emerald PUBLISHING

Therapeutic Communities: The International Jou
Therapeutic Comm

The therapist, the group and I: How therapeutic alliance moderates the effect of group cohesion on outcomes

Journal:	*Therapeutic Communities: The International Journal of Therapeutic Communities*
Manuscript ID	TC-09-2020-0020.R2
Manuscript Type:	Academic Paper
Keywords:	substance dependence, Therapeutic communities, quantitative research, group cohesion, therapeutic alliance, outcomes

Abstract

Purpose: This study aimed to investigate whether the influence of group cohesion on the outcomes depended on the levels of the therapeutic alliance. Methodology: Sixteen individuals with a substance use disorder who were undergoing treatment in a therapeutic community responded to therapeutic alliance, group cohesion, craving and outcomes measures after every therapeutic small group session for a period of six weeks. Data analysis was performed using hierarchical linear modeling. Findings: Results indicate that the effect of group cohesion is stronger when there is a high therapeutic alliance between resident and therapist. Originality: Even on group interventions, to enhance group cohesion effects on outcomes, therapists must foster higher therapeutic alliance levels. Our findings point out the importance of studying the effect of common factors on outcomes.

Keywords: substance use disorder, therapeutic community, group cohesion, therapeutic alliance

Article classification: Research paper

Introduction

Therapeutic communities provide an environment that empowers change during the treatment of Substance Use Disorders (SUD) and employ social learning processes to achieve a gradual and sustained restructuring of identity and lifestyle (Dye *et al.*, 2009; Goethals *et al.*, 2011). Research into the efficacy of SUD treatment consistently shows that therapeutic communities are a well-suited resource for individuals with a greater level of dependence (Malivert *et al.*, 2011; Reif *et al.*, 2014). However, much less is known about the change process in the therapeutic communities. De Leon and Wexler (2009) launched a challenge to investigators to understand how the therapeutic factors inherent in the community model lead to results, while Sotskova *et al.* (2016) and Orford (2008) made an appeal to study the contribution of common factors, such as group cohesion and therapeutic alliance.

Group cohesion is one of the main explanatory factors for obtaining results in group therapy, considered an empirically validated relational factor by the American Psychological Association (APA; Norcross and Lambert, 2019). This construct may be understood as one process variable that reflects the quality of the relationship among group members and between group members and therapist (Burlingame *et al.*, 2011; Norton and Kazantzis, 2016). For this reason, group cohesion is viewed as the basis of therapeutic work in a group setting (Joyce *et al.*, 2007).

Many studies have consistently supported the positive effects of group cohesion. It seems to predict client satisfaction, self-disclosure, and therapeutic involvement that, in turn, leads to positive treatment outcomes (Crowe and Grenyer, 2008; Harris *et al.*, 2012; Norton and Kazantzis, 2016). For example, Pooler *et al.* (2014) found that greater group cohesion was associated with an increase in the group members' self-efficacy, which explained the positive results in addiction recovery. Furthermore, in a longitudinal study with 253 alcoholic clients in an Alcoholics Anonymous group, Rice and Tonigan (2012) found that group cohesion

promoted assiduity, the fulfillment of therapeutic tasks, and sharing of experiences, which explained the significantly increased attendance. However, not all studies have replicated these findings. For example, Gillaspy and colleagues (2002) and Joyce and colleagues (2007) failed to find group cohesion effects on improvement in a SUD population. Thus, past investigations have strongly recommended the continued exploration of the interaction between group cohesion and other variables, such as therapeutic alliance (Joyce *et al.*, 2007).

Qualitative research on residents' perspective of their own change of identity also highlighted the healing effects of residents' relationships both with other colleagues as well as with their therapists (Halsall and Cooper, 2020; Janeiro *et al.*, 2017). According to the client's perspective addressed in these studies, relationships with other residents and the therapist which are characterized by cooperation and trust promote healing effects. These positive characteristics can be learned through group cohesion and the therapeutic alliance.

