

Positive Choices_ Peer influences

Wed, May 31, 2023 3:12PM 57:04

SUMMARY KEYWORDS

people, brain, young, peers, adolescents, friends, mental health, study, adolescence, alcohol, talk, programme, substance, adolescent brain, jack, intervention, drug, positive, primary school, work

SPEAKERS

Emma Devine, Louise Birrell, Jack Andrews



Emma Devine 00:00

Again, good afternoon, everyone and welcome to the Positive Choices webinar series. My name is Dr. Emma Devine and I'm a researcher at the Matilda Centre for Research in Mental Health and Substance Use at the University of Sydney. I'm also the project manager for Positive Choices. So a big welcome and thank you to our audience for joining us today. We're all coming together today from different parts of the country. So I'd like to begin by acknowledging the traditional custodians of country throughout Australia and their connection to land, water and community. I'm currently on the land of the Gadigal people of the Eora Nation and I pay my respects to elder's past and present, I further acknowledge the traditional owners of the land on which you are on and pay my respects to their elders past and present. I would also like to acknowledge any Aboriginal and Torres Strait Islander people joining us for the webinar today. Before we get started with today's presentation, I'm gonna go through a couple of housekeeping points just to get us going. So as participants of this webinar, you're all currently on what's called listen only mode. And what this means is that we cannot hear or see you. We are recording this session and it will be made available through the Positive Choices website along with the slide handouts. And finally, we do have a Q&A session at the end of today's webinar. So as the session progresses, if you've got any questions or comments you'd like to share, please feel free to add them into the Q&A box that you should be able to see on your screen down at the bottom with all the other sort of zoom, features and function. For those of you who have joined us today and are new to Positive Choices, I'm going to start with a super quick introduction. So Positive Choices is a website that provides access to trustworthy up to date, evidence-based alcohol and other drug information and education resources. They're tailored specifically for use by parents, school staff and students. Positive Choices was funded by the Australian Department, the Australian Government Department of Health and Aged Care, and was developed by a researcher that the Matilda Centre as well here at the University of Sydney, as well as being done in consultation with teachers, parents and students. Some examples of resources that we have on Positive Choices include learning resources, factsheets, videos, webinars, we also have games, as well as our classroom based drug prevention programmes that have been proven to reduce drug related harm. I do encourage you to have a look at the website and take a little look at some of these resources when you get a chance. But I won't delay us anymore. We'll get onto today's webinar now. So we're going to Today we're looking at focusing on peer influence. And we're really excited to have Dr. Louise Birrell

and Dr. Jack Andrews presenting for us today. So just a quick intro for you both Dr. Louise Birrell is a Bruce Edwards Australian Rotary Health Research Fellow within the Matilda Centre here at the University of Sydney. Her research interests are in the prevention of mental and substance use disorders, with a focus on using digital technologies to change the way we prevent and disseminate evidence based prevention for you. Louise has extensive experience running school based interventions, focusing on substance use and mental health prevention, and also in conducting systematic reviews of substance use related mobile apps. And has been the lead on CO designing some mobile health apps as well. And then on to Dr. Jack Andrews, who is a postdoctoral research fellow also at the Matilda Centre, but also at UNSW in Sydney. His research focuses on adolescent social cognitive development, its impact on mental health, as well as the design and evaluation of school based mental health intervention, Jack's work is really interdisciplinary drawing on developmental psychology, epidemiology and social science. So we've got some excellent, excellent speakers with of today. And I will now hand it over to Louise to get us started.

L

Louise Birrell 04:15

Thank you so much, Emma, and thank you to the Positive Choices team for inviting Jack and I to come and talk with you all today. I hope you've got some lunch or a cup of tea and you can settle in for a session where we'll talk you through some of the latest research and then we'll have a Q&A at the end. So I'm gonna start today by talking briefly about the scale of mental health and substance use problems amongst adolescents. I'll then hand over to Jack who's going to unpack some of the science of adolescence and talk us through the latest research around peer influence and the adolescent brain. And then I'll walk you through one of the interventions we're developing at the Matilda Centre before finishing up with some practical tips for parents, teachers and young people. And then you can ask us any questions that you might have. So to start off, unlike physical illness, we know that mental health and substance use problems disproportionately affect the young. This graph here is looking at the global burden of disease attributed to mental health and substance use disorders. And the horizontal axis is across the lifespan. And this is a measure called disability adjusted life years that looks at years lived with disability due to mental health or substance use disorders. And we can see that the disability starts to climb during childhood, and then really peak around adolescence and early adulthood. And that's quite different to what we'd expect for a physical illnesses where young people are relatively healthy. And we might expect chronic physical illness to onset in mid age and later in life. That is not the case, the mental health and substance use disorders, which we know typically onset around that period of adolescence and early adulthood. But what about in Australia? So we know that in any given year, one in seven adolescents will experience symptoms of a mental health problem that would meet diagnostic criteria for a mental health disorder. And one in five report experiencing high to very high psychological distress in the past month. If you're looking at a classroom of teenagers, it's helpful to keep these figures in mind and think that it's not uncommon for young people to have high psychological distress or be experiencing problems with their mental health. In relation to drug and alcohol use, looking at teenager 15 sorry 14 to 17 years of age. Our best national estimate that were last completed in 2019, show that about 66% report that they've tried alcohol up to nearly 20% have tried cannabis 5% have tried MDMA or ecstasy, and about 10% report having tried e cigarettes or vaping. That's probably a conservative estimate, particularly from vaping, which we know has taken off in the last few years. So it's likely that those figures would be higher. And one more note I'd make around trends that we're starting to see in the data for mental health and substance use is that most recent cohorts of young people, we're seeing drug and alcohol use and the age of first trying alcohol and other drugs

