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**SPEAKERS**

Rebecca Bucci, Jenn Tostlebe, Jose Sanchez

**Jenn Tostlebe** 00:14

Hi everyone! Welcome back to The Criminology Academy podcast, where we are criminally academic. My name is Jenn Tostlebe.

**Jose Sanchez** 00:21

And my name is Jose Sanchez.

**Jenn Tostlebe** 00:23

And today we have Dr. Rebecca Bucci on the podcast to talk with us about adolescent development and delinquency, as well as risk perceptions.

**Jose Sanchez** 00:33

Dr. Bucci graduated from... \*laughter\* You're going on the blooper reel now!

**Jose Sanchez** 00:46

Dr. Bucci graduated from Pennsylvania State University’s department of Criminology in August 2021. She is now working as a Postdoctoral Fellow with Rob Sampson on two large projects related to exposure to violence and criminal involvement over the life course. Her interests include communities and crime, adolescent development and delinquency, policing and offender decision making, particularly perceptions of arrest risk. She has published in Criminology and Child Development. Her ongoing work, in addition to her postdoctoral work, is on 1) the impact of policing on potential offenders’ perceptions of arrest risk and offending, 2) the measurement of perceptions of arrest risk and willingness to offend and how they are impacted by various heuristics, and 3) extending my research on pubertal timing to various related outcomes such as mental health, body image, and tobacco use. Thank you so much for joining us today, Rebecca.

**Rebecca Bucci** 01:46

Thank you for having me. This is great.

**Jenn Tostlebe** 01:48

Alright, so a brief overview of what we're going to be talking about in this episode is first off, we're going to start talking about adolescent development very broadly speaking, to get some background for the paper that we're going to discuss today on pubertal timing and adolescent delinquency. And then finally, we're going to finish by talking about some of Rebecca's dissertation work on risk perceptions. So Jose, I will let you get us started.

**Jose Sanchez** 02:17

Yes, okay. I feel like this pubertal word is really going to...

**Rebecca Bucci** 02:21

It's really awful.

**Jenn Tostlebe** 02:22

It is terrible!

**Rebecca Bucci** 02:23

It's honestly so terrible that this is like the topic that I am published in. But

**Jenn Tostlebe** 02:29

Well and I was like, Jose, how do you say this word?

**Rebecca Bucci** 02:33

So Rich Nelson, he says pubertal. But I can call it PT. Like, I'll say that, and then you could call it that.

**Jose Sanchez** 02:42

I was like, I don't know if you should be asking the English learner how to pronounce this word. It looks like puberty. So I'm just gonna go with pubertal.

**Rebecca Bucci** 02:53

That's what I say, so.

**Jose Sanchez** 02:56

Okay, so we've already kind of gotten into how to pronounce it. But what exactly is pubertal Timing? And kind of specifically, how is early, on time, and late pubertal timing defined?

**Rebecca Bucci** 03:09

Yeah, right. So I agree, it is kind of a goofy word. It has made for a lot of awkward presentation sometimes. But so pubertal timing also called PT for short, is your relative development to adolescents your same age and sex. So if you think about this is usually measured in kids who are like 14 or 15. And so if you had, say, a 14 year old girl, whose score on the pubertal development scale, which is five questions asked about specific things, like if you've had a growth spurt, if you're noticing acne, things like that, and then if your score on that is one standard deviation higher than your same sex and age peers, so that 14 year old girl, if she's scoring higher than other 14 year old girls she'd be considered early. And the reverse if you're one starndard deviation lower than you would be considered late. And so we do that for both boys and girls. It was all about sex and age graded.

**Jenn Tostlebe** 04:04

Okay, and what can cause then pubertal timing or PT to be early and or late in kids?

**Rebecca Bucci** 04:12

Yeah, great question. So I will preface this by saying there's a whole field that studies this. And this is not in my crim background. But there are some reasons why this is interesting, which we'll get into later. But so there's some evolutionary reasons why things like early life stress, being raised in a low socio economic status household, a stressful household, being raised by a single parent, all those things are known to be related to earlier pubertal timing, specifically in girls, but there's some evidence in boys as well. And so, I guess to touch on the evolutionary reason is that if your resource deprived or growing up in a stressful environment, then it makes more sense to have more time to procreate and more time to be able to have kids. And so that's why it starts earlier.

**Jenn Tostlebe** 04:58

Is there a reason for why it would start later?

**Rebecca Bucci** 05:02

So I don't think is so much research on that. I actually don't really know. But as far as causing it, the correlates are like, if you're raised in a household, closer relationships with your parents, more parental warmth, things like that, but I'm not sure if there's so much research that would say what the cause of being late is. There's some stuff also about just like your, like body weight. And so for girls, right, you actually need a certain level of body fat to reach the milestones and stuff. And so that could be a reason if you were like, very underweight that you end up being late.

**Jose Sanchez** 05:32

That kind of makes sense. Jenn and I were sort of discussing this -- and this is not at all, even remotely close to what Jenn and I do, so this was all just us like speculating and things we picked up on the TV or the internet -- and one of the things that I had heard was, like girls that get into sports, that sometimes like the physical stress from being active in sports can delay PT. But again, I heard this during the Olympics like ten years ago.

