

Transcripts of Carl Lejuez Spotlight Video

The research that we conduct here at the Center is really interested in what are the underlying determinants of substance use. And then also, how do we take the information we learn about why substance use happens, and apply it in treatment. And to do that it means we have to engage in what we call translational research.

And what translational research means is that we are very interested in doing studies that get really at those basic processes. Instead of a disorder, where we are talking about a final presentation so someone with depression or substance use that's kind of how they are presenting. A process is kind of, what is happening that leads to that.

There's two processes that we focus on. One is positive reinforcement, and the other is negative reinforcement. Starting with those two basic concepts we are really interested in ways we can make tasks in the laboratory that allow us to isolate those processes.

One is the balloon-analogue risk task. And that's for positive reinforcement. That's an approach to risk taking and kind of the processes underlying substance use, where we are really interested in how one is willing to balance the positives and negatives of taking a risk in terms of trying to obtain something. In this case we use money on a computerized balloon, where the more you blow up the balloon, the more money you can earn but the problem is, sometimes the balloon will break. And so, we really try to think of risk taking on a continuum where not being risky enough is a problem, but being too risky is also a problem. And really see, essentially, how much risk tolerance someone has.

And the other side of it, the negative reinforcement, we've been developing tasks to get at what someone will do to make stress or negative feelings go away. We've started with a concept called distress tolerance. So, we'll stress someone in a really difficult math game, or have them trace a star backwards and it starts to get impossible, and they can't do it. We see how long they persist in that. If they can't do that, then that also means that other kinds of stress they may not be able to persist through it. We've done several studies thinking about how these two concepts can help us predict when someone will drop out of a drug treatment center.

So, in the same way that for the negative reinforcement they can't tolerate negative feelings on the tasks, it may be the case that when they are in drug treatment they can't tolerate all the difficulties of that. The impact of the research that we're doing at one level is to really show that these individual vulnerabilities are important. That, one's willingness to take risks, one's ability to tolerate psychological distress, one's impulsive tendencies, that these are really important to understand at a young age. And it's really important to understand how these change over time.

In our lab we tend to focus on substance-use-related risks, but I think it would be a mistake to not consider what some of these other risk taking behaviors are, especially because it's sometimes the case when someone stops a substance use behavior, if you don't really get at what some of the underlying reasons for them beginning and continuing in the substance use, they may move to other risk taking behaviors, to fill that same functional need. So I think, at the same time our bread and butter is really substance use, I think we try to not be narrow.

We certainly are very interested in how we can apply this clinically, and specifically we've become really interested, going back to this idea of positive and negative reinforcement, of not just thinking about how to get someone to stop using a substance but also what else they can do to get some of the same gain that they were getting from the substance before. So, maybe moving away from the idea of just trying to get someone to stop, and more about why were they were doing it in the first place.

One thing that our work tries to do that ties very well to the mission, is to really think about how do we use basic research and a really thorough understanding of all what the determinants of behavior might be to start to develop novel treatment programs that will tie all of this together.

It can be easy for people to feel somewhat hopeless, in terms of what we are able to do and what the prognosis is for individuals with addiction, and I think the more we can help isolate and show why these things are happening, and that when we are able to treat them in the most precise ways that we can actually make changes that we can actually help individuals be more healthy, live a more full and valued life. I think that will have a big impact.