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PSYCHOLOGY ON YOUTH SPORTS BETTING: EMERGING SCIENCE, PUBLIC HEALTH IMPLICATIONS, AND PREVENTION STRATEGIES (OCT. 6, 2026)

SESSION DESCRIPTION

As sports betting becomes increasingly accessible through mobile apps, social media, and sports media partnerships, youth are being exposed to gambling opportunities at unprecedented levels. Join us for a conversation with leading experts to explore psychological science related to the risk factors, developmental vulnerabilities, mental health impacts, and emerging prevention strategies to support youth in a rapidly evolving gambling landscape.

Any opinions, findings, and conclusions or recommendations expressed by the presenters in this webinar do not necessarily reflect the views, policies or positions of the American Psychological Association.

UNOFFICIAL TRANSCRIPT

Shandol Hoover: Hello, everyone, and welcome. Thank you so much for joining today's APA Essential Science Conversation, Psychology on Youth Sports Betting: Emerging Science, Public Health Implications, and Prevention Strategies. I'm Shandol Hoover, Senior Director of APA Science Special Projects and Implementation. Before we get started, I'd like to share a few quick announcements.

Today's session is being recorded, and within two to three weeks, everyone who registered will receive a link to the recording, along with the transcript and additional resources.

Please note that any findings, opinions, conclusions, or recommendations expressed by the presenters for today's webinar do not necessarily reflect the views, policies, or positions of the American Psychological Association.

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We have a very exciting lineup of webinars this fall, and you can explore more than 70 on demand, all available for free webinars on our website. We have a webinar later this week, science training, and we hope you can check that out. We also have another webinar related to youth mental health on October 22nd. Please visit our website so you can register for those conversations.

During today's program, chat will be configured so that we will share resources for you, but attendees will submit questions using Q&A. If you experience any technical issues, please let us know using the Q&A feature right on your Zoom toolbar. With that, I am pleased to turn things over to Dr. Ludmila Nunes, APA Senior Director for Scientific Knowledge, Expertise, and Innovation, who will moderate today's conversation.

Ludmila Nunes, PhD: Thank you, Shandol, and thanks everyone for being here. Welcome to all attendees to today's APA Essential Science Conversation, Psychology on Youth, Sports Betting: The Emerging Science, Public Health Implications, and Prevention Strategies. As sports betting becomes increasingly accessible through mobile apps, social media, and sports media partnerships, youth are being exposed to gambling opportunities at unprecedented levels. In this Essential Science Conversation, we are very excited to talk with leading experts to explore the psychological science related to risk factors, developmental vulnerabilities, mental health impacts, and emerging prevention strategies to support youth in a rapidly evolving gambling landscape.

We have with us Dr. Luke Clark, who is a Professor of Psychology at University of British Columbia and Director of the Center for Gambling Research. His research examines the psychology of gambling behavior with a focus on decision-making, behavioral analysis, and the impacts of emerging gambling products. We have also with us Dr. Lia Nower, who is an Associate Dean for Research, Distinguished Professor, and Director of the Center for Gambling Studies at Rutgers University. Her work focuses on prevention, treatment, and policy approaches to reduce gambling-related harms.

Finally, we have Dr. Jeremiah Weinstock, a Professor of Psychology and Chair of the Department of Psychology at St. Louis University. He is a licensed psychologist, board-certified in addiction psychology. His research and clinical work focus on gambling disorders, addictive behaviors, and evidence-based interventions that support recovery and improve mental health outcomes. Thanks, everyone, for being here today.

I'm going to start with you, Luke. Over the last couple of years, it feels as if gambling and sports betting are suddenly everywhere. What changed? How did we get here?

Luke Clark, PhD: Thanks. Hi, everyone. Thanks for joining today's session. Nice to get things kicked off. There are several factors of what's been going on in North America. One thing in the background is online gambling, that gambling has moved from physical venues to websites. I'm sure we'll be talking more about the consequences of that. I would say online gambling itself has been around for about 20 years or longer. Here in British Columbia, the provincial online gambling platform launched in 2004. The recent developments are more around legalization that in both the US and in Canada, there have been federal rulings that have paved the way for gambling expansion.

In the US in 2018, an act was overturned that had prohibited sports betting with the exception of fantasy sports. Since then, most states have now introduced some form of legal sports betting, mostly online. In Canada, there was a federal bill in 2021 that legalized single-event sports betting. In bringing in that bill, Ontario moved to a licensing model for online gambling that allowed private operators into the Canadian market. Alberta has just done the same thing this year.

