

Peer Group Therapy for Adolescent Substance Misuse Treatment: A Scoping Review

Francesca De Geronimo^[1]

Abstract

Background: There has been an increasing concern for adolescent substance misuse. In response, researchers and practitioners have been devoted to identifying effective treatment methods. While peer group therapy is utilized for adolescent substance misuse, less is known about the effectiveness of peer group therapy compared to individual and family therapy in treating adolescent substance misuse. **Objective:** This scoping review aims to understand the extent and type of evidence in relation to group therapy to support adolescents who misuse substances. **Methods:** Multiple databases were searched, including PubMed, Embase, CINAHL, PsycInfo, Scopus, Web of Science, and ProQuest using keywords, indexed terms, and phrases for the following concepts: group therapy, adolescent, and substance use. Each included study was rated using the JBI Levels of Evidence framework. We extracted details on the type of and effectiveness of group therapy in each included study and presented results in tables and diagrams. **Results:** A total of eleven studies were included, and characteristics were summarized in a table and written detail. For each study, we noted: (1) peer group versus peer group therapy, (2) peer group versus family therapy, (3) peer group versus control, and (4) peer group versus no control. Most of the studies suggest that peer group therapy is a viable option for treating adolescent substance misuse. **Conclusions:** Given the popularity of peer group therapy for adolescent substance misuse and the lack of research, further research should be conducted to understand further the effects of various forms of peer group therapy on adolescent substance misuse.

Keywords: Group therapy; Adolescent; Substance Use; Addiction

* Correspondence: frdegero@umich.edu

[1] Undergraduate student at the University of Michigan, BA (in progress)

Highlights

- Overall, peer group therapy seems to be a viable option for adolescent substance misuse treatment.
- More research is needed on the effectiveness of motivational interviewing and psychoeducational strategies.
- Previous research supports the use of culturally tailored or adapted interventions for Latinx and FASD youth; however, additional research is needed on culturally tailored or adapted interventions for additional subpopulations of adolescents.
- Given the promising results of positive psychology, more research should focus on the effects of incorporating positive psychology into group therapy.
- More rigorous studies that compare the effect of "change talk" to a control are needed to determine their effectiveness for adolescent substance misuse treatment.

Background

Adolescent alcohol and drug use and misuse remains a significant global public health problem. According to the World Health Organization, worldwide, over 25% of people aged 15-19 – 155 million adolescents – are current drinkers. Globally, cannabis is the most widely used psychoactive drug, among which 4.6% of adolescents aged 15-16 reported using it at least once in 2018 (World Health Organization, 2021). Of those who use tobacco, the majority consists of adolescents, where at least 1 in 10 adolescents aged 13-15 years use tobacco (World Health Organization, 2021). According to the World Health Organization (WHO), illicit drug use is prevalent among adolescents, so much so that in some places, around 10% to 30% of adolescents use illicit drugs. Moreover, over 1.5 million adolescents and young adults aged 10-24 died in 2019 due to substance use (World Health Organization, 2021).

According to the National Institutes of Health, approximately 1.5 million adolescents meet the criteria for a Substance Use Disorder (SUD), but only approximately 111,000 (7%) of them receive treatment for the disorder (Winters et al., 2011). Compared to adults, adolescents are more likely to hide their binge drinking (drinking five or more drinks in a row on a single occasion), not report withdrawal symptoms, hide their substance use, get complaints from others about their substance use, and continue using substances despite fights or legal trouble (National Institute on Drug Abuse, 2021).

Treating adolescents who misuse substances is essential (Leader, 1991; Swadi, 2000; Zeitlin, 2000). Although many adolescents grow out of using psychoactive substances, substance use during adolescence is a risk factor for dependency during adulthood (Swadi, 2000). Moreover, substance misuse is often associated with comorbid disorders such as depression, suicidal behavior, conduct disorder, attention deficit hyperactivity disorder, eating disorders, and psychoses (Swadi, 2000; Zeitlin, 2000).

Group Therapy

Group therapy started to take shape in the 1930s and involves one or more therapists guiding a group of patients (Leader, 1991). Unlike individual therapy, group therapy provides a space for interpersonal learning and collective emotional experience among peers, two things that develop during the adolescent phase (Leader, 1991). Like individual therapy, group therapy can take on different forms, such as group psychodrama, cognitive-behavioral groups, and psychoeducational groups. Psychodrama involves clients using role-playing and spontaneous dramatization and offers a creative method for an individual and group to explore problems (Hamamci, 2006; Pires et al., 2021). Cognitive-behavioral groups aim to improve the coping skills of the participants through behavior, thought processes, and group relations (Hamami, 2006). Finally, psychoeducational groups are designed to educate clients on related behaviors and consequences (DeLucia-Waack, 2006).

Adolescent group therapy has proven beneficial because it provides a space for psychosocial development (Fine et al., 1991; Leader, 1991). Adolescence is a development period in which individuals learn about their identity and how they fit into the world (Leader,

1991). Group therapy can be a formative experience for adolescents because they are not only focusing on their individual problems but also interacting with others. For example, Fine et al. (1991) found that two forms of short-term group therapy – social skills training and therapeutic support group – were beneficial for adolescents with Depressive Disorders. In this study, the social skills training aimed to teach adolescents to recognize their own and others' feelings, be assertive, learn conversational skills, and learn social problem-solving (Fine et al., 1991). On the other hand, therapeutic support groups encourage adolescents to share a common concern, learn about new ways to deal with challenges, and gain mutual support (Fine et al., 1991). Though these two forms of group therapy are different, they both demonstrate the qualities of psychosocial development.

Furthermore, group therapy is also more cost-effective (McDermut, 2001; Kaminer, 2005). For example, in the meta-analysis conducted by McDermut and peers (2001), group therapy is effective in treating adolescent depression and significantly less expensive than individual therapy.

Opponents of group therapy raise concerns about iatrogenic effects – increased substance use and deviance – that adolescents may face while working with other adolescents with substance use disorders and various levels of deviancy (Ang & Hughes, 2002; Kaminer, 2005; Burleson et al., 2006). For instance, adolescents in social skills groups made up of only antisocial peers had significantly fewer benefits than those in individual treatment and groups of adolescents with varying levels of prosocial and antisocial behavior (Ang & Hughes, 2002; Kaminer, 2005).