Therapeutic alliance was defined by Bordin (1979) as the agreement between therapist and client regarding the treatment's goals, therapeutic tasks that are performed to achieve those goals, and the trust between therapist and client during the therapeutic work. Several meta-analyses (e.g., Horvath *et al.*, 2011) have demonstrated that therapeutic alliance has a positive, moderate, and significant effect on the results obtained in psychotherapy and the APA considers it to be an empirically validated relational factor (Norcross and Lambert, 2019).

A study (Urbanoski *et al*., 2012) with 303 individuals in residential treatment showed that a strong therapeutic alliance was correlated with a significant reduction in anxiety and increased motivation, self-efficacy, and coping skills. Likewise, another investigation demonstrated that a positive alliance with the group therapist was associated with an increase in treatment participation and, consequently, with a decrease in substance consumption (Crits-Christoph *et al.*, 2013). In line with this, the therapeutic alliance has been shown to be

clinically important even in reducing drop-out (Janeiro *et al.*, 2018), a recurrent phenomenon in therapeutic communities' treatments (Browne *et al.*, 2016). As demonstrated by Janeiro and colleagues (2018), residents who formed a better alliance bond with their therapist recorded greater adherence to treatment.

As both group cohesion and therapeutic alliance positively influence treatment outcomes, it is reasonable to consider whether the interaction between these variables can affect treatment outcomes. Nevertheless, it is not clear how those factors are associated theoretically and empirically and how these factors contribute to the outcomes (Bakali *et al.*, 2009).

One of the main difficulties of studying these concepts is the different conceptualizations of group cohesion and therapeutic alliance. For years, there has been a debate about whether these factors reflect the same phenomenon or whether they have separate contributions (Norton and Kazantzis, 2016). Therefore, while a few attempts have previously been made to disentangle the interrelations between group cohesion and therapeutic alliance (Budman *et al.*, 1989; Gillaspy *et al.*, 2002; Joyce *et al.*, 2007; Lorentzen *et al.*, 2004; Marziali *et al.*, 1997), the studies are inconsistent regarding the isolated effects of these factors on outcomes. For example, Marziali (1997) and Joyce (2007) found that therapeutic alliance and group cohesion had independent effects, with therapeutic alliance accounting for more positive changes than group cohesion. Budman and colleagues (1989) failed to find isolated contributions of therapeutic alliance and group cohesion, while Gillaspy (2002) found that neither therapeutic alliance nor group cohesion were satisfactory predictors of outcomes within an intensive residential substance use treatment program.

Despite of these efforts, only two studies have simultaneously investigated these constructs (Bakali *et al.*, 2009; Johnson *et al.*, 2005), which suggests that there may be a common factor between them. Johnson and colleagues (2005) analyzed the constructs of group cohesion, therapeutic alliance, and empathy in member–group, member–member and member–leader

relationships to explore the existence of higher order constructs that might provide a more consistent description of the therapeutic relationship in group treatment. The results indicated that relationship's quality was the strongest determining factor for an individual to feel positive about the group and the therapeutic process, regardless of who this relationship was with. Bakali (2009) investigated different models of the interrelations among therapeutic alliance, group cohesion, and group climate in the context of group psychotherapy. These models were tested at three stages: Sessions 3–4 (Wave 1), Sessions 10–11 (Wave 2), and Sessions 17–18 (Wave 3). During Wave 1, only the model with the factors of member–leader alliance, positive bond, and negative relationship fit the data properly. This model showed that alliance with therapist was an independent process in the first stages of therapy, whereas, in Waves 2 and 3, the positive bond appeared to be related to group cohesion. This switch to the positive bond factor in the later waves provides evidence that an emotional connection with the therapist is the foundation on which group cohesion is built, but that as therapy progresses, the effect of group cohesion becomes independent of the leader's effect (Bakali *et al.*, 2009).

Overall, these two investigations present a common factor; that is, the quality of the relationship with the therapist or the group. The results also suggest that a positive relationship with the therapist is a necessary condition for the effect of group cohesion on the outcomes. Based on this hypothesis, we intended to evaluate whether the effect of group cohesion on outcomes is influenced by the level (*high* vs. *low*) of therapeutic alliance. Despite the exploratory nature of our study, we expected that, in cases where there was a *high* therapeutic alliance, there would be a positive effect of group cohesion in reducing *craving*, *discomfort* and in increasing *well-being*. In contrast, when the therapeutic alliance was *lower*, we expected to find a smaller effect of cohesion under the outcomes (*well-being*, *discomfort* and *craving*).