In both of these cases, US and Canada, when you have a lot of private companies entering a market at the same time, you'd expect to see a lot of advertising and promotion unless there are very clear restrictions in place, which there haven't really been. Technology also plays its part in all of this. I think we'll talk more about smartphone and mobile gambling. The tech behind sports analytics itself is interesting that allows the websites to offer betting odds on an extremely fast timescale. A lot of things coming together here.

Ludmila: Lia, related to these, how do we exactly define online gambling? Is sports betting the same as gambling? What does this all mean in legal terms? What are the implications?

Lia Nower, JD, PhD: Betting, wagering, gambling are all interchangeable terms. The thing that determines whether or not something is subject to regulation through gambling regulators is whether or not it meets this three-prong test that came out of England in the 1700s. Is there betting on something of-- Are you wagering something of value, which is called consideration, for the opportunity, but it's not a certainty, of winning something of value? You have these three things, which is consideration, chance, and prize. The way that specific modalities try to get out of being classified as gambling is by saying, "Well, we satisfy one of two of these prongs, but not the third one."

For example, there's a sweepstakes exception. When we see things like these social sports betting apps, social casino apps, you notice what they'll give you is they'll give you coins that are-- everybody gets these coins, and then there's a second tier of coins that actually have monetary value. Sweepstakes are not considered gambling because everyone can enter and have a chance at a prize. You don't have to pay for it. Some of these gambling types have come in under that exception, and the ones that we've accepted basically fail to account for one of these three prongs.

Ludmila: In terms of the psychological effects, the harms, and also the mechanisms that make people want to bet and to gamble, do all of these have similar mechanisms behind them? Maybe Jeremiah or Lia, yes.

Lia: They do. They're all gambling. They're all gambling. They're just loopholes.

Ludmila: Yes, so legal loopholes.

Lia: Yes.

Ludmila: We've been talking about how gambling seems to be everywhere. I'm going to ask Jeremiah, to what degree are children in the dollar sense being targeted by gambling entities, or do you think they are just stumbling on these in their digital ecosystem? What do you think is happening in contributing for children in the dollar sense being at a high risk here?

Jeremiah Weinstock, PhD, ABPP: I really love the word-- Thank you. Thank you also for having me here today. I really appreciate the opportunity to speak. I love the word ecosystem in the question there, in that we have to think about this systemically and not individually about what's going on. In terms of exposure to this, the word I would use is there are some, you used also the word gambling entities. There are some forms of gambling that are freely available to children and adolescents that aren't traditional gambling in the sense of it's sponsored by a gambling company, but they are using our behavioral science principles of variable ratio reinforcement. Providing an opportunity to win a prize, you don't know exactly when you're going to win it, but it's really something that you desire and want.

That's embedded in video games via loot boxes. That's where children, adolescents are playing video games, they earn some in-game currency, then they purchase a loot box, which is essentially a slot machine where it can return a prize, either of it's only okay, maybe it's like a fancy shirt or a skin, what they call it, or it can be something that gives you a real advantage in playing the game. It's delivered by a variable ratio reinforcement schedule. There are other things, also other products on the market. If you think about trading cards, people will buy these trading card packs in the hopes of winning or getting a card that's high value. Blind boxes are another common thing, again, variable ratio reinforcement.

Then also within video games, there's a story I'd like to tell about there's this child that I know. He was very involved in playing an online video game about baseball. Here comes the MLB, the professional sports leagues, their All-Star weekend. He's watching the home run derby. During that, he goes, "Oh, man, I lost my bet." The father turns to him and says, "Bet?" to his 13-year-old son.

He says, "What do you mean by bet?" The son goes, "Well, I bet on Junior Caminero to win, and he just got knocked out." The dad's like, "Well, how'd you bet?" "Well, the video game gave me a coin to pick the winner of the home run derby. Then if I win, I get the Junior Caminero 99 card that's really special and cool, and I can add it to my collection." He's like, "But don't worry, Dad. It's not gambling. There's no money," but it's the mechanics of gambling. We're teaching children the mechanics of gambling from a very early age.

I think that's the ecosystem, the gaming company, specifically, the sportsbooks. They are not targeting explicitly children and adolescents. However, children and adolescents are consuming media, commercials, watching sports programs where the odds are displayed and talked about. You go to the different professional leagues, and their home pages where they display sports, the scores, and the odds are, by default choice, listed. You have to hit a button saying, "Hide the odds for it to be that way," right? We have this ecosystem that is really pushing it and normalizing that sports betting is part of watching sports. I think that's really the other thing, is this is becoming a normalized activity.