However, there is also evidence that iatrogenic or contagion effects in adolescent group therapy are not present (O'Leary et al., 2002; Kaminer, 2005; Burleson et al., 2006). Often, adolescents' behavior is influenced by their peer groups, and adolescents who stop drinking without formal treatment may turn to peer groups to help them stop (O'Leary et al., 2002). Moreover, in a study conducted by Burleson et al. (2006) looking at iatrogenic effects of group therapy for delinquency, youth who were considered to have medium to higher levels of conduct disorder or were in groups with those who also had equally high levels of conduct disorder improved significantly more than adolescents with higher levels of conduct disorders placed in groups with median or lower levels of conduct disorders.

Family versus Peer Group Therapy

Family therapy is also a group therapy approach used to treat adolescent substance misuse by addressing and resolving familial issues, such as communication (Winters et al., 2011). It is considered an important modality of treatment because it considers the role of the family in the life of the adolescent (Deas & Thomas, 2001). Overall, a large portion of studies evaluating family therapy found significantly reduced adolescent substance use (Muck et al., 2001; Winters et al., 2011; Tanner-Smith et al., 2013). For example, Liddle et al. (2009) found that multidimensional family therapy was significantly more effective at reducing adolescent substance use than peer group intervention. Unlike peer group therapy, family-based and multisystemic interventions have received the most attention in empirical research (Deas &

Thomas, 2001, Muck et al., 2001; Winters et al., 2011). Although family therapy is a form of group therapy, the present review will focus on peer group therapy.

While peer group therapy may be particularly beneficial to adolescents, to our knowledge, no review on the use of peer group therapy as a treatment for adolescents who misuse substances has been published. This scoping review aims to investigate group therapy's effectiveness for substance misuse treatment during adolescence.

Current Study

We conducted a scoping review to understand the state of the science on the effectiveness of peer group therapy for adolescents who misuse substances. In practice, peer group therapy is a widely used form of treatment for adolescent substance misuse; however, there are gaps in our overall understanding of the effectiveness of peer group therapy as a treatment for adolescent substance misuse. The purpose of this scoping review is to summarize current research on adolescent peer group therapy for substance misuse, identify research gaps related to the use of peer group therapy for adolescent substance misuse, and discuss the next steps for future research.

Methods

The protocol guiding this review was published in the University of Michigan Deep Blue Repository (De Geronimo & Stoddard, 2021). This scoping review was conducted in accordance with the Joanna Briggs Institute (JBI) methodology for scoping reviews (Peter et al., 2020) and followed the methodological framework proposed by Arksey and O'Malley (2005). Arksey and O'Malley's methodological framework consists of five consecutive stages: (1) identifying the research questions, (2) identifying relevant studies, (3) study selection, (4) charting the data, and (5) collating, summarizing, and reporting the results.

Stage 1: Identifying the research questions

Is group therapy an effective treatment method for adolescent substance misuse? What forms of peer group therapy are effective? And what were the characteristics of effective peer group therapy programs?

Stage 2: Identifying relevant studies

Inclusion criteria

A comprehensive search strategy was developed using the "Population-Concept-Context (PCC)" framework for scoping review (Peters et al., 2020). The **population** of the studies had to be adolescents aged 12 and 18 years. The age restriction is necessary to make the important distinction between group therapy for adolescents versus group therapy for children and adults. The **concepts** of the studies included the effectiveness of peer group therapy in treating adolescent substance misuse. The **context** of the study was our primary focus: peer group therapy. We examined peer group therapy in a global context and did not limit our review to

studies from a specific region. Due to time constraints and financial resources, we restricted the language of studies to English. We defined peer group therapy as a form of therapy in which there is one or more therapists/facilitators treating a small group of same-age [adolescent] clients who are in recovery from substance misuse together. We did not include family therapy.

We defined substance use as the problematic use of drugs and alcohol – whether it be adolescents who demonstrate more moderate use or adolescents who demonstrate excessive use. Substances included alcohol (including binge alcohol use), marijuana, opioids, and illicit drugs.

Studies that used an experimental, quasi-experimental, observational, and qualitative design were included. Gray literature (narrative reviews, conference papers, proceedings, government reports, community agency/group reports, editorials, and theses) that examined the use of group therapy for adolescent substance use were included. Systematic reviews were not included in the final review. However, identified systematic reviews were used for further citation tracking.

Exclusion criteria

Studies were excluded based on the following criteria:

- Not published in English
- The study population was not between the ages of 12 and 18
- Does not include peer group therapy for adolescent substance use treatment.

Search strategy

The search strategy aimed to locate both published and unpublished studies. The databases included in the search were PubMed, Embase, EBSCO, PsychInfo, and Scopus. We also included ProQuest for dissertations and theses. Sources of unpublished studies/grey literature included government or organization websites, such as APA, clinical trials, and google scholar. The text words contained in the titles and abstracts of relevant articles and the index terms were used to develop key terms for refining the database search strategies. We met with the health sciences librarian to refine our key terms.

The database search strategy included combining keywords, indexed terms, and phrases for the following concepts: adolescents, group therapy, and substance use. The search strategy was adapted for each database and/or information source. The search strategy for PubMed is presented in Appendix 1. Studies were limited to English.

Stage 3: Study selection

Following the initial search, all identified citations were collated and uploaded into Rayyan – a web and mobile app for systematic reviews – and duplicates were removed (Mourad et al., 2016). One reviewer screened titles and abstracts for inclusion. The reviewer ended with 280 studies that she sought for retrieval and scanned again for inclusion. Next, the reviewer reduced

this to 70 studies to assess for eligibility. In the end, 11 studies met the inclusion criteria and were included in the full-text review. A second researcher reviewed studies in which questions about inclusion arose. The second researcher also reviewed the final 11 studies to confirm that all studies met the inclusion criteria. A search of the grey literature did not yield any studies that fit all inclusion criteria.

Stage 4: Charting the data

One reviewer abstracted the following data on each article using a data extraction tool: title, author(s), publication date, population characteristics, study characteristics (e.g., research design), description of group therapy intervention, and results of intervention effectiveness.

Stage 5: Collating, summarizing, and reporting the results

The findings from the retrieved data were combined to generate a summary of the effectiveness of group therapy for treating adolescent substance misuse.