**Rebecca Bucci** 06:04

It's good timing, because I think that's where most people think about is with gymnasts, right? Who are like, very strong, but low body fat. And so there's actually a couple studies that have like, specifically looked at that group, because it's a way to kind of isolate kids that are developing later. But yeah, no, you're spot on for some of the reasons.

**Jose Sanchez** 06:20

So one of the things that, at least I've often heard about kids who mature quickly or are first to "grow up" quickly because of adversities in their lives and sorta, you know, you hear this with girls that lost their mother, they had to maybe take on more of like that motherly role within the household or something along those lines, or they have to take care of their younger siblings, you know, kind of step into like that parenting role quicker than maybe some other peers. Can you maybe walk us through how pubertal timing maybe a risk factor or even a protective factor regarding delinquent behavior?

**Rebecca Bucci** 06:58

Yeah, so I don't know too much. I don't know how, or if it's related to like those specific instances. But I think that you're right, like it's a good parallel. Kids that are like, forced to grow up, right. And part of it is that they're also being treated by other people like they're older. So one of the reasons why it could be a risk factor is this idea that right, your parents start treating you differently, they see you as older, they're giving you more responsibility, your teachers might be doing the same thing, you start getting older friends, for girls, right, they're more likely to be desirable dating partners now because they're more mature. So all those things can lead you into a different type of peer group, or lead you into kind of different supervision levels from your parents, you know, just straight up different social environments. So it is this biological thing, but it's very social, in the way that it could manifest as a risk factor. But that being said, there is also the potential for all those things that predict early puberty, like low socioeconomic status, or being raised in a single parent household, or even things like neighborhood crime rates that have been shown to be predictive of puberty, but we also know they're predictive of delinquency. So it's kind of this, I guess, toss up between whether is it, you know, spurious relationship between these things that are already related? Or is it you know, these changing social environments? Or what's a little bit outside of the scope of my paper, but is it more just straight up hormones and more biology?

**Jenn Tostlebe** 08:25

And then the good kind of segue into our next question, which is much more theoretical. And so can this link between PT and delinquency be explained by what we think of as our traditional theories of crime? So control, learning, or strain theory. Or do we need some kind of alternate perspective to explain the link? Or is it just all spurious, like you mentioned?

**Rebecca Bucci** 08:49

Yeah, so I think this is a great question. I've actually thought about this, as you know, someday giving this to a grad student as a comp question, which is, like, apply every theory you can to this phenomenon, because it works pretty well. Right? So the control angle, right, if you're not supervised, kind of like a routine activities approach. You know, I was even thinking, I didn't write about this, but even things like social bonds, if you're, you know, you feel older, and you don't want to kind of partake in these like childish things anymore, then, you know, you might be less bonded to them, you might care less. So there's that. There's, you know, social learning. As you mentioned, you're hanging out with different peers, they're more engaged in delinquency. And even you know, it's worth mentioning that if you're hanging out with older kids, things that are delinquent for you might not even be delinquency for them. The dataset I use is kids from the UK and so they can legally drink at 18. So if you're 15 and hanging out with 18 year olds, you know, it's crime or delinquency for you, but not for them. And so all those social environments are changing. You know, also strain if you're, you know, you don't feel like good in your own skin. That can be a reason why you might be participating in crime. Yeah, definitely a lot of different reasons. I don't think there needs to be a specific theory unless, you know, I can come up with my own and then that will be my mark, that would be great. But you know, there are some theories that specifically touch on it. Like, for example, Moffitt's work on adolescent limited and life-course persistent offenders, like she specifically talks about how puberty can kind of interact with, you know, this period of your life and result in differences in crime and offending.

**Jose Sanchez** 10:23

Yeah, so I guess this to me, it sounded like maybe not so much its own theory, per se, but something that should maybe be considered in these other theories that we have, what is it, now I'm blanking on the word, a perspective?

**Rebecca Bucci** 10:41

Yeah, I think a lot of the parts fit. So I don't know if I could attribute it to one thing, you know, it is kind of a blend of everything, I guess.

**Jose Sanchez** 10:50

Yeah. Okay. So sort of on that note, does the research support a link between PT and delinquency?

**Rebecca Bucci** 10:57

Yeah. So there's a decent amount of research on PT and, you know, a host of different outcomes, one being delinquency, I think that area, still has a lot of studies, but is, you know, more sparse than, say something on mental health or substance use. But the research that does exist does show this positive relationship. So more development or the earlier developed kids are more likely to be engaging in delinquency at higher rates, things like that. The research is a little less clear on the impact of if you're late. So is late, you know, a protective factor? Kind of the inverse of being early or is it its own risk? There's some reasons to, you know, different theories that would expect it to be problematic or protective. But overall, the research does support this link. And there's just more of it for girls than there is for boys. So more established for early PT leading to delinquency for girls.