Method

Participants

Sixteen individuals (11 men [68.8%]) aged between 30 and 49 years (M^{age} = 39; *SD* = 6.07) with a SUD diagnosis undergoing treatment in a therapeutic community participated in this study. Four out of a total of 20 residents of the therapeutic community under study declined the invitation to participate.

Cocaine was the drug of choice for five participants (31.2%), followed by heroin for three (18.7%), and alcohol for two (12.5%) participants. The preference for the combined use of cocaine/heroin was reported by four (25%), and alcohol/heroin and benzodiazepine/cocaine were reported by one (6.3%). The mean age of the first use of substances was 18 years (*SD* = 3.97), and the minimum age at first consumption was 12 years. The mean period of consumption was 19 years (*SD* = 6.21).

With regard to the treatment phase in the community, ten individuals (62.5%) were in the first phase of treatment, four (25%) in the second, one (6.3%) in the third and one (6.3%) was in the fourth phase.

Data Collection Setting

Data collection was carried out in a hierarchical therapeutic community as defined by De Leon (2004), where residents share it as their own. Their day-to-day life is filled with therapeutic and functional activities (such as cleaning the home and preparing meals). The therapeutic activities occur in groups that include all of the community's residents, and in small groups, also named static groups by Perfas (2003). The small groups are composed of four to six residents and a therapist and they occur once a week, lasting two hours. These therapy sessions allow the residents to establish a closer relationship with the therapist. Residents remain in the same small group throughout treatment and they create a special bond

with the therapist, from whom they seek differentiated support in terms of psychological help and orientation toward change (Perfas, 2003). As with the rest of the group, the therapist is a reference for the construction of a new relational model (De Leon, 2004).

Measures

Sociodemographic Questionnaire. A sociodemographic questionnaire was used to gather information about each participant in terms of their age, nationality, gender, marital status, literacy, and occupation. The participants were also asked about their substance use history and the current situation of their treatment.

The Working Alliance Inventory-Short Revised. The Working Alliance Inventory-Short Revised (WAI-SR; Hatcher and Gillaspy, 2006; Portuguese version: Ramos, 2008) assesses the therapeutic alliance's quality in terms of three components: objectives (goals established by client and therapist), tasks (the strategies agreed upon in order to achieve the objectives), and bond (the affective connection between client and therapist that encompasses mutual respect, trust, commitment, and understanding). It contains 12 items classified using a 5-point *Likert* scale. Psychometric data demonstrate this measure's internal consistency ($\alpha = .85$ for total scale, $\alpha = .72$ for tasks, $\alpha = .80$ for objectives, and $\alpha = .64$ for bond; Ramos, 2008).

Group Climate Questionnaire. The Group Climate Questionnaire (GCQ; MacKenzie, 1983; Brazilian Portuguese version: Santos *et al.*, 2015) is a widely used instrument that evaluates participants' perception of the interaction among group members. GCQ has been one of the most commonly used measures to assess group cohesion and group environment (e.g., Crowe and Grenyer, 2008; Johnson *et al.*, 2006).

It comprises 12 items rated on a 7-point *Likert* scale, divided on three subscales: *involvement*, *avoidance*, and *conflict*. The *involvement* subscale assesses the quality of the relationship; *avoidance* subscale assesses avoidance behaviors among the group members; and the *conflict* subscale measures interpersonal hatred, mistrust, and tension.

According to a recent psychometric study, the internal consistency of this instrument is good (α = .72 for involvement, α =.59 for avoidance, and α = .74 for conflict; Gullo *et al.*, 2015).

Outcome Questionnaire-10. The Outcome Questionnaire-10 (OQ-10*;* Lambert *et al.*, 1996; Portuguese version: Machado and Fassnacht, 2014) is a 10-item self-report measure that assesses two mental health domains: subjective discomfort and psychological well-being. The items are rated on a 5-point *Likert* scale (from "never" to "always"). The original version of the OQ-10 has excellent internal consistency (α between .82 and .92; Lambert *et al.*, 1996).

