to gun violence?

[00:07:33.800] – Amanda Nickerson

Yeah, there are many. One is symptoms of post traumatic stress disorder. Also symptoms of anxiety and depression are much more common in people that have been exposed to gun violence versus those that have not. And also the more externalizing behavior. So aggressive and delinquent behavior is also

associated with that exposure. And so I think we see in this that violence can become cyclical and self-perpetuating. So if our exposure to violence is predicting more aggressive behavior, you're also more likely to witness more violence. And then combined with that anxiety that hyperarousal and reactive responses, we see that people have more of a perceived need to carry weapons for protection. So this exposure to violence in a nutshell, really affects people both in terms of their internalizing and their externalizing and unfortunately makes it so that pattern may continue.

[00:08:48.010] – APS Özge G. Fischer-Baum

And are there any protective factors for exposure to gun violence?

[00:08:54.470] – Amanda Nickerson

Yes, and so important that we focus on those. Right, so there's been quite a few meta-analyses and studies. So a study by Yule and colleagues found that from an individual level self-regulation, being able to regulate one's emotions was protective, and then support was another really key feature. And that was both support from family, school support and peer support as separate protective factors. Another study found that people having concern for others as well as future aspirations, so really being able to see toward the future, having goals for work and relationships and creating families as well as religious beliefs were all found to be protective factors. And then finally in another scoping review and analysis, it was found that attachment to school and schools having prevention programs as well as parenting practices so things like monitoring and a close family relationship neighborhood collective efficacy so having the community really feel like they can engage and make a difference. As well as strict state firearm laws were all found to be protective for gun violence.

[00:10:26.570] – APS Özge G. Fischer-Baum

So there are many things we can do systematically, in fact.

[00:10:30.590] – Amanda Nickerson

Yes, so the research is more clear on protective factors actually, than what are the actual prevention programs that work.

[00:10:41.660] – APS Özge G. Fischer-Baum

Right.

[00:10:42.030] – Amanda Nickerson

So when we study individuals and we look at some of the individual as well as peer and parent and family and community factors, those make it a little bit more clear. The research still very much needs to be developed in terms of what we can do to prevent. But the Firearm Safety Among Children and Teens Consortium, which is funded by NIH, did some really good thorough reviews and identified some promising practices. And again, I really have to emphasize that they also made it really clear that there's a pretty alarming lack of research in this area. But most of the research has actually been done in

healthcare settings. And it's been found that doing screening and education for families in those healthcare settings, whether it's pediatrician offices or emergency department visits, and also distributing free gun locks, has been found to reduce gun violence. It's also been found that doing single session interventions with adolescents that involve both motivational interviewing and also cognitive skills can also be preventive for gun violence. And then they've looked more at places that have done really multifaceted public health approaches. So an example is the Michigan Youth Violence Prevention Center.

[00:12:21.820] – Amanda Nickerson

So they did a very involved effort that involved parent training, green spaces in the community, mentoring, having healthcare setting, sorts of interventions working with the schools. I mean, very broad based public health approach have been found to reduce the incidence of gun violence compared to communities that don't have those. And then we look at school based prevention programming, particularly that involves education and then behavioral skills practice and feedback in different skills, and then also trauma intervention. So if we think about it as the exposure to this violence can have that cyclical pattern that actually intervening with some of those trauma responses can also be protective. And then finally, at the policy level, again, those more restrictive state level firearm laws are also associated with reduced gun violence.

[00:13:32.210] – APS Özge G. Fischer-Baum

Yeah. So you mentioned school briefly, interventions at school, other things happen at the school, right. As part of regular school routine, many children go through lockdown drills. Do these drills create anxiety in children? What does your research say?

[00:13:48.920] – Amanda Nickerson

Yes, so this is something that many educators, parents, and the general public are concerned about. And I too was very concerned when this first came out, this idea that we were going to have our children locking down and are they going to be afraid that this is going to happen in their schools. So I've conducted a couple of studies in this area, and one was conducted with my doctoral student, Elizabeth Zhe, and this is going back. This was published in 2007. But we conducted a lockdown training and drill. We randomly assigned elementary school students to either that drill condition and training or a control group that learned origami the folding of paper and things like that. And then we looked at did their knowledge change, did their ability to know what to do in these situations change? But then we also looked at anxiety and perceptions of school safety, and we found that those in the lockdown training and drill condition were more able to know what to do and actually perform the skills of knowing what to do in these situations compared to those in the control condition. But when we looked at anxiety and perceptions of school safety, there were no differences in the two groups.