**Jenn Tostlebe** 11:53

Alright, so I think that's a good place, then to move into your paper that we're going to talk about. And so this papers authored by our guest, Rebecca Bucci. And her colleague Jeremy Staff, it's called “Pubertal timing and adolescent delinquency” and was published in Criminology in 2020. So to give a little bit of a summary about this paper, there are two main aims. First, Rebecca and Jeremy replicate prior research to show the effects of PT timing on delinquency. And then from there, they try and unpack why the risk of delinquency is higher for early PT youth and lower for late PT youth relative to those whose PT is on time.

**Rebecca Bucci** 12:35

That is a mouthful, I'm sorry.

**Jenn Tostlebe** 12:38

So these aims were examined using the intergenerational and longitudinal Millennium Cohort Study included over 11,000 Child-parent pairs. And theoretically, the PT delinquency relationship is because of changes in parental supervision, peer affiliations, and body image perceptions. That's kind of what you were just talking about earlier. Or is it instead this spurious reflection of early life risk factors? And so these possible theoretical explanations are examined in the paper.

**Jenn Tostlebe** 13:18

All right. So our first question then, for you surrounds kind of this gap in the literature. And so what was the motivation for this paper?

**Rebecca Bucci** 13:27

Yeah, when you guys had pitched this question to me, I was kind of thinking of like, why did I choose it? And more of like, I chose it as a class paper, which was kind of funny. But so the motivation is that, you know, the research that had existed was more limited to looking at girls and not boys. It's based on smaller sample sizes. It usually, when it does look at Boys, it's not a single study that's looking at boys and girls in the same one. You know, like you said, small sample sizes. But one of the main things is that a lot of this work is done in studies that don't have prospective measures of early life risk factors. So they're usually studies that are starting when kids are older. And so you know, things like what it was like when the kid was seven, or 11, or even earlier, or what is their the parenting practices, like, those things are either not included, or they're retrospective, which can be kind of hard to rule out this potential spurious argument. And trying to think of other motivation. I mean, it's generally the case that there aren't a lot of, you know, kind of the gold standard measures of puberty aren't included in larger studies like this.

**Jose Sanchez** 14:33

It's kind of nice to hear that this came out of a class paper because I've don't think I've met anyone that had a class paper actually turned into a publication.

**Rebecca Bucci** 14:47

Shout out to Jeremy for you know, helping me with this and making me pursue it but it really did start out of the class paper having to write we had to do data analysis, and I don't know if it just happened to be luck that I read this, you know, Moffitt's work is kind of where I got the idea at the same time that I learned about this dataset, but it worked.

**Jose Sanchez** 15:07

Yeah, no, my data paper does not remotely look like it did in class.

**Rebecca Bucci** 15:14

Well, it doesn't look anything like it did in class. This was several years later.

**Jose Sanchez** 15:19

Oh, yeah. Okay, so one of the things that you point out early, is that explanations for the effects of PT on outcomes tend to be underdeveloped for boys. And so we were wondering why this might be the case?

**Rebecca Bucci** 15:32

Yeah, so I think one of the reasons is, you know, it's harder to measure puberty or pubertal timing in boys. In girls, there's like a much cleaner measurement you can ask girls when they start getting their period. And usually people remember that. So if it's retrospective, you know, you have that measure. For boys, there's really no comparable measure. And so I think it's just harder in samples of boys. I think there's also, you know, historically, this research has been done on girls, we know that, you know, even though there's this relationship, it tends to be almost more obvious for girls. I can say, I'm working on another paper right now, looking at body image and self esteem for girls. And, you know, while the relationship might exist for both boys and girls, just girls are doing so much worse on these types of things during this period that I think it's just, you know, parents, teachers, researchers are all kind of viewing it as almost more important. So I think those are the reasons for it. I don't know.

**Jose Sanchez** 16:32

I'm guessing that asking, When did you get your first whiskers doesn't quite work out?

**Rebecca Bucci** 16:36

Yeah, right. There's no clean cut, you know, way to say it. And so it's just not.

**Jose Sanchez** 16:42

Yeah, now you got to kind of remember. Yeah, I wouldn't even like I wouldn't even know what to say. I'm guessing sometime between like, seventh and eighth grade, maybe.

**Rebecca Bucci** 16:53

Yeah, so it's hard. And it's also it's less obvious to other people. So like, you know, your parents... This is known in the literature, why parent reports of kids puberty is not a great source, because for girls, they might have some idea. But for boys, it's much harder to really kind of know what's going on. So I think that that's also a really good point is like another reason is just, you know, it's kind of..

**Jose Sanchez** 17:17

Yeah, it's interesting to think about, because yeah, now that for a while, I don't know why I'm thinking about it now, like for myself, but I guess it was sometime like in the sixth grade. Like two other boys and I were like, kind of kicked out of like the class song because our voices started to, like, start cracking and deepening.

**Rebecca Bucci** 17:37

Yeah!

**Jose Sanchez** 17:38

So I guess that's kind of what we started showing signs, you know. But yeah, I can imagine that's hard to kind of pinpoint.

**Rebecca Bucci** 17:45

But yeah, I mean, so like, it's definitely, you know, a more awkward topic to be talking about puberty than like, I don't know, peer deviance or something. But it's also something that everyone understands, like, everyone went through it and everyone had peers. And so I think that's actually what makes it kind of an interesting topic is like, everyone has their own kind of like example of their friends maybe getting more deviant, for their friends kind of getting, you know, more freedom that they didn't have, or something like that.