Penn Alcohol Craving Scale. The Penn Alcohol Craving Scale (Flannery *et al.*, 1999; Portuguese version: Pombo *et al.*, 2008) is a self-report scale composed of five questions that assess the intensity and frequency of craving experienced by alcohol consumers on a 7-point *Likert* scale. It has good psychometric qualities in terms of reliability (α = 0.94). In the current study, the content of the items was adjusted in accordance with the substance used by each participant, replacing the word “alcohol” for each substance, as made by Tsui *et al.* (2014).

Data Collection Procedure

All residents who were undergoing treatment were invited to participate and signed an informed consent form. The sociodemographic questionnaire was administered first. After this, following each small group sessions over six weeks, participants responded to the self-

report measures of therapeutic alliance, group cohesion, *well-being* and *discomfort*, and *craving*.

Analytical Methods

Hierarchical linear modeling (HLM; Bryk and Raudenbush, 1987) has been widely applied in longitudinal studies in which the data are hierarchically organized (e.g., Kramer *et al.*, 2009). The present study's data were organized hierarchically: group cohesion, symptomatology, and *craving* repeated measures in the six sessions (Level 1) were associated with a resident (Level 2). At resident level, the residents were differentiated according to the therapeutic alliance median value: the high ($n = 9$; $Mdn = 55$, $M = 53.96$, $SD = 4.58$) *vs*. low therapeutic alliance ($n = 7$; $Mdn = 43$, $M = 43.21$, $SD = 6.49$).

Based on that null model, we calculated the intra-class correlations (Heck *et al.*, 2010) and concluded that 79.4% of the variance of *well-being* variable, 70.2% of the variance of *discomfort* variable, and 62.0% of the variance of *craving* variable was due to differences between participants. Thus, the heterogeneity between participants justified the adoption of an analytic strategy that assumed a hierarchical data organization. In addition, given the small sample, we also analyzed the reliability of the fixed parameters, concluding that it was excellent ($\lambda_{well\text{-}being} = 0.96$; $\lambda_{discomfort} = 0.93$; $\lambda_{craving} = 0.91$).

In the second step, in unconditional linear model, the intercept parameters and linear component (small group sessions) were estimated as fixed parameters to describe the development of therapeutic outcomes (*well-being*, *discomfort*, and *craving*). In the third step that involved conditional linear models, the fixed parameters related to the effects of the independent variables (*involvement*, *avoidance*, and *conflict*) on outcomes (*well-being*, *discomfort*, and *craving*) were added to the fixed parameters of the previous step, depending on the therapeutic alliance level (*high* vs. *low*). The linear component of these models allows

us to evaluate the effect of independent variables on dependent variables by removing the temporal trend effect (Wang and Maxwell, 2015).

As suggested by several authors (e.g., Heck *et al.*, 2010), before performing these analyses, the linear component was centered in the first session in order to facilitate the interpretation of the estimated fixed parameters. The independent variables (group cohesion dimensions) were centered on the average of each participant's repeated-measures sessions to avoid multicollinearity problems and to ensure the stability of the estimated fixed parameters (Wang and Maxwell, 2015).

Results

In Table I, means and standards deviations obtained by participants in the different measures applied are presented. The answers provided by subjects were around the average of the scale for *conflict*, *avoidance*, *discomfort* and *well-being* dimensions. Therapeutic alliance values are above the average of the scale, while *craving*'s responses were near to the lower limit of the score on this measure.

[INSERT TABLE I HERE]

Table II shows the fixed parameters estimated through HLM that describe the contribution of *involvement*, *avoidance*, and *conflict* to *well-being*, *discomfort*, and *craving* as a function of the therapeutic alliance level (*high* vs. *low*).

[INSERT TABLE II HERE]

Well-Being

Based on Model 3a (Table II), it was found that the influence of *involvement* on *well-being* depended on the therapeutic alliance level. For residents who perceived a high therapeutic alliance, *involvement* with the group did not influence their *well-being* (γ_{01} = 0.193, t = 1.705, p = .093). However, for residents with a low therapeutic alliance, the greater the *involvement* with the group, the better their *well-being* (γ_{02} = 0.305, t = 2.977, p = .004). *Avoidance* and *conflict* did not have a significant effect on *well-being*.