Ludmila: Do you think, within youth and adolescents, are there any higher-risk populations or a population for whom normalization is being even more prevalent?

Jeremiah: I think there's two groups that I, and I'd be interested to the other panelists to hear what they have to say about this, but I think there's two groups I think about. One is families where this type of gambling is really normalized, and it's every day. They see dad gambling all the time and going the ups and downs of his gambling. That very much normalizes it. It's just a version of early exposure. I also think, I am concerned about children who are diagnosed with ADHD and they're really sensitive and drawn to highly rewarding activities, and gambling, whether it's trading cards, playing these video games with the loot boxes, those are highly rewarding activities. We're just teaching the mechanics of gambling. I worry about those two groups. I'd be curious to hear what Luke or Lia has to say as well.

Luke: I could just flag boys and young men as a higher-risk group here. We know that gambling problems are somewhat higher in men in general, but for some forms of gambling, like slot machines, the gender ratio is quite even. For sports betting, it is probably the form that skews most heavily towards men. Most sports betting seems to be men at the current time. I think that feeds into the perceived skill in sports betting, which is something that I think does set it apart a little bit from a lot of other forms that young men are very receptive to this idea that if they're knowledgeable about a sport, betting on it is a way to capitalize and make money, like an easy way to make money seems to be a narrative there.

Ludmila: Lia, I know--

Lia: Oh, go ahead.

Ludmila: Sorry, I was just going to ask you, I know you have very fresh data on prevalence rates. If you would like to share those with us and tell us what they say about new trends.

Lia: With regard to special populations, we have seen both in New Jersey in our prevalence surveys, and then we have this US prevalence survey that we just collected data on, individuals who identify as non-Hispanic Black are the highest risk group. About 52% of them have some amount of risk, followed by Hispanic, people who identify as Hispanic, 46%. That's compared to 33% of those that identify as White. That's a high-risk group.

The other thing that's interesting is among the youngest groups, and we went down to 13, girls and boys are gambling at the same rate as far as in the youngest group. Girls are actually gambling more frequently than boys in those younger groups. Where it starts to break out is where you look at problem severity, but it's not really that different. With the girls, about 31% have some proportion of problems versus 47% of the males. One of the more troubling findings was the highest risk was among the 21 to 27-year-olds, as you might expect, because they have more access to money, but the second highest was among the 13 to 17-year-olds. They were even higher than the 18 to 20-year-olds. Those were, I think, some key findings.

Jeremiah: Can I ask Lia a question about this? First off, this is hot-off-the-press data. Prior research has shown, when you're talking about the health disparity between White populations and people who are from minoritized backgrounds, prior data was showing that they were participating in sports betting at equivalent rates, but yet the rates of problems were jumping in these minoritized backgrounds. Is that consistent with your data?

Lia: We haven't drilled down by race, ethnicity yet because we just ran these. We did look at what people by age do more and by frequency, but we have not broken this down by race, ethnicity. That's something we will look at.

Jeremiah: Okay, great. Thank you.

Ludmila: Related to these, when do we know, and this is a question for all of you, I guess, but I was going to ask you, Jeremiah, when do we know that online gambling, sports betting became a problem?

Jeremiah: When does it become a problem? I think if you're referring to a certain age or time period, Lia has shown, and Jeff Derevensky has been at this for a long time in Canada, showing that children as young as 11 and 12 can show and display risky gambling behavior and endorse symptoms of gambling problems. It happens at all age ranges. Now, especially with exposure happening and being available, there isn't that age of onset sort of thing that we can say, "Well, it really is blooming at 21 when they become legalized."

How do we know when it becomes a problem? I think there are signs and symptoms of things such as chasing losses. The DSM criteria says you lose money one day and you come back the next to make it up. Because of the technology piece here, I'm holding up my phone, I can lose money one second and then bet the next to try to catch up and to go after it. With the rapidity, how rapidly I can make these bets, it can happen so much and so quickly. The chasing losses is another early sign.

Another early sign, and this is especially problematic with gambling, is hiding. You're not telling people about this because there's a lot of guilt and shame associated with gambling. If I sat there and I told you I lost \$1,000, you're going to look at me funny. It's judged. It's very socially judged. That's another-- If you look at the diagnostic criteria of what's endorsed early as people are developing problems, it's those two things.

The other thing I would say is they're starting to experience it financially, the crunch. The thing is, there's not obvious signs. It's not like intoxication from alcohol, where a person's starting to slur their words, or they're maybe unsteady on their feet, or you can smell the alcohol or smell the marijuana. There's nothing. It's a hidden addiction.

