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Jen LaLuzerne:	00:00:08	Hi everyone. My name is Jen LaLuzerne and I'm a Clinic Director here at Step-by-Step Academy working with children with autism. I am the Clinic Director of the Adolescent Building and I'm also here with my coworker Amanda.
Amanda Yeager:	00:00:39	Hi, I'm Amanda Yeager and I'm a Board Certified Behavior Analyst. I also work here at Step-by-Step Academy at the Adolescent Center. I write behavior plans and treatment plans and oversee the implementation of those plans.
Jen LaLuzerne:	00:00:54	All right. We're here today to talk about severe problem behavior and we'd like to talk about the three main objectives in our presentation today. And you can see those on the slide on your PowerPoint. The first is to understand what severe problem looks like. Severe problem behavior looks like, particularly in a clinical setting, but in other settings as well. And what treatments have shown some efficacy in reducing those problem behaviors for all different types of challenging behaviors. Our second objective is to talk about how to write a clear and concise behavior plan that addresses your target behavior behaviors and also serves as a guideline for your staff who may be implementing those behavior plans to ensure the best consistency in approaching those problem behaviors. The third is to identify examples of severe problem behavior and some of the treatments that can be effective in those in all different environments, both in recent research as well as in our clinical setting here at Step-by-Step Academy.
Jen LaLuzerne:	00:01:49	So what exactly is meant by severe problem behavior? For the most part, these are behaviors that are highly socially unacceptable, are dangerous to the individual or his family, other people around it in the community. They can include criminal behavior or behavior that causes an extreme amount of distress to the individual, other loved ones and the family as well. There are many examples of severe problem behavior and we have some listed here could be aggression towards others. One that's not listed here is severe property destruction. There are several eating behaviors that can cause medical problems, and two that we'll talk about are rumination and PICA. Also encopresis and hair pulling or removal. Another one is self-injurious behavior. We have a picture here of the hands of one

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of our consumers who bites his hands frequently and has permanent tissue damage to his hands. As a result of that self-injury.

Jen LaLuzerne: 00:02:43 I'd like to talk a little bit about the prevalence of severe problem behavior and people with autism and or with intellectual disabilities. There's a recent study from 2011 that shows that sixty eight percent of children and adolescents with autism showed aggression towards a caregiver and forty nine percent showed aggression towards a non-caregiver. Another study showed that almost thirty three percent of children in the study sample with pervasive developmental disorders had some sort of self injurious behavior. Jumping down to the study from 2005, Stiegler reported that a small but significant portion of individuals with developmental disabilities have have demonstrated having PICA. And then I'd like to talk with some detail about a recent study from 2011 about self-injury in our population, especially that's severe enough to cause permanent damage, tissue damage to, to those subjects. What they found in their study is that there's a high level of chronicity to the self injurious behavior, meaning it's chronic sustained over a course of years.

Jen LaLuzerne: 00:03:46 When they did this study, they looked at at a, at a set of subjects who had been studied eighteen years prior and the number of individuals that they looked at was forty nine. What they found with these particular, they were adults at the time of the study is that they had chronic behaviors such as skin picking, self biting, banging their heads with their hands banging their heads into objects. And those were such the case at the, at the first study, eighteen years prior as well as the eighteen years later. And what they found unfortunately is that there was not an overall change across those eighteen years in topography or frequency or severity of those behaviors. What they did find is that several of the people when they were younger were wearing protective devices or protective gear to protect themselves. And there were less people wearing that protective gear eighteen years later.

Jen LaLuzerne: 00:04:37 But the authors theorize that that could be due more to cultural issues and wanting to reduce that in this population rather than an actual indication of a reduction in severity of the self-injury. They also found that more people were receiving psychological

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services eighteen years later, but surprisingly and disappointingly self-injury was not decreased along with those increases in psychological services. They also found that eighteen years later, more people were on psychotropic medications. In fact, it was eighty percent of those people that were in the study, but that also was not showing a reduction in those behaviors and overall that eighty four percent of the sample was still engaged in problem behaviors at the same extent that they had been eighteen years prior. This was very concerning and suggested that that self-injury persists over the years, whereas previous studies have indicated or theorize that perhaps the risk of aggression and self-injury reduces as people get older, they also found a high comorbidity with other types of challenging behaviors, particularly alarming that eighty eight percent of those engaged in self-injury also engaged in severe aggressive or violent behaviors. Of the forty nine people in the study, forty six families completed a quality of life's survey as part of the research study and they indicated that there were lower scores in certain domains, particularly due to limited access for these individuals to the community and social opportunities that other people would normally be able to engage in that as a result of the self injury, they were restricted from social opportunities natural environments and exposure to, to a broader scope of people than other people would be able to interact with that in their daily lives.

Jen LaLuzerne: 00:06:27

So when we're looking at severe problem behaviors, there are a lot of impacts both on the individuals, the family community at large. These can include permanent injuries that like the picture we showed before with the permanent tissue damage from self-biting. Certainly there can be all kinds of permanent injuries to the head to different parts of the body depending on what type of self-injury is, is engaged for that particular individual. Many students may have a loss of opportunity to learn in a classroom or community setting and may need to be instructed in a one on one setting or resource room or maybe in a classroom and other students need to be removed. And this leads to less educational opportunities for those particular students. They may experience a loss of acceptance by peers at all different ages, even by family members. Some families may find that they become a strange from extended family because extended

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family may not understand the types of behaviors and diagnoses that their loved ones are faced with.

Jen LaLuzerne: 00:07:25

Many families struggle with money and resources. It can be very expensive to obtain treatment can be difficult to find in an area that a family lives, they may need to move across the country in order to get the services they want. And the resources can be slim through County funding, state funding, Medicaid insurance, and other payers that sometimes are able or not able to help with services that are needed for a particular subject or client. Some students in extreme cases, especially with severe problem behavior, can experience a loss of school placements and in fact a loss of their residents and may need to go to a residential treatment facility in order to get the very powerful treatments that they need with one-on-one care and Board Certified Behavior Analyst to really work on those problem behaviors. And obviously a loss in residence can be very difficult for a child who's moving somewhere that he's not ever been before and as traumatic for family members who for some unknown period of time may have that have that family member not part of their household. At this point we want to move and talk a little bit about functional behavior assessments and how these are very critical in determining your interventions for severe problem behaviors. And with that I give you Amanda.

Amanda Yeager: 00:08:39

Okay. So I'm going to be talking to you about ways and techniques and steps to follow when writing a behavior support plan. And I hope to be as thorough as possible with the time that's given, but please chime in anytime with questions that you may have.

Amanda Yeager: 00:08:53

So first you're going to need to select your target behaviors, whether that's behaviors to increase or behaviors to decrease. And Cooper Heron in Heward in 2007 outlined some guidelines to follow when doing so. So the first guideline, and it's a very loaded question, but to what extent will this behavior change improve that person's life experience? What kind of impact will this behavior change have on that person? And related to that are the things listed below, such as habilitation? And what's meant by that is the extent to which you're able to maximize both short and longterm reinforcers and minimize both short and longterm punishers. There's also the relevance of behavior role, which is will that behavior be reinforced in their natural

environment? Will that behavior be reinforced in the absence of an intervention? Is this behavior a behavioral cost or a pivotal skill? Meaning, will this behavior change, expose that consumer to new environments, new reinforcers, perhaps new responses, new contingencies, or is it a pivotal skill? Kind of how it sounds. So with, when you learn a behavior, will that behavior also produce changes to other untrained behaviors? And will this behavior change, increase access to two environments to learn other important behaviors such as in the classroom and the community? And will it predispose others such as teachers, peers, siblings, family members to interact with this consumer in a more appropriate and supportive manner? And is this behavior change age appropriate?

Amanda Yeager: 00:10:32

So you might find that there's a lot of behaviors that you would like to target and that's fine, but you might need to start with only a few, maybe, perhaps one depending on your child. So here's some guidelines and suggestions on how to prioritize those target behaviors. First and foremost, you're going to want to start out with safety. If you have a behavior that poses a risk to that person or to other people interacting with that person, that's always going to want to be your first priority. Targeting those dangerous behaviors. Will there be an opportunity in the natural environment to exhibit those appropriate behaviors that you're hoping to increase. So you want to make sure that if you take the time and the resources to change a behavior or teacher behavior, that there's going to be plenty of opportunities to practice it and that behavioral behavior will be reinforced.

Amanda Yeager: 00:11:19

What are the longstanding effects and future skill development of that behavior change? Will this behavior change be received with reinforcement from others and how successful will you be with this target behavior change? And this is a question that you might not be able to answer up front, but there's some things that you should consider such as what does the research say? So make sure you do your research. What does the research say about targeting this behavior? Does it typically take a long time? Is it something that someone can be successful with? How do we, how do I target this behavior? Consider the experience of the, so the person that's going to be implementing this behavior change, do they have experience with that behavior? Are you going to be able to control that consumer's environment and with many behavior changes, you want to make sure that you

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have a great deal of control over the environment that might be at the school or at the center.

Amanda Yeager: 00:12:09 And sometimes it's really important to have control over both environments, the school and at home, which can be very challenging. Also consider the resources that you have available. Do you have well-trained staff? Do you have someone that can modify a plan if needed and also consider the cost. So it doesn't mean that if something's expensive that you don't target it, but there's something to keep in mind. And when we say costs, it's not just about money or resources, it's also at what expense do you target this behavior. So if you're spending a long time on this behavior change, is there an opportunity to learn other important behaviors?

