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Treatment motivation among caregivers and adolescents with substance use disorders

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Abstract

Substance use disorders (SUDs) in adolescence have negative long-term health effects, which can be mitigated through successful treatment. Caregivers play a central role in adolescent treatment involvement; however, studies have not examined treatment motivation and pressures to enter treatment in caregiver/adolescent dyads. Research suggests that internally motivated treatment (in contrast to coerced treatment) tends to lead to better outcomes. We used Self-Determination Theory (SDT) to examine intersecting motivational narratives among caregivers and adolescents in SUD treatment. Relationships between motivation, interpretation of caregiver pressures, adolescent autonomy, and relatedness were also explored. Adolescents in SUD treatment and their caregivers ($N_{Dyads} = 15$) were interviewed about treatment experiences. Interviews were coded for treatment motivation, including *extrinsic* (e.g., motivated by punishment), *introjected* (e.g., motivated by guilt), and *identified/integrated motivation* (e.g., seeing a behavior as integral to the self). *Internalization* of treatment motivation, *autonomy support/competence* (e.g., caregiver support for adolescent decisions), and *relatedness* (e.g., acceptance and support) were also coded. Four dyadic categories were identified: agreement that treatment was motivated by the adolescent (*intrinsic*); agreement that treatment was motivated by the caregiver (*extrinsic*); agreement that treatment was motivated by both, or a shift towards adolescent control (*mixed/transitional*); and disagreement (adolescents and caregivers each claimed they motivated treatment; *conflicting*).

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Autonomy support and relatedness were most prominent in intrinsic dyads, and least prominent in extrinsic dyads. The mixed/transitional group was also high in autonomy support and relatedness. The extrinsic group characterized caregiver rules as an unwelcome mechanism for behavioral control; caregivers in the other groups saw rules as a way to build adolescent competence and repair relationships, and adolescents saw rules as indicating care rather than control. Adolescents with intrinsic motivations were the most engaged in treatment. Results suggest the importance of intrinsically motivated treatment, and highlight autonomy support and relatedness as mechanisms that might facilitate treatment engagement.

Keywords

substance use treatment; motivation; adolescents; caregivers; dyads; Self-Determination Theory

1 Introduction

In 2014, an estimated five percent of adolescents ages 12–17 had substance use disorders (SUDs; SAMHSA, 2015). SUDs during adolescence have potential to lead to poor health outcomes throughout the lifespan, including continued substance misuse, respiratory problems, neurobehavioral and cognitive conditions, cardiovascular symptoms, hepatitis, and increased risk for HIV and other sexually transmitted infections (Aarons et al., 1999; Brook, Finch, Whiteman, & Brook, 2002; Malow, Dévieux, Jennings, Lucenko, & Kalichman, 2001; Moss, Chen, & Yi, 2014; Stein, 1999; Teplin et al., 2005; Volkow, Baler, Compton, & Weiss, 2014). Successful treatment of SUDs during adolescence may reduce substance misuse and risk of poor health outcomes throughout the lifespan.

Because problems related to substance use accrue over time, adolescents may not recognize the need for treatment. Thus, caregivers often play a central role in initiating and managing the SUD treatment of adolescents, sometimes by pressuring adolescents to begin or continue SUD treatment (Goodman, Peterson-Badali, & Henderson, 2011; Kerwin et al., 2015). Caregiver involvement can be beneficial; family-based treatment for adolescent SUDs is more effective than other forms of treatment (Tanner-Smith, Wilson, & Lipsey, 2013). However, research with adults generally indicates that clients who are motivated to enter treatment due to personal reasons experience more positive outcomes than those motivated by external forces such as pressure from other individuals (Klag, Creed, & O'Callaghan, 2010; Wild, Cunningham, & Ryan, 2006). As such, it is important to consider motivational processes and treatment pressures in caregiver and adolescent dyads. A dyadic approach allows for a more nuanced view of motivational narratives by considering both perspectives. Insights would include how SUD treatment motivation is understood and shared understanding between caregivers and adolescents, how treatment structure is negotiated, and how caregiver involvement and adolescent interpretation of this involvement might facilitate treatment engagement.

1.1 Self-Determination Theory and Substance Use Disorder Treatment

Self-Determination Theory (SDT; Deci & Ryan, 2000) can be used as a framework to examine the impact of different forms of motivation on SUD treatment outcomes (e.g.,

Goodman et al., 2011; Kennedy & Gregoire, 2009; Ryan, Plant, & O'Malley, 1995; Wild, Cunningham, & Ryan, 2006). In SDT, treatment motivations are seen as lying on a continuum from complete extrinsic motivation, in which behavior is seen as controlled by forces external to the individual, to more intrinsic motivation, where behavior is regulated autonomously by the individual (Deci & Ryan, 2000). These motivations range from *external* (e.g., motivated by punishment, reward, or contingencies set by other people) to *introjected* (e.g., motivated guilt or shame surrounding substance use) to *identified* (e.g., identifying with the value of a given behavior or feeling that the behavior is instrumental to another goal, such as maintaining sobriety for overall health) to *integrated* (e.g., identifying with the importance of a behavior and integrating that behavior into one's sense of self; Deci & Ryan, 2000). Importantly, the inclusion of external pressures and socially-driven contingencies as motivation for behavior change and treatment engagement positions SDT as uniquely suited for examining treatment motivation in adolescent and caregiver dyads.