Results

General Study Characteristics

Table 1 provides a summary of the studies included in the literature review (n=12). Four studies compared two forms of peer group therapy, one study compared peer group therapy to family therapy, five studies compared peer group therapy to a control group that did not include group therapy, and two studies did not include a control or comparison group.

Group Versus Group Therapy

Of the thirteen studies included, four studies compared one form of group therapy to another (Burrow-Sánchez & Wrona, 2012; Lowe et al., 2012; D'Amico et al., 2013; Burrow-Sánchez, 2019).

D'Amico et al.'s (2013) examined the effectiveness of *the Free Talk* group – a group treatment that incorporates motivational interviewing – compared to an abstinence-based Alcoholics Anonymous curriculum. Participants in the *Free Talk* group reported reductions in alcohol and marijuana use three months after treatment; however, there was no statistically significant difference between participants who completed Free Talk compared to participants who completed the abstinence-based Alcoholics Anonymous curriculum (D'Amico et al., 2013).

Two studies compared a standard version of cognitive-behavioral substance abuse treatment (S-CBT) to a culturally accommodated version (A-CBT) for Latino/a adolescents (Burrow-Sánchez and Wrona, 2012; Burrow-Sánchez, 2019)). One study in a sample of 35 Latino adolescents born in the United States (Burrow-Sánchez and Wrona, 2012). Substance use outcomes Overall, participants in both the S-CBT and A-CBT groups demonstrated significant decreases in substance use from pre-to-post treatment with a slight increase at the 3-month follow-up for both groups (Burrow-Sánchez & Wrona, 2012). Burrow-Sánchez conducted a second study that compared S-CBT and A-CBT in a sample of 70 Latino adolescents with substance use disorders. Like in the first study, A-CBT included the variables of acculturation, ethnic identity, and familialism because of their relevance for Latino students experiencing substance use problems; modifications included the use of Spanish names when giving examples, the implementation of culturally relevant role-plays, and the opportunity to discuss real-life stressors (Burrow-Sánchez, 2019). When comparing the mean days of substance use in the past 90 days between adolescents in the S-CBT and A-CBT group treatments, adolescents in the A-CBT group reported significantly lower levels of substance use 12 months post-treatment compared to adolescents from the S-CBT group (Burrow-Sánchez, 2019).

Finally, only one study compared a culturally-based intervention (CTC) with a standard educational, non-culturally-based intervention (SE) (Lowe et al., 2012). The researchers found that the culturally-based intervention was significantly more effective in reducing substance use and related problems than the non-culturally adapted intervention (Lowe et al., 2012).

Group Therapy Versus Family Therapy

Only one study compared group therapy to family therapy (Smith et al., 2006). Smith et al. (2006) evaluated The Seven Challenges (7C) peer group therapy program and the Strengths Oriented Family Therapy (SOFT). Adolescents in the 7C groups were provided decision-making skills training, interactive journaling, and motivational interviewing concepts to treat adolescent substance abusers; adolescents attended 10 weekly group sessions. Adolescents in the SOFT program received family therapy that consists of motivational family sessions, solution-focused family therapy, multifamily skills training groups, and targeted case management. Adolescents and parents in the SOFT group attended ten weekly multifamily groups and five conjoint family therapy sessions. Overall, participants from both 7C and SOFT demonstrated a significant reduction in substance use and related problems and effects did not differ at 3 or 6 months post-treatment (Smith et al., 2006).

Group Therapy Versus Control Group

We identified five studies that compared a group therapy intervention to a control condition (Bailey et al., 2004; Wagner & Macgowan, 2006; Akhar & Boniwell, 2010; Gmel et al., 2012; O'Connor et al., 2016).

O'Connor et al. (2016) examined the effectiveness of Project Step Up Intervention (SUI), a tailored group intervention to reduce alcohol consumption and alcohol-related negative outcomes among adolescents with Fetal Alcohol Spectrum Disorders (FASD). SUI participants reported significantly lower levels of alcohol risk and fewer negative behaviors following intervention compared to control group participants who were provided with written materials on alcohol misuse and stress reduction (O'Connor et al., 2016).

Two of the studies examined the effectiveness of brief alcohol interventions with motivational interviewing (Bailey et al., 2004; Gmel et al., 2012). Brief motivational interviewing comprises the same concepts as motivational interviewing but is meant to be conducted during shorter periods of time (4 and 2 sessions, respectively for the included studies). The brief motivational interviewing interventions were not effective in either study (Bailey et al., 2004; Gmel et al., 2012).

One study examined the effectiveness of offering a peer group therapy intervention in a school setting (Wagner & Macgowan, 2006). Wagner and Macgowan (2006) examined the effectiveness of peer group counseling offered in the school compared to usual care (i.e., referral for resources

and/or therapy available outside of the school). Participants who completed the in-school peer group therapy had significantly greater reductions in substance use compared to participants who received usual care (Wagner & Macgowan, 2006). Although participants in both conditions reported initial improvement in substance use, participants who received group counseling had more significant and longer lasting effects. This study suggests that group therapy offered in locations in which youth already spend time, like in school, are an effective option for adolescent substance use treatment.

Finally, one study examined positive psychology as a means for treating adolescent substance use. The intervention is grounded in the idea that building well-being within a group intervention, rather than focusing directly on alcohol misuse, can be a viable treatment for adolescent substance misuse (Akhar & Boniwell, 2010). The researchers found that, compared to the control group which received no treatment, the treatment group demonstrated an increase in well-being and a decrease in alcohol consumption (Akhar & Boniwell, 2010).

Group Therapy with No Control Group

Two studies examined group therapy treatment without including a control or comparison condition (Battjes et al., 2004; Lowe, 2006). Both studies found that peer group therapy treatment was relatively successful in reducing adolescent substance use (Battjes et al., 2004; Lowe, 2006). For example, Lowe's (2006) found that a culturally appropriate school-based substance abuse intervention reduced substance abuse among Cherokee adolescents (Lowe, 2006). Similarly, Battjes et al.'s group-based treatment for adolescent substance abuse was effective in reducing adolescent marijuana use after treatment – and for some, up to 12 months post-treatment.

Discussion

What is the state of the science of research on the use of peer group therapy for adolescent substance use treatment?

This review identified 13 studies that evaluated the effects of a range of peer group therapy interventions on adolescent substance misuse.