Amanda Yeager: 00:12:49 Before you begin your behavior change, you're going to want to set a criteria. So how much changes needed to be meaningful? What are you looking to accomplish? And one thing that you want to also consider is the social validity, which is just the extent to which the behaviors that you're changing are appropriate. Your intervention or treatment procedures are acceptable, meaning ethical or deemed by society as acceptable and the important insignificant changes and target and collateral behaviors are produced. And again, you want to set that criteria before implementing the plan. This will help you with determining if you need to modify your plan when it's time to discontinue your plan. And this will help with collaboration across team members.

Amanda Yeager: 00:13:34 One very important thing, especially for the people that are implementing your behavior plan is writing really good definitions of those target behaviors. Those definitions should be objective and observable. One should be able to observe and reliably record data. So a good example of that is I can certainly start measuring if someone's kicking, I can perhaps take a frequency count, but I cannot measure if what someone's thinking that I cannot record. I cannot observe that behavior. Make sure your definitions are clear that someone can read and paraphrase those definitions accurately. Your definition should also be complete. So give examples and give non-examples of one to take data and leaving little judgment to the person that's implementing the plan. So you might role play some examples of where that behavior is likely to occur and also role play things

that are going to be excluded from your definition. How will you take data? This is also very important. It's a presentation in and of itself, so please stay tuned for that. Are you going to take a frequency count? Are you going to take duration? Are you going to record in a response time and make sure everybody implementing this plan is very well trained on that they have the tools, they have data sheet and everything that they need to take accurate data.

Amanda Yeager: 00:15:05

Part of behavior support plans are functional behavior assessment. And this is a tool that I'm going to briefly talk about, but it's very important. I recommend that if you're writing a behavior support plan or implementing one that you're very familiar with what that is, how to run one, how to conduct this kind of assessment. So a functional behavior assessment or an FBA is a technique that's used to identify variables that might be maintaining your challenging behavior. So you're going to use this as a tool to identify perhaps those antecedents, those consequences that are maintaining your challenging behaviors. You can also use an FBA to alter those antecedent variables, alter those consequent variables and then identify appropriate replacement behaviors. There's a few different types of ways to conduct a functional behavior assessment. You can conduct an indirect assessment which incorporates interviews, interviews with caregivers, with teachers, and you can also have a behavior checklist. You can conduct a direct assessment which includes direct observations. Perhaps you're keeping ABC recordings or you can can conduct a standardized test and the direct assessments are the preferred method. It allows you to see the behavior. I find that they are more likely to be successful.

Amanda Yeager: 00:16:26

There's also a functional analysis or a functional experimental analysis and this is where you arrange various things in the environment so that you are trying to measure the separate effects of the variables that are maintaining this problem behavior. This is very, it is experimental. So with that being said, it does not occur in the person's natural environment. You're contriving situations individualized to that person so that you can see this problem behavior occur. So you can take data so you can graph that data and analyze it and identify those variables. The four common conditions that are typically used are the alone condition, the contingent escape condition, the

contingent attention condition, and then they usually have a control condition. The application of a functional analysis has been researched very frequently by lots of great researchers. They're looking at the efficiency, the effectiveness, ways that clinicians can implement FAs and applying it to various problem behaviors such as self injurious behavior, aggression, vocalizations, noncompliance, elopement and even PICA. Here is a brief video of a functional analysis in the alone condition.

Amanda Yeager: 00:17:56 So, you can see that the child is alone. The child is still being monitored by a practitioner through a two-way mirror, but the student is unaware of that.

Amanda Yeager: 00:18:59 This is that student in the play condition.

Amanda Yeager: 00:20:23 This is the tangible condition.

Amanda Yeager: 00:21:27 This is the demand condition.

Amanda Yeager: 00:23:55 So watching that video, it's just meant to give you an idea as to what a functional analysis looks like. It's certainly isn't a training tool that you can go now and conduct a functional analysis. That's a whole nother webinar, but it just to give you an idea. So the idea behind that is that they will see those problem behaviors be evoke that when attention is provided for aggression, she immediately gave him the iPad just to see if that's the maintaining variable and et cetera. So in the demand condition she would've dropped that those demands when those target behaviors would have occurred. So why would you conduct a functional behavior assessment or an FA? I'm going into writing a behavior plan without those proper assessments, without the correct data is going is likely to be inefficient, ineffective or even harmful because you might be inadvertently reinforcing those behaviors causing them to become worse or even more severe.

Amanda Yeager: 00:25:07 Your functional behavior assessment can also help to establish great preventative measures and these can be used and you might find that these are good tools that the problem behaviors stop occurring. Sometimes that's the case. And I want on his colleagues in 1994 recommended modifying the instructional environment as a preventative tool. And he gave a few examples and those included providing more frequent

reinforcement opportunities for a break. And a means to request for help. So you can use your FBAs to help develop those preventative procedures in your behavior support plan. You can utilize your results from a functional analysis to indicate a clear demonstration of those variables that are maintaining the problem behavior. So you'll be able to analyze your data once you graph it and see what's maintaining it. It's to be caution because since we are talking about severe problem behavior that this be used as a last resort method. So thinking about evoking problem behavior that can be a potential risk or a danger to that consumer or to others is not going to be advised if you can gather the necessary tools and understand the maintaining variables, if those can be assessed with other methods

Jen LaLuzerne: 00:26:23 And talking about a functional analysis, there are certainly some cautions that you would need to take into consideration if the severe problem behavior that you're targeting involves self-injury. So the first thing is that you may need to modify your conditions in order to best assure safety to the individual involved. And obviously safety is the number one priority in all problem particularly self-injury. One simple thing that you may find this appropriate is that rather than than doing an alone condition where you may not be able to prevent injury from occurring, you may want to do and ignore condition where your practitioner is available in the room to be able to intervene. Should there become concern for the safety of the individual that you are assessing. If you do utilize the alone condition and you determine that for the most part, that seems to be very safe, but you may need to have some protective equipment involved.

Jen LaLuzerne: 00:27:12 That's the type of precaution that you would want to have available in your space. I have some pictures below that show different types of preventive things that you might do. The picture on the left is a student working with an instructor and this is a student who engages in some head banging against the walls. So we have some athletic mats that are they're pretty thick, maybe about two inches thick and they are adhered to the walls. They're screwed into the wall so that they stay there. And the problem behavior she are primarily hitting his head against the wall and not his feet or other things that are below. So at least the one mat is higher up because of the height of the

mat that way we could make sure that his head was safe if he does engage in those.

Jen LaLuzerne: 00:27:52 This was not a picture taken for an FA in particular, but it's an example of what you might find that you want to do. The other thing that we have the other picture and more for self-injury in particular rather than generally rather than an FA specific, but some protective gear that you may find is helpful when you're working with kids with severe problem behaviors. The instructor on the right side is wearing arm guards because that particular consumer engages in scratching behavior or pinching and twisting the skin and they're a martial arts guard that's pretty thick to help ensure the safety of that instructor when working with that consumer. The other thing that's a little hard to tell because the picture is small is that this particular consumer also engages in spitting behaviors. So she's wearing eye protection so that no body fluids are entering her eye.

Jen LaLuzerne: 00:28:40 One thing about protective gear, this isn't exactly clear on the slide, but protective gears that relates to the consumer, him or herself is that it may have an impact on the results when you're conducting an FA and that's very important to take into consideration. It may impact your ability to identify what the behavioral function is of your problem behavior and if you don't have the proper function identified it's quite likely that the intervention you choose is not going to be effective in reducing that problem behavior. So you need to have that. You need to be taking that into consideration when you decide how you're going to conduct an FA or if you are going to, when it relates to self-injury. I want to share some information from the two studies that are cited here that I think are relevant and important to know.

Jen LaLuzerne: 00:29:22 In the first study with Barreiro and colleagues, they, they looked at it two different subjects and one was an eight year old boy with profound intellectual disability who engaged in head hitting and headbanging. He wore a helmet on a regular basis in order to prevent tissue damage or brain injury. And obviously wearing this, did not decrease self-injury because he was still engaging in self-injury on a regular basis. When they did a functional analysis the results of that indicated that the behavior was maintained by automatic reinforcement, which is fairly common with self-injury. They also looked at a thirty five

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year old who had moderate intellectual disability and down syndrome, who engaged in hair pulling to such a degree that it led to needing to have reconstructive surgery on his scalp for the severe tissue damage that resulted from that behavior. The protective equipment that they studied in, in the particular experiment was a clean gauze covering the covering the gentleman's head as well as a baseball cap.

Jen LaLuzerne: 00:30:23

And similarly, their functional analysis identified that the behavior was maintained by automatic reinforcement as it was with the other subject when they had the protective equipment used for him in the intervention. It did suppress the self-injury. So what they discovered from this is, number one, if you have the protective equipment involved, the behavior may not happen at the same rate because either the student's not getting the same input or it's it's, it just requires more effort in order to engage in that behavior. So when you're seeing the rates of the behavior occurring or not occurring, it may not be representative of what your function actually is. It may look like it doesn't happen in a certain condition. What it may actually occur if you did not have that protective equipment utilized. The other thing that they certainly recommended is that you may find that it could be an effective intervention for you in reducing that problem behavior, but it's going to be critical to make sure to make plans for how you're going to fade out or thin the frequency that you're using that protective gear so that it's not something that is a permanent intervention.