Discomfort

The influence of group *involvement* on the residents' *discomfort* depended on their therapeutic alliance level (Model 3a, Table II). For residents who perceived a higher therapeutic alliance, the increased *involvement* with the group corresponded to a decrease in *discomfort* (γ_{01} = -0.340, t = -2.686, p = .009). For residents with a low therapeutic alliance, *involvement* with the group did not influence their *discomfort* (γ_{02} = 0.009, t = 0.078, p = .938).

The effect of *avoidance* on *discomfort* depended on the therapeutic alliance level (Model 3b, Table II). For residents who had a high therapeutic alliance, the greater the *avoidance* of the group, the greater the *discomfort* (γ_{01} = 0.442, t = 2.222, p = .030). Among residents with an alliance at less favorable levels, there was no significant effect of *avoidance* on *discomfort* (γ_{02} = 0.136, t = 0.939, p = .351).

The effect of *conflict* on *discomfort* also depended on the therapeutic alliance level (Model 3c, Table II). For residents with a high therapeutic alliance, the *conflict* with the group significantly increased their *discomfort* (γ_{01} = 0.341, t = 3.874, p = .000). Among residents who reported a lower therapeutic alliance, there was no significant effect of *conflict* on *discomfort* (γ_{02} = 0.165, t = 1.930, p = .058).

Craving

The effect of group *avoidance* on *craving* depended on the therapeutic alliance level (Model 3b, Table II). For residents who rated the therapeutic alliance at higher levels, it was found that the greater the *avoidance* of the group, the greater their *craving* (γ_{01} = 0.981, t = 2.743, p = .008). Among the residents who rated a low therapeutic alliance, there was no longer a significant effect of group *avoidance* on *craving* (γ_{02} = -0.027, t = -0.100, p = .921). *Involvement* and *conflict* did not have a significant effect on the *craving*.

Discussion

In this study, we aimed to explore the hypothesis that there would be a moderation effect of therapeutic alliance on group cohesion which, in turn, would contribute to the outcomes. To achieve this, there was adopted a methodology that allows to obtain a model of therapeutic process that approached clinical reality as closely as possible.

Findings indicate that the effect of group cohesion on outcomes is moderated by therapeutic alliance. In residents with a high therapeutic alliance, greater *involvement* with the group (a positive bond) was associated with a decrease in *discomfort*. A positive association between group bonding and a decrease in symptomatology has also been observed in several studies (Budman, 1989; Crowe and Grenyer, 2008). This result suggests that, for these residents, the group is a source of support when they are coping with emotional difficulties, which implies that there is a relationship based on trust, support, and understanding.

At the same time, it was observed that an increase in *avoidance* or *conflict* corresponded to an increase in *discomfort*. This result suggests that, even when the relationship with the therapist is strong, the negative relationship with the group can trigger *discomfort*. Once it is known that one of the main risk factors for relapse in people with SUD is having problems with interpersonal relationships (Marlatt and Gordon, 1985), this data may indicate that

attention should be paid to assess whether the *discomfort* reported by a resident is due to conflicts in the group, which may be prejudicial to positive treatment outcomes.

The results regarding group *avoidance* and *craving* revealed a positive association in the residents that reported a high therapeutic alliance. As *craving* has been considered to be a strong predictor of relapse and drop-out (Browne *et al.*, 2016), the behavior of avoiding the group should be taken as a warning sign for a therapeutic intervention. Based on the positive therapeutic alliance established, the therapist could invite the resident to analyze what motivates the avoidance of the group, in order to prevent negative effects that lead to the desire to consume.