The majority of the research on SDT in populations with SUDs has been conducted with adults (e.g., Kennedy & Gregoire, 2009; Klag et al., 2010; Ryan et al., 1995; Wild, Newton-Taylor, & Alletto, 1998; Wild et al., 2006), and none of this research has explicitly considered dyadic patterns involving the individuals' larger social context, such as their family members. Generally, extrinsic motivation and pressures to enter treatment are associated with poorer outcomes than internal motivations. Perceived coercion to seek treatment relates to less internalized motivation for treatment, and extrinsic motivation relates to lower perceptions of treatment benefits (Wild et al., 2006). In contrast more internal motivations relate to perceiving benefits of, and interest in, treatment (Kennedy & Gregoire, 2009; Wild et al., 2006). Actual coercion (e.g., legal mandates) is sometimes unrelated to perceived benefits and treatment engagement (Wild et al., 2006), but can be associated with higher extrinsic and lower intrinsic motivation (Ryan et al., 1995). In youth populations, those involved in the justice system—whether mandated or not mandated to SUD treatment—report seeing abstinence as more important than non-involved peers, and initially report a higher percentage of days abstinent (Yeterian, Greene, Bergman, & Kelly, 2013). This is tempered, however, by a more rapid return to substance use post-treatment. It is less clear how adolescents would react to treatment pressure from caregivers. Some have found that, in emerging adults, parent pressures for treatment relate solely to external motivation, whereas pressure from friends and/or partners promote more internal and introjected motivation (Goodman et al., 2011). This study did not consider caregiver reports, however, and utilized limited (unidimensional) assessments of treatment pressure.

1.2 Caregiver Support and Treatment Motivation

Caregivers who support adolescent autonomy in treatment decisions might have a stronger relationship with the adolescent, and may facilitate internalization of treatment goals and positive treatment outcomes. In SDT, *autonomy support* (e.g., caregiver support for the adolescent in making his or her own choices about treatment), *competence building* (e.g., caregiver provision of a safe and structured space within which the adolescent can practice healthy decisions), and *relatedness* (e.g., caregiver acceptance, understanding, and support of the adolescent throughout the treatment process) are key factors in shaping motivation (Deci & Ryan, 2000; Ryan & Deci, 2008). Specifically, building competence and autonomy in the

adolescent, along with providing relatedness, could promote *internalization* of goals (i.e. can shift goals from being extrinsically to intrinsically motivated; Ryan & Deci, 2008). SDT research on SUD treatment indicates that receiving autonomy support can reduce extrinsic motivation and increase integrated motivation to engage in treatment, and can also bolster feelings of relatedness and competence (Klag et al., 2010). In terms of adolescents and caregivers, parallel research on parenting styles indicates that adolescents who report that their caregivers demonstrate high levels of both control and warmth are less likely to drink heavily (Bahr & Hoffman, 2010). Because studies of parenting styles tend to rely on adolescent report (e.g., Bahr & Hoffman, 2010; Calafat, García, Juan, Becoña, & Fernández-Hermida, 2014), it is not clear if caregivers agree with adolescent characterizations of control, or if adolescents are interpreting caregiver rules differently. Understanding the intersection between adolescent and caregiver accounts of SUD treatment and support would shed light on this issue, especially adolescent interpretation of caregiver pressures and characteristics of the dyadic relationship that might shape these perceptions.

1.3 Current Study

This is an analysis of qualitative data from semi-structured interviews conducted with adolescents in SUD treatment and their caregivers. Although the protocol did not specifically ask about motivation for treatment, all of the adolescents and caregivers also discussed reasons for entering treatment and experiences of what they found most helpful in treatment: consistent themes around motivation, treatment structure, and support were present. As such, data were recoded to represent central constructs in SDT: intrinsic motivation, introjected motivation, extrinsic motivation, competence/autonomy support, and relatedness. Themes were compared within dyads to note agreement (or lack thereof) between the adolescent and caregiver treatment narrative. By examining both adolescent and caregiver reports, it is possible to gain a deeper understanding of the relationship between treatment pressures, interpretation of pressures, and treatment engagement. It is also possible to examine how autonomy support and relatedness might shape motivational narratives and promote positive treatment outcomes.

2 Material and Methods

2.1 Procedure and Participants

Participants were recruited from a SUD treatment program for adolescents housed within a children's hospital in the Northeast United States. Patients were eligible to participate if they were 12–25 years old and receiving SUD treatment. Caregivers were eligible to participate if they cared for a child between the ages of 12 and 25 years old who was receiving SUD treatment. Patients and caregivers were not required to be related (e.g., an adolescent could participate without their caregiver). Only one caregiver per adolescent participated.

Program clinicians introduced the study to patients and caregivers who met study criteria during an appointment and queried for interest in participation. The contact information of interested patients and caregivers was then provided to the research team, who scheduled interviews with patients and caregivers to follow a future appointment. Two members of the study team met with the patients and caregivers following their appointment. Informed

consent was obtained and then interviews were conducted simultaneously in separate spaces. Interviews lasted up to an hour and were digitally recorded. All participants were compensated with a \$50 gift card and received parking validation. Digital recordings of interviews were transcribed for analysis.