Speaker 2: 00:31:24

The other study with more and colleagues was looking at one twelve-year-old girl who had autism who had eighteen different typographies or presentations of self-injury. There were multiple versions in three different categories. One was injury to her shoulder to her hand and also to her head and she also regularly wore protective gear, particularly a helmet that had a visor on it and she also had rigid arm sleeves to prevent face punching and the degrees the calibers are behavior with with self injury related to her head were so severe that they actually excluded them from the study because there was such a high probability of self-induced blindness from, from herself injury as behaviors. With the other behaviors with regards to self-injury. So the hands into the shoulders, they used martial arts, padded equipment that had very thick padding, different types of padding in different parts of the body.

Jen LaLuzerne: 00:32:18 And they found again with her that the behaviors were maintained by automatic reinforcement. So as they did the different elements of their study, they had different parts of the body covered up or available for self-injury and and they found that sensory extinction was the likely reason for behavior suppression when a certain part of the body was available for self-injury. When that happened, if she knew that or experienced that she hurt herself, but the protective gear was there and she didn't get injured, then that behavior went down. So again, much like with the first study, they found that utilizing that protective equipment definitely showed them the more about the function and how they might misread the function based on the results that they got from that study.

Amanda Yeager: 00:33:04 So when you're writing a behavior plan, it's really important to establish some preventative procedures and that these can be identified through a function or a functional behavior assessment and really examining the environment. So here's some common preventative procedures that we use in our clinical setting that are fairly common that might also be included in a school setting or in a home setting. The first one is providing optimal communication opportunities. And far too many times our students get upset and frustrated when we can't understand what it is that they want or what it is that they need. So making sure that there's opportunities to communicate that those things, whether that's with the PECS book or with a communication device or even expressively, making sure that we're providing all optimal communication opportunities. We frequently utilize a visual schedule and for certain consumers, this looks different. Some are written now, some are with icons, but this will allow a structure in that consumer's day.

Amanda Yeager: 00:34:03 So they might be able to anticipate if a non-preferred activity is coming up, they might be allowed to switch those tasks around and perhaps have a little bit of control in what, what their day to day looks like, which is a really another preventative procedure. But it also allows them to see when reinforcement's available. If you put that on their schedule. So it gives them something to look forward to. Offer and provide breaks when necessary. This is very important that if you're presenting non-preferred task after non-preferred task or perhaps it's just been a long day or your consumer's tired, you want to make sure that

you're offering or giving a break that will lead to a decrease in frustration. Building behavioral momentum is another preventative procedure. This is presenting a few high probability behaviors before presenting a low probability behavior. So what that means is you would present a few tasks, we'll say three that the student is likely to engage in with a high probability before presenting a skill that might be non-preferred or a skill that's still an acquisition that the student has a low probability of performing. Providing various choices.

Amanda Yeager: 00:35:12

So this can be used as a way to make aversive task seemingly less aversive. So do you want to vacuum the floor or do you want to dust first? And just by allowing them to make a choice, it might be more compliant, but also this might also help to increase skills as well. So do you want to use the yellow worksheet or do you want to use the orange worksheet? Providing choices throughout the day as many as possible and as appropriate. Monitoring task difficulty, this ties into offering and giving a break. Your consumer might be frustrated and it's important to recognize those early signs of frustration so that you can implement a break, but you're not going to want to present all those non-preferred tasks back to back. You, you want to intersperse breaks.

Amanda Yeager: 00:35:56

Can I say a little bit more about that? Another thought with monitoring your task difficulty that may lead to severe problem behaviors are two seemingly opposite things, which can be that the tasks that you're providing are too difficult and thus your consumer wants to avoid those or escape those. And you may see problem behaviors. So whoever is in charge of the treatment plan behavior plan and the monitoring of all those should keep a good eye on those. And you can tell through your student's acquisition rate and such how those things are going. But conversely, the other thing that can lead to problem behaviors maybe that your tasks are too simple, they're too monotonous or the student has done the same things multiple times and just isn't going to do it anymore. It's too simple, it's too boring and not challenging and, and they, and they don't have that that forward momentum and that can lead to severe problem behaviors as well. So it's going to be important to monitor both of those sides of task difficulty.

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Amanda Yeager: 00:36:46

That's right. Using a timer to signal when reinforcement's available, you might utilize this if you're implementing a token economy system. So this might indicate that it's time to earn a token or it's time to earn that backup reinforcer. But also when reinforcement is set to end. So if you have a student that displays problem behavior maintained by access to preferred items and has a very difficult time getting off the computer or getting off the iPad, if you have a timer counting down, that's just one extra cue, one extra prompt that might help you alleviate some of that problem behavior if they know exactly when that, when that computer is going to be shut off or the iPads going to be taken away. Providing contingent attention. So making sure, especially with kids that display problem behavior that's maintained by attention, but even other kids even typically developing kids provide attention for those appropriate behaviors and that's related also to differential reinforcement. Making sure that you're catching them being good, provide reinforcement for those behaviors that are worthy of increasing

Jen LaLuzerne: 00:37:51

Some procedures to take into consideration when you are preparing your behavior plan. Remember that many behavior plans include more than one intervention or a treatment package. You'll find that in some of the studies that that both of us will be referencing later and the case studies that we didn't use, just one intervention. We use multiple things together that were chosen very specifically for that particular consumer and his or her subset of problem behaviors. When you're writing your plan, you need to make sure to include not only behaviors that you want to decrease, if it's a problem behavior, but also the behaviors that you want to increase and they may be replacement behaviors directly or just some other behaviors that that are skills that you need to help build in that consumers' repertoire in order to help him to move forward in a positive way. If you are reducing or eliminating a problem behavior, then you must plan for your replacement behavior.

Jen LaLuzerne: 00:38:43

If you fail to put a replacement behavior in place that you're going to teach or shape, then you may be able to eliminate a problem behavior, but a new behavior may crop up that could be equally dangerous or more dangerous than the one that you are targeting. And it's also going to lead to consistent struggles with your consumer because he hasn't learned what to do

instead, whatever reason that your consumers engaged in a severe problem behaviors. Probably some way of communicating a need, a want, a desire, and if we don't provide the right means to get there, you're going to still be faced with those same problems of frustration and the inability to to get what that consumer needs. You need to think about your reinforcement system and identify what your schedule of reinforcement is going to be. This is another topic that we could spend a lot of time on and another webinar.

Jen LaLuzerne: 00:39:34

But there is a good example in one of the studies that I'll reference later where a problem behavior was happening on, on average every thirty seconds. And so the intervention that they put in place to try to help prevent it was every fifteen seconds, every fifteen seconds they were catching that consumer doing the right things to help prevent the behavior from happening. Having that high level of reinforcement and then starting to thin that schedule as the consumer started to learn the replacement skill and have a decrease in that target skill. Also utilizing preference and reinforcer assessments to identify your high preference reinforcers. You want to make sure that what you're asking your consumer to work for is something worthy of suppressing that challenging behavior in order to get to that, that item that they want to have. What's also going to be important when you identify your reinforcement is doing whatever you can to eliminate access to those reinforcements at any other time.

Jen LaLuzerne: 00:40:26

So if you're in a center or a school and the student is working for access to YouTube videos on the iPad, it's ideal if throughout the rest of the day at, at your center of school and at home that they are not utilizing the iPad and are not getting onto YouTube on somebody else's cell phone or something like that. Kind of the classic thing is why would you work for it if you can get it for free. If I know I'm going to get it later in the day, that's fine. I can handle that having it what I'm working with Amanda because somebody else is going to give it to me later. Think about the other consequence procedures that you might be utilizing and plan for those. You might be using timeout or response costs, you might be using an overcorrection procedure. Different sorts of prompting supports to help your consumer and reducing that problem behavior and increasing

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replacement behaviors and enough can't be said about the importance of training your staff here at Step-by-Step Academy.

Jen LaLuzerne: 00:41:18 Both Amanda and I are supervisory roles and then we have direct care staff working thirty hours a week with the consumers and each consumer works with three or more instructors throughout the course of the day as they go through shifts. When we do our training on behavior plans, we get everybody we read through every part of that behavior plan together. Everybody needs to role play. If there's an adversive component such as a timeout, everybody needs to have that experience of being put into a timeout so they know what that is, what that intervention is that they're implementing. And as we have everybody roleplay, we as supervisors give feedback and we encourage them to give each other feedback and, and figure out how to make sure that everybody's consistently implementing the plan the way that it's written knowing that we put a lot of thought and planning into how it was written to make sure it's the right fit for that consumer.

Jen LaLuzerne: 00:42:06 So to talk a little bit more about replacing behaviors, again, if you're reducing or eliminating a particular behavior, you need to plan for what replacement behavior you're going to have in there. Instead, some things you need to think about. Number one, your behavior needs to be functionally equivalent. So once you've identified the function of your behavior, if it's to ask to get out of something, if it's to ask to get access to something, if it's because I want to have your attention, you need to teach something that's going to do the same thing. So in a way to appropriately ask, to get out of something, to appropriately to gain access to something or to get your attention are some main examples that you'll run into. Then you need to identify if you know that what you want to teach is a certain skill like asking for a break.