generally, increasing and current cohorts are less likely to use alcohol and other drugs, compared to cohorts that were born earlier. But we're not seeing that for mental health there, for mental health there's been the reverse trend that rates of mental health and psychological distress are higher in current cohorts of young people, particularly when we're talking about adolescent girls. Now, I'm sure most of you today would be pretty familiar with the term peer pressure, and have an awareness that the people around us influence the decisions that we make, this might be obvious if you think about some childhood trends are crazy, the cross primary school and high school that you might have seen around those, and how they take off in school. Those of you born in the 90s, like myself, you might remember the Tamagotchi craze, the Pokemon craze, which I think has come back into fashion now with primary school kids, friendship bracelets, more recently overpriced energy drink. So we know that young people are susceptible to these kind of trends and fads amongst peer groups. And this is also true for alcohol and other drug use. I'm now going to hand over to the amazing Jack Andrews, who's going to talk you through some of the science and research on adolescence. And then I'll come back and join you at the end. Thanks, Jack.

J

Jack Andrews 08:58

Thanks, Lou. So yeah, I'm going to start by talking about adolescence, and generally how we define adolescence as researchers. So as you might imagine, it's quite a tricky one to put a label on in terms of when it begins and when it ends. And lots of different definitions have come up in the past and the most prominent one that used to be used was where adolescence was defined as starting at puberty and ending when an individual gains a stable role in society. And as you might imagine, this goes on for a lot longer for some people rather than others. And it's a much trickier definition for us as researchers to use when deciding who to include in our studies. So more recently, the Lancet proposed a paper that was published in The Lancet, proposed a new definition of adolescence as starting at around the age of 10 and ending at around the age of 24, which is much more helpful for us. And it seems to be that this definition better matches the biological, psychological and social development that goes on during adolescence. And we'll touch on some of those different components a bit later. And when we think about adolescence today, the way in which we describe young people is not too dissimilar to how it's been described in the past. So even over 2000 years ago, Aristotle would describe adolescents as passionate, irascible, and apt to be carried away by their impulses. And most interestingly, he noticed that or wrote about adolescence as the age when people are most devoted to their friends. And this really touches on nicely the topic of our webinar today on peer influences, and just how important friendships are to young people. And another quote that sort of really conceptualises just how important the social environment is to young people, and comes from this really nice letter that was sent into the Guardian in 2012. So somebody wrote in talking about reflecting on their adolescence, and I'll just read it to you here. So they wrote, there's nothing like teenage diaries for putting momentous historical events in perspective. This is my entry for the 20th of July 1969. I went to art centre by myself in yellow cords and blouse, Ian was there, but he didn't speak to me, I got rhyme put in my handbag, from someone who's apparently got a crush on me. It's Nicholas, I think, UGH. Man landed on moon. So obviously from this, we can see that what's important to this young person is how others are perceiving them, their sit- their place in their social network. And obviously, social evaluation, which we know is really crucial for adolescent well being. And also, this really identifies adolescence as a significant period of social reorientation, when the peer and social environment takes a step change in its importance. And social reorientation as a concept is not something that is just specific to humans, we see this also in cross species, or there's cross species evidence of this. So we know that non human primates also spend more time with each