[00:15:15.660] – Amanda Nickerson

So that said to us that engaging in this in a best practice manner did not increase their anxiety. Then more recently, in a study with Dr. Jaclyn Schildkraut and myself, with several hundred students in a high school, we did the Spielberger State Trait Anxiety Inventory, and we did it one week prior to

participating in a drill and then immediately following the lockdown drill. And what was really interesting in that is that we actually found that anxiety was lower immediately after the drill and the well being, which was sort of the absence of anxiety. So reporting feelings of being content and secure, that actually increased after the drill. So that was really surprising to us because, again, there's a lot of concern about these drills and the anxiety they might cause. But I do want to note that this was done with lockdown drills conducted by a best practice procedure. So these were not armed assailant options based approaches. There weren't props, there weren't fake blood. The drills were announced so people knew that they were a drill. So not all practices are created equal, for sure.

[00:16:39.710] – APS Özge G. Fischer-Baum

I find it surprising as well. I wonder if the students in this case find themselves in a more controlled environment. They feel like they are in control, they know what to do. So why do you think you have these results?

[00:16:54.470] – Amanda Nickerson

I do think that's part of it, that this is something that is on people's minds and if we don't have the skills or the practice and what to do, then that could actually cause us to be more anxious. But once we have a little bit more control over the situation and a plan that that can help to not only increase our muscle memory about what to do, but just make us feel like we do have a little bit more power and control in the situation.

[00:17:26.510] – APS Özge G. Fischer-Baum

So maybe it is about acknowledging and accepting that we live in a society with this and children do better when we do, as you said, well controlled cases of interventions like this or drills like this. Yeah. Very interesting. So when I look at your research, I see that you mostly work with collaborative teams. Who do you typically work with other than educational psychologists?

[00:17:51.910] – Amanda Nickerson

Yes, collaborating on research with colleagues and students always makes it better. And I love to learn from others and also include practicing school psychologists in some of our work as well. But in terms of the different disciplines with the researchers I collaborate with, I work with people from the fields of criminal justice, nursing, educational leadership and policy, developmental psychology, geography, public health, social psychology and communication.

[00:18:26.610] – APS Özge G. Fischer-Baum

So it's a group effort to understand what is going on in youth when it comes to gun violence.

[00:18:33.470] – Amanda Nickerson

Absolutely.

[00:18:35.030] – APS Özge G. Fischer-Baum

All right. Is there anything else that you would like to share with our listeners?

[00:18:41.670] – Amanda Nickerson

I think the questions I was able to get at a lot. I will note that myself and 18 other prevention scholars came up with a position statement called A Call to Action to Prevent Gun Violence in the United States of America and really outlined eight different action points at the universal level and reducing risk and promoting protective factors as well as interventions and really wanting to remind people that it takes a comprehensive approach, that it involves creating physically and emotionally safe conditions and positive school environments long before gun violence occurs. We have to look at our discipline practices, but then of course, we also need coordinated mental health services, but we also have to look at what are the laws and protections about guns themselves and really training our schools and community in threat assessment. So knowing that if there is a threat, how do we really systematically look at the extent to which someone poses a risk. So it's a complex problem with pretty comprehensive solutions. But we do have more and more evidence that points to some of the things that will really make a difference in this problem.

[00:20:13.670] – APS Özge G. Fischer-Baum

Well, Amanda, thank you very much for this very informative conversation today.

[00:20:19.510] – Amanda Nickerson

Thank you so much for having me.

[00:20:22.150] – APS Özge G. Fischer-Baum

This is Özge Gürcan? Fischer-Baum with APS and I have been speaking to Dr. Amanda Nickerson from University of Buffalo, the State University of New York. If you want to know more about this research, visit psychologicalscience.org.