Jen LaLuzerne: 00:42:46 Is that something that's in your students' learning repertoire already or is that something we're going to have to teach? Are there prerequisites that we need to consider? One of the studies I'll talk about a little bit later about rumination. They were teaching a replacement skill of chewing gum. That child had never chewed gum before so they needed to teach that before they could utilize it in their plan. And then you want to identify a replacement behavior that I think Amanda mentioned

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before is going to be reinforced by others, is going to be reinforced in the natural environment so that student is likely to generalize and maintain whatever skill that is that you've taught instead and that that will be more useful for that individual men engaging again in the severe problem behaviors that were utilized or used previously. Examples, if you want to decrease a pinching, somebody may come and pinch you to get your attention.

Jen LaLuzerne: 00:43:33

A better way would be to tap you on the shoulder, say your name bring a communication card to you that says hello or how are you? Something like that. Those are replacement behaviors that will get the same end result, which is getting attention but without utilizing an aggressive response. And another behavior example would be a student who falls to the floor or elopes in order to escape a demand. So we need to teach him or her a better way to get out of a demand which might be asking for a break or asking to not even have to do that particular activity till the next day. You know, depending on that particular consumer and what seems like a good fit for him or her.

Amanda Yeager: 00:44:09

So very similarly, we're now we're going to start talking about effective interventions that have been applied to severe problem behaviors. And the first one that I'm going to talk about is functional communication training, which is very similar to what we just talked about, which is replacement behaviors. And this intervention and treatment is wonderful because not only are you able to reduce those problem behaviors with this intervention, but you're teaching a very functional skill. So functional communication training or FCT is one of the most common and effective interventions for treating severe problem behavior. So you find a replacement behavior, whether that be needed a teacher or the repertoire and then utilize differential reinforcement of alternative behaviors. And that simply means that that skill that you're trying to replace those problem behaviors with is what you're going to be reinforcing. You're no longer going to be reinforcing the pinching or the falling to the floor. It's important to recognize when we're talking about reducing and eliminating problem behaviors, that those behaviors worked for that student. That was a means to an end that they did profunctional for that student. And we talked already about having to replace them and whether

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you're reducing or eliminating them, it's very important because it did get them what they want or what they needed.

Amanda Yeager: 00:45:28

FCT has been applied to various problem behaviors including aggression and self-injury and inappropriate sexual behavior. But it's also been applied to bizarre vocalizations and stereotypic behavior. It's inappropriate treatment intervention for various problem behaviors that tend to be maintained by social sources of reinforcement, whether that be positive or negative. So to go in more detail about how to select your alternative behaviors, Tiger and his colleagues in 2008 outlined some considerations. So first, consider the effort that's required to engage in your alternative response. It should be less effortful than the problem behavior, at least in the initial stages. And the reason being, if it's easier to just engage in the problem behavior than it is to do this functional alternative behavior, they're more likely to engage in the problem behavior. So if you make your replacement behavior alternative behavior less effortful, a lot easier to engage in, your students get to be more likely to engage in that functional behavior.

Amanda Yeager: 00:46:35

And topography-based systems such as sign language, the form of the response does differentiate between one verbal response from another. So the sign for play is different than the sign for break. And the reason that's important, are you going to be able to teach all of those replacement behaviors so the students don't guess what they need? If you only teach one response, will that be functional enough in various environments? Well, you need to teach lots of responses. And selection-based systems such as picture exchanges, the form of each response is identical. So you're exchanging that card and are differentiated by the stimulus selected. So this can pose some challenges for students diagnosed with autism spectrum disorders if they're not able to discriminate and scan between multiple pictorial or textural stimuli. So if they're presenting with ten icons, are they able to scan those and discriminate between those? So that's something to take in consideration if that's the alternative behavior that you choose. And what is the likelihood that others will recognize and respond appropriately. That's very important. So you don't want to teach a skill that only you recognize that only is functional for you, but that can be generalized to several different environments, such as calling someone's name to gain

their attention. And also what do they already know? What can he or she already do? What's in their repertoire already?

Amanda Yeager: 00:48:02 Another effective intervention that's been applied to severe problem behaviors is choice interventions and choice interventions are considered to be an evidence-based practice for individuals with severe to profound disabilities. But choice interventions have also been applied to typically developing kids. And many research studies have found that they also like to make a choice and that choice alone could serve as a reinforcer. And that's simply it. Just providing choice. It's a very parsimonious or simple intervention. It doesn't cost anything. You don't need a lot of resources but it can be an effective way to reduce challenging behavior. They also found it to be an effective way to increase appropriate behavior. So the example I gave earlier, do you want a pink worksheet or do you want an orange worksheet? Might be more likely to get that student to engage in math by giving them that choice. And choice interventions have been applied to self injurious behaviors, public disrobing and urination, as well as aggression and noncompliance. And then that study done by Carlson in 2008, they examine those behaviors of two students with autism spectrum disorders that engaged in public disrobing and urination and they implemented a choice intervention. So at a scheduled time in their school day, the students could change their clothes into a high preferred clothing outfit so they could choose whatever they wanted to wear. And they found that the public disrobing and the urination was decreased just by providing choice.

Jen LaLuzerne: 00:49:37 We've talked a little bit along the way about differential reinforcement. We'll talk about that in a little more detail. Now I have the very well known Cooper text definitions here for everybody. Differential reinforcement is reformed, reinforcing only those responses within a response class that meet a specific criteria. And along some dimension, these things of course can include frequency, typography, duration, latency or magnitude. And then all other responses in that class are put on extinction. So giving that higher level of reinforcement to the things that you want to see differential reinforcement of other behavior or DRO and differential reinforcement of alternative behaviors DRA are common procedures that we use here at Step-by-Step. Many research studies are things that most of you

is probably have probably used in your practice as well. If you're working students with autism, a DRO is a procedure for reinforcing for decreasing your problem behavior where reinforcement is contingent on a period of time where that behavior does not occur either at a specific time or during a specific time chunk.

Jen LaLuzerne: 00:50:43 Alternative behavior is decreasing problem behavior where your reinforcement is delivered for that behavior that serves as an alternative or replacement for whatever behavior it is that you're trying to decrease. And withholding reinforcement for those instances of the problem behavior. Examples, DRO is commonly used here. I have a video that you'll see shortly where you'll see a little bit of us implementing the DRO through the use of a very simple token economy system. So for that particular individual, if we're doing a DRO of sixty minutes you know, you have sixty minutes of not exhibiting those problem behaviors, but sixty minutes is kind of a long time to wait. So we have a token system where every twenty minutes that particular student earns, you know, earns a token until he has three, he gets to 60 minutes and now he can cash in for his backup reinforcer. A DRA Amanda again was speaking about earlier, but as you know, as something that we may use to, to increase those replacement behaviors and to reinforce those for occurring rather than whatever severe problem behavior we're seeing.

Jen LaLuzerne: 00:51:45 Okay. So the student that we'll show you now is a student that Amanda and I work with on a daily basis. He's a nineteen year old male with an autism with PDD-NOS. He has autistic disorder now used to be PDD-NOS when he was younger and a mild intellectual disability. He has protesting with aggression. Usually when we deny access to a ritualistic behavior or an order to escape or avoid demands the aggression can include hitting, biting hair pulling, kicking and appears to maintain, be maintained by various variables. But again, as I mentioned before, often occurs when we block some sort of ritualistic behavior or humans to avoid a certain demand. He also has self-injury which has changed over the years, but it's primarily hitting himself in the head and the chin, the chest and sometimes in the leg. When he was younger, maybe five years ago, he actually pulled out, manually pulled out permanent teeth from his jaw as part of the topography of his self injury,

		which obviously has a permanent consequence. So here's an example of some prevention procedures that we've talked about and now in a video
Jen LaLuzerne:	00:52:58	So at this point they're trying to provide choices for what reinforces [inaudible]
Jen LaLuzerne:	00:53:24	You can also see there is providing for which leisure activity he wants on his schedule. That is not an example. That's a non-example of the self-injury according to our definition.
Amanda Yeager:	00:53:57	And the only reason [inaudible] because there is a ritualistic behavior to elope there.
Jen LaLuzerne:	00:54:23	I think we moved to the next and it just moves to the next one.
Jen LaLuzerne:	00:54:35	Sorry about that little video issue.
Jen LaLuzerne:	00:54:50	This is a consumer who does very, very involved with the visual schedule. At this point he likes his schedule to show him almost entirely [inaudible] and if you do just a part of a schedule and you get to the end, he thinks that his day should be done, so he actually does better with the schedule on that legal pad that that takes up the whole thing, which would normally be pretty overwhelming for a lot of students.
Jen LaLuzerne:	00:55:19	Can we skip to the next slide?
Amanda Yeager:	00:55:38	Yeah.
Jen LaLuzerne:	00:55:38	Okay. Let's skip to the next one
Jen LaLuzerne:	00:55:44	And then this is him with his token system. He has one token on there already. Just like I said, he's a sixth..
Jen LaLuzerne:	00:55:52	Oh, I'm sorry. We're having technical issues with our videos here.
Video:	00:55:55	Oh, Ryan has more. You won! Nice job. I only got a little amount. Hey, I want you to ask for the pencil. Well, let me hear it now you can ask. Oh man. Thanks for asking this one. And then a break. Play a game there and have a space. You just let me know. All right, let's do some sight words.