Interviews explored participants' experiences with SUD treatment, with a focus on barriers to and facilitators of treatment success. A semi-structured guide was followed that included broad, open-ended questions. Although the guide included 17 questions, the current analysis primarily focuses on responses to the initial, grand tour questions posed to participants. Adolescents and caregivers were first asked: "Please tell me about your (/your child's) experiences with substance abuse treatment, including when you (/they) first started, why you (/they) started, how it's gone so far, and whether you've (they've) had gaps in treatment." Caregivers were additionally asked: "Please describe your involvement in your child's treatment." Adolescents and caregivers were then asked: "How would you describe your goals for your (/your child's) treatment? This may be (for them) to completely stop using drugs/alcohol or it may be something else." Participants tended to give the most lengthy answers to these initial questions, with several participants spending the majority of their interview responding to these questions specifically.

The current analysis reports on 30 participants (15 adolescent and caregiver dyads) who completed the study with their caregiver or adolescent child. Demographic information included age and self-identified race/ethnicity (demographics concerning specific aspects of treatment, such as length of current treatment and frequency of appointments, were not collected to maintain participant confidentiality). Adolescents ranged in age from 13 to 22 ($M = 17.73$, $SD = 2.38$). Nine identified as male and 6 as female. Most (11) identified as White, one as Black/African American and White, one as Native American and White, one as Black/African American, and one as Native American. Caregivers ranged in age from 36 to 67 ($M = 54.40$, $SD = 9.02$). Two identified as male and 13 as female. All 15 identified as White. Demographic information can be seen in Table 1.

2.2 Code Development and Analytic Plan

Thematic analysis was used as a framework for coding transcripts (Braun & Clarke, 2006). Codes were developed using a theoretically driven top-down procedure. Previous literature on applications of SDT in substance use were consulted, and transcripts were read to ensure that similar categories appeared in the treatment narratives. Although there are many fine-grained distinctions within SDT when considering motivation, most studies have found considerable overlap between different categories (e.g., introjected and integrated, Klag et al., 2010; identified and introjected, Ryan et al., 1995), and different domains are differentiated within different papers (e.g., separation between identified and introjected, Wild et al., 2006). In the current study, introjected and extrinsic motivation were distinct from more intrinsic forms of motivation. However, fine distinctions between identified and integrated categories were not possible, as participants did not speak in depth about the subtleties of their treatment motivation. As such, three motivational categories were defined: *identified/integrated motivation* (encompassing more intrinsic motivation), *introjected motivation*, and *extrinsic motivation*. A category for the *internalization* process was also

coded to capture the shift from externally to internally motivated treatment. The other components of SDT – relatedness, autonomy support, and competence – have not consistently been distinguished in previous research on substance use and SDT (e.g., Klag et al., 2010). During code development, the overlap between reports of autonomy support and reports of competence was determined to preclude the ability to code these as separate themes in the current study. Thus, there was evidence for two distinct categories: *relatedness* and *autonomy support/competence*. Definitions and illustrative quotes for each category can be seen in Table 2.

Excerpts were coded using Dedoose (2016). There was no set length for excerpts, given the importance of context when identifying themes. Rather, whole ideas were coded as chunks. Transcripts were double coded until acceptable reliability was achieved for each code. Agreement ranged from $k = .76$ for identified/integrated motivation to $k = 1.00$ for introjected motivation, internalization, and extrinsic motivation.

After coding was complete, adolescent and caregiver narratives were examined side-by-side and categorized as 1) primarily extrinsically motivated, 2) primarily intrinsically motivated, 3) disagreement (adolescent as intrinsic, caregiver as extrinsic), or 4) mixed narrative or in transition. Themes of autonomy support/competence and relatedness were considered in light of these categories.

4 Results

4.1 Intrinsically Motivated Narratives

Three dyads were characterized by intrinsically motivated adolescent and caregiver treatment narratives – adolescents and caregivers tended to agree that treatment decisions, including initiation of treatment and treatment goals, were driven by the adolescent. One father makes this explicit when considering his own goals for his son's treatment:

Caregiver (Dyad 3: male, 65; adolescent male, 16): *“Now he has stopped using completely and the goal is definitely for him to continue that. [...] As soon as his [goal] was zero [use], mine was zero [use] as well.”*

In contrast to the extrinsically motivated categorization, dyads in this group exhibited a large amount of autonomy support/competence and relatedness. This concern for positive relationships is apparent in statements such as the following from an adolescent:

Adolescent (Dyad 1: male, 15; female caregiver, 36): *“I kind of, I want to stop using, because it affected my family a lot. So yeah, my goal is to just stop using.”*

Here it is apparent that the adolescent has set his own goal to discontinue use, and, throughout the rest of this treatment narrative, the adolescent discusses the ways in which treatment has helped repair the relationship with his parents that had been compromised by his substance use.