Regarding the group of residents who evaluated their alliance as low, only one significant effect of group cohesion on outcomes was observed. For these residents, the greater their *involvement* with the group (a positive bond), the better their *well-being*. Compared with residents with high therapeutic alliance, the low therapeutic alliance residents seemed to use the group as a resource only for improving their *well-being*. This finding does not imply that there is sharing of information that reveals a vulnerability or a relationship of trust; however, this can be obtained, for example, through games or other leisure activities. We can suggest that the effect of *involvement* with the group on the therapeutic outcomes is differentiated according to the level of therapeutic alliance.

In agreement with our main objective, the results suggest that the effect of group cohesion is stronger when there is a high therapeutic alliance between resident and therapist. These results indicate that it is essential to create a strong therapeutic alliance, so that the group can be used as a therapeutic resource to manage the *discomfort* and *craving*.

Our findings are in line with the conclusions of Bakali and colleagues (2009), which underscores that the therapist's activity is especially important for establishing positive

connections within the group and promoting process factors. In this investigation, a high therapeutic alliance was found to promote group cohesion positive effects on the outcomes.

The conclusions present in this study have important implications for practical interventions, suggesting that therapists with whom the residents have high therapeutic alliance should encourage them to seek support in the group as a strategy to cope with negative emotions. Therapists should also pay attention to whether the residents' *discomfort* is related to interpersonal problems in the group, in order to promote the acquisition of new strategies to deal with these problematic issues. Thus, an important therapeutic task with this population must be tackling the emotional difficulties related to interpersonal relationships.

Despite the relevance of these findings, the results should be generalized with caution. The sample was recruited only from one therapeutic community, which is the major limitation of this investigation. Future research should use sampling methods that obtain a representative sample from therapeutic communities. Another limitation is the small sample size (n = 16). However, it was compensated by the number of observations per participant (o = 6) for each variable and a reliability analysis was carried out that allowed to have confidence in the fixed parameters estimated through the analytic method employed.

Future investigations may replicate and extend the results found with a bigger sample, and by including other variables, such as potential moderators (e.g., number of relapses or previous treatments), and should take into account cross-age or gender differences.

Conclusions

Our main results reinforce the importance of studying the effect of common factors on outcomes in people undergoing a therapeutic community treatment for SUD. We conclude that therapeutic alliance level influences the effect of group cohesion on outcomes. Based on these findings, we suggest that therapists should build a strong alliance with all residents so

that they can resort to the group as a therapeutic factor that allows them to cope with *discomfort* and *craving*.

References

Bakali, J.V., Baldwin, S.A., and Lorentzen, S. (2009), "Modeling group process constructs at three stages in group psychotherapy", *Psychotherapy Research,* Vol. 19, No. 3, pp. 332–343. https://doi.org/10.1080/10503300902894430

Bordin, E.S. (1979), "The generalizability of the psychoanalytic concept of the working alliance", *Psychotherapy: Theory, Research & Practice*, Vol. 16, No. 3, pp. 252–260. https://doi.org/10.1037/h0085885

Browne, K.C., Wray, T.B., Stappenbeck, C.A., Krenek, M., and Simpson, T.L. (2016), "Alcohol Consumption, Craving, and Craving Control Efforts Assessed Daily in the Context of Readiness to Change Among Individuals with Alcohol Dependence and PTSD", *Journal of Substance Abuse Treatment*, Vol. 61, No. 1, pp. 34–41. https://doi.org/10.1016/j.jsat.2015.09.005

Bryk, A.S. and Raudenbush, S.W. (1987), "Application of Hierarchical Linear Models to Assessing Change", *Psychological Bulletin*, Vol. 101, No. 1, pp. 147–158. https://doi.org/10.1037/0033-2909.101.1.147

Budman, S.H., Soldz, S., Demby, A., Feldstein, M., Springer, T., and Davis, M.S. (1989), "Cohesion, alliance and outcome in group psychotherapy", *Psychiatry*, Vol. 52, No. 3, pp. 339-350. https://doi.org/10.1080/00332747.1989.11024456

Burlingame, G.M., McClendon, D.T., and Alonso, J. (2011), "Cohesion in Group Therapy", *Psychotherapy*, Vol. 48, No. 1, pp. 34–42. https://doi.org/10.1037/a0022063