Group vs. Group

The studies comparing two forms of peer group therapy demonstrate that we can learn a lot about the effectiveness of specific forms of group treatment relative to others, but also show the large gap that we need to fill with research. These studies only compare results to another form of group therapy, so they are not able to answer whether peer group therapy is a more effective option than other forms.

The presented studies suggest three things. First, there was no statistically significant difference between motivational interviewing and the abstinence-based Alcoholics Anonymous (AA) curriculum in reducing adolescent substance use; however, it seemed that though there was no statistically significant difference in participant satisfaction and quality of services between both groups, more teens in the motivational interviewing group selected that they "strongly agreed" more to positive factors than participants in the (AA) curriculum – suggesting that adolescents might enjoy motivational interviewing group treatment more (D'Amico et al., 2013).

Second, culturally accommodated versions also provide promising results for racial/ethnic minorities (Burrow-Sánchez and Wrona, 2012; Lowe et al., 2012; Burrow-Sánchez, 2019). Although Burrow-Sánchez and Wrona's (2012) study resulted in participants from both the S-CBT and A-CBT groups having significant decreases, the study demonstrated that the participants from the A-CBT group enjoyed the program more than participants from the S-CBT. This suggests that culturally adapted programs can be more successful than standard programs when participants resonate more closely with the culturally based moderator variables implemented in the treatment program. In the studies conducted by Burrow-Sánchez (2019) and Lowe et al. (2012), participants from the culturally adapted groups had significantly better results after treatment than participants from the standard group treatments, further suggesting the importance of researching and implementing culturally adapted group treatments.

While the three studies demonstrated positive results for ethnic/racial minorities, there were no other studies comparing culturally adapted programs to a different population or culture. Also, not only is there a large limitation in culturally adapted programs for group treatment for adolescent substance misuse, but according to the meta-analytic review that Steinka-Fry and colleagues (2017) conducted, there were only seven studies that examined culturally sensitive substance use treatment for racial/ethnic minority youth. According to the meta-analyses, culturally sensitive treatments are associated with larger reductions in substance use levels compared to the comparative treatment, suggesting the effectiveness of culturally adapted programs (Steinka-Fry et al., 2017). Therefore, more research on culturally adapted treatments for peer group therapy and substance use treatment, in general, is needed for all racial/ethnic minorities.

Although there are vast forms of group therapy, the interventions included in this review only included CBT, motivational interviewing, and the abstinence-based AA curriculum. A form that seems to be promising is psychoeducational groups. According to a study conducted by Kit and Teo (2012), psychoeducational expressive group therapy helps reduce adolescent smoking. In the group, adolescents were taught the harmful effects of smoking and the Quit Now! five steps to stop smoking. In both groups delivered in school and residential settings, there was a significant reduction in tobacco use; indeed, there was a 100% smoking cessation rate among the

participants in the residential setting. Therefore, it seems that psychoeducational groups can provide promising results in treating adolescent substance misuse of alcohol and other drugs.

Finally, another form of group therapy that is starting to be more present is group mindfulness-based programs (Himelstein, 2011; Himelstein et al., 2015). Both studies suggest the feasibility of including group mindfulness-based programs for incarcerated youth who use substances can be successful. For example, according to Himelstein (2011), the mindfulness-based substance use intervention was implementable in a juvenile detention camp setting, and that impulsiveness and perceived risk of drug use decreased significantly from the pretest to post-test. Self-regulation did not change, but many participants did express an appreciation for the way the group was facilitated, suggesting that adolescents may enjoy mindfulness-based programs. Similarly, in the later study, Himelstein and colleagues (2015) found significant increases in the incarcerated adolescent participants in self-esteem and decision-making skills. These studies did not directly look at the change in substance use habits throughout treatment; however, the factors they observed – impulsiveness, perceived risk of drug use, self-esteem, and decision-making skills – are important tools for decreasing substance use. Therefore, looking directly at the effects of mindfulness-based programs on adolescent substance misuse and comparing it to other forms can help better understand whether it can be a feasible treatment option.

Peer Group Therapy Versus Family Therapy

Family therapy is a popular form of group therapy that is effective for adolescent substance use treatment (Deas & Thomas, 2001; Muck et al., 2001; Liddle et al., 2009; Winters et al., 2011; Tanner-Smith et al., 2013); however when compared to peer group therapy, we found inconsistent results as to which treatment may be most beneficial to adolescents. For example, Smith et al. (2016) found that participants who received either family or peer group therapy treatment had significant reductions in substance use. However, Henderson et al (2009) found that adolescents who received family therapy that incorporated parental monitoring demonstrated higher levels of abstinence over the year post-treatment compared to those in the peer group condition . Therefore, while family therapy is an effective treatment further research is needed to further understand the efficacy of peer group therapy versus family group therapy.

Group Therapy Versus Control Group

Overall, the majority of the studies demonstrated that group therapy is more effective than the alternative control, therefore suggesting that peer group therapy is an effective treatment for adolescent substance misuse. Given these results, there should be more research that focuses on peer-group therapy for adolescent substance misuse.

When considering the five studies that compare peer group therapy to a control group, we can note four things regarding the state of the research. First, similar to the culturally accommodated

group programs, O'Connor et al.'s (2016) study demonstrates that group treatments tailored towards specific disorders, such as FASD, have promising results. While there were two studies that researched culturally adapted group treatments, O'Connor's study was the only one that researched programs tailored for adolescents with specific disorders. Interestingly, there was a paper that reviewed substance use treatments for youth with substance use disorder and co-occurring psychiatric disorders, but the authors only focused on CBT and family therapy as frameworks for integrating substance use and other mental health treatments in youth treatment (Godley et al., 2014). The findings suggest that while there is some research on treatment programs for substance use and other disorders, there are limited/no studies looking at peer group therapy programs for adolescents with disorders comorbid with substance misuse.

Second, Wagner and Macgowan's (2006) study demonstrates that peer group therapy can be effective in school settings. School settings are important to consider because school is where adolescents spend a large part of their day; thus, incorporating a treatment within the school can be highly efficient. According to a meta-analysis conducted by Kaminer (2005), studies performed in clinical settings reported more improvement than studies done in schools. A study that adds to this idea is one conducted by Kit and Teo (2012). In their study, results indicated that group therapy in residential settings – where adolescents live for a period of time to be treated – may be more effective than providing therapy in school where they only stay for part of the day, as participants in residential settings had a much greater smoking cessation rate than those in school settings.