Ludmila: What can parents do? How can parents try to understand what's going on with their kids, and if they might be having a problem?

Lia: I do have an answer to this, and it's not going to be popular. Time and again, our studies show that the people that were exposed to gambling by parents or other household members have much higher rates of frequency, not just of gambling, but also of other addictions. I think a lot of this is being driven by parents. This is glamorized right now. Parents are placing wagers with their kids for fun and allowing their kids to bet, supervised on their accounts. Schools are not policing gambling in the school like they would smoking marijuana or drinking. I think adults are really fostering a lot of this priming behavior. I think adults need to start to look at gambling at parity with any other substance-based addiction.

Jeremiah: I think that's a challenging conversation to start, Lia. I think that many parents are like, "It's harmless, right?" For a long time in the gambling world, we were like, "Don't buy scratch tickets at the holidays and put them in as a stocking stuffer," right? That was our big public health messaging. People look at you funny, like you're the fun police, right? Here, with the online wagering, I frankly am relieved that in the middle school where my children go, they're banned. The students can't take their phone to school. You can't use it at school. The effective solution is many people just have their kids leave their phones at school, so it's not there. It still does happen in the after-school hours, but then they talk about it during the day.

I do think that there is real concern. I agree with Lia that there's parents. I think also just knowing what are the lower-risk guidelines for parents to understand that and keep your behavior within that. We have lower-risk guidelines that are empirically derived for gambling behavior broadly. If you exceed these guidelines week after week after week, you're likely to start to experience some problems related to your gambling behavior.

What those guidelines are is no more than 1% of your monthly income. There's a nice chart. If you go out and look for these lower-risk guidelines, you can find it, and it breaks it down by income and what it looks like. It's not a lot of money. No more than once per week. You make a bet on the weekend, and that's it. Then no more than two different forms or types of gambling.

We have lottery. We have casino gambling, slots, tables, and sports betting, and so keeping it- because that's just a marker for greater involvement of gambling in your life. Those are the guidelines. If we can model that- parents who model responsible drinking, or who have one drink or a glass of wine at dinner- that's sending the message to your kid of like, "This is the box, and this is the box it inhabits. No more."

Ludmila: Even modeling that, those guidelines were created for adults. When we were talking about children and adolescents, and at a time where there's this normalization of sports betting through social media, influencers, sports broadcasts, all of those things combined, doesn't that make those guidelines obsolete, or they maybe should be revised to apply to this specific context? Maybe Luke has an answer to this or some thoughts, and Jeremiah also as well.

Luke: Yes. I think in youth and adolescents, the role of money becomes very important, and access to disposable funds. In the BC Adolescent Health Survey, one of the risk factors for gambling

involvement in high schoolers was higher access to disposable income. Through jobs or through allowances, how are kids getting access to the money. Normalization, which is a term that is cropping up here, is a really key concern. I think for a lot of gambling researchers, what worries us is that the effects that we see here might be really gradual, long-term effects.

It's not trivial for teenagers to bet on regulated sports betting websites when they're underage, but from mid-childhood, kids can recognize gambling logos, identify gambling brands. They report encountering this content regularly when they're watching sports and on social media. The worry is that kids just come to see enjoying sport and betting on sport as things that just go hand in hand. This is also the narrative in a lot of ads. "Wouldn't this match be more fun if you had some skin in the game?" or "If you're a proper fan, shouldn't you get a bet on this match?" I think these are really worrying discourses.

Ludmila: Jeremiah, you wanted to say something because I mentioned the guidelines and how they were developed for adults but also--

Jeremiah: I just think those guidelines are there for adults. We just know early exposure for kids, I just go back to that, early exposure, no matter how much it is, is risky. The classic example that many people refer to is drinking. If you have your first drink on age 13 or before, your risk for developing an alcohol use disorder doubles compared to somebody who has their first drink at 20. The pattern is somewhat similar in gambling. It's a little bit more nuanced than that, but it is that sort of thing. I think it's part of what you define as gambling, and some of that is the nuance there.

I wanted to hit on something Luke was just saying. The advertising is around keeping it fun and making it even better. Isn't this all exciting? Problem recognition, I think, is also the piece is when that motive shifts from it being fun, enhancement motives that we'd use in the psychology literature, and a social activity that you're doing from friends, and it moves to more financial motives and coping motives, that's another sign, I think, that's hard for parents to detect but for kids to know. That's the other shift that I would see is concerning.