Caregivers in this group exhibited high levels of concern about openness, unconditional support, and communication:

Caregiver (Dyad 15: female, 56; adolescent female, 22): *"I think it's important that we communicate, which she's really good about it, even when she was having some problems, and we knew she was going back to using, she would always text me, and say, 'I'm okay.' And it's almost like, 'Thank God.'"*

Along with the high level of relatedness on the part of the caregivers in this group, there is a strong emphasis on helping the adolescent take even more charge in treatment. Even though the adolescents already have a high level of autonomy, the caregivers want to push this even further:

Caregiver (Dyad 3: male, 65; adolescent male, 16): *"Hoping that his getting his driver's license will make it easier for him to get to meetings without me. I pushed him to get his learner's permit actually in part with that in mind."*

In contrast to the extrinsically motivated group, the adolescents in this group, while describing themselves as initiating and requesting treatment, recognize that caregiver control can facilitate their own treatment goals:

Adolescent (Dyad 15: female, 22; female caregiver, 56): *"I think definitely a supportive family. Yeah, I think my parents are wicked, wicked supportive, and I think I'm so thankful for that, because I think the reason my boyfriend isn't getting clean is because he doesn't have as much support as I do. He doesn't really have much support at all. I told my parents, 'Like hey, I have a drug problem.' It was kind of just like, 'No. We'll stop it right here.' And then I would move, and try to do it again, and they'd be, like, 'No.' So, like they're always trying to bring me back down to like where I'm supposed to be, and I really appreciate it."*

When the adolescent is making treatment decisions, the caregivers can be seen as providing structure and support within a framework decided by the adolescent.

4.2 Extrinsically Motivated Narratives

Three of the dyads were characterized by extrinsic narrative adolescent and caregiver narratives, with no real evidence for a shift towards intrinsic motivation. In other words, both adolescents and caregivers agreed that the caregiver was the primary decision-maker, and it did not seem that there was movement towards adolescent control of treatment decisions. In general, these dyads tend to have less evidence of autonomy support/competence and relatedness, and treatment goals often conflict. One parent explicitly stated that she needs to override her son's decisions:

Caregiver (Dyad 5: female, 45; adolescent male, 13): *"[...] it seems like such a crucial time, and seeing the relapse rates and everything else [...] He's a harm to himself or a danger to himself. So if he can't control himself well then I have to help control him."*

This perceived need to provide control when an adolescent is engaging in harmful health behaviors seemed to supersede belief in the adolescents' ability to make treatment decisions. There was a lack of acknowledgement of the adolescent as an autonomous and capable agent:

Caregiver (*Dyad 10*: female, 60; adolescent male, 17): *“And I think helping the kids to understand that sometimes their thinking, they’re not kind of mature enough to do thinking, and think about safety, that their brain isn’t developed enough, and supposedly it takes ten more years for them to think rationally, and what’s good for them. So, he’s not there, and so they need to educate them in that way that your thinking sometimes isn’t really to be trusted, because you’re not ready yet to know what are good boundaries.”*

Although caregivers in this group were compelled to exert control over treatment and treatment decisions, extrinsically motivated treatment can create an environment in which the adolescent feels a lack of control, choice, and flexibility. One adolescent felt that his mother exerting control without any accommodation (i.e. no flexibility, all or nothing approach) had the negative effect of exacerbating his substance use:

Adolescent (*Dyad 10*: male, 17; female caregiver, 60): *“The way my mom reacts makes me have trouble achieving my personal goal of just smoking less, and making it not an issue, because of her requirement for me to not smoke at all. [...] she makes me anxious, and she continues to like take privileges away, so then I feel like the only thing I have left that’s like a decision of mine is smoking that helps me be relaxed.”*

It is important to note that the adolescents in these extrinsically motivated situations did see some benefits of treatment, although these were not necessarily related to reduced substance use. For example, one adolescent noted that participating in treatment and taking breathalyzer tests at home allowed her more freedom, even though she had no desire to quit.

4.3 Mixed/Transitional Narratives

The most common dyadic categorization was mixed or transitional narratives, with seven dyads falling into this grouping. These dyads were generally in agreement about the fact that treatment was initiated by the caregiver, but, at the same time, they also agreed that considerable progress was being made towards adolescent control. Others stated that the adolescent was involved, or at least in agreement, from the beginning, but that more in-depth treatment was decided by the caregiver.

Relatedness was prominent in these narratives. Adolescents were motivated to engage with treatment because of caring about their family members, and spoke about the importance of relationship repair:

Adolescent (*Dyad 6*: male, 20; female caregiver, 59): *“I’m about to transfer and move out and stuff, but living at home, that has kind of been like really, the goal has been repairing the relationship between me and my mother, especially because there is just a lot of trust that was lost.”*

In parallel, caregivers discussed the importance of providing support and being nonjudgmental, listening to their children, and offering help rather than criticism:

Caregiver (*Dyad 13*: male, 67; adolescent female, 18): *“And we spent time tonight talking about the need to be supportive, if she does, and not judgmental, because it will be a bad decision based on the circumstance that happens to be going at the*

time. [...] Not, "You screwed up," type of thing. "What happened? What can we do for you? How can we help you with the situation?" Not that, "You dummy. What did you do that for?" Because it could happen."

Treatment was also provided a context in which parents could navigate the difficulties of providing support and structure simultaneously:

Caregiver (Dyad 6: female, 59; adolescent male, 20): "So, we talk a lot about having a kid who is compromised in some way, and so we talk about coping strategies. There is a line between denial, enabling, being empathetic and supportive. Really it's hard to find how to be, how to not be this way but to be this way. And then the anger is just-- I am so angry at him. How could you? What are you thinking? Why are you doing this? You just get-- And that is probably the most toxic thing."