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Jen LaLuzerne:	00:56:42	I think his timer will go off shortly. She can see him controlling his, self-monitoring his [inaudible]
Video:	00:57:26	Be careful. Remember your rules.
Jen LaLuzerne:	00:57:30	Gentle hands are a rule there.
Amanda Yeager:	00:57:32	That's another preventative procedure, just reminding them of the expectations.
Video:	00:57:37	Nice job! I love how you're following your rules. Good job. Woohooo!
Speaker 3:	00:57:43	Nice job putting on your tokens.
Amanda Yeager:	00:57:46	So when his timer goes off, he knows if he earned a token, he gets it from the back of his token board, puts it on the front and the three spaces. He sets his timer. Let's skip to the next slide. That's the end of that.
Amanda Yeager:	00:58:03	And also what you couldn't see in there, but what we write into behavior plans are also preventative procedures for staff to prevent them from getting injured. So you couldn't see in that video, but she has a helmet that goes around with her at all times when working with a consumer that engages in aggression.
Jen LaLuzerne:	00:58:20	Yeah. So the choices that you saw in the first video, I mentioned a couple of them, a choice of which reinforcers he was going to be earning for different parts of his schedule. And then also choices for which leisure activities he was going to do on his schedule and choices of daily living skills. As long as the daily living skills get done, we don't care what order they're done, he has that power. And that helps him move through his schedule. Just like Amanda was talking about before with the research about making choices. And then again the independence that he has with his, with his token system cause he's done it for years now he understands it. It's very motivating to him. Having him restate his rules which are gentle hands is his primary rule and so he's involved in that whole process.
Jen LaLuzerne:	00:59:07	So next what I want to talk about is a very, very common intervention in ABA, which is using extinction, different

interventions utilizing extinction and possibly extinction by itself. The Cooper text definition is here for everybody discontinuing of a reinforcement of a previously reinforced behavior. And the goal is that decrease in the frequency of the behavior until it reaches either a pre reinforced level or ultimately ceases to occur. One of the somewhat common side effects of using extinction is what's called an extinction burst, which is an increase in your frequency of responding when your extinction procedure is initially implemented. So if historically I punched somebody and I get what I want and now suddenly today I've done that for five years. It's worked great for me today. It doesn't work anymore. I may try to do it bigger and better than I've ever done it before.

Jen LaLuzerne: 00:59:58

And that's where you're going to see that extinction burst. If I used to tantrum on average fifteen minutes today, it's not working, I will protest longer or tantrum longer wondering, trying to figure out why it is that this is no longer working for me. So hopefully at the same time someone's teaching me a replacement behavior so I can get to to achieve whatever goal it is that I'm trying to achieve or that's what I've normally gotten out of that tantrum in the past. Near extinction procedures should be matched with the function of the target behavior. Going back again to the importance of your FA and your FBA is to make sure you identify the functions so that the intervention you're creating with extinction and possibly with other interventions as well matches the target that you're trying to hit. So side effects of extinction can include not only an extinction burst but also extinction induced aggression. And that's something that I will talk about as well. And just the general point that extinction is often a very critical component of any package of interventions that you're doing.

Jen LaLuzerne: 01:00:58

So to talk a little bit more about extinction verse, there's a couple studies in the past several years that have tried to examine how often does this happen? Certainly when we're training people and talking with parents and talking with professionals, it's something we caution everybody about. But the research shows that it doesn't happen quite as often as, as we might say, which is good, especially if we're using extinction along with some other interventions. So Levan in Iwata in 1995 conducted a literature review from five years of research articles to try to identify how often are these extinction burst

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really happening. So that we have an idea of what it looks like in our profession. So they had a specific definition here that helped them include which studies, figure out what to include and not, and it was an increase in responding during any of the first three treatment sessions above that observed during all of the last five baseline sessions.

Jen LaLuzerne: 01:01:47 If there were fewer than five than it was beyond that information and they found 113 data sets that met inclusion criteria to be part of their study and fifty percent of those cases had extinction as part of a treatment package, not just being used by itself. Other examples of what they did are listed here. DRA, DRO NCRs, non-contingent reinforcement and some other interventions. Of all of the cases they looked at extinction burst occurred twenty four percent of the time slightly higher when it was extinction only that thirty six percent. When they had a treatment package where extinction was part of that extinction burst only happened twelve percent of the time. So it was not actually quite as high as I think most of us think of when we're talking about implementing extinction procedures. So their conclusion, not as common as many people think and seems to be less likely to occur if you have extinction as, as part of a treatment package with other interventions that may help support and prevent those extinction burst from happening.

Jen LaLuzerne: 01:02:50 And we have a video of an extinction burst. Let me say something about it first. This is a young kiddo who has target behaviors of kicking, hitting property destruction and noncompliance. And this is a short video of two instructors working with this student as he's going through an extinction burst

Jen LaLuzerne: 01:03:38 So the instructors are not attending to the behavior itself, but I'm certainly stepping in to help ensure that the environment is safe for the student

Jen LaLuzerne: 01:03:54 Taking into block come property destruction when needed.

Jen LaLuzerne: 01:04:00 Have to make sure that he doesn't contact any way to get injured if he falls to the ground.

Jen LaLuzerne: 01:04:30 I want to talk about a handful of studies. Let me talk about extinction induced aggression first and then I'll talk about some

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studies where extinction was involved. So five years after the study that I just mentioned Lerman and Iwata listed another record review of eight years worth of research and looked at forty one data sets that came from thirty participants and they were selected based on specific inclusion criteria and the particular data sets they ended up with had these in these factors, ten of them use extinction only as their intervention, nine used extinction plus another intervention and then eleven of them had both of those within the study, part of it extinction only in that part of it extinction as part of a package. This actually was specific to self-injury, this particular study, and they found that with the different data sets that the behavior maintained by various functions for different consumers.

Jen LaLuzerne: 01:05:27

Escape attention access and automatic reinforcement. We're maintaining variables across these thirty different participants. And the results of their records review are listed here. Thirty nine percent did experience an extinction burst. Twenty two percent had an increased aggression that was extinction induced and nineteen percent of them had both side effects, both evidence of extinction versus well as extinction induced aggression. But fifty eight percent had neither of those side effects. So those were not even things that were observed in those particular situations. In the extinction only treatments, the extinction verse was found in sixty two percent of those which is a pretty high number higher than what they found in the, in the previous study from a few years back extinction burst was only fifty percent when extinction was used with another treatment. And similarly with extinction induced aggression, it was in twenty nine percent of extinction only cases but was lower fifteen percent when extinction was used with other interventions.

Jen LaLuzerne: 01:06:29

So there were also some important differences based on the function of your self-injury, which we've talked about. It's really important to identify that function. Doesn't matter if the topography is the same. If you've seen the same type of self-injury across three different consumers or students. If the function is different for each one of them, your results, your intervention, your observations are going to be different. So for those where the maintaining variable was social negative reinforcement, the burst occurred fifty seven percent of the time. And the extinction induced aggression was twenty three

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percent. Similar data with the extinction induced aggression and social positive also twenty three percent less though of the extinction verse. But interestingly the automatic reinforcement maintaining variable was not associated with either of these side effects. So the results, the final results that they concluded was that when combined with other interventions, your side effects of, of both extinction burst and extinction induced aggression can certainly be minimized to a significant degree.

Jen LaLuzerne: 01:07:33

So looking at some specific studies one study from 1994 looking at extinction paired with behavioral momentum, which we talked about behavioral momentum on an earlier slide with Amanda. In this study, they looked at two adults that had profound intellectual disability with dangerous self-injury and they did a couple of different conditions. One was a baseline where self-injury led to escape. Another was a high probability instructional sequence where as Amanda mentioned before exactly they did three high probability tasks or demands followed by one low probability demand and engaging in self-injury would lead to escape. And the self-injury in that treatment compared to baseline was the same or even higher for both of the subjects that they looked at. But when they did a high probability instructional sequence the same as what they did in the other element of three high probability followed by a low probability when self-injury did not lead to escape and they use physical guidance to follow through, they found that self-injury decreased in near zero rates for both subjects. Very important finding, seeing how those, how those things paired together, how those treatments paired together made the difference for those students we're doing. Just one or the other did not. The result of being an effective treatment.

Jen LaLuzerne: 01:08:56

I'm also for self-injury extinction and a DRA used together in a study from 1998 there was a 27 year old woman who engaged in severe finger-picking and she had autism and a profound intellectual disability. They were looking at different types of extinction, escape extinction and sensory extinction to try to figure out is one of these maintaining this more so than the other. And based on that information, what sort of intervention is going to ultimately be the best for this woman. When they did the escape extinction, they had hand over hand guide compliance to initiate the task cause that was one of the challenges that she was having. And they added a DRA to have

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her man for breaks and access to tangibles that she was also wanting to have that led to self-injury. When they did sensory extinction, they blocked her finger-picking and also redirected to a toy and praise her for engaging in that alternative behavior.

Jen LaLuzerne: 01:09:50 They did a condition of only the DRA and then they returned back and went to compare those different interventions to each other. What they found is that sensory extinction paired with DRA immediately suppressed the self-injury. But when they did DRA only then the self-injury stayed at the previous levels. So one of the things that they emphasize that many of these studies emphasizes again, the importance of identifying those, maintaining contingencies for your behavior that you're trying to target so that the intervention package that you put together as the right fit to help reduce that severe problem behavior.