Crits-Christoph, P., Johnson, J.E., Connolly, M.B., and Gallop, R. (2013), "Process predictors of the outcome of group drug counseling", *Journal of Consulting and Clinical Psychology*, Vol. 81, No. 1, pp. 23–34. https://doi.org/10.1037/a0030101

Crowe, T. P. and Grenyer, B.F.S. (2008), "Is therapist alliance or whole group cohesion more influential in group psychotherapy outcomes?", *Clinical Psychology & Psychotherapy,* Vol. 15, No. 4, pp. 239–246. https://doi.org/10.1002/cpp.583

De Leon, G. (2004), *La comunidad terapéutica y las adicciones: Teoría, modelo e método*, Editorial Desclée de Brouwer, Bilbao.

De Leon, G. and Wexler, H. (2009), "The Therapeutic Community for Addictions: An Evolving Knowledge Base", *Journal of Drug Issues*, Vol. 39, No. 1, pp. 167–177. https://doi.org/10.1177/002204260903900113

Dye, M.H., Ducharme, L.J., Johnson, J.A., Knudsen, H.K., and Roman, P.M. (2009), "Modified therapeutic communities and adherence to traditional elements", *Journal of Psychoactive Drugs*, Vol. 41, No. 3, pp. 275–283. https://doi.org/10.1080/02791072.2009.10400538

Flannery, B.A., Volpicelli, J.R., and Pettinati, H.M. (1999), "Psychometric properties of the Penn Alcohol Craving Scale", *Alcoholism: Clinical and Experimental Research,* Vol. 23, No. 8, pp. 1289–1295. https://doi.org/10.1111/j.1530-0277.1999.tb04349.x

Gillaspy, J.A., Wright, A.R., Campbell, C., Stokes, S., and Adinoff, B. (2002), "Group alliance and cohesion as predictors of drug and alcohol abuse treatment outcomes", *Psychotherapy Research*, Vol. 12, No. 2, pp. 213–229. https://doi.org/10.1093/ptr/12.2.213

Goethals, I., Soyez, V., Melnick, G., Leon, G.D., and Broekaert, E. (2011), "Essential elements of treatment: A comparative study between European and American therapeutic

communities for addiction", *Substance Use and Misuse*, Vol. 46, No. 8, pp. 1023–1031. https://doi.org/10.3109/10826084.2010.544358

Gullo, S., Lo Coco, G., Di Fratello, C., Giannone, F., Mannino, G. and Burlingame, G. (2015), "Group climate, cohesion, and curative climate: A study on the common factors in the group process and their relation with members' attachment dimensions", *Research in Psychotherapy: Psychopathology, Process and Outcome*, Vol. 18, No. 1, pp. 10-20. https://doi.org/10.7411/RP.2014.023

Halsall, J. and Cooper, M. (2020), "Helpful and unhelpful processes in psychological therapy for female substance users: an interpretative phenomenological analysis", *British Journal of Guidance and Counselling*. https://doi.org/10.1080/03069885.2020.1861428

Harris, N., Brazeau, J., Clarkson, A., Brownlee, K., and Rawana, E.P. (2012), "Adolescents' perspectives on strengths-based group work and group cohesion in residential treatment for substance abuse", *Journal of Social Work Practice in the Addictions,* Vol. 12, No. 4, pp. 333–347. https://doi.org/10.1080/1533256x.2012.728485

Hatcher, R.L., and Gillaspy, J.A. (2006), "Development and validation of a revised short version of the Working Alliance Inventory", *Psychotherapy Research*, Vol. 16, No. 1, pp. 12–25. https://doi.org/10.1080/10503300500352500

Heck, R., Thomas, S.L. and Tabata, L.N. (2010), *Multilevel and longitudinal modeling with IBM SPSS*, Routledge, New York, NY.

Horvath, A., Del Re, A., Flückiger, C., and Symonds, D. (2011), "Alliance in individual psychotherapy", Norcross, J. (Ed.), *Psychotherapy relationships that work,* University Press, New York, NY.