Currently, research on adolescent substance use treatments is considered in several ways. First, it is considered a community system through family therapy treatment (Winters et al., 2014). More specifically, multidimensional family therapy and multisystemic therapy (family therapy and community-based treatment) incorporate schools as part of the treatment. Also, according to Winters et al. (2014), there seems to be preliminary research on recovery in high schools and collegiate recovery programs.

Third, only one study conducted research on the effect that incorporating positive psychology in peer group treatment has on treating adolescent substance misuse (Akhar & Boniwell, 2010). Relative to many psychological theories, positive psychology is relatively new and is gaining exponential growth in psychology. The aim of positive psychology is to understand an individual's strengths to thrive and is grounded on the belief that we want to live fulfilling lives (*Positive psychology center*). Currently, several studies are being conducted around the effects of positive psychology on treating substance use disorders. However, there is still a limitation. For instance, in the literature review for positive psychology to substance use, addiction, and recovery research, by Krentzman (2013), there were only nine studies. Moreover, of the nine studies, only one was conducted with a clinical population and was the only one designed as an

experiment with a waitlist control group (Krentzman, 2013). This notes that more empirical work is needed.

Finally, only two studies researched brief motivational interviewing interventions and found they were not effective (Bailey et al., 2004; Gmel et al., 2012). Interestingly, in a study conducted by D'Amico et al. (2008), compared to adolescents who did not receive the motivation intervention, those who participated in brief motivational interviewing reported less marijuana use, thus suggesting that it is a viable intervention. More research should be conducted to better understand whether group brief motivational interviewing could yield positive results.

Group Therapy Versus No Control Group

The studies that did not compare the group therapy to a control group also provide promising support for the effectiveness of peer group therapy in reducing adolescent substance misuse. Since the studies offer no control, we must take the results with a grain of salt since although the group treatment might have been effective, we do not know if it was *more* effective than something else. Therefore, to better understand how effective these group treatments are, we must create a study that compares such treatments to a control group.

In their study, Lowe (2006) researched a culturally appropriate school-based substance use group treatment for Cherokee adolescents. Given that there was no control group, we cannot conclude whether the culturally tailored program for Cherokee adolescents is a better alternative than other forms of group therapy. However, a few years later, Lowe and colleagues (2012) conducted a study that compared the treatment of Cherokee adolescents to standardized school-based group treatment and found that the culturally tailored program was indeed more effective. Here, we can notice the effects of taking group treatment research beyond one study to better understand its effectiveness.

While Battjes et al.'s (2004) study demonstrated the effectiveness of their group-based treatment model in reducing adolescent marijuana use, we cannot conclude that it is a better form of treatment than another type of group treatment or another form of treatment. Therefore, further research should be conducted to better understand its effectiveness.

What forms of peer group therapy are effective? And, what were the characteristics of effective programs?

Overall, this review found evidence to support the use of peer group therapy for adolescent substance use treatment. More specifically, various forms such as motivational interviewing, psychoeducational group therapy, culturally tailored or adapted group treatments, and the inclusion of positive psychology are characteristics of effective group programs.

Motivational Interviewing

Motivational interviewing techniques use open-ended questions, and one facilitator leads reflective statements and conversations. In essence, according to the co-founder of motivational interviewing, Dr. Stephen Rollnick, the motivational interviewing “perspective is different - you adopt a different style for solving problems for people to encourage them to solve for themselves” (*Motivational interviewing* 2022). For addiction treatment specifically, motivational interviewing helps strengthen one’s motivation towards goals such as sobriety (*Motivational interviewing*, 2022).

In the study conducted by D’Amico et al. (2013), group motivational interview treatment yielded positive results in an adolescent reduction in substance use after treatment. During treatment, the facilitator delivered content such as the pros and cons of continued alcohol and drug use, how much one wants to change, and what to do to change substance use habits using motivational interviewing techniques. Interestingly, Bailey et al.’s (2004) and Gmel et al.’s (2012) studies that looked at brief group motivational interviewing did not find that they were effective treatments in reducing adolescent substance use. Therefore, brief motivational interviewing might not be as effective as more long-term motivational interviewing group treatments for adolescents with substance misuse.

Psychoeducational Group Therapy

Psychoeducational group therapy is a unique form of treatment in that the facilitator focuses predominantly on educating group members about the disorder, such as substance use, and ways of coping; the aim is to educate rather than change clients’ thoughts and feelings – but such changes can occur (*2 types of groups commonly used in substance abuse treatment* 2005). In Wagner and Macgowan’s (2006) study, their group counseling model educates participants through raising awareness of substance use, understanding antecedents, and developing coping skills to manage stress. The participants that received psychoeducational treatment had a greater reduction in alcohol use, marijuana use, and substance use problems after treatment (Wagner & Macgowan, 2006). Moreover, in D’Amico et al.’s (2013) study, there were also educational components, such as the pros and cons of continued alcohol and drug use. Thus, psychoeducational group treatment or the inclusion of educational aspects in group treatment seems to also be effective in treating adolescent substance misuse.

Culturally-Tailored or Adapted Group Treatments

Moreover, all of the studies that were either culturally tailored or adapted programs for specific populations were effective in reducing substance misuse for the specific populations (Lowe, 2006; Lowe et al., 2012; Burrow-Sánchez & Wrona, 2012; O’Connor et al., 2016; Burrow-Sánchez, 2019). For Latino/a adolescents, culturally tailored group treatments are not only favored but also seem to be more effective in reducing substance misuse (Burrow-Sánchez & Wrona, 2012; Burrow-Sánchez, 2019). Similarly, for Native American adolescents, in particular Cherokee adolescents, culturally tailored group treatments seem to be effective in

reducing substance use (Lowe, 2006; Lowe et al., 2012). Finally, just like the participants in culturally adapted group therapies, the greater reduction in substance use for FASD participants in the Project Step Up Intervention suggests that adapted programs for specific populations can be effective (O'Connor et al., 2016).