**Jenn Tostlebe** 18:11

Alright, so I mentioned these in the intro, or the summary for your paper, but four explanations have been offered for the effects of off time pubertal development on delinquency. Just a recap. These include early life family stressors, changes in parental supervision, changes in peer affiliation, and then changes in negative body image perceptions. So we want to go through each of these, and we're gonna go through them in order that they're presented in the paper. And so first, can you tell us a little bit about how early life family stressors might account for the PT-delinquency relationship?

**Rebecca Bucci** 18:50

Yeah, so some of the stuff that I was saying earlier, like being raised in a single parent household, or, you know, family stress. We know, as criminologist that that stuff is related to delinquency. And so the argument kind of is, if it's the case that, you know, these early life risk factors, in some cases, some studies have shown you know, neighborhood crime rates are a predictor of earlier puberty, right? Those types of things are predicting puberty and also delinquency, then maybe it's not puberty, and it's just this spurious relationship with something else. And so we really try to get that in this paper, by controlling for all these early life factors that were, you know, measured prospectively and recorded by the parent and are pretty rich measures to test that.

**Jose Sanchez** 19:33

And thinking about or thinking next, about changes in parental supervision. How might that explain the PT to delinquency relationship?

**Rebecca Bucci** 19:44

So I kind of talked about puberty being or, you know, this process being a social thing. And so, one of the potential explanations is that as kids get more developed, you know, their parents kind of react to that and so you look older, you seem older, you know, your voice is deeper, you sound like a man, right? So your parents might give you more freedom, they let you get a job, they let you get a license, you know, stay out later things like that. And so it could be the case that, you know, again, it's puberty, but it's the fact that it's changing the way that people are reacting to you. It can we also, what's hard to tease out is that it could also be the kid kind of pushing back for these things, you know, asking for a later curfew because they feel older, right. So that I will say, is harder to tease out, I'm hoping to do that with some future work. But the idea that your parenting structures changing or even, you know, your teachers might even be treating you differently, you're just getting more freedom. So it's really the idea that, you know, the way you look and potentially are acting is, you know, kind of being interpreted by your parents who are treating you older.

**Jenn Tostlebe** 20:49

The third possible explanation then for the PT-delinquency link is peer affiliations. And I'm guessing that this has a lot to do with socialization as well. But can you tell us how peers may account for this relationship?

**Rebecca Bucci** 21:03

So a similar thing, right, it could be, I guess, to build off the parenting stuff, it could be that your parents are supervising you less, so now you're hanging out with the delinquent kids, you know, stay up late, doing those kinds of things. But it can also be, you know, the age old problem in crim of selection or influence, right. So you could be getting your peers into more delinquency or older delinquent peers can be seeking you out as a friend, there's some research that suggests that kids are more likely to gain delinquent friends and lose non delinquent friends when they're early developers. But yes, still a social phenomenon. And that, you know, the older you look, you're more likely to have these older deviant peers, especially for girls, this can translate into, you know, dating older boys. And so that is an additional risk factor there, too.

**Jose Sanchez** 21:49

And the last one is body image perceptions. So can you talk to us a little bit more about how that plays into it?

**Rebecca Bucci** 21:58

So this is really a stream kind of argument. The idea is that for early girls, especially, they don't feel comfortable in their own bodies, I'm looking at this in a different paper right now. And, you know, it seems pretty clear that girls that are developing early feel, you know, they don't have good perceptions of their body, they don't think that they're the right weight, they feel overweight, whereas the late girls are kind of protected from these problems. These are translating to issues of self esteem, or you know, depressive thoughts and things like that. And so the argument there is that this period of time is very stressful. I think some of the early researchers have called this like the period of storm and stress, you know, when you're going through puberty, and so that can be you know, you're seeking out delinquency as kind of a solution for that. But if you think about it, in regards to boys, it can almost be the opposite, where the early kids, they look more mature, they're taller, they're stronger, they feel better about their bodies, that's a little bit of what we find. And so they might have, you know, less strain and not need to do delinquency, or not, you know, turn to delinquency as kind of a solution for that.

**Jenn Tostlebe** 23:00

Yeah, the variations between boys and girls for each of these, those possible explanations. It's interesting. Alright, so without getting into this too much, because we try to stay relatively non statistical and measurement and everything in the podcast, but just for those who are interested, can you tell us how the outcome so delinquency, and then this key predictor of PT were measured in the study.

**Rebecca Bucci** 23:28

So delinquency we look at in two ways, it's first a dichotomous measure of whether you engaged in any of these different kinds of delinquency or not. I mean it includes stuff like if you've stolen from a store or stolen or a person, you've done graffiti, been in a fight, hit someone with a weapon. So there's a little bit of variation on you know, some less serious things to a little bit more serious. We also look at it as a variety score in kind of supplemental models have pretty similar results there. But then the key predictor goes to using those measures, the pubertal development scale, it's these five items for boys and girls, you report you know, how much have you noticed a change in body hair and kids give, you know, zero, no change at all to three like it's completely happened and it's, you know, done changing because I look older. And so they do that for these five measures and then those are all average for each within sex and age combination. And then one standard deviation higher is early one standard deviation lower is late. I still did too many stats there. Sorry.