Ludmila: I asked, how can parents spot that there is a problem? What can parents do? This is not all parents' responsibility. In terms of policy, Lia, do you have suggestions? I also wanted to ask you if you think that there are groups that need more targeted prevention, education, treatment, and that sometimes we don't talk about them.

Lia: Sure. Obviously, the groups that I mentioned before, non-Hispanic, Black or African American, Hispanic groups, those are groups that we really need to have programs for community centers within the communities to help with this very targeted prevention. We need to make that prevention specialized. I think the basic one thing that we haven't really mentioned that is a big issue is we don't have any federal regulatory presence for gambling. It's the wild, wild west with every state just developing their own thing. We need federal agencies that are similar to what we have for cigarettes and alcohol, et cetera, to prescribe some just basic frameworks to guide us in developing these things.

Ludmila: Since we're talking about what can we do to prevent problems, is there anything that we can, besides maybe banning cell phones at school if we believe that's one thing that works, but also how can we talk to children and adolescents about these issues? How can parents talk?

Jeremiah: I think one of the things I like to do is to talk about the commercials that we're watching on TVs or watching sports. I'm a big baseball fan, so I watch a lot of baseball and the commercials there. I just say to my son, I said, "Why do you think they're giving away \$200, \$250 in risk-free

bets? Why would they do that? They're giving away money." "I don't know, Dad." I get that, but then we have a conversation. Then I also say, "Well, you can only bet it in \$5 increments. Let's do the math. What's \$250 divided by 5 when we do that?" I'm like, "That's a lot of bets. Why do you think they're wanting you to make a lot of bets? What are they trying to do here?" Just to get them to begin to have that critical thinking, to examine the marketing practices.

We also talk about the profit booster bets that they offer, and it's like, "Why are they doing that? That's going to cost them some money, don't you think?" They're like, "No, dad." We get into that conversation. I think helping them just understand the bigger picture of what's going on, whether that's at school and health educators can do that, or whether it's in the home or in a church or a youth center, I think anywhere we can have these kinds of conversations is a great place.

Ludmila: You're touching on gambling literacy. Luke, how can we integrate gambling literacy into broader health education? How can we make this a broader conversation that it's not just the parents talking to their kids, but schools, youth sports leagues? How can we make this something bigger?

Luke: Yes. Like gambling literacy there is a key concept, and yes, there's two groups, there or two targets that I think it's useful to really keep quite separate, gambling education within schools, but also within youth sports and athletic organizations. There is a lot of evidence, actually, that athletes are a high-risk group for gambling harm, and that pretty much goes right through to elite professional adult athletes, but certainly school-level involvement in sports and college varsity-level sports are linked to gambling harm. This is interesting from a cognitive psychology perspective.

A lot of sports coaching is instilling a mindset that an athlete can overcome, the odds in this game are really against you, but you can overcome this. If people apply that mindset to a game of chance with a built-in house edge, it's a recipe for disaster, really. I think within youth sports, it's a great target. One reason is that gambling literacy could be incorporated alongside information on match-fixing and competition manipulation. How can a young athlete recognize if they're being approached for match-fixing? How do they report or respond to those advances? It can be a lot of coercion and power dynamics in athletes going down that road.

Going back to gambling literacy, there would be multiple components to this. The awareness that gambling is an addictive behavior, the warning signs of problem gambling that Jeremiah was talking about, the math of house edge and the math of parlay bets, say, and some of the common gambling distortions, like the illusion of control. In terms of school-based, the high school curriculum, that's where it starts to get challenging because there is really a lot of competition for that time in the classroom that parents want their kids to know about all kinds of things, alcohol and vaping, and online safety. In terms of evidence-based policy for school gambling programs, I don't think we have a good enough understanding yet of what works and whether those effects are sustained and when exactly to intervene. I would keep school and sports as separate targets here.

Lia: Can I add something to what Luke said?

Ludmila: Yes, please.

Lia: One thing that he pointed out was about athletes and coaches. A member of our team does a lot of work with that, looking at gambling among athletes and coaches, and coaches have really high rates of gambling problems. Particularly, the ones that are working with middle school kids have these gambling problems, and that is not really addressed. On a college level, at our center,

we train the psychologists that treat the athletes, the football team, et cetera, in the gambling. We give them the 30-hour gambling training so they can actually treat.