Jen LaLuzerne: 01:10:26 Another study, recent one, 2009, extinction and visual schedules and DRO, which is actually very similar to the student that we just showed you earlier. They're subjects were two boys with autism, one who had only aggression and one who also had disruption in addition to aggression. And for these two boys, the function was avoidance and access to preferred activities. So the treatment conditions that they facilitated were a baseline where the problem behavior led to escape. Just like in similar studies they did a visual schedule only where they had pictures for the current activities as well as, as what was coming up next. They had visuals that the students could carry from one place to another to in theory, help them understand this is what's going next. This is how I'm getting there. And once I'm there, now I've made that connection.

Jen LaLuzerne: 01:11:13 I've already made that transition. But the problem behaviors remained in hundred percent of the intervals. So that in and of itself, visual schedules were not effective for these two students. They use then extinction in DRO where they did a three-step prompting sequence for compliance when problem behavior was displayed and they offered praise for transitions without problem behaviors. When they did that, when they did the DRO and extinction together, that's when they found their initial success where the two students, one of them had reduced pro problem behaviors by sixty one percent the other by seventy seven percent. Then they went and added visual schedules on top of that, which further enhanced their results

seventy six percent and eighty nine percent respectively. So adding those pieces together ended up being the right fit for these two students to make a big impact on reducing their severe problem behaviors.

Jen LaLuzerne: 01:12:06 One more study about looking at extinction paired with DRO from a 1993 study. They looked at three women who had profound intellectual disability. They all had severe self-injury that caused various tissue damage. And for all of these particular women, the function was positive reinforcement rather than automatic reinforcement or a different function. They did a variety of interventions different for each woman, multiple different combinations for each of them, combinations of DRO reinforcement extinction and DRO plus reinforcement for each of them to help identify what was going to be the best intervention for them. The results were that when self-injury was maintained by socially mediated positive reinforcement the processes of DRO are critical for the reduction of those behaviors, but DRO alone was not effective. They needed to have that extinction element with it. Again, critical to identify the maintaining variables in order to make a treatment package that is the right fit for your consumer. I don't think we can say that enough. Next we want to talk about some specific severe problem behaviors and with some of them we have some case studies from our Academy here to share it with you.

Amanda Yeager: 01:13:19 So I'm going to start out with encopresis which is a relatively rare condition but it does have serious implications for both that child and their family. Because it's so rare alot of us haven't even heard of it. So I have outlined the diagnostic diagnostic criteria for encopresis which includes repeated passage of feces and inappropriate places. This could be voluntary or intentional, at least one such event occurs at, so it happens one once a month for at least three months. The child is at least four years old and the behavior is not due to a medical condition or a direct physiological effect of a substance such as a laxative. And as you can imagine looking at those criteria that this problem behavior does present a myriad of problems for both the child and the family, including poor hygiene, caregiver fatigue, lots of educational and social opportunities, health problems for that child and low self-esteem for that child as well.

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Amanda Yeager: 01:14:22

There is very little research examining encopresis as reported by Radford and Anderson in 2003 with a lot of research, mostly focusing on faecal constipation and retention. But when the authors interviewed parents and practitioners working with kids exhibiting encopresis, they wanted to pinpoint reasons why this behavior might occur. The first was the anxiety. They thought that the children or perhaps an adult felt anxious about sitting on the toilet or perhaps anxious about letting go of their feces into the receptacle. They also thought that it could be a control problem that as humans the first thing we gain control of is what comes in our body and what goes out of our body. And with children with autism spectrum disorder living in what seems like an unpredictable world, having little control over their environment. This is one thing that they do have control over and perhaps they had a previous bad experience with sitting on the toilet and engaging in proper toileting behaviors.

Amanda Yeager: 01:15:25

Perhaps there was loud noises or the associate pain that was related to constipation with sitting on the toilet. And they tried to avoid it now. It could also be a skill performance deficit. So children with autism spectrum disorder as we know need to rehearse skills in order to maintain them. And a lot of the times they don't maintain skills without rehearsal. So not having enough enough rehearsal or not maintaining that behavior could be a reason why, but also they might not receive the intrinsic reward that typically developing kids do when using the toilet toilet appropriately.

Amanda Yeager: 01:16:03

But these authors Radford and Anderson did outline ways to tackle encopresis with the following steps. First and foremost, you should have a thorough medical check for your child, just to make sure that everything checks out internally and this should be done by a doctor. Take complete data, have a good understanding of what your child's bowel habits are. What times of the day do they tend to have a bowel movement? After eating? Is it at night? Is it in the morning? So having a clear picture of their bowel movements. And then also try to promote social knowledge and understanding as much as possible. You can present social stories so that they understand that that's where they're supposed to be using the restroom. Set very clear expectations. Try to promote consistency across caregivers. Those are all very important things. Teach the child

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to sit on the toilet and while you're teaching that ensure that they're having a positive experience.

Amanda Yeager: 01:16:59

So perhaps they can sit on the toilet with their favorite toy. So trying to repair the experience of sitting on the toilet if perhaps they had a bad experience previously. And if they are having bowel movements on the toilet, making sure that you're providing reinforcement. So we want to see that behavior increase. So we want to be providing reinforcement as much as possible initially. Try to get them on a regular schedule. So if you can plan where they be going and caregivers can plan that, you're more likely to set that child up for success. And then once they start having bowel movements on the toilet, you want to maintain that behavior by providing and utilizing intermittent reinforcement, which is simply not reinforcing every response. But maybe initially every other response or every two responses depending on your child.

Jen LaLuzerne: 01:17:47

And I want to jump in about one of our consumers here. We don't have data to present, but we do have one student who is here for quite a long time and I'm not sure if he actually ever got the formal diagnosis of encopresis, but he did have a lot of bowel accidents throughout the day. They were intentional. We did think that they were due to some laxatives, but when we took data being on laxatives off laxatives, changing the time of the day of laxatives, it didn't necessarily have a direct correlation with when we were seeing that behavior. But thinking about the severity of that problem behavior and his ability to control or not control when he went, it really prevented our ability to treat him. Because when that whole issue happens and he has an accident and it's everywhere and then people need to jump in to help support, we've lost our educational opportunities.

Jen LaLuzerne: 01:18:37

The family can't take this particular child out into the community because these issues can happen. It's a situation where this consumer in one on one setting with us is not going to be able to go back to a typical school setting because they will not have the staff to be able to support a problem behavior like that where we would normally need about four people to intervene to help keep his hands out of fecal matter to help support the staff and getting everything cleaned up. I mean, it was something that really required a lot of resources and staff

in order to help maintain or reduce that problem behavior. So it definitely is something that needs to be tackled to help that consumer be able to get a full life experience of being able to be out in the community and be able to be in the least restrictive environment.

Amanda Yeager: 01:19:25 Another significant severe problem behavior is PICA, which is the ingestion of nonfood substances such as sand chalk, cigarette butts that tend to be common non-edible items that are consumed. And as you can imagine, this is a significant problem and occurs with individuals with intellectual disabilities. Some authors have stated that the risk of death that is associated with PICA may be higher than other forms of self-injurious behaviors. So it really just pinpoints just how dangerous this behavior can be.

Amanda Yeager: 01:20:00 Other risks include intestinal blockages, parasites, having to have surgery to remove objects and various poisoning. PICA is not a new behavior that's being researched it's been researched for decades and previous interventions have utilized lemon juice and ammonia. They've utilized physical restraints, protective devices and over-correction

Amanda Yeager: 01:20:32 Hagopian and his colleagues in 2011 conducted a literature review that looked at empirically supported treatments for PICA and individuals with intellectual disabilities. And it looked at various research studies and they found that behavioral treatment is a well established treatment for PICA. And responses and interventions that combined both reinforcement and response reduction procedures tended to exceed their criteria that they established as well established or superior treatments for PICA. They did find that generally more studies relied on manipulating the environment to limit the opportunities to engage in PICA and by applying punishment procedures, contemporary behavioral treatments that are aiming to reduce PICA currently are trying to get PICA under stimulus control. So teaching children and adolescents what they can and cannot eat. Providing alternative and competing sources of stimulation such as unlimited or lots of access to food and establishing alternative responses once the individual contacts non-edible items. So perhaps exchanging that non-edible item for really reinforcing edible item.

Amanda Yeager: 01:21:58 Also in this study they did describe other interventions that have been used, some anesthesia interventions included non-contingent reinforcement and response efforts. So trying to decrease the response effort to engage in eating edible items and increasing the response effort to engage in non-edible items or just blocking it completely. They looked at interventions that manipulate the consequences, which included differential reinforcement, which we've discussed. Response blocking and interruption as well as punishment. And they found that antecedent interventions as well as interventions that are manipulating consequences combined, produced the most effective treatment and significant reductions in PICA.

Jen LaLuzerne: 01:22:45 A severe problem behavior that we fortunately so far at Step-by-Step do not yet have experience with and has not been studied very thoroughly at all at this point is suicide and suicidal thoughts.