In addition to emphasizing the importance of relatedness and nonjudgmental support, caregivers in this group recognized the importance of including the adolescent in treatment decisions. One parent talked about a shift towards consulting her son regarding treatment options and continuation, which may reflect a parallel shift in the son's view where he began to internalize treatment goals and take more responsibility for himself:

Adolescent (Dyad 7: male, 19; female caregiver, 46): "[Treatment has] gone well ever since I had any intention of it going well, I suppose. [...] Initially, like the first couple of psych hospitalizations I really had no intent of changing anything. So, I was just kind of smart enough to kind of nod my head, and play along, and say, "Okay," you know? [...] but somewhere along the line, just a little bit after I started attending [treatment], and twelve-step groups, I don't know, I stopped thinking of it in that way. I started kind of listening to what people were saying, and understanding on an emotional level, rather than the rational one that I had understood it on before, that I had a substance abuse issue."

Other adolescents in this group made similar statements about the process of internalization, and gaining intrinsic motivation through treatment processes.

Caregivers in this group seemed to struggle with knowing when to step back and allow the adolescent to take charge more so than in dyads where both parties characterized treatment as intrinsically motivated. However, the need to support adolescent autonomy and competence was at the forefront of multiple caregiver narratives:

Caregiver (Dyad 8: female, 55; adolescent male, 16): "And so, we let the line out a little bit, and kind of questioned, well, was this the right thing to do? He does need to be trusted. He does need to grow. He does need opportunities. But are we setting up barriers for making it more difficult for him to be successful? So, it's that sort of interplay where wanting to let him do sort of age-appropriate growth things, yet wanting to really strongly contain as parents right now."

In these statements, the caregivers are aware of the fact that, in order to be successful, they must support the adolescents in building up skills to gain personal control over substance use. Further evidence separating transitional from extrinsic narratives can be seen in the following quote from an adolescent:

Adolescent (*Dyad 11*: male, 17; female caregiver, 52): *"Like their kind of thing was, "Okay, just everything's gone forever until you fix it." I guess there was no hope, because like it was not like, "Okay, in a certain amount of time I can get them back." And I didn't have a lot of hope in myself that I did get out of it. Yeah, so I think that, I think, I started doing a lot better once they kind of changed that. [...] And yeah, there's other things, and they slowly, and steadily gave me things back, these privileges are just things that they allow me to do. Oh, yeah, and they're like talk to me about it, like I think they tried to talk to me more about it, about like what the punishment, or what the thing was."*

Although the adolescent felt restricted initially, he was eventually included in decisions and allowed a more flexible treatment structure (i.e. he had input in plans to build independence and set consequences for progress or lack thereof, and it was not an all-or-nothing approach). Importantly, adolescents in this group recognized the fact that caregiver rules and structure were intended to provide them with support, and were motivated by caring.

4.4 Conflicting Narratives

The final two dyadic narratives were characterized by conflicting reports of treatment control and motivations. In these dyads, adolescents tended to highlight intrinsic motivations for treatment, whereas caregivers focused on extrinsic motivation. Considering the following excerpt from an adolescent narrative:

Adolescent (*Dyad 4*: female, 21; female caregiver, 60): *"I didn't really know at the time that that is what it was, but I kind of came out of the closet to my parents and was like, "I've been closet drinking. I relapsed about a week ago on my DOCs [Drugs Of Choice]. I need something, because what I'm doing right now isn't working." I needed treatment that could continue outside of what I did in rehab."*

And this excerpt from her mother, describing the same situation:

Caregiver (*Dyad 4*: female, 60; adolescent female, 21): *"She was yelling. It was all venom spewing at me, how she got the worst parents in the world and she wishes we had just left her with her family. And it was all this, like any button just was being pushed, but it was like this stream of crazy consciousness that just didn't stop for three hours and 15 minutes. She wanted to stop for coffee. I didn't. I did drive thru and I locked the doors, because she wanted to go to the bathroom, I'm like, "No, we don't have time to stop," because I was afraid she was going to run. And it was horrible. It was just like the worst thing. And I remember crying the whole way down there and feeling like, "Oh my god, I don't even know what is happening.""*

It seems that adolescents in this group remember treatment as something they wanted, and caregivers instead recall the struggles of getting adolescents involved in treatment. This mother, for example, felt that she had to force her daughter to actually get to, and enter, the treatment facility. It could be that the adolescent was internally motivated, but the caregiver was focused on the observable behavior instead, which she interpreted as treatment resistance. It is also possible that the adolescent has taken ownership of the treatment narrative, and inserted him or herself as the decision maker retrospectively. In contrast, or in complement, the caregiver may also have cast themselves as more in-control when recalling

past treatment experiences. Of note, the adolescents in this group had clear goals of sobriety at the point of the interview:

Adolescent (*Dyad 2*: female, 20; female caregiver, 62): *“But like, well, my goals are to stay clean and sober, and I go to meetings like four times a week.”*

This indicates that reconstruction of motivational narratives may be an important part of their process in developing healthy long-term goals.

Although caregivers stated that treatment decisions were largely extrinsic, they also recognized the importance of adolescent involvement, and noted a shift in treatment decisions towards adolescent control. Adolescents were also vocal about the need to build competence and skills for remaining sober:

Adolescent (*Dyad 4*: female, 21; female caregiver, 60): *“[...] a huge, huge thing that I’ve been working on, assertiveness, you know saying what I need in terms of if I’m having a bad day with I want to use or something saying that. Before I didn’t say that. I didn’t ask for help. I didn’t voice that I needed help or needed to talk. I never really opened my mouth, honestly. I was just like, “Yeah, I’m doing okay. I haven’t used today, so I’m doing great,” when in the back of my mind I’m like screaming for something in my body, to have a substance in my body [...]”*

This included skill building such as learning to ask for – and accept – support, indicating that caregiver supports were welcomed and utilized.