**Jenn Tostlebe** 24:31

No, that's, that's fine.

**Jose Sanchez** 24:34

Okay. So I feel like we've established a good foundation to kind of get into the meat and potatoes of the paper. So can you hit us with the highlights of your findings when it came to PT and delinquency among boys?

**Rebecca Bucci** 24:49

Among boys? You're going to hit me with the harder one first? Yeah, so it is the case we find that early pubertal timing is really to an increase in delinquency for boys. Late PT is related to a decrease. This is kind of explained by Well, first I'll say we kind of ruled out the idea that it was this potentially spurious argument, right, all the controls for early life confounders don't eliminate this effect. So it's still a main effect of PT. And then we looked at adding in these different potential mediators - parents, peers, or, you know, the body image strain argument. And for the most part is that, you know, peers and having peers that use substances specifically is a big explanatory factor for this relationship for both the early boys having more delinquent peers, and the late boys having less of them. And then similarly with the parental supervision. So the parents are more likely to give more freedoms to the early kids and less to the late boys.

**Jose Sanchez** 25:47

And how did these key findings kind of, for girls compared to that boys.

**Rebecca Bucci** 25:53

So the relationship for girls and boys is pretty similar, but I will say, I think the effects are a little bit larger for girls, same patterns, you know, early PT is more delinquency. But bear in mind that you know, to larger effect size here, but the base rates of delinquency in girls are so much lower. But so it seems pretty consistent patterns, where, again, it's the parents and peers. And then for girls, dating plays a larger role. In addition to just the peers using alcohol. We don't interestingly, for really, boys or girls find much of an effect of this peer-gender, which I had kind of hypothesized we would find for the girls, but not the boys, but we don't really find much of an effect of that. And then also kind of To our surprise, there wasn't really much of an effect for the negative body image either. Same thing, we kind of expected it for girls, but it didn't really find much of a mediating role.

**Jose Sanchez** 26:44

You have any ideas of why?

**Rebecca Bucci** 26:46

I don't know, I think, you know, kind of having explored this for other stuff now, it's not that, you know, early girls don't feel worse, or the late boys don't feel worse. I just don't think it's really like explaining this delinquency finding.

**Jose Sanchez** 27:04

So one of the things that we noticed when we're looking at your results, and this was in your descriptives, was it the vast majority of the sample is actually on time? Like, I think it was, like 70%, where their PT was on time. So is it uncommon to hit early or late PT? Or was this maybe more like a sample, something that's unique to your sample?

**Rebecca Bucci** 27:25

So I actually don't know, like the stats on if you use like a clinical measure of who would be considered early or late. For this, it is more like a statistical artifact that there's those middle kids, because they're just kind of the average ones. It's pretty consistent in studies that use this measure that it's about like 70 or 75% are on time. You could use different cut offs. Like if I said, it's called precocious puberty. If it's very early, you could look at kids and like the top 5% or top 10% as early, but as far as like if this sample is comparable to like other samples, especially because it's like a UK based sample. I'm not sure we're kind of going on the assumption that it is I think, at some point, I had looked at whether the average score on the MCS was like comparable to other datasets. But yeah, I mean, it does raise an interesting question of, if I made a stricter cut off, like if it was 80% of kids were on time and just the more severe cases or outside of that, it would be the larger or smaller effect. I don't know.

**Jose Sanchez** 28:30

I'm probably getting stuck on the weeds too much. But I got also be interested to see. So what the geographical dispersion is, like, is this 70%, like equally distributed in geographically? Or is there like a concentration of the people that are late and early in maybe more affluent neighborhoods or more disadvantaged neighborhoods? And I know that that was way outside of the scope of this paper. But it's just something I'd be interested to see.

**Rebecca Bucci** 28:57

No, it's a good point. There's a couple papers that people have looked at, I think that they've looked at girls specifically, but in this dataset, the MCS in the UK, and done things like neighborhood disadvantages predictor. We know we try to control for that with just, you know, the family level kind of stuff. But for example, like in the US, I'm not an expert on this, but I do know there's, you know, kind of deviations and like more poor inner cities or things like that, where you would expect puberty to be earlier. So yeah, definitely some reason to expect geographic variation.

**Jose Sanchez** 29:31

Right.

**Jenn Tostlebe** 29:32

Okay. And so what impact or implications do your findings have for research, so for us scholars, and then policy and practice?

**Rebecca Bucci** 29:43

For research, I would say I hope no one's too interested in so I can keep studying.

**Jenn Tostlebe** 29:50

Notice to everyone: don't do this research. \*laughter\*

**Rebecca Bucci** 29:53

But no, I think hopefully, this paper has kind of given you know, a little bit of a refresh to this topic in criminology. It was kind of popular in like, the 70s and 80s and stuff, or in the 90s, a lot of the data came with ADDhealth data, people looked at this. So hopefully people are still interested in it, I think it's worth pursuing. You know, like I said earlier, everyone goes through this period of time. And, you know, if there is this relationship, and it's, you know, something that we can notice, or maybe have some preventative strategies for that, I think that's important.