Jen LaLuzerne: 01:22:58 The article that I'm going to talk about from 2011 is really the first article it seems to explore this with our population. So what they did is they looked at at a series of adults who were in a hospital psychiatric intensive care unit as well as private practice and identified twenty six adult clients with autism spectrum disorders looking at suicidal ideation and the suicide histories of those particular consumers families. Some of the things that they found out is that suicidality in this population is likely to be under reported for a couple reasons. One is that there are low rates of suicidal behavior in youth with autism spectrum disorders. It's going to be more common than adults, but then adults probably still now and hopefully changing is that there is definitely underdiagnosing of autism spectrum disorders in adults. It's only now that since we've really been focusing on autism in the past twenty, thirty years with behavioral interventions, that now we know more as these consumer students are becoming adults and we get to know more of what autism looks like in adults and can hopefully diagnose them better to better assess the risks of suicide and suicidal ideation in this population.

Jen LaLuzerne: 01:24:16 So of the twenty six consumers or subjects that they studied, two of them actually committed suicide. And here's a little bit of information about both of them. The first was diagnosed with

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PDD-NOS along with schizophrenia and was having alcohol abuse, had an IQ of ninety six and committed suicide by jumping off a bridge. The second one was diagnosed with Asperger's syndrome and schizophrenia had an IQ of seventy five and committed suicide by disembowelment. There were also two out of the twenty six that had attempted suicide. Both of them had autism spectrum disorders and mood disorders with psychotic signs. The first of those had an IQ of a hundred three and twice had attempted to cut into the arms and inject air into those veins. The second to suicide attempt or had an IQ of eighty and made cuts to his face as well as cutting off a finger with a razor. Eight of the twenty six were found to have suicidal ideation, and looking at family history which most people are very aware that suicide in the general population is correlated to a degree with suicidal ideation or completion of suicide in the family history. Two of these had one relative who had had attempted suicide and two of them had one or more relatives who had actually committed suicide.

Jen LaLuzerne: 01:25:43

Some things that they found about those who are more likely to have suicidal ideation or those who commit suicide have a higher level or higher frequency of anxiety. In their lifetimes twenty one of these twenty six patients had presented with delusions and nineteen had presented with hallucinations. We had a student here in the past who had delusions and thought and spoke frequently about death. That is definitely a warning sign that we may not always get, but it's something that family and relevant professionals are going to need to continue to monitor in the future to to best ensure his safety. Again, this study was the first to really explore this area and find this level of information and hopefully we will get more over time. But some of the main conclusions that they found is that suicidal behavior appears from this particular study to be somewhat highly prevalent in patients with autism spectrum disorders in these particular settings psychiatric services for adults. Those two that who did complete suicides had not been seen at all to have been at any risk, which is a little bit alarming and is something that we all need to know that in the back of our mind that that is something that could come up and a student may not be able to understand why or what exactly he or she is thinking may not be able to communicate it effectively, may not want to communicate it effectively. So it's going to be important

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for us, those of us working in the field with adolescents and adults to be aware that this is something that can be happening internally with the thought processes of those that we're working with. The symptoms of autism spectrum disorder lead to difficulty in psychiatric evaluation. So that may be part of why we may not be able to identify the signs. Just general challenges that our consumers have with communication or understanding social consequences or conversing with us may prevent them from being able to give us indications that they are thinking about suicide or wondering about it or planning a suicide. The absence of previous attempts, as with anybody in the general population should not minimize anyone's concern about the risk of suicide. And the ratio of suicide to suicide attempt is high.

Jen LaLuzerne: 01:27:57

To talk briefly about hair pulling trichotillomania we have a couple of consumers here who have demonstrated that in the past and or continued to demonstrate it now. We have one adolescent girl who in the past removed a lot of her hair and her parents then chose to actually cut her hair off to prevent that behavior from happening. And then as her hair came back in and we had to continue to do what we could to prevent that from being a recurring behavior. And for the most part with interventions and having gone through that process of not having hair to manipulate that as really a concern for her now. We also have a student who removes his eyelashes kind of up and down over time so that's definitely something that we monitor. Hair pulling is often thought to be automatically reinforced, but it can be reinforced in various ways and like all the other behaviors, it's really important to try to break that behavior part and figure out what's reinforcing about it.

Jen LaLuzerne: 01:28:50

So if you're pulling out your hair as it because you, you like the pain that's associated with it, do you like to see the hair? Do you like to manipulate the hair? What is it that you're seeking out of that? And in one study that looked at that, they found that with one particular subject in looking at the behavior in an alone setting versus when hair was freely accessible versus wearing a glove, that there was a sensory reinforcement and she had near zero to zero levels when hair was freely accessible when they had it. She, she really enjoyed the manipulation. So when hair was free, she didn't pull out her own hair to gain access to it. So again, your intervention must be function-based rather than

topography-based for those behaviors that are not maintained by socially-mediated reinforcement. We would love to go through some clinical case studies.

Jen LaLuzerne: 01:29:44 Aggression towards others, significant problem and people with autism and other disabilities. Two thirds of parents in a recent study reported that their child had exhibited aggression towards another person and fifty six percent continued to demonstrate that problem behavior. They certainly identified some risk factors. Aggression more prevalent in younger students. Early language delays, some, some relevance with higher family income, social and communication problems. But regardless of these risk factors, looking at your function is going to help you identify that proper intervention. We do have a graph in a case study about a student with severe aggression and property destruction. He's an eight year old male diagnosed with autistic disorder. The severe aggression towards others includes head butting, biting, scratching, hitting and kicking. Oftentimes they occur in the middle of a tantrum, but other times they can happen seemingly unprovoked, not with a clear antecedent that can be identified on a regular basis.

Jen LaLuzerne: 01:30:43 Also property destruction is seen in the form of ripping instructional materials, throwing objects and breaking items purposefully. The intervention had a lot of components. It had following through using a daily schedule, being consistent. These are more preventive approaches. Utilizing high rates of reinforcement on a variable schedule, very frequent thirty second schedule. And we had a DRO in place, neutral redirection and a non exclusionary timeout for aggression towards others outside of programming. And the graph is not very impressive. When we look at the baseline, we can see that aggression towards others was happening I would say thirty to thirty five times a day and aggression towards objects, which is property destruction was happening approximately ten times a day. If you were to calculate an average you can see where we implemented the time out which was a two minute timeout and the behavior is actually more or less worsened, definitely increased in variability but aggression towards others and towards objects or property destruction both increased.

Jen LaLuzerne: 01:31:47 So ultimately this consumer was unable to significantly reduce the rate of aggressive behavior with this intervention. In part

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because of some other factors. Certainly can't identify all the factors, but these are some important ones. There was inconsistency with medication administration. There was certainly questions about whether the consumer completely understood the contingencies and when that's the problem that's on us, we need to find out better ways to communicate that and us and also possible comorbidity with diagnoses. And that's something, especially in the adolescent center, we see a lot, a lot of mood disorders OCD, ADHD and other comorbid disorders along with intellectual disability and autism.

Jen LaLuzerne: 01:32:33 Looking at rumination rumination is the regurgitation of previously ingested food re-chewing and swallowing it. Sometimes it's the result of a medical issue, but usually when we're dealing with it and trying to assist with it with the consumers that we have, it's an operant behavior that we can manipulate and control and reduce. It is often in those circumstances maintained by automatic reinforcement of one source of another's. What several researchers have found is that it's very difficult to detect. You can't tell what is happening in someone's mouth sometimes. So when you're trying to record your baseline data and your intervention data, you may not be able to reliably know when rumination is occurring or not. And it also can have an impact on your inner observer agreement measures and whether or not your accuracy is on target or not.

Jen LaLuzerne: 01:33:22 There are some interventions in recent literature due to lack of time I'm not going to talk about them in depth, but some researchers tried administering a flavor spray as a replacement. I'm at other one use chewing gum offering of non-contingent juice and supplemental feeding. And ultimately what they found was that some of these interventions worked. Some are better as far as costs and others chewing gum and trying flavor sprays is going to be less expensive than providing additional food. Some potential problems with offering non-contingent juice or other things like that is that excess liquid can actually increase rumination in some circumstances, but not in all. And you need to look at caloric intake if you're doing supplemental feeding, that could be a problem.

Jen LaLuzerne: 01:34:11 So again, some considerations in treatment, expensive, the replacement items, caloric intake, difficulty in monitoring,

baseline in progress and being sure to thin the interval schedule as needed and appropriate for example with the flavor spray study, if you have the opportunity to, to read that article, they started out with a 22nd interval, found that that wasn't frequent enough, moved to a two second interval and then to a ten second interval that is not going to be feasible to maintain. In that particular case they actually taught the student to administer his own flavor spray. But doing that on a two or ten second interval for chunks of the day is going to be very, very difficult to maintain. Looking at one study from a consumer here at Step-by-Step Academy, we have a ten-year old male diagnosed with autism and a moderate intellectual disability. Engaged in rumination of liquids and solids up to hundreds of times a day.

Jen LaLuzerne: 01:35:05

Our graph shows a lower rate because the graph is from a little bit further in treatment. He was having severe health effects of low energy, lack of proper growth and for him and for many students it was particularly relevant within, you know, a certain amount of time after having had a meal. They tried different procedures were attempted such as satiation by giving the consumer starchy food after meals and rescheduling liquid. This particular consumer didn't ingest a lot of liquids in that was of concern or we wondered how that was relevant to the rumination concern. The intervention that we use was an oral hygiene procedure. He was given a Listerine strip, which didn't work effectively enough. And then we added toothbrushing with baking soda when he ruminated. As you'll see in the graph in a minute, the consumer was able to reduce instances to near zero levels with the procedure. However, at a point we needed to stop the procedure due to some changes in Ohio state laws that led that to being considered an adversive and was something that we immediately needed to stop. And you can see that as soon as we stopped that the rumination went back up. So this is an example where you can see something working but it may not be something that you can maintain for one reason or another and you'll have to look at different options for interventions.