5 Discussion

This study examined themes of motivation, autonomy support, and relatedness in adolescents in SUD treatment and their caregivers. Four different dyadic categories of treatment characterization were identified: 1) those in which adolescent and caregiver agreed that treatment was motivated by the adolescent (*intrinsic*), 2) those in which adolescent and caregiver agreed that treatment was motivated by the caregiver (*extrinsic*), 3) dyads with agreement that treatment was motivated by both the adolescent and caregiver, or those with a shift towards adolescent control (*mixed/transitional*), and 4) those in which adolescents described treatment as motivated by the adolescent but caregivers described treatment as motivated by the caregiver (*conflicting*).

Autonomy support and relatedness were most prominent in dyads where adolescents motivated treatment, and were least prominent when caregivers took charge of treatment decisions. In addition, adolescents in the latter category were least interested in sobriety, and did not seem to be actively engaged in treatment. The mixed/transitional categorization was also very high in autonomy support and relatedness, suggesting that these factors could play a role in adolescent internalization of treatment goals and a transition to autonomous regulation. In other words, it is possible that adolescents who were allowed the freedom to make decisions took ownership of their treatment experience and engaged more fully. This also suggests that caregivers may be uniquely positioned to provide support for adolescent autonomy, competence, and relatedness, with important implications for treatment success, given that intrinsically motivated treatment tends to be most successful (Klag et al., 2010;

Wild et al., 2006). Adolescents whose accounts of treatment conflicted with caregivers' were also fully engaged in treatment. It may be that adolescents who see themselves as primary decision-makers have a stronger sense of self-efficacy and control, which could increase investment in treatment success. Longitudinal research examining the co-evolution of motivational narratives, as well as how narratives are associated with treatment outcomes, may inform dyadic interventions for adolescents and their caregivers. Especially considering the mixed/transitional group, it may be valuable to help caregivers recognize and accept adolescents' intrinsic motivations. A deeper understanding of this disconnect could help clinicians build intrinsic motivation and dyadic agreement to promote treatment success.

Caregiver rules and contingencies were present across all dyadic categorizations, but the ways in which these rules were presented and interpreted varied. In the extrinsically motivated group, caregivers discussed rules as a mechanism for behavioral control, and adolescents felt controlled, and did not see the reaction from the caregiver as reasonable or warranted. In contrast, caregivers in the other three groups talked about rules as a way to build competence and repair relationships that had been damaged by adolescent substance use. Adolescents, although they did not always agree with or enjoy the rules, acknowledged the importance of compliance for relationship repair, and saw caregiver concern as indicating care rather than control. It may be that a focus on letting the adolescent set the actual goals while providing support and relating in an open and nonjudgmental manner allows these restrictions to be seen as helpful rather than harmful. It is not clear whether caregiver relatedness fosters adolescent perceptions of caregiver involvement as positive, whether adolescents who demonstrate understanding are more likely to elicit relatedness and autonomy support, or both. Still, the fact that some have found the least treatment dropout among those with both high internal and high external pressures for treatment (Ryan et al., 1995) suggests that the presence of caregiver pressure, in conjunction with adolescent understanding and internalization, might be particularly beneficial. It also highlights the fact that it is not enough for a caregiver to simply provide the basic needs described in SDT (i.e. autonomy support, competence, and relatedness); the adolescent must accept the support that is offered.

Because the sample was restricted to adolescents in SUD treatment, it is unclear if the dyadic categorizations exist across the spectrum of SUD, or if they differ depending on treatment involvement. In particular, it would be important to know if intrinsic agreement is viable only when adolescents are choosing sobriety, or how this might play out if caregivers support adolescent choice and the adolescent is not ready to enter treatment. Future research should consider these possibilities.

5.1 Limitations

This study was an analysis of qualitative interviews focused on barriers to and facilitators of SUD treatment; thus, questions specifically about constructs central to SDT such as treatment motivation and experiences of pressures were not explicit. Yet, themes about motivation and support were consistently discussed by participants without prompting, and provided evidence to support the utility of SDT as a framework for understanding treatment motivations in adolescent and caregiver dyads.

Generalizability is limited to adolescents in SUD treatment and their caregivers who agreed to return and complete lengthy, separate interviews. As such, these dyads (adolescent, caregiver, or both) may be more engaged in treatment than those that did not participate. Also, because only one caregiver per adolescent participated in the study, there may be differences between caregivers who participated and those who did not. Studies specifically examining perceived treatment pressures across multiple caregivers and agreement between caregivers would be informative. Motivational themes may vary across different stages of adolescent SUD, and autonomy support and relatedness may play out in different ways depending on treatment involvement. Other factors, such as adolescent age at treatment entry and length of treatment engagement, may also play a role in motivation and treatment engagement. Unfortunately this information was not gathered. It is also not possible to examine directionality. Future research examining ways in which autonomy support and relatedness might shift adolescent motivation and perception of pressures is warranted, as is research parsing the effects of age and length of treatment on shifts in treatment motivation and adolescent versus caregiver control over treatment decisions. Mixed methods research designed to assess SDT constructs would be especially helpful in shedding light on the ways in which motivational narratives correlate with treatment history and stage of treatment, as well as quantitative measures of motivation and substance use.