**Rebecca Bucci** 30:25

I think, based on what I've done, and what I've read, you know, policy implications are kind of just like being aware of this, you know, knowing like, parents might not really be aware of the fact that they're giving their kid more freedom than average kids their age, and that they're treating them older. The data set I have is kids, for the most part in different families. And so I don't know if you know, one families treating an early developing girl different than a late developing girl in the same household, but, you know, I think it's important to talk to parents or, you know, practitioners, teachers, you know, maybe don't treat these kids differently. And also know that they're going through this kind of stressful period, and, you know, reacting to them, you know, in that way, kind of giving kids a little bit of space to be, you know, a little frustrated, but not giving them too much freedom. But it is interesting, because some prior work has suggested that, you know, kids are turning to delinquency, because they feel older and more mature, but they're not getting these freedoms. And I can't fully tease this out. But some of this would suggest that, you know, if you were to react to that, you might say you should give them some freedom, you should let them stay out late. But this would say maybe don't do that. So I think more research needs to be done on kind of separating those two things.

**Jenn Tostlebe** 31:39

Alright, so since we're a criminology podcast, that's primarily what we focused on. But we do know that you've also done work with PT and other outcomes, some of which are, you know, analogous behaviors to crime. And so can you tell us about some of this work that you have done with other outcomes?

**Rebecca Bucci** 31:59

Sure. So myself and Jeremy Staff as well as Jennifer Max and Lorah Dorn at Penn State, we looked at kind of a similar analysis that looked at alcohol use instead of delinquency. And so whether early boys and girls in the same way that they're more likely to do delinquency, Are they more likely to drink alcohol? Just like yes or no? Are they more likely to drink it frequently? And are they more likely to engage in kind of binge drinking, so drinking five or more drinks at a time? And I like this paper a lot, too, because, you know, we look at mediators, as well. But one of the things that were able to test which was alcohol specific, was that the parents of the early kids, both boys and girls, were, this is a question asked of the parents, how likely are you to let your kid drink? Or do let your kid drink? And the parents of the early kids were reporting much higher rates of letting their kid drink. So kind of speaks to the idea that, you know, parenting does play a role, and parents reacting to their kids puberty is happening, at least in regards to alcohol. So that finding was pretty interesting. My other favorite part of that paper, so glad you asked. So I'm just going to talk about it was my favorite part of the analysis. Was that to test kind of the spurious relationship, you know, is that these early first factors, we did this supplementary analysis that looks at whether early pubertal timing was predicting drinking before puberty, so it was designed to be an in time placebo? And that would show, you know, if we found that early puberty was predicting drinking at age 11--it's what we look at--if we found that then you would kind of believe, well, it could be spurious at some unmeasured confounder. But instead, we find no relationship at all. So it's actually a pretty decently strong test to show that, you know, maybe I am wrong, and it's not puberty, but it's at least something else that's happening after kids are 11. So it's like change from 11 to 14. You should check it out.

**Jenn Tostlebe** 33:59

And we'll link that paper to on our website, since we didn't talk about what the title of it is.

**Jose Sanchez** 34:12

Alright, let's move into talking a little bit about risk perceptions and your dissertation work was in this area. So you know, want to get some of your insights on this. And so your dissertation was titled, "Closing the macro-micro link: Testing the effects of hot spots policing on individual adolescent outcomes" and it focused on this area of risk perceptions. And so to get the discussion started, again, with the big question, what are risk perceptions and why are they important?

**Rebecca Bucci** 34:47

So I'm very glad I thought you were just gonna ask me the title of my dissertation and I just panicked a little bit because I really had no remembrance of that even though it was like six months ago. But anyways, so risk perceptions--what I look at in my dissertation--are this idea of how likely individuals are to think that they're going to be caught if they commit a crime, or you know how likely other people are to get caught if they commit a crime? So, you know, if I were to say to you, if you go out and steal a car, what are the chances that you get caught, it's usually measured, like zero to ten, or zero to 100. And they're important because, you know, we believe prior literature, and I think just individual's beliefs about this is that, you know, if you think you're going to get caught for something, you're probably not going to do it. And if you think you're going to get away with it, it actually makes more sense to do it, right. So if I definitely know I can steal this very fancy car, then, you know, why wouldn't I, for example? Good. So they're important for that reason, because it can actually translate into offending and thinking about ways that we can manipulate people's risk perceptions could help us to potentially reduce rates of offending.

**Jose Sanchez** 35:50

And, you know, we find this interesting, actually, in the study, Jenn I'm sure you do, too, we actually had include risk perception questions in our survey for gang members. And, you know, that is actually something that we could even do, like right now. So, like, everyone that's listening to the podcast, you know, think about, you know, how likely is it that you would get arrested for burglary, or breaking into a building illegally, with the intent to commit a crime, like theft, right? Or think about how likely it is you'd get arrested for committing motor vehicle theft, or homicide, right. And that can give you an idea of kind of, where you lie with your own risk perceptions of getting arrested.