Amanda Yeager: 01:36:24

The next clinical case study that I'm going to talk about is a fourteen-year old that engaged in significant protest with aggression as well as spitting and blowing and smearing nasal mucus or snot. He was fourteen, diagnosed with an autistic

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disorder. His severe aggression included kicking, hitting staff, pinching, and he would actually grab staff and slam them against the wall. He also exhibits aggression towards objects or property destruction kicking holes in the wall and throwing and knocking over furniture. He exhibits the spitting and blowing nasal mucus onto staff and objects within the classroom. And these behaviors appear to be maintained by denied access to preferred items to try to escape and avoid tasks. And also there appeared to be an attention seeking component at times. The intervention that we put into place included a visual schedule. So we tried to play upon his strengths, which was time telling.

Amanda Yeager: 01:37:24

So we outlined a visual schedule with the times on the right hand side and then the tasks on the left. So along with that he was allowed to put those tasks in order and manipulate that schedule as appropriate. We also allowed him to say, "No thank you." Those were some of the replacement behaviors that we taught. And then for the attention seeking components, teaching him appropriate ways to bid for attention, such as "Help me" or "Play with me." His reinforcement schedule was based of a perfect hour criteria and or a sixty-minute DRO, and it depends on how you want to describe it, but basically his first opportunity to earn reinforcement was at 10 o'clock as he arrived at school at nine. So he had to go, but he had to arrive at school and have him follow those rules of not engaging in those target behaviors until ten in order to access his reinforcer. But if he broke his rules at 9:15, the next opportunity to earn reinforcement would that not be till 11:00? So that's how we were as how we work through that. And also neutral redirection. We would redirect him to the task at hand.

Amanda Yeager: 01:38:28

Looking at his graph, you can see that in baseline it was pretty variable looking at the axis of the frequency of time or the duration of times he engaged in protesting with aggression. It ranged. So as soon as we implemented our intervention that I just described, you'll see that initially it didn't go down right away. There was two data points or two days in which it stayed at baseline levels, but then it went down significantly. So even now he displays aggression less than a minute a day. As soon as we added another target behavior to his behavior plan, you can see that protesting with aggression did increase. And this is fairly common to see it in environments. This is the spitting graph. So again in baseline, pretty variable but pretty high. So at

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one day he had fifty frequency of spitting and this is at staff at people. And one thing that I forgot to mention as our intervention was restitution. So when he did spit or smear nasal mucus, he was required to put on gloves and clean that up. You can see as soon as we implemented an intervention, it did go down significantly. Almost right away.

Amanda Yeager: 01:39:44 Here's our nasal mucus graph. So baseline variable pretty high. As soon as we started a plan it did not go down and that's because it wasn't one of our target behaviors. Initially. We wanted to ensure success with protests with aggression that was significant. And we also wanted to target the spitting that was happening. Like you could see about fifty times a day. So as soon as we started targeting that behavior, it started to decrease. He understood those expectations, he understood those contingencies to earn reinforcement. So as the data demonstrated, we were successful at reducing those behaviors. Some key roles and variables that we hypothesize to play an important part in our behavior plan was teaching those appropriate placement behaviors, providing a consistent schedule of reinforcement, and also implementing the consequence of losing those preferred items when you engage in the target behavior.

Amanda Yeager: 01:40:38 We also spend a great deal of time at training our staff to implement this treatment with fidelity. And that was very important because if I'm doing something different than Jen is I could be inadvertently reinforcing that behavior. So we spent a great deal of time training and role with staff, the parents anecdotally at home reported better behavior. What we're hoping to do in the future is generalize this behavior plan to go into the home so that the parents are helping to implement it and they are to a degree, but our generalization and maintenance is not yet known but I'm very hopeful that it'll be pretty spectacular. Another case study here at Step-by-Step is a kid that engages in protests with aggression as well as inappropriate sexual behavior. He's thirteen years old, diagnosed with autistic disorder, a severe intellectual disability, bipolar disorder and OCD.

Amanda Yeager: 01:41:32 His aggression included hitting, biting, hair pulling, kicking property destruction as well as self-injurious behavior that included biting his hand. And I should mention that a lot of this

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progression was very significant cause lots of staff injuries. And it also posted a great danger to himself with the, with a significant property destruction. It appeared to be maintained by various variables. A common antecedent that we found was interruption of ritualistic behaviors and and just see it did impact his day to day, his learning opportunities, and if you interrupted it in a way that he did not like, he would display significant aggression. His inappropriate sexual behavior was touching himself repeatedly over top of clothing. We did not conduct a functional analysis to determine the absolute function, but with functional behavior assessments, this would be behavior appear to be maintained by automatic reinforcement and appeared to be masturbatory in nature.

Amanda Yeager: 01:42:30 So we tried various things. This included a token economy system. So we first started out with a time-based token economy system, a DRO where he can earn tokens to cash in for, he usually chose the computer, his backup reinforcer. We always utilized a visual schedule and timer to signal when reinforcement was available, as well as when reinforcement was over. We use neutral redirection to task. We tried to physically block him from engaging inappropriate sexual behavior as well as manually blocking with restrictive clothing. So we brought up a tolerance to biker shorts where we then inserted a cup thinking that we could block the automatic reinforcement, but it turns out that we were not successful at doing that. Another intervention was the family working very closely with a psychiatrist.

Amanda Yeager: 01:43:17 So looking at the data, and this is across a year, you can see that in baseline protesting with aggression was significantly high. When we introduced a token economy system, behavior did not decrease right away, but over time it did have lower rates. I did put in some of his medication changes certainly not all of them, but just to demonstrate how many different medication changes he had over the last year. It was used just as a demonstration. It was very difficult to graph and to track with those changes, those medication changes had on behavior, but we then modified his, his token economy system. Behavior still stayed at low rates and then increased. And it was hard to identify if it was something environmental, if it was something behaviorally or was it medication related?

Jen LaLuzerne: 01:44:09 Interesting things with the medication. And it may show up on one of the upcoming graphs is that there was at least one medication at one point that that appeared to have a really positive impact on behavior but the side effects that it caused for him and his family. I don't remember Amanda if it was a sleep and food-related, but the side effects are so severe that even though it helps with the problem behavior, it had other such strong impacts that that medication needed to stop, which is often a problem as we see kids moving into adolescence and adulthood.

Amanda Yeager: 01:44:39 Right. And like Jen said this is the graph we're protesting with aggression just showing a shorter amount of time and nothing changed with his behavior plan. But you can see that when a new medication was introduced, there was lower rates of problem behavior. And was it the fact that he was very tired? That could have been why. And that's certainly not a quality of life that we want or we recommend or that we find to be effective. Here's the graph for inappropriate sexual behavior. So looking at the axis, you can see that the frequency is very high. It goes up to a thousand times a day and and baseline very high rates of inappropriate sexual behaviors. Implementing the token economy system reduced it maybe, but not to significant level. So even though it might look like it's at zero, the access is skewed and it was still occurring between fifty and sixty times a day, sometimes two hundred times a day.

Amanda Yeager: 01:45:34 As soon as again can see all of those medication changes. It's hard to say if it was something that we did behaviorally or a medication change that change the frequency of his inappropriate sexual behavior. And I know that his parents were closely with a psychiatrist trying to target this behavior, looking at medications that could reduce the hypersexuality and another things like that. Same behavior, inappropriate sexual behavior, but the time span is shorten. So you could see a little bit better that the trends his medication did play a part and we're not sure if it was because he was more tired or what kinds of effects it has. It's certainly not our expertise. That's why the families work with a psychiatrist to target those things and adjust medication as needed. We provide behavioral interventions and graphs in order to support them.

Amanda Yeager:	01:46:26	So, you know, examining these graphs and discussing what we just did, the protesting with aggression and inappropriate sexual behavior reduced but not necessarily eliminate it. And like we said, we're not sure if it was something in the environment that reduced those behaviors or was it medication-related, he was very tired and that's not something that we want for him either. There were factors to consider that didn't impact our efficiency and effectiveness with him. And that was the number of medication changes over the last year. And I wasn't even able to put them all on the graph. But that definitely plays a role. He had many comorbid diagnoses that impacted his behaviors. And also restrictive interventions that we might not be able to perform and implement within our clinical settings. So inappropriate sexual behavior were limited as to how we can target that and the research doesn't give us a lot of resources to use and to target that behavior. We were unable to redirect him to a bedroom or anything like that cause it's never appropriate to engage in those behaviors at school. So that's something that we cannot do. So those restrictive interventions certainly played a role on our efficiency and effectiveness.
Jen LaLuzerne:	01:47:39	Closing thoughts covered a lot of different problem behaviors today. Some common interventions that can be used either individually or in a treatment package. Hopefully you learn some new gems from the things that we shared today through clinical case studies, review of recent literature and just talking globally about severe problem behavior. Again, always work to find your function to come up with the best intervention and best wishes and good luck.