Positive Psychology

Positive psychology is an ever-growing field that focuses on the individual's strengths to thrive (*Positive psychology center*). Regarding substance use specifically, positive psychology is associated with a more positive emotional state, which in turn, is associated with lower stress levels and reduced alcohol craving (*Positive psychology to substance use disorder*, 2017). According to Akhar and Boniwell (2010), applying positive psychology to a group intervention for alcohol misusing adolescents can be a viable treatment for adolescent substance misuse.

What are the gaps in the knowledge and understanding of peer group therapy for adolescent substance misuse?

While several studies have suggested the effectiveness of peer group therapy for adolescent substance misuse treatment, there are still many gaps in our knowledge and understanding of peer group therapy which should be considered for future research.

More research is needed on the effectiveness of group motivational interviewing and group psychoeducational strategies in reducing adolescent substance misuse treatment:

Motivational interviewing and psychoeducational therapies both incorporate educational aspects into group therapy and present promising results. Of the thirteen studies, only two looked into either motivational interviewing or psychoeducational strategies (Wagner & Macgowan, 2006; D'Amico et al., 2013). From these studies, we see that including educational or motivational interviewing in group settings can foster positive results in reducing adolescent substance misuse.

Moreover, previous research supports the use of culturally tailored or adapted interventions for Latinx, Cherokee, and FASD youth; however, additional research is needed on culturally tailored or adapted interventions for additional subpopulations of adolescents.

While we can see an increase in the representation of group treatment in adolescent substance misuse for Latinx, Cherokee, and FASD adolescents, there are many other minorities and subpopulations of adolescents that are not represented. Therefore, research should not only continue focusing on the present research on the culturally tailored and adapted treatment groups but should also expand to represent other subpopulations, such as adolescents with different cultural backgrounds, racial/ethnic identities, and disabilities.

Given the promising results of positive psychology, more research should focus on the effects of incorporating positive psychology in group therapy.

Interestingly, only one study looked at the effects of positive psychology – a more novel but ever-growing treatment – and demonstrated positive results. Positive psychology has a strong focus on adolescent well-being (Akhar & Boniwell, 2010). Though research has primarily focused on the effect of positive psychology in treating adolescents with depression, we can see research expanding into many other disorders or challenges that adolescents face, such as substance use. Therefore, given the promising results of positive psychology, more research should focus on the effects of incorporating positive psychology in group therapy.

More rigorous studies that compare the effect of “change talk” to a control are needed to determine their effectiveness for adolescent substance misuse treatment.

Change talk is when a client uses statements that set a potential path towards change or a commitment to change. Despite its importance, only one study looked into the effect that change talk could have on adolescents who misuse substances in peer group settings (Oscilla et al., 2015). What Oscilla and colleagues found was overall, change talk was associated with improved AOD outcomes. However, there was no control group; therefore, while change talk does improve AOD outcomes, we cannot determine whether it is as or more effective than other forms or strategies in peer group therapy.

Limitations

We made the decision to exclude groups like Alcoholics Anonymous (AA) and 12-steps. While there are components of peer group therapy within the programs, there are also additional components, such as open meetings, that include family members and friends meetings that extend beyond the scope of this review.

Conclusion

In conclusion, although peer group therapy continues to be a prevalent form of treatment among adolescents who misuse substances, few studies have evaluated its effectiveness. However, these studies do suggest that peer group therapy is effective. Additional research is needed in this area.

Supplementary Information

See Appendices.

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Contributions

FD has made the intellectual contributions to the development of the protocol. FD conceived the idea for the project, the study design and the development of research questions. FD

conceptualized the review approach and led the writing of the manuscript. FD led the supervision of the manuscript preparation. FD and SS provided detailed comments on earlier drafts and approved this manuscript. FD is the guarantor of this review.

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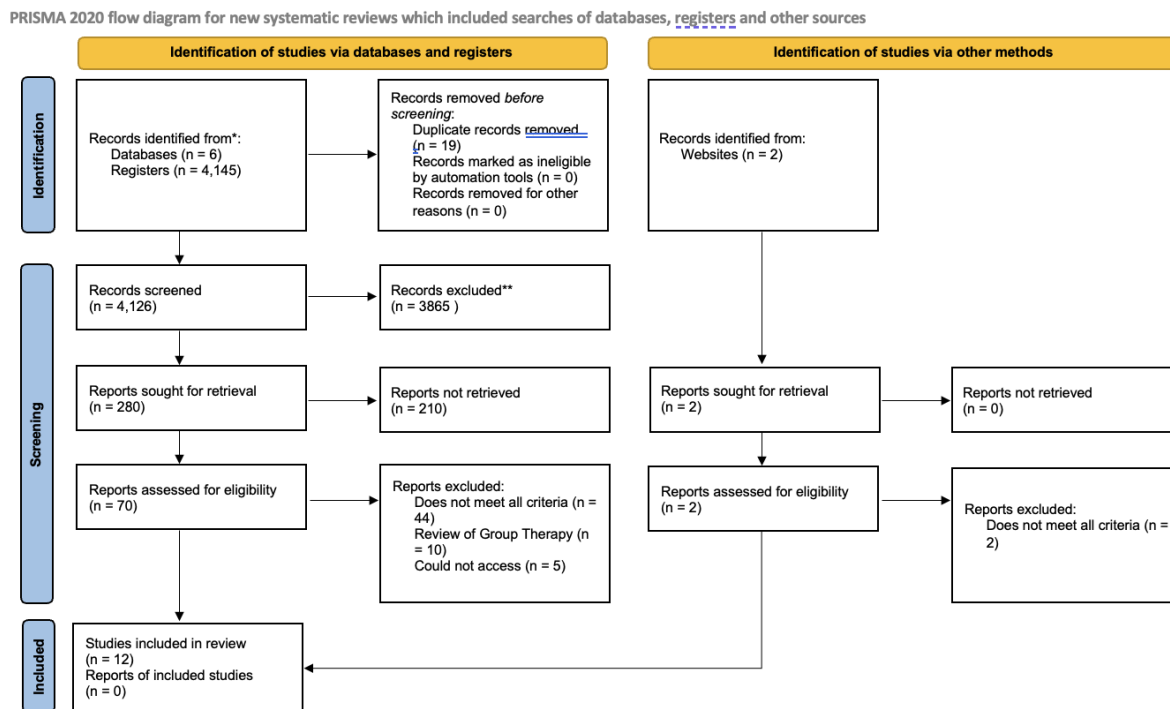
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Appendices

Figure 1



*Consider, if feasible to do so, reporting the number of records identified from each database or register searched (rather than the total number across all databases/registers).