**Jenn Tostlebe** 36:35

And my guess is that people probably think their risk is higher than it actually is. And so, I think, Rebecca, you looked up some of these statistics, right, you've sent them to us. So do you have those in front of you?

**Rebecca Bucci** 36:49

I do.

**Jenn Tostlebe** 36:51

Okay. So just like burglary, motor vehicle theft, and homicide, what are some of the arrest rates for those types of crimes?

**Rebecca Bucci** 37:00

Okay, so I'm going to preface this with saying that one of the critiques of the risk perceptions literature is that people have no idea about these things. And so you guys asked me, and I thought "I research this" and I do not know the answer. But I did kind of have an idea of the fact that, you know, you're much more likely to get caught for homicide, or aggravated assault than you are for stealing a car, right. And I would guess that your listeners also agree with that. But if there's anybody out there that has, you know, guessed these exact statistics, I'd be pretty impressed. But it's from 2019, for just the average in the US of crimes that are cleared, which is pretty close to the arrest rate, you could get into a whole podcast about clearance rates and arrest rates, but for the sake of this arrest rates, and for motor vehicle theft, it's almost a little bit under 14%, which is pretty low, right? So that's like a one in nine chance you're getting away with it, if you steal a car. We're not condoning motor vehicle theft. It's not a very high likelihood of getting caught. And it's similar for you know, you'd mentioned larceny, or burglary, they're about 13 to 20%. But things like aggravated assault is closer to around 50%. And homicide is a little bit above 60. So this idea that, you know, people might not know, but they have this kind of ranking, as you guys had mentioned, you know, is still useful, right? So if we can make your first perception of motor vehicle theft go from 10% to 20%, then that might prevent you from doing it.

**Jose Sanchez** 38:35

Yeah, I'd say mine would be a little on the higher side, because I have watched the CSI. So I just imagine that I will leave a hair anywhere.

**Rebecca Bucci** 38:49

You will be caught and it will be within 60 minutes.

**Jenn Tostlebe** 38:52

Yes.

**Jose Sanchez** 38:54

Yes, actually, I think they're 30 minutes. So it's 22 minutes, really.

**Jenn Tostlebe** 39:02

That is quick. So Kyle Thomas, who we've had on the podcast before, I'm his TA this semester, and he asked all of our undergrads during lecture, you know, what do you think your risk of getting caught for driving under the influence or drunk driving? And most of them said between like 60 and 90%. And I can't remember what he said...

**Rebecca Bucci** 39:27

It's so low, though.

**Jenn Tostlebe** 39:28

Super low, like, what 2% or something like that? I don't know exactly, but it's really low. So yeah, just and that's a good thing, that people's risk perceptions are high, I suppose.

**Rebecca Bucci** 39:40

Right, that's good. You know, the fact that they don't know doesn't necessarily matter in that case, if they think it's 75% so they're not going to do it. You, this is deterrence working.

**Jose Sanchez** 39:51

You know what's about to happen. People are going to listen to this and be like, those smarty pants people. I just said that I'm not going to get arrested so... Like we just increased the drink and drive rates in America.

**Jenn Tostlebe** 40:04

No. Again, we're not condoning crime.

**Rebecca Bucci** 40:07

That's why I made that plug.

**Jenn Tostlebe** 40:10

Alright, so this is also a really broad question. But prior to your dissertation, can you give us just like the lowdown on what was known about risk perceptions very, very quickly, doesn't have to be...

**Rebecca Bucci** 40:22

Sure. So you've had some people that study this on your show, I know Kyle Thomas is big into this, and my dissertation chairs, Tom Loughran, and so this is, you know, his jam too. And there's a lot of great existing work on this showing that, yes, it's typically the case that those that have higher risk are less likely to offend. Also the case that when people have experiences with law enforcement, they get caught for a crime. So now they think you know that they're more likely to get caught in the future. And so we know that people usually talk about as update, they update the risk perceptions in these rational ways. But I will say, what I will argue that we didn't know or, you know, still don't know, is ways that we can actually manipulate these perceptions in the real world. So we know how to do it in vignettes, we know, we can tell people, different rates, we can, you know, some of the other stuff I'm interested in is heuristics. We know that we could tell people a random number, and that will impact their rate of their risk perception. But being able to manipulate this with policy is pretty important question.

**Jose Sanchez** 41:23

So what were like the research questions for your dissertation? And maybe some of your key findings there?

**Rebecca Bucci** 41:30

So research questions, I wanted to look at this intervention called Operation Safe Streets, it was a hotspots policing intervention, that happened in Philadelphia, just so happens to be coincidentally while the Pathways to Desistance study was being collected. And so I look at the 700 kids from that sample that were living in Philly and look at their perception before and after to see if this, you know, heightened increase in police presence was related to changes in their perceptions of arrest risk, I also look at things like their perceptions of policing, you know, rates of legal cynicism, or you know, how effective they think police are, and then also look at their offending, right. So if it was possible to increase their perceptions, did that actually translate to changes in offending? So you can, I'm just thinking about this, I don't want to spoil it. So you know, till my paper gets published, I need people to want to go read it. You could go read my, like 250 page dissertation if you like. But, hold out.