other once they hit puberty, relative to pre puberty, and we also see this in rodents. So in mice, and rats, that they show more affiliative behaviours with each other once they hit this sort of adolescent period. And we can't really talk about adolescence, without mentioning the some of the biological changes that are going on. And when we think of biological changes, aside from puberty, the other biggest ones might be things that are going on in the adolescent brain. And as I'm sure most of you know, the brain is separated into different regions. And these different regions are involved in different higher order processes, or different, yeah, they're involved in different sorts of behaviours or processes that occur in humans. And we're particularly interested as developmental scientists in this front part of the brain so the frontal cortex, which is here in red, and in particular, the prefrontal cortex. And this is the most evolutionarily new region of the brain. And it's a part of the brain that's involved in things like thought, behaviour, inhibition, the ability for you to stop and think. And also, it's really, really crucial for social interactions. And it's a part of the brain that processes things like our ability to perspective take and perceive how others might be thinking and feeling. And the brain is made up of these cells, lots and lots and lots of these cells called neurons. And neurons are particularly special, because they can connect one region of the brain to another region of the brain, it allows the brain or different brain regions to talk to each other. And neurons can be split up into - types of matter in the brain, which you might have heard of grey and white matter, are characterised by the neurons. So the top of the neuron here where the nucleus is, which is sort of like the control centre of the cell forms grey matter. And then this long, this long part of the neuron called the axon, is white matter. And this is, wrapped around the axon is this fatty acid called myelin. And this is the idea that you may have heard of if you "use it or lose it" in the brain. So if you think of something or you're learning something you can you, if you use that part of the brain more, it remains. And if you don't use it, it sort of disappears. And myelin is really important to this process because it increases the ability for that cell to communicate with other regions of the brain. So more myelin means that the cell is more likely to be used and it's a stronger connection. It's a stronger thought process. And you can see how this works in the brain here. So this is a cross section of the brain. And this is how it might look on a post mortem. So you can see on the outside of the cortex, which is sort of just on the top part here, all of the grey matter. So these heads of the neurons are all sitting in this top part here. And then you can see the white matter, or the axons connecting different bits of the brain around. But obviously, to get an image like this would be, would require a post mortem exam, obviously if we want to study the living human brain, we can't do this. So the way we do this is to use different imaging techniques, and one of them is the MRI scanner. And obviously, the MRI can be applied to any part of the body, we're particularly interested in the brain. And we can get really nice anatomical or structural images of the brain. And what it does is it's able to take a snapshot at any moment in time of the quantity of grey and white matter in the brain, and also the volume of the brain. So how heavy the brain is, how much how much of each type of matter is in the brain. And lots of different studies have been replicated now showing that on average, there is a decline in grey matter volume over adolescence, plateauing off at about the age of 24, and 25, but an increase in white matter. So that's the that's this myelinated axon, increasing at about 1% each year, again, plateauing at around 24, or 25. But what's particularly special about an MRI machine is that we can also study the functional aspects of the brain. So what the brain is actually doing at any moment in time when we're engaged in a task, or thinking about something. And what this really does is just tries to see which bits of the brain have got more oxygen in any particular part, when you're engaged in a in a in a task or a thought. So obviously, it's very correlational. So what we're doing is we're associating more oxygen in one bit of the brain, and then saying, this is more active, or as you might read in newspapers, where people sort of say, the brain is lit up, or a particular part of the brain lights up. As you can see that here, in this image, the amygdala, here is is active in whatever tasks that that person is undergoing in the MRI scanner. We can see from this graph here that I'm showing you

down on the x axis on the bottom, age and days from conception, and we can see adolescence is flagged here. And then on the y axis, what we're doing is we're just showing brain development. And these different lines just show four different regions of the brain, how each different deep, each different part of the brain develops differently. So we can see that the prefrontal cortex, which again, is that front part of the brain that I was mentioning earlier, that's interested in things like thought, decision making and perspective taking actually develops, it takes longer to develop than than other areas of the brain, such as the visual cortex or the auditory cortex that's shown here. So again, showing that there is continued quite protracted development for young people's brains, particularly in the prefrontal cortex, going well into the early 20s. And this is particularly new evidence, well in the last 20 or 30 years, whereas in the 80s, we thought that the developing human brain sort of finished at the end of childhood. But obviously, we now know with the advent of the MRI scanner and other imaging modalities, that this isn't the case. And that the brain does continue to develop well into the 20s. And in some cases a little bit later, because there's quite wide individual variability. And I touch on all of this stuff about the brain, because in a moment, I'm going to show you a study that tries to exemplify how we can use brain imaging to understand peer influence. But obviously, this webinar is involved or interested in talking about substance use, as well. So or peer influence effects on substance use, but we can't just bring individuals into the lab and give them different substances and put them in a lab amongst their friends and see whether they're going to be more or less likely to take these different drugs. So what we have to do is we have to come up with a, a proxy for this sort of behaviour. And in general, what really has been done is looking at risk taking behaviours, or in the context of risk taking behaviours, economic risks. So what we can do here is we can bring young people into the lab and we can run really nice clean experiments to see whether or not they're more or less likely to engage in certain risk behaviours, when they are influenced by their peers or when they're not influenced by their peers. And in one study that's done this from University of Pennsylvania in America, Lawrence Steinberg, ran this study, he came up with this idea of a driving simulator task. So in this particular study, what young people were asked to do was sit in front of a screen and you'll see on the left here, a track a road, they're given the instructions to drive this car along this track as quick as they can. And at the very end of the track, if they make it to the end of the track, they will get real reward, a monetary reward. If they don't make it to the end of the track, they don't get this monetary reward. Or if they make it partway through the track, they'll only get a smaller amount. So the goal is to get to the end and get the most amount of money. However, at each intersection, there is a traffic light, and the traffic light will either be red or green. And if it's green, then great, that means you can keep going. But if it's red, the participant has a decision to make, they can either stop and wait for the red light to pass, and then carry on, obviously limiting their chances of getting to the very end of the track and getting the most amount of money. Or they can jump this red light and risk it. And they might get away with it. Or they might as you can see on the right here, they might crash and then exit the game and lose all their money. So in this task, what these researchers tried to do is they brought in different groups of people of different ages. So there were three groups, there was an adolescent group 13 to 16, a young adult group aged 17 to 24, which we would still characterise as adolescents now, an adult group aged between 25 and 40. And they were asked to play this game in two conditions, first, either on their own, or second when they were being watched by their friends. So I can show you here on this graph, you can see the young adolescent group and dark blue, the young adults in light blue and the adult group in green. And you can actually see on the y axis, the number of crashes that they ended up having is quite similar. So they took a similar number of risks when they were all on their own, which sort of dispels this myth that adolescents are particularly risky. But then when we asked them, or when the researchers asked them to come in and play this game, by when watched by two of their friends, what we can see here is quite a striking difference. So for those adults in the