**If automation tools were used, indicate how many records were excluded by a human and how many were excluded by automation tools.

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021;372:n71. doi: 10.1136/bmj.n71. For more information, visit: <http://www.prisma-statement.org/>

Table 1

Author and Year	Study Design	Population	Group Therapy Description	Control Condition	Findings/Program Effectiveness
Akhar & Boniwell, (2010)	Mixed methods study; convenience sampling	N=20; mean age 17.5 (ranging from 14-20).; participants attending an alcohol and drug treatment service	Experimental group (n=10); Eight weekly sessions; individual coaching to report on group process and next steps in sessions 5-8. The program focused on building well-being; it did not focus directly on alcohol misuse	Control group (n=10) received no treatment,	Increase in well-being Decrease in alcohol consumption
D'Amico et al., (2013).	Permuted block randomization	N = 193; mean age 16.6 years (SD=1.05); participants committed all alcohol/drug offense; 67% male, 45% Hispanic, 45% White (non-Hispanic)	Group MI: <i>Free talk</i> (n=113); one facilitator; content delivered using an MI approach; use of open-ended questions and reflective statements; discussed topics such as the pros and cons of continued AOD versus cutting back or quitting	Usual Care (UC) (n=80): curriculum followed abstinence-based Alcoholic Anonymous approach, led by one facilitator	AOD use and delinquency decreased for both groups at three months but changes were not significantly different.
Burrow-Sánchez, (2019)	Randomized trial	N = 70 Latina/o adolescents; mean age 15.2; 61.4% born in the US; 90% male; Annual household incomes of \$25,000 or less (75.7%)	Culturally accommodated equivalent (A-CBT): Acculturation, ethnic identity, and familialism were integrated	Standard group-based version of CBT (S-CBT): modeled after the <i>Cognitive-Behavioral Coping Skills Therapy Manual</i>	Adolescents in the A-CBT reported lower levels of substance use at 12-months post-treatment compared to adolescents in the standard treatment
Wagner & Macgowan, (2006)	Standardized intervention	N = 289; Mean age 15.3 years (SAP n = 180; Comparison/treatment-as-usual n = 109). 53% middle school, 47% high school, 39% female, 62% White, 20% Hispanic, 14% Black, 4% other;	Westchester model SAP (Group Counseling) (n=180): 10 weekly sessions which includes didactic materials, discussion topics, and workbook exercises; goals to educate participants, raise awareness of underlying use, understand antecedents and consequences, set and meet goals for reduction or cessation, and develop coping skills to manage stress and other factors	Treatment-as-usual (n=109): referrals to self-help groups and local treatment providers	SAP/group counseling participants reported greater reductions in past month alcohol use, marijuana use, and substance use problems at 1-, 3-, and 12-months post-treatment compared to treatment-as-usual participants
O'Connor et al., (2016)	Experiment	N = 54; mean age 15.69 (SD=1.74) years; 55.6% female; 55.6% White, Non-Hispanic, 7.4% as Black Non-Hispanic, 33.3% Hispanic, and 3.8% Native American of Asian	Step Up Intervention: Groups averaging 6 to 8 participants, consisted of 6, 60-minute sessions delivered over 6 weeks;	Control: provided with written materials on alcohol misuse and stress reduction	Significant decrease in self-reported alcohol risk and in alcohol-related negative behaviors in light/moderate drinkers in the SUI compared to the Control group. Reductions in problem drinking remained at 3-month follow-up..
Smith et al., (2006)	Experiment	N = 98; mean age 15.8 years, 29% female, 24% minority, 39% lived in a single parents household, and 71% reported current juvenile justice system involvement; using lifetime data, diagnosed 90% with substance abuse and 47% with substance	Compared two independent group therapy interventions: Strengths Oriented Family Therapy (SOFT) (n=58): adolescents and parents attended 10 weekly multifamily groups and five conjoint family therapy sessions The Seven Challenges (7C) (n=40): youth attended 10 weekly group sessions with their counselors occurring within the 3 months following baseline	No control	The results support the efficacy of both SOFT and 7C in clinical practice to reduce drug use frequency and related problems