**Jose Sanchez** 42:28

Yeah, that's fine if you want to leave that, you know...

**Jenn Tostlebe** 42:33

Mysterious.

**Rebecca Bucci** 42:34

I have to leave you on a little bit of a cliff hanger there.

**Jose Sanchez** 42:38

Yeah, that's perfectly okay.

**Jenn Tostlebe** 42:42

Those are the main questions that we have for you. So is there anything else that you'd like to add on either adolescent development or risk perceptions?

**Rebecca Bucci** 42:51

I don't know those tough questions. Yeah, just keep studying and reach out to me if you have nerdy questions or collaboration, I'm all ears. I love talking about this stuff. So.

**Jenn Tostlebe** 43:04

Thank you so much for your time. It's been great having you on. Is there anything that you want to plug or things that people should be looking for in the near future?

**Rebecca Bucci** 43:15

Oh, jeez...

**Jenn Tostlebe** 43:15

Maybe some dissertation stuff, hopefully?

**Rebecca Bucci** 43:18

Yeah. Hopefully you will be reading about policy changes and increases or decreases in perceptions of arrest risk. Leave you the cliffhanger there. Yeah, I don't know. I was thinking about it today. ASC is right around the corner. So you can come check me out there. I will be presenting on some stuff.

**Jose Sanchez** 43:35

You mean ACJS?

**Rebecca Bucci** 43:36

Nope. Well, ASC applications are due.

**Jose Sanchez** 43:41

I was like, I mean, I guess nine months is around the corner.

**Rebecca Bucci** 43:45

Oh, geez, no.

**Jenn Tostlebe** 43:46

It'll be here before you know it.

**Rebecca Bucci** 43:49

We'll see, every criminologist should be like writing up their ASC abstracts right now. I'm unfortunately not going to ACJS but I will be at APAM next month, if anyone's going to that presenting on something similar to what I just discussed on risk perceptions. But yeah, you can check me out on Twitter. I'm not a great Twitter user, but I'm gonna like this episode when you post it.

**Jenn Tostlebe** 44:11

Okay, and so you have a Twitter is there anywhere else that people can find you or reach out to you?

**Rebecca Bucci** 44:17

Just shoot me an email, you can Google either Rebecca Bucci Penn State or Bucci at Harvard? And you can find me there. Like I said, I love talking about this job, especially after COVID, man, you know, seeing people in the office and talking shop is like really something I miss.

**Jenn Tostlebe** 44:33

Oh, yeah, me too.

**Jose Sanchez** 44:35

And somehow this managed to kind of slip through the cracks, but you can also type in RebeccaBucci.com.

**Jenn Tostlebe** 44:42

Oh, yeah.

**Jose Sanchez** 44:44

Your website is one of the best websites I've seen.

**Jenn Tostlebe** 44:48

He's obsessed with it. Yeah, it's laid out

**Rebecca Bucci** 44:50

it's RebeccaABucci.com because the domain name for RecbeccaBucci is like...

**Jose Sanchez** 44:55

I missed a second A in there.

**Rebecca Bucci** 45:02

I will say that's why Twitter's amazing because I learned about how to make that website solely from Twitter. So I will send you the details if you want them.

**Jose Sanchez** 45:10

Yeah, it is so good. I'm like, because one of my prior jobs I became obsessed with like spacing and layouts and like, design and stuff I'm like, this is good.

**Rebecca Bucci** 45:22

It's a template. It's like totally so easy. You just put it in the stuff. I'm not that crafty. But it worked! Like you think I am, which was the point.

**Jose Sanchez** 45:30

Yeah, it looks great. Like, and this is a complete tangent, but it kinda like really annoys me when people will have like a banner at the top that just kind of like stays fixed there because and then like, makes like your screen seem so much more cramped? I hate that so much. And then if you do a bottom and a top one, like No, you'd need to fire whoever designed your website.

**Jenn Tostlebe** 45:53

Oh my gosh.

**Rebecca Bucci** 45:55

No, it's pretty easy to make.

**Jenn Tostlebe** 45:58

Yes, go check out the website because it's awesome. Yeah.

**Rebecca Bucci** 46:02

I hope you're cutting off. But

**Jose Sanchez** 46:04

No.

**Jenn Tostlebe** 46:06

All right, Rebecca. Well, thank you again. It's been a pleasure having you on lots of laughs, PT

**Rebecca Bucci** 46:14

This was fun. You guys are great.

**Jenn Tostlebe** 46:18

Hey, thanks for listening.

**Jose Sanchez** 46:20

Don't forget to leave us a review on Apple podcasts or iTunes. Or let us know what you think of the episode by leaving us a comment on our website: TheCriminologyAcademy.com.

**Jenn Tostlebe** 46:30

You can also follow us on Twitter, Instagram and Facebook @TheCrimAcademy. That's THECRIMACADEMY

**Jose Sanchez** 46:42

Or email us at thecrimacademy@gmail.com.

**Jenn Tostlebe** 46:45

See you next time.

**Jose Sanchez** 46:46

See you next time.