Finally, SDT encompasses dimensions of motivation that were not included in this analysis. These include *amotivation* (a total lack of motivation, and a sense that one has no control over a given outcome) and pure *intrinsic motivation* (internally motivated, done for the enjoyment of the activity itself – this study examined more “intrinsic *extrinsic*” motivation; Deci & Ryan, 2000). Although amotivation likely plays a role in SUD treatment, intrinsic motivation in the strictest sense might not. In other words, it seems unlikely that people enter SUD treatment because treatment is an enjoyable activity and is rewarding in and of itself. It would also be useful to try and distinguish independent contributions of identified and integrated motivation, rather than collapsing them into a single *intrinsic* category, as well as *competence* and *autonomy support*. Distinguish these factors would allow for more targeted intervention components.

6 Conclusion

A dyadic consideration of treatment motivation in adolescents in SUD treatment and their caregivers highlights ways in which different motivational narratives relate to treatment engagement. Providing autonomy support, building adolescent competence, and fostering relatedness in the caregiving relationship could help adolescents take charge of their treatment narrative, as could addressing adolescent perception of caregiver pressures. Treatment strategies targeting adolescents and caregivers that help to develop intrinsic treatment motivation are warranted. In sum, working together to create a supportive, understanding, and structured environment could promote adolescent internalization of healthy and sustainable treatment goals.

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References

- Aarons GA, Brown SA, Coe MT, Myers MG, Garland AF, Ezzet-Lofstrom R, ... Hough RL. Adolescent alcohol and drug abuse and health. *Journal of Adolescent Health*. 1999; 24(6):412–421. [PubMed: 10401969]
- Bahr SJ, Hoffmann JP. Parenting style, religiosity, peers, and adolescent heavy drinking. *Journal of Studies on Alcohol and Drugs*. 2010; 71:539–543. [PubMed: 20553662]
- Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology*. 2006; 3(2):77–101.
- Brook JS, Finch SJ, Whiteman M, Brook DW. Drug use and neurobehavioral, respiratory, and cognitive problems: Precursors and mediators. *Journal of Adolescent Health*. 2002; 30(6):433–441. [PubMed: 12039513]
- Calafat A, García F, Juan M, Becoña E, Fernández-Hermida JR. Which parenting style is more protective against adolescent substance use? Evidence within the European context. *Drug and Alcohol Dependence*. 2014; 138:185–192. [PubMed: 24679841]
- Deci EL, Ryan RM. The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*. 2000; 11(4):227–26.
- Dedoose. Dedoose Version 7.1.3, web application for managing, analyzing, and presenting qualitative and mixed method research data. Los Angeles, CA: SocioCultural Research Consultants, LLC; 2016. (www.dedoose.com)
- Goodman I, Peterson-Badali M, Henderson J. Understanding motivation for substance use treatment: The role of social pressure during the transition to adulthood. *Addictive Behaviors*. 2011; 36(6):660–668. [PubMed: 21295918]
- Kennedy K, Gregoire TK. Theories of motivation in addiction treatment: Testing the relationship of the transtheoretical model of change and self-determination theory. *Journal of Social Work Practice in the Addictions*. 2009; 9(2):163–183.
- Kerwin ME, Kirby KC, Speziali D, Duggan M, Mellitz C, Versek B, McNamara A. What can parents do? A review of state laws regarding decision making for adolescent drug abuse and mental health treatment. *Journal of Child & Adolescent Substance Abuse*. 2015; 24(3):166–176. [PubMed: 25870511]
- Klag SML, Creed P, O'Callaghan F. Early motivation, well-being, and treatment engagement of chronic substance users undergoing treatment in a therapeutic community setting. *Substance Use & Misuse*. 2010; 45(7–8):1112–1130. [PubMed: 20441454]
- Malow RM, Dévieux JG, Jennings T, Lucenko BA, Kalichman SC. Substance-abusing adolescents at varying levels of HIV risk: Psychosocial characteristics, drug use, and sexual behavior. *Journal of Substance Abuse*. 2001; 13(1):103–117. [PubMed: 11547612]
- Moss HB, Chen CM, Yi HY. Early adolescent patterns of alcohol, cigarettes, and marijuana polysubstance use and young adult substance use outcomes in a nationally representative sample. *Drug and Alcohol Dependence*. 2014; 136:51–62. [PubMed: 24434016]
- Ryan RM, Deci EL. A self-determination theory approach to psychotherapy: The motivational basis for effective change. *Canadian Psychology/Psychologie Canadienne*. 2008; 49(3):186.
- Ryan RM, Plant RW, O'Malley S. Initial motivations for alcohol treatment: Relations with patient characteristics, treatment involvement, and dropout. *Addictive Behaviors*. 1995; 20(3):279–297. [PubMed: 7653312]
- Substance Abuse and Mental Health Services Administration [SAMHSA]. Results from the 2014 National Survey on Drug Use and Health. 2015. Retrieved from <http://www.samhsa.gov/data/sites/default/files/NSDUH-FRR1-2014/NSDUH-FRR1-2014.pdf>
- Stein MD. Medical consequences of substance abuse. *Psychiatric Clinics of North America*. 1999; 22(2):351–370. [PubMed: 10385938]