green, they engaged in the same number of risks. And then we can see this difference here where the younger adults on the adolescents took significantly more risks when they were being watched, just watched by their friends. And in fact, you can see it's double for the younger adolescents or the younger age group. So then these researchers decided that they wanted to do a follow up study to try and understand what might be going on in the brain when they're being watched by their friends. So the mechanisms of what's actually happening here. So they played this exact same task. But in an MRI scanner. As I mentioned earlier, that MRI is brilliant, because it's able to take a structural or an anatomical image of the brain. And then on top of that, we're able to see what's going on functionally. So we're here trying to see what's been lit up in the regions of the brain amongst young people versus adults, when they're either on their own, or when they had a couple of friends come in and stand around the MRI scanner as they were playing this game. And what we can see really nicely here is that for adolescents, so for the younger, younger group, there was activity in a region of the brain called the ventral striatum. And this was only true when they were playing with their friends standing around them, around the MRI scanner. And it wasn't true when they were on their own so there's higher activity in the ventral striatum when they were around playing this game, and they were on their friends, with their friends. And this is a really important region of the brain because the ventral striatum is part of the brain, it's involved in reward processing. So we know that that that this part of the brain is active when we take drugs, when you have sex, anything that is rewarding. So what this is saying here is that the presence of peers is sensitising the reward system in the adolescent brain. And this was not true for adults, meaning that there is something particularly special about the social environment for reward or social reward for young people. And another interesting finding that came out of this, which was that for adults, but not adolescents, they had greater activity in the lateral prefrontal cortex. And again, this is that part of the brain that I was saying earlier that is still significantly developing. So this is in the prefrontal cortex. And it's still developing during adolescence. So what we showed here is that, they showed here is that this activity in the front of the brain was present for adults, but not adolescents. And this part of the brain is involved in things like strategic decision making, and inhibition. So their ability to make to stop and think and go, should I be taking this risk or should I not be taking this risk, which sits nicely with all of the other evidence that we have that adolescence is this time of continued biological development, and it also shows us really nicely that peers are a big driver of how we process information both behaviorally but also in the brain. So and then now we're going to talk about how peer influence relates specifically to mental health outcomes and substance use. And we know that most substance use in adolescence is actually social. So it's engaged, or happens when somebody is around their peer group or around their friends. And it's very rarely likely to happen, or is less likely to happen when someone's on their own. And this study here quite nicely shows this. So individuals were asked, were taken into a room. And they were asked to, or they were monitored, and they were presented with some alcohol. And you can see time on the y axis here. And they were tried, they were shown, they were sorry, they were told that they could drink as much as they wanted. And then the amount of time drinking was recorded. And you can see here that the adolescent and the adult group didn't really take that, didn't drink that much different amounts of alcohol when they're on their own. However, when with their friends, the younger age group took significantly or drunk a significantly more amount of alcohol. But what was quite striking about this study was that it wasn't done with humans, it was done with mice. So again, we're seeing this, across cultures across species, evidence that demonstrates that the peer group or the peer environment is sensitising young people to possibly have more social rewards. So they're more likely to engage in these illicit substances, or risk taking in order to sensitise these brain regions that deliver reward for them. In a study that we conducted, we also found that the, like, perceived like ability, that young person would have increased their chances of risk taking behaviour. So what we did is we asked young people to report for a number of different