The problem is now in the US with name, image, and likeness, these athletes have millions of dollars to lose if they tell anyone they're gambling because it's a violation of policy. You have to have whoever is doing the mental health treatment for those athletes trained to identify because they'll have that confidentiality piece, and they'll be able to really help those athletes. Most universities right now are not cross-training their counseling and psychology staff, so I just wanted to mention that.

Ludmila: Thank you. I have one question that came in from one of our attendees, online sports betting and predictive market platforms, which we haven't talked a lot about, but I would like to know your thoughts about those as well. "Share some of the same qualities as social media platforms. At a greater scale, some may say, 'I'm really reading the question that came in, 'should we be thinking of regulating them like social media platforms? I do think it's arguable that those are being regulated, but there has been some push for some sort of regulation,' so I understand the question, or 'is there anything we can learn from recent litigation in this space?'"

Basically, the things that we've been saying about social media and how they should be regulated, and also how adolescents and children should be using it or not using it, should that be applied to online sports betting and predictive market platforms?

Lia: The first step is to get predictive markets to be regulated. That's what the current legal climate, the lawsuits are about, to get predictive markets, which are viewed as contracts, to be regulated by the regulators. What we saw in our national data is while a small proportion of youth and emerging adults are actually gambling on predictive markets, among those who do, there is a disproportionate number of high-risk gamblers who are actually doing that. That's saying, we're throwing these kids into unregulated markets, and that's really the first target.

Jeremiah: I would add that the legal age, I wouldn't say legal age, the age at which these products will allow you to create an account is age 18. There is, unlike in the regulatory framework of where people are gambling through regulated sportsbooks, it's 21. I recently had a conversation with a father. His son is heading off to college this fall, and his birthday was in September, he's turning 18. He was like, "I can't wait." The dad's like, "Oh, my gosh, what do I do?" This is just happening. I think I agree with Lia. The first is bringing it into a regulated framework in some way, somehow, shape, or form. I agree, Ludmila, with the comment that you made that there's really not much regulation around social media. We are starting to begin to really accumulate some evidence that it's potentially harmful for adolescents.

I think we have some of the same ideas, but I think because it's so everywhere, and how do you define it-- The study from, it's now older, but it's like five, six years ago, where 60% of the games that are downloadable from the Apple Store and from Google Play, from these online things that can be put on your phone, had gambling mechanics in them, and so had the variable ratio reinforcement. There's no warning labels on these products that gambling's there. There's no age restrictions on there. What do we do? I wonder if these entities would be even open to the conversation.

Luke: Yes, I can riff off of that. I'll leave the prediction markets piece to the two US-based researchers, because that situation is quite jurisdictionally specific. On social media, this really comes down to design features. A lot of research in my group is around design features of modern gambling products, but we can think about the design features of social media platforms as well, on

something like, yes, we all know, the main social media platforms, and we have the infinite scroll. We have very personalized content of what is in the For You page. We have short-form content that autoplays. These features all drive variable ratio schedules, that if I just keep going, I'm going to find something that really fits my interests.

A lot of the science of what we know about the compulsive aspects of those features is the science from gambling, about gambling persistence under variable ratios. I think it's the same basic science.

Jeremiah: If we go back to it, B.F. Skinner talked about gambling. He talked about slot machines and had some commentary there along those lines. I was talking to somebody else recently, and we were talking about what Luke was just talking about in terms of what's going on in the brain. He used the expression of, "Well, this is malignancy of plasticity," where the plasticity of the brain to be now looking for these rewards. It's now becoming a malignancy within there, and it is becoming very problematic. A term just stuck with me, and I'm thinking it through right now, but it does capture a little bit of what's happening.

Ludmila: Another question we received, and I'm not a practitioner, so I did not know about this, but someone said that it is standard to assess for substance use and screen time during intakes. Would you recommend assessing for sports betting or gambling at initial intakes with youth, given the prevalence we've been discussing? Do you think this is something that should be added?

Lia: Yes. Look, I think they should be screening for gambling, period. I don't think just sports wagering, because there is a proportion of people that do that a lot, but there's a lot of people who get in a lot of trouble and never sports wager. I think the way that you asked the question, so when we have the screening protocol, we never use the word gambling at the beginning. The protocol starts with them identifying their frequency of activities with no mention of the word gambling. Only after we get that, do we then introduce the word gambling.

We've done studies doing it both ways. What it's shown is once you put that charged, stigmatized word in there, people deny doing activity. There's an under-reporting that goes on, and most of our major instruments use that word in the instrument, so we modify those. I think every place should be screening, just basically for gambling behavior.

Jeremiah: Lia, can you just share for folks the wording that you do use to start off to get people to endorse these constructs or ideas?