- Tanner-Smith EE, Wilson SJ, Lipsey MW. The comparative effectiveness of outpatient treatment for adolescent substance abuse: A meta-analysis. *Journal of Substance Abuse Treatment*. 2013; 44(2): 145–158. [PubMed: 22763198]
- Volkow ND, Baler RD, Compton WM, Weiss SR. Adverse health effects of marijuana use. *New England Journal of Medicine*. 2014; 370(23):2219–2227. [PubMed: 24897085]
- Wild TC, Cunningham JA, Ryan RM. Social pressure, coercion, and client engagement at treatment entry: A self-determination theory perspective. *Addictive Behaviors*. 2006; 31(10):1858–1872. [PubMed: 16480834]
- Wild TC, Newton-Taylor B, Alletto R. Perceived coercion among clients entering substance abuse treatment: Structural and psychological determinants. *Addictive Behaviors*. 1998; 23(1):81–95. [PubMed: 9468745]
- Teplin LA, Elkington KS, McClelland GM, Abram KM, Mericle AA, Washburn JJ. Major mental disorders, substance use disorders, comorbidity, and HIV-AIDS risk behaviors in juvenile detainees. *Psychiatric Services*. 2005; 56(7):823–828. [PubMed: 16020814]
- Yeterian JD, Greene MC, Bergman BG, Kelly JF. Does mandated treatment benefit youth? A prospective investigation of adolescent justice system involvement, treatment motivation, and substance use outcomes. *Alcoholism Treatment Quarterly*. 2013; 31(4):431–449. [PubMed: 24159252]

Highlights

- Self-Determination Theory can guide understanding of treatment motivation.
- Caregivers and adolescents may disagree on treatment motivation.
- Internal motivation and autonomy aid adolescent engagement in treatment.
- Caregiver support may facilitate adolescent internalization of treatment goals.

Table 1

Demographics by dyad.

DyadNumber	Category	Adolescent Age	Adolescent Gender	Adolescent Race/Ethnicity	Caregiver Age	Caregiver Gender	Caregiver Race/Ethnicity
1	Intrinsic	15	Male	White	36	Female	White
2	Conflicting	20	Female	White and Native American	62	Female	White
3	Intrinsic	16	Male	Native American	65	Male	White
4	Conflicting	21	Female	White	60	Female	White
5	Extrinsic	13	Male	White	45	Female	White
6	Mixed/Transitional	20	Male	White	59	Female	White
7	Mixed/Transitional	19	Male	White	46	Female	White
8	Mixed/Transitional	16	Male	White and Black/African American	55	Female	White
9	Extrinsic	18	Female	Black/African American	62	Female	White
10	Extrinsic	17	Male	White	60	Female	White
11	Mixed/Transitional	17	Male	White	52	Female	White
12	Mixed/Transitional	17	Female	White	44	Female	White
13	Mixed/Transitional	18	Female	White	67	Male	White
14	Mixed/Transitional	17	Male	White	47	Female	White
15	Intrinsic	22	Female	White	56	Female	White

Table 2

Code definitions and examples.

Identified/Integrated Motivation	<i>Treatment involvement or treatment decisions driven by the adolescent; intrinsically motivated</i>	Adolescent: "So, I don't know, I'm kind of trying to add things to my life that I feel like doing and don't feel, that I want for myself and don't feel like I'm just doing so that other people approve of how I'm living my life."
Introjected Motivation	<i>Adolescent experience of guilt, shame, or obligation motivating treatment seeking and treatment goals</i>	Caregiver: "You know, I still don't claim to completely understand it, but I do think he knew he was in really serious trouble. The journal was desperate, "What's happened to me? I used to only do marijuana. I used to believe that I could quit at any time. I'm an addict." And the fact that that was exposed to us, and I think there was a realization in his own mind that he needed to change, and it was mostly for himself and a little bit for us, there was guilt in there, you know, "My parents didn't deserve this.""
Extrinsic Motivation	<i>Treatment involvement or treatment decisions driven by the caregiver; adolescent response to extrinsically motivated treatment</i>	Adolescent: "I don't like treatment. I don't really understand it. I don't feel like I'm getting helped that much. [...] like really the only reason I'm here is because I got caught selling drugs, and I know this program is trying to get me straightened out, but like I don't really understand how it's going to."
Internalization	<i>Process by which adolescent internalizes caregiver-initiated treatment decisions and develops own treatment goals</i>	Adolescent: "Yes. Where we all get together, and they'll do a lesson. That's where I started to learn that drug treatment gets really, really repetitive. Sometimes you find new stuff. But a lot of it is just the same thing over, and over again, and eventually, you just let it go."
Autonomy Support/Competence	<i>Structure designed to build adolescent competence and autonomy in treatment and healthy decision making</i>	Caregiver: "So, it's just basically the freedom, and not being able to have a hawk eye on him all the time. because he is 17-years-old, and does need freedom, and he does need to be able to be trusted."
Relatedness	<i>Caregiver and adolescent attempts to understand each other and build relationships; support and empathy</i>	Caregiver: "He goes, "I don't know what you mean by supportive." And apparently they didn't either, but it was kind of like he mentioned like a joke, sort of thing. So, he's kind of talked about things like that. And I said, "Well, I hope that you know that I'm here if you need something, or you if you want anything." And he goes, "Oh, yeah." I said, "Okay, then we'd like consider that supportive.""