risk taking behaviours that you can see here on the right, so risky drinking, drug use, risky sex, we asked them, "Do you think you'd be liked more, or like less if you engage in these risk taking behaviours?" And then we recorded how often they engaged in these behaviours. And what we found is that, as you might expect, young people that thought they would be might like more by taking a drug or drinking will actually engage more in those behaviours. But what's particularly interesting here is that we found that for those people that have a history of being bullied or victimised, they were much more likely to engage in risk taking behaviours, if they thought they were going to be liked more, which obviously makes a lot of sense, because they obviously want to belong and probably engage, they can do anything they can to engage in a behaviour that might reduce their risk of being further rejected. This is called the social augmentation hypothesis. And this has been now shown in a number of studies that being victimised increases the salience of the peer environment for young people. And in some other work that we've conducted, we've shown that adolescents are particularly sensitive to social risks, and that they want to avoid social risks. So this is the idea that they want to avoid any decision or action that might lead to social rejection. And that this declines with age. So we see that for adults, they're less worried about social risks. But adolescents are particularly sensitive to social risks. And this is important because social rejection is felt more strongly among adolescents compared to adults. And we know that they are more likely, that social rejection is more likely to relate to depression among young people than it is among adults. But obviously, when we're thinking about social rejection, and we want to study this in the lab, we can't just bring people in again, and get them to be rejected by their close friends. So what we do is we simulate this. So this study here is this task here, sorry, is used in a lot of studies to study social rejection among young people. And it's called Cyber ball. If I can, if this works, I'll show you how it works. So what happens is the person the young person is told down here, this is the young person, Oh, it's not actually playing, I'll explain it. The young person is told that they're playing a ball tossing game between two other individuals, and that these two other individuals are real. So you're down here, and then you will be told that you're sort of playing this like piggy in the middle game. And there's two conditions. One condition will be where, one condition will be where you are passing the ball between each other and you're included. And then in the exclusion condition, these two avatars here are experimentally by the researcher told to exclude the participant, but remember, the participant believes that they're playing against real individuals. And then they're asked to report their mood before and after playing the game. And before and after they're excluded. And we see that adolescents and young people versus adults show a greater dip in mood following social rejection. And again, this leads us to think that adolescence is a period of life where individuals are engaging in behaviours that are going to increase that belonging. And that is, and that's going to reduce their social risk or their risk of rejection. And, of course, what's particularly important here is social norms. So they're going to engage in behaviours that are deemed socially acceptable, or that it might increase their likability that are valued by their peer group. So there's some newer new ways that are being used to try and study peer influence effects on substance use and mental health. And this is with the use of social network analysis. And in doing so what how this works is that we can try and model peer influence effects in the way that we might model the spread of a disease. So like COVID. So what happens is, researchers will go into the school environment. And they will ask each young person to say, who they spend time with in their class, who they like, and in some cases, even who they dislike, and then they'll build this social network, this map, like you can see sort of the schematic here of, and from this map, we can then model a number of processes. One of these processes is called selection effects. And this is the idea of 'birds of a feather flock together', or a phrase that I don't like too much, but 'misery loves company', which is the idea that two people become friends and stay friends, because they both demonstrate similar mood profiles. So they both demonstrate a similar behavioural profile, so they both drink, or they both have low mood, or both have positive mood. And the alternative

process that we can model in this, in this way, is a contagion effect. So this is the idea that one person might start with a particular behavioural trait. So they do drink, or they're, they've got quite low mood, and the other person doesn't drink or has quite good mood. But then over time, by proxy of being friends with each other, one person's behaviour rubs off on the other. And this can work in both ways. So it can work positively and negatively. So it could be that by being friends with somebody that's happy, that other person demonstrates more happiness over time. Or it could actually be that by being friends with someone that's got low mood, their mood also dips over time, and this would be a contagion effect. And we've seen these effects of selection and contagion for alcohol use, and also marijuana use when it comes to substance use. And this has been replicated in a number of studies now in multiple different countries. And we've also seen this for mental health. And there's some great work done by Stephanie Bennett Hayes, who's at the University of Birmingham, showing that negative mood spreads faster and positive mood in adolescent social networks. And what she did was that she modelled the spread of, the spread of mood over time in a group of young musicians that were on a on a camp together, and found that those that had lower mood were more likely to have a knock on effect on their peers over time. And some of the ways in which this, the mechanisms that this might happen, are sort of quite under explored, but one could be co-rumination. So this is the idea that individuals or that might be displaying some low mood or some anxiety, then speak and seek help from their friends to talk about it. And then this sort of triggers this low mood or anxiety in that other person as well. And then it sort of spirals and spreads through a network like that. But on the positive side of things, we also know the positive mood does spread. Another network study that came out in 2015 actually showed that having a number of friends around you with positive mood can be a really good buffer. So the young people that were displaying depressive symptoms, if they had sufficient a sufficient number of friends in their social network around them. They were more likely to recover from depression in a six to 12 month period, which is really good news and obviously could be harnessed for future school based interventions. So I'll now pass on to Lou to talk to you about using peers to prevent mental health substances.