Lia: They can go on our website, which is gambling.rutgers.edu. Then if you scroll down, there's tools for clinicians, and there's our research reports. In the tools, they can see the three-step protocol that we use. Because it's a chart, it has frequency in it, it's harder to describe, but people can just go download it if they want it.

Ludmila: Thank you. Someone had just asked that question, how to have access to your research, Lia, and these resources. I have one question as well. Gambling as a form of addiction, is it related or correlated to other substance misuse, or no, it's isolated?

Luke: Yes, I think gambling problems go hand in hand with a lot of other mental health problems in youth and in adults. Substance use problems are one set of those, and depression and anxiety would be another key comorbidity. I think in clinical settings, the majority of cases with gambling problems have at least one other coexisting mental health problem. Yes.

Jeremiah: I would say what I've seen clinically. We do know that, for example, with sports betters, and this is adults, this is not adolescents, but with adults, the rates of binge drinking are higher than those who are not sports betting. It's about 25% of sports betters are engaging in weekly binge drinking or more and compared to a much lower rate in the non-sports betters. It is comorbid.

I'd also say marijuana use is what I'm seeing clinically with young adults. Honestly, in that setting, it's this larger pattern of avoidance, emotional avoidance of the distressing things that are going on in their lives. Marijuana is an excellent way to avoid reality, gambling when you're in the moment and focused on it, and betting on all these different things. You can go way into the wee hours of the morning because there's a sporting event happening somewhere in the world that you can bet on. People are doing that. We do see some of that going on.

Lia: I'll add, in our most recent study, the interesting thing was the highest comorbidities were nicotine among the high-risk gamblers, not drugs and alcohol, though, and sex behavior. Paying for sex, being paid for sex, having risky sex, pornography, those were really high among the high-risk gambling groups.

Ludmila: Thank you. I have another question, and this should be to all of you. What are the most important unanswered research questions in youth sports betting, that our field should prioritize? What should we be studying about this?

Luke: We can all take a run at that. I'm going to use this moment to talk about in-play betting, which I think is something that hasn't really cropped up in the conversation yet today, which I think is a really important change. I think the nature of sports betting has profoundly changed over the last decade. For a lot of people who are outside of this ecosystem, a lot of parents, for example, their image of sports betting is thinking ahead to this weekend, which teams are going to win which matches. This is what I would now call pre-match betting. This is a very slow kind of wagering. It's going to take days or at least hours for those bets to resolve.

With the changing technology, and particularly mobile apps for sports betting, what has become very dominant in the last few years is in-play or live betting where people can bet repeatedly during the match on very short-term events. If you look at betting on something like baseball or tennis, you can bet on things that are going to resolve within 30 seconds. With all sports, which team is going to win, which player is going to score, penalties, and so on within the game. This encourages loss chasing because if one of your bets fails, you can immediately go back in and place more bets. It's very appealing to people who are more impulsive.

The marketing that we're seeing in-game can directly trigger those behaviors. A lot of our research at the moment is trying to understand the design elements of the sports betting platforms that encourage that style of play and just make what are quite intuitive links to everything we know about the science of slot machines says that this is going to make that format much more harmful.

Jeremiah: I'll jump in. I'm going to riff a little bit also about parlay bets or the other bet that they seem innocuous. It's \$5, I make five different bets, and if all five bets hit, then I win \$250. It doesn't feel very risky. There's a lot of different things. There's a whole host of unanswered questions. Until very recently, we've not had good datasets to begin to ask questions. The funding level for gambling is next to zero by the federal government. We've struggled to get good data, and that's changing now.

One of the things that I think I'm particularly interested in adolescence is the shift from initially they're betting small, little things, non-monetary items with each other, and then at some point, it

shifts over to real money. I would love to understand and begin to examine that shift to real money, and does that change their motive? Are there other things that are going on? How quickly, from shifting to real money, do we start to really see that chasing of losses and other things? I'm really curious about that shift to real money in adolescence. Someone is highlighting having access to money, so having a job or allowance and things like that. I think those are all really interesting questions that we haven't gotten to yet.

Lia: My interest lies more in the regulatory realm, because when we've calculated, 70% of sports wagers lose. With some parlays, it's 96%. Yet there's no requirement that these things are published for individuals who gamble. My sense is, why aren't we working with regulators to develop-- We did this machine learning model that we use to predict high-risk players in our online sports wagering and gambling settings, but the next step to that is having regulators really require operators to have response options, like prevention options, depending on the level of risk of these players. We're just not seeing that sort of integrated model that then would lead to cutting off harm at lower levels. That's really what I'm interested in as a next step.