		dependence			
Burrow-Sánchez & Wrona, (2012)	Pilot study	N = 35 Latino adolescents; mean age 15.49; 94% male, 69% born in the US; baseline acculturation scores indicated that adolescents generally identified as bicultural with a slight anglo orientation; majority of parents born in Mexico (74% of mothers, 88% of fathers) and reported annual household incomes of less than \$25,000 (69%)	Standard Version of Cognitive- Behavioral Substance Abuse Treatment (S-CBT) (N=18): 1.5 weekly sessions over consecutive 12-week periods, overarching goal to improve adolescent problem-solving, decision-making, and coping skills and decrease problem behavior Cultural Accommodation Model for Substance Abuse Treatment (A-CBT) (N=17): Changes to treatment content and delivery to integrate culturally relevant variables for Latino adolescents in relation to substance use: acculturation, ethnic identity, and familialism; parent involvement where called at least one parent per adolescent at least 6 times during the course of treatment	No control	Participants in both conditions demonstrated significant decreases in substance use both pre-to-post treatment with slight increases at 3-month follow-up; parents of adolescents in A-CBT were slightly more satisfied than parents in the S-CBT treatment group
Battjes et al., (2004)	Evaluation of group treatment program	N = 194; average age is 16 on average, largely male (84.5%), and Caucasian (71.1%) or African American (21.6%)	Group-Based Treatment for Adolescent Substance Abuse (GBT): 20-week program that consisted primarily of weekly group counseling, with limited individual and family therapy; group treatment sessions lasted 75 minutes; minimum of four family therapy sessions required	No control	High retention rates; study results indicate GBT models effective in helping adolescent substance abusers reduce their use of marijuana at 6 months following treatment admission; retention of reductions in marijuana use sustained after 12 months for youth with no history of emotional abuse, were doing satisfactory in school prior, and were relatively dissatisfied with their families; reductions in marijuana use not sustained among youth who reported a history of emotional abuse, those who were doing poorly or were not in school, and those who were highly satisfied with their families; adolescents participating in the GBT model did not reduce their use of alcohol to intoxication or their involvement in criminal activities
Bailey et al., (2004)	Pilot randomized control trial	N = 34; youth from 12-19 years old, 17 females and 17 males	Alcohol Intervention Group (AIG) (N=17): 6 females, 11 males; motivational interviewing techniques, CBT, and an additional educative component about alcohol and its effects; based on harm-minimization principles	Control (N=17): 11 females, 7 males; received no treatment, but had access to an AOD counselor who provided counseling for AOD use and pamphlets about services	AIG participants showed increased readiness to reduce alcohol consumption, an initial reduction in alcohol consumption, and an improvement in knowledge regarding alcohol and related problems compared to the control condition
Gmel et al., (2012)	Quasi-randomized group trial	N = 668; mean age 16.9; 55.6% male	Brief Group Alcohol Intervention (n=338): groups of 8-10 individuals receiving two 45-minute sessions based on motivational interviewing techniques and brief alcohol strategies	Control condition (n=330) not described	There were no significant results for at risk-drinkers as a whole; however, the intervention yielded consistent reductions in alcohol use for medium risk group
Lowe, (2006)	Quasi-experimental design	N = 180; age range from 13-18	TIP-C: groups of 10-12 participants met for ten 45-minute sessions over a 10-week period; created and implemented in a talking circle group setting, sessions led by an interventionist	No control	This study demonstrates that providing a culturally appropriate school-based substance abuse intervention is effective for reducing substance abuse among Cherokee adolescents
Lowe et al., (2012)	Two-condition quasi-experimental design	N= 179; age range from 13-18	CTC (n=92): 45-minute session group led by a counselor and cultural expert over 10-week period; for adolescents in the early stages of abusing a substance and experiencing negative consequences	SE (n=87): Standard substance use education; police officer implemented program and 45-minute weekly classroom sessions over 10 weeks	The CTC program was significantly more effective than the control in reducing substance abuse and related problems.

Appendix I: Search strategy

PubMed

Search Conducted December 1, 2021

Query	Records Retrieved
<p>1. "Psychotherapy, Group"[Mesh:NoExp] OR "Psychodrama"[Mesh] OR "Group therapy"[tw] OR "group psychotherapy"[tw] OR "group intervention"[tw] OR "group psychodrama"[tw] OR "social skills training"[tw] OR "psychoeducational groups"[tw] OR "cognitive behavioural group"[tw] OR "cognitive-behavioral groups"[tw] OR "Group Psychotherapy"[tw] OR "psychoeducational groups"[tw] OR "psychoeducational group"[tw] OR "cognitive-behavioral group"[tw] OR "Social skills training"[tw] OR "therapy group"[tw] OR "therapy groups"[tw] OR "group counselling"[tw] OR "community therapy"[tw] OR "group treatment"[tw] OR "support group"[tw] OR "support groups"[tw] OR "narcotics anonymous"[tw] OR "alcoholics anonymous"[tw] OR "Twelve Step Programs"[tw]</p> <p>2. "Adolescent"[Mesh] OR "Young Adult"[tw] OR youth[tw] OR teen[tw] OR teens[tw] OR teenager[tw] OR teenagers[tw] OR adolescent[tw] OR adolescents[tw] OR adolescence[tw] OR Pediatrics[tw] OR Pediatric[tw] OR "high school"[tw] OR "middle school"[tw] OR "junior high"[tw] OR "high schoolers"[tw] OR "middle schoolers"[tw] OR postsecondary[tw] OR "secondary school"[tw] OR "Young people"[tw] OR "Young Adulthood"[tw]</p> <p>3. "Substance-Related Disorders"[Mesh] OR "Cocaine"[Mesh] OR "Cannabis"[Mesh] OR "Marijuana Smoking"[Mesh] OR "Marijuana Abuse"[Mesh] OR "Marijuana Use"[Mesh] OR "Tobacco Products"[Mesh] OR "Tobacco Use"[Mesh] OR "Tobacco Use Cessation"[Mesh] OR "Tobacco Use Disorder"[Mesh] OR "Smokers"[Mesh] OR "Alcohol Drinking"[Mesh] OR "Alcoholics"[Mesh] OR "Alcoholic Beverages"[Mesh] OR "Vaping"[Mesh] OR "Electronic Nicotine Delivery Systems"[Mesh] OR "Illicit Drugs"[Mesh] OR "N-Methyl-3,4-methylenedioxyamphetamine"[Mesh] OR "Hallucinogens"[Mesh] OR "Narcotics"[Mesh] OR (("Cough/drug therapy"[Mesh] OR "Antitussive Agents"[Mesh] OR "Amphetamines"[Mesh] OR "cough medicine"[tw] OR "illicit drugs"[tw] OR alcohol[tw] OR alcoholic[tw] OR alcoholism[tw] OR amphetamines[tw] OR cigarettes[tw] OR cigarillo[tw] OR cigars[tw] OR codeine[tw] OR dextromethorphan[tw] OR drinking[tw] OR drug[tw] OR drugs[tw] OR ecstasy[tw] OR fentanyl[tw] OR hallucinogen[tw] OR hallucinogens[tw] OR heroin[tw] OR marijuana[tw] OR mdma[tw] OR methamphetamine[tw] OR morphine[tw] OR narcotic[tw] OR narcotics[tw] OR opiate[tw] OR opiates[tw] OR opioid[tw] OR opioids[tw] OR opium[tw] OR oxycodone[tw] OR painkillers[tw] OR sedative[tw] OR substance[tw] OR substances[tw] OR tobacco[tw] OR tramadol[tw] OR tranquilizers[tw] OR hallucinogenic[tw] OR psychedelic[tw])AND (Disorder[tw] OR disorders[tw] OR Abuse[tw] OR abuses[tw] OR abused[tw] OR Dependence[tw] OR Addiction[tw] OR Addictions[tw] OR addicted[tw] OR addict[tw] OR addicts[tw] OR misuse[tw] OR Habituation[tw] OR Dependency[tw] OR dependencies[tw] OR dependent[tw] OR habit[tw])) OR sobriety[tw] OR sober[tw] OR vape[tw] OR vaping[tw]</p> <p>1 AND 2 AND 3</p>	<p>778</p>