L Louise Birrell 35:09

Thanks, Jack. And so I'm going to talk next about some of the prevention programmes and intervention approaches we're developing at the Matilda Centre kind of taking that knowledge and the evidence that Jack spoke you through and thinking about how we could apply this to adolescent contexts and potentially use the power of peers to prevent mental health and substance use problems. So there's a number of programmes currently being evaluated and trialled at the centre. For the sake of time, I'm just going to focus on one today that I've been involved in leading called the Mind Your Mate programme, which is the digital intervention, helping to upskill young people to better support their peers around mental health and drug and alcohol use. And the idea for the project really came from the knowledge that we know despite the impact and early onset of mental health and drug and alcohol problems, most young people will not seek professional help when they're experiencing a problem with their mental health or drug and alcohol use. And in fact, peers are consistently rated as the number one block of support particularly for adolescents. The Mission Australia survey is an annual survey that's conducted in Australia of over 25,000 young people and it asked young people what was the most highly valued item in their life or relationship in their life and consistently, it comes back showing that friendship, important over and above family relationships go and study. And they also conveniently report that if they can help they would turn to their friends best. Then alongside friendships, we know young people also highly value and utilise technology day to day but that led us to try to develop a programme to help young people

better support their peers using a digital intervention. So we developed it with young people in consultation with teachers, clinical psychologists and experts in the field. And it was in the form of a mobile app that covered key content around depression, anxiety and substance use literacy, as well as skills module for better supporting friends, and importantly, embedded throughout the app was referral and support options, encouraging young people to seek support and encouraging their friends to seek support, as well as normative education to help challenge some of the misconceptions around substance use and mental health. But I guess at its core, it was trying to empower young people to have evidence-based skills and information to support their friends, because we know they're often turning to friends for mental health and substance use related problems. But we're young people often not equipped or have access to information to know what to do in that situation. The next step for us was to test the effectiveness of this programme. And to do that we ran a randomised control trial with 12 schools. The aim was to see whether the intervention could help prevent mental health problems and reduce drug and alcohol use, so half of the schools were allocated to deliver the intervention with their year nine cohort, and the other school throughout active control condition where we could compare the students mental health and substance use six months and then at 12 months later. So looking at baseline, before they had received the intervention, we asked students where they would turn for help if they had a significant issue in their life. And kind of reflecting that national data before in our samples, friends also were the number one source of support rated by adolescents, followed by parents, the internet, relatives and sibling. We did have GPs, health professionals, teachers, schools counsellors, psychologists on the list, but they didn't make it into the top five and concerningly 11% of our adolescents said they felt they had nobody they could turn to if they were in a crisis. I'm going to very quickly jump through the results at 12 months and the main finding that we saw was that adolescents who received the Mind Your Mate programme had decreased depressive symptoms in our intervention group compared to control. But we didn't see expected differences in the other areas that we were hoping to be some changes, but they weren't significantly different. There was, it did look like the students in our intervention group had lower anxiety compared to control but it wasn't a statistically significant difference. So something to note was that we did run the trial during the COVID pandemic. So we do need to replicate the results in a larger sample. We had trouble engaging students with the app. So they were introduced to it in class, they downloaded onto their phones, and then they had it available to use over a 12 month period. But use with the app with low engagement was a challenge so the next step for the programme is to develop an expanded classroom component, consisting of kind of these cartoon storyline, where it talks about friends supporting each other, and peer-support skills delivered in class that the key content is delivered to adolescents in the app kind of as an adjunct to that. So I'm now going to jump into talking about and wrapping up the presentation before we leave some time for questions about how we can apply some of this knowledge and the science that Jack presented for us today in some really practical challenges that teachers, parents and young people themselves can implement to try and harness the power of the positive power of peers, but also how to reduce peer pressure around mental health and substance use. So firstly, for parents, I think the key starting point is to encourage connection with your adolescent, which is open and honest, particularly around sensitive topic like drug and alcohol use and mental health. We know that this is the most effective way of communicating with teenagers, starting with regular undivided attention, being involved in their life and things that they enjoy. Noting that might not be something you enjoy. But if your teenager is really into gaming, maybe it's getting involved in that gaming and spending that time in taking an interest in their interests, so that you have that open dialogue, and that open channel for things to be discussed if it does come up for them or for their friends, and get to know their friends, or at least attempt to if they'll let you. That doesn't mean that you're friends with their friends, but just knowing who their friends are, being around, inviting them over.