Ludmila: Thank you. I think we still have time for maybe a couple more questions. One question came in about particular therapeutic approaches that have shown promise for youth experiencing problematic sports betting, like CBT, motivational interviewing, family-based approaches. Do we have any data, any research on that?

Jeremiah: I'll be the one to say it now. A, due to lack of funding, and B, it wasn't, up until a couple of years ago, seen as a priority. The best we can do is an evidence-informed approach. While CBT is the gold standard treatment, and it has the strongest evidence base for gambling disorder treatment in adults, we do not know necessarily how that is. CBT also has limits of how young you can go developmentally. Sitting there and doing a thought record with somebody at 11, you've got to make some changes and some modifications around that.

Personally, just my own approach might lead towards a more multi-systemic family therapy approach because that has the strongest evidence base for adolescent substance use. I might begin to think about what are the ways we might/could adapt that, or what are things in there that really apply, and what are some things that don't necessarily, but we don't have a good answer.

Lia: I do think Derevensky's group up in McGill, they were the pioneers in adolescent and emerging adult treatment. They did have a lot of resources, so that center's no longer in existence since Jeff retired, but they did publish a fair amount of studies, but not with the newer technologies. The question is, are those things still really applicable?

Luke: I suppose the other piece to that is that a lot of youth with problems in relation to video gaming, with this incorporation of gambling elements into video games like loot boxes, we're also seeing financial harms in gamers. There's an argument that, is that going to actually respond best to gambling-like treatments? That would require adapting adult interventions for youth as well. Yes, I think there's a lot of work that's needed in that space, but a lot of clinical need.

Ludmila: We found another topic of research that our field needs to investigate. We're at about time. Anything you would like to add that you think it's important in this conversation?

Jeremiah: I think one thing we haven't hit on that I'd want to hit on is going back to parents and what can they do is also just setting clear rules and expectations and consequences for gambling if they detect it in the sense of some gambling that they label as problematic. I think kids are going to engage in fantasy sports. They'll do a league with their friends and things like that. That is a great

social opportunity. If your kid is the one who can't do it because you're telling them they can't, I worry about some socialization issues there.

For whatever a family may define as the gambling that is concerning to them, betting actually on sports with real money, even along those lines, I think that is what is the consequences? Is there a loss of your phone? That's the biggest thing. Oh, my gosh, to children, to an adolescent who's a middle school or high school and they have a phone, that's a big consequence, but being very clear about what the expectations are and what happens if this is detected. In the first time, it's always a conversation. It's not hitting them, coming down and huge punishments. If it continues on, yes, there's real consequences.

Lia: I think the parents have to look at their own behavior, because so much of this is starting with the parents that I don't adopt any punitive attitude toward the kids. If the parents are modeling any of this for them, then that's where it has to start.

Ludmila: Like you mentioned earlier, Jeremiah, also explain the mechanisms behind it. Engage into a conversation and explain why this is exciting, why does it seem fun, but let's look at the numbers. Let's do the math. Right?

Jeremiah: Yes, I would agree with that.

Ludmila: Luke, do you

Jeremiah: If Luke has a closing comment, I'd love to hear from him.

Luke: Not down to-- A piece we haven't talked about as much as we could today is the marketing. Certainly, in Canada, I feel a lot of people get stuck on, not unreasonably stuck on, the prevalence of TV commercials in commercial breaks when you're watching sport. I often want to remind people that the advertising and marketing around gambling and sports betting in particular is so much broader than the TV commercial breaks.

We've got ads on social media that are personalized to people. We've got streamers in the streaming space who are affiliated to gambling operators. We've got a whole range of sponsorships like logos on team strips. We've got promotional inducements that Jeremiah mentioned earlier. This is an extremely complicated ecosystem, and parents should be aware of all these things that are going on. Don't just get hung up on the commercial breaks, although we have a lot of gambling ads in commercial breaks too.

Ludmila: Well, thank you. This is definitely a complex topic, and we need a lot more research. We need more funding to study the best approaches to prevent harm and the best interventions. I hope this session opens the conversation. Thank you so much for being with us today. I also want to thank the audience for participating today, and we hope you enjoyed the training. You should receive a one-minute survey to complete after today's broadcast. We do value your feedback. We also want to hear from you on topics that you'd like us to cover. Please email us at science@apa.org with recommendations, and we will send a link to the recording and the transcript in a couple of weeks. Thank you. We hope to see you at future events.