Offer to drive them places to and from parties, if they're going to parties or to sport it can be amazing what you might be able to hear as the Uber driver for them as they chat amongst their friends. Get to know their friend's parents, this can be both a support network, but also a good channel to communicate about shared rules and expectations around alcohol and other drugs. Having the contact details of your child's friends and their parents contacting them in advance if there's a situation that's coming up where alcohol or drugs might be involved, like school formals, or after party for formals and communicating what your family's rules are and expectation with your teenager and with that, those, parents friends around that. And letting your teenager know that you're there to and ready to talk with them to listen to troubles with friends, boyfriends, girlfriends, but not trying to solve the problem. And knowing that we might not be able to choose our children's friends, but being there to listen, to hear their concerns, and be there to help and support if things are going well. But also things are not going so well. And just keeping in mind from what Jack said that social interaction and that teenagers do you have that heightened sensitivity to social interaction mean that peers are really important to them. So while it might be tempting to want to jump in and say things like it'll be fine, or there's lots of other people you can be friends with, sometimes it can be more helpful just to validate and listen and be there when things to come up with friends. The teachers just being aware that behaviours do spread through peer groups. So this is true of drug and alcohol use, but also of positive behaviours as well. So addressing and talking openly with adolescents about these behaviours that might be occurring in a peer group is helpful, as well as reminding students that most young people today do not drink alcohol or use drugs, this is actually the norm, can be helpful for challenging some of those misconceptions that young people can have, as well as teaching skills to help young people find their voice amongst their peers with could involve being like a assertiveness training, and importantly looking to programmes that have a strong evidence base and have been shown to work particularly for alcohol and drug education. And then for young people themselves. I think it's really helpful to correct those norms around alcohol and drug use that we know young people tend to overestimate how many of their friends or how many people in a year group they think might be drinking alcohol, vaping, or using other drugs, so it's helpful to remember that by not drinking, or taking drugs, you're in the majority. And then there's a number of strategies that you can put in place if you find yourself in a situation where you might feel pressure to do something you don't want to do. I'm going to leave enough time for questions. I won't go through these now. But to direct you to the Positive Choices website, which does have a great factsheet, which outlined all of these strategies, with example that you can say. And finally, to look after friends, though, encouraging young people to look after each other, particularly in situations where alcohol or other drugs might be involved. That's just things like keeping together in a group, making sure all your friends are there when you go home or agreeing to go home at the same time and reminding each other to stick to that agreement. I'm going to pop up on the screen a few resources to check out if you're interested in learning more about the topics that we've covered today, there's a couple of books that are great. And the first one Connected by Nicholas Christakis goes into some of the information around peer influences on health and health behaviours. And then Inventing Ourselves is a great overview of the adolescent brain and the science behind the adolescent brain, delving into the studies, some of the studies that Jack presented. If you don't always have time to read books, like me feel free to have a look at some of the videos I've popped up there too. There's the great one by Dan Siegel, which goes into the adolescent brain, I think that's about five minutes I was going to show it if we had time, but I think we're out of time. And then just to mention both the Respect Your Brain and Positive Choices factsheets that we've developed the Matilda Centre, that Respect Your Brain campaign, in codesign with New South Wales Health and includes some little animations that you can be there which outline the effects of drug and alcohol and the adolescent brain in kind of short clips. And in the Positive Choices factsheets has some great resources, the parent, teacher, and

young people themselves to go through. I'll skip the videos I think we're out of time I'll leave a bit of time for questions, but just like to thank all the team of researchers behind the work that we've presented today and our funders. And now open it up. If anyone has any questions they want to ask, please jump on the chat. And we can hang around and answer them for a bit.

E

Emma Devine 47:17

Wonderful, thank you so much Lou and Jack that was really, really interesting. It was really nice to see I thought the the positive focus and understanding why, you know, peers are so important. So not just seeing peer pressured as such a negative things always. All right, so we will get started with the first question. This might be one for Jack, if you wanted to give it a go. The question is how do the relationships made during primary school years impact relationship and mental health during high school years? So you know, is it typical that if there's positive relationships during primary school, these transition into secondary school or do you know anything about what happens there?

J

Jack Andrews 48:18

Yeah, I suppose some of the main evidence around this comes from bullying, or victimisation, but also bullying perpetration. So young people that are more likely to be bullied in primary school are more likely to be bullied in secondary school. And also, if you're a perpetrator of bullying in primary school, you're also more likely to be a perpetrator in secondary school. So these behaviours do seem to be reasonably stable over time. But they also can emerge during adolescence. But I think, yeah, there's also some really interesting evidence that your status amongst your peer group in primary school is predictive of your mental health outcomes and your social standing in adolescence, but also well into adulthood. So there's some really good work coming out of some of the Swedish cohort studies showing that your peer status in primary school actually predicts things like heart disease, diabetes, and mental health well into the 40s. So yeah, you're, these behaviours that we see in primary school do seem to extend not to say that they can't be changed. And obviously different peer environments when you're switching schools is an important, important time, but it's also a risky time because it's a time of instability and transition. So jumping between primary and secondary can also be a risk depending on the sorts of peer environments that you end up in. Yeah, I'm not sure if that's directly answer your question.

E

Emma Devine 49:50

Yeah, no, definitely, I think, you know, touching on the stability being an important factor and it is, you know, which is great if it's a positive situation that a young person finds themselves in. And then maybe applying some of the strategies we spoke about should the transition not go as positively.

J

Jack Andrews 50:08

Yeah, exactly.

E

Emma Devine 50:09

Do you want to add anything there Lou are ready to move on to the next question?

L

Louise Birrell 50:16

Yeah, no, not much more to add. But just to say that friendships are dynamic and changing, I think that's true, you know, across the lifespan, but also, particularly when you shift from sort of primary school to high school and you're establishing a new network that, I think it's just been giving young people extra support as they reestablish those friendships or they change friendships, and to know that that's a normal part of kind of growing up and, and growing into an adult is how to navigate that transition, and navigate changes in friendship, which I'm not sure we really taught how to do very well, just generally, even as adults, it can be quite tricky when you have friendship dynamics. So I think that's maybe somewhere we could be supporting young people a bit more.

E

Emma Devine 51:05

Yeah, definitely. That's a really good point. Not something really were just like trial and error isn't it. We've got another question that comes from a space of wondering about people who, young people who maybe don't have so many friends, and they're trying to build their friendship group that ties into what we were just talking about? And how do we go about encouraging them to make friends but not, you know, doing the wrong thing to try and impress cool kids? And I think that maybe, maybe if Lou, you wanted to speak to that one a little bit? Because it ties into some of those, you know, saying no strategies you touched on towards the end?

L

Louise Birrell 51:44

Yeah, absolutely. Yeah, I think that is, it's really hard if a young person's struggling to establish a friendship group and Jack's researches that have highlighted how salient that is, particularly for adolescents, how painful that can be, if you're feeling like you're not fitting in with the peer group, or you don't have those people to go to. And you can understand why some young people, then in an effort to make those links, or fit in with the peer group might be more susceptible to some of those behaviours. But I think on the flip side, we can also think about creating inclusive environments and peer environments where everybody is included and supported. And there are ways to kind of design or have peer intervention to help support each individual in that environment. It's something we're thinking a little bit about at the Matilda Centre, how we might be able to create an intervention that is designed to operate at that social network level and encourage connections between peers, that it's also, I think what we've realised from the research is not so much the number of friends you have, but it's maybe the quality of those connections. So we don't necessarily want to go out and encourage young people to make friends with everybody, you know, not everybody is going to, like everybody, and that's okay. But it is important to try and find one or two of your people that you feel genuinely care for you you've got similar interests, even trying to build sort of one or two connections can have a really protective impact. And focusing kind of on the quality of those relationships, rather than the quality the quantity can be helpful.

E

Emma Devine 53:31

Yeah, definitely. That's another really good point. We have a quick question for Lou. Is the Mind Your Mate app available yet for wide use?

L

Louise Birrell 53:44

It's in the app and Google Play stores but only available in the research context, so it's not publicly available yet, it's still in the research and trial phase. But if you're interested in having a look at it, I'd be happy to give you access and feel free to reach out after the webinar. We also are planning to run future trials for next year. So if anyone's interested in being involved in that and getting access to the programme that way as well, we can certainly make that available.

E

Emma Devine 54:15

Great, and anyone is welcome to email Positive Choices or Lou directly for that information. But we can also happily connect you with Lou at a later date. All right, let's see we've got quite a few we're not going to get to all of the questions that are coming through today, unfortunately. So if we don't get to touch on your question, and you're still really keen to get the answer, just email Positive Choices and we can arrange, you know, Lou or Jack to respond to your query and send it back through to you. But we might I think get one more in. So this I think might be best suited to Jack but feel free to hop in as you guys see fit. The question is, are there any recent studies that look at the impact of role modelling help seeking strategies on young people?

J

Jack Andrews 55:02

Oh, role modelling. I mean, there's lots of evidence that parental role modelling early in life is beneficial for young people's mental health. And I assume substance use, although I'm less, less aware of that evidence, I definitely know that there is in terms of peers. So interventions that have used peers as a way to deliver information and model positive behaviours is, is generally beneficial and has positive effects. There are some instances where there are some odd findings where in certain behaviours, it goes the other way. But in general, peers that model good behaviours do spread well. And there's some really good work from Betsy Levy Paluck, at Princeton, who's shown this for bullying and for victimisation. So young people that developed the interventions themselves, model the behaviours that they would like to see in their school environments, then end up showing over the course of a year, there was actually a 25% reduction in victimisation events in those schools where the young people themselves were given the ability to design interventions, model the behaviours and change the climate at the schools. So yeah, and I think given that young people are more likely to listen to their peers than parents, maybe peers are whether role modelling needs to come from but yeah, I'm not so sure about how the evidence across substance use but could definitely have a look and pass that on.

E

Emma Devine 56:38

Wonderful. Thank you, Jack. I am conscious of the time so I just want to wrap up today's session by saying a really big thank you to both Lou and Jack and as well to all of our audience members, for joining us today. As I said, I'm really sorry to those people whose questions we didn't get to answer but just pop us an email, and we'll be sure to send through a response as well. Thanks so much, everyone.