Janeiro, L., Ribeiro, E., and Lopez Miguel, M.J. (2018), "What is inside the "black box"? Therapeutic community residents' perspectives on each treatment phase", *Addiction Research & Theory*, Vol. 26, No. 4, pp. 294–305. https://doi.org/10.1080/16066359.2017.1362693

Janeiro, L., Ribeiro, E., Faísca, L., and Lopez Miguel, M.J. (2018), "Therapeutic alliance dimensions and dropout in a therapeutic community: "Bond with me and I will stay"", *Therapeutic Communities*, Vol. 39, No. 2, pp. 73–82. https://doi.org/10.1108/TC-12-2017-0036

Johnson, J., Burlingame, G.M., Olsen, J.A., Davies, D.R., and Gleave, R.L. (2005), "Group climate, cohesion, alliance, and empathy in group psychotherapy: Multilevel structural equation models", *Journal of Counseling Psychology*, Vol. 52, No. 3, pp. 310–321. https://doi.org/10.1037/0022-0167.52.3.310

Johnson, J.E., Pulsipher, D., Ferrin, S.L., Burlingame, G.M., Davies, D.R., and Gleave, R. (2006), "Measuring group processes: A comparison of the GCQ and CCI", *Group Dynamics: Theory, Research, and Practice,* Vol. 10, No. 2, pp. 136–145. https://doi.org/10.1037/1089-2699.10.2.136

Joyce, A.S., Piper, W.E., and Ogrodniczuk, J.S. (2007), "Therapeutic alliance and cohesion variables as predictors of outcome in short–term group psychotherapy", *International Journal of Group Psychotherapy,* Vol. 57, No. 3, pp. 269–296. https://doi.org/10.1521/ijgp.2007.57.3.269

Kramer, U., de Roten, Y., Beretta, V., Michel, L., and Despland, J.N. (2009), "Alliance patterns over the course of short-term dynamic psychotherapy: The shape of productive relationships", *Psychotherapy Research*, Vol. 19, No. 6, pp. 699–706. https://doi.org/10.1080/10503300902956742

Lambert, M.J., Burlingame, G.M., Umphress, V., Hansen, N.B., Vermeersch, D.A., Clouse, G.C., et al. (1996), "The reliability and validity of the outcome questionnaire", *Clinical Psychology and Psychotherapy*, Vol. 3, No. 1, pp. 249–258. https://doi.org/10.1002/(sici)1099-0879(199612)3:4%3C249::aid-cpp106%3E3.3.co;2-j

Lorentzen, S., Sexton, H.C., and Høglend, P. (2004), "Therapeutic alliance, cohesion and outcome in a long-term analytic group. A preliminary study", *Nordic Journal Psychiatry,* Vol. 58, No. 1, pp. 33-40. https://doi.org/10.1080/08039480310000770

Machado, P., and Fassnacht, D.B. (2014), "The Portuguese version of the Outcome Questionnaire (OQ-45): Normative data, reliability, and clinical significance cut-offs scores", *Psychology and Psychotherapy: Theory, Research and Practice*, Vol. 88, No. 4, pp. 427–437. https://doi.org/10.1111/papt.12048

MacKenzie, K.R. (1983), "The clinical application of group measure", Dies, R. and MacKenzie, K.R. (Eds.), *Advances in group psychotherapy: Integrating research and practice,* International Universities Press, New York.

Malivert, M., Fatséas, M., Denis, C., Langlois, E., and Auriacombe, M. (2011), "Effectiveness of therapeutic communities: A systematic review", *European Addiction Research,* Vol. 18, No. 1, pp. 1-11. https://doi.org/10.1159/000331007

Marlatt, G.A., and Gordon, J.R. (1985), *Relapse prevention: Maintenance strategies in the treatment of addictive behaviors*, Guilford Press, London.

Marziali, E., Munroe-Blum, H., and McCleary, L. (1997), "The Contribution of Group Cohesion and Group Alliance to the Outcome of Group Psychotherapy", *International Journal of Group Psychotherapy*, Vol. 47, No. 4, pp. 475–497. https://doi.org/10.1080/00207284.1997.11490846

Meier, P.S., Barrowclough, C., and Donmall, M.C. (2005), "The role of the therapeutic alliance in the treatment of substance misuse: a critical review of the literature", *Addiction*, Vol. 100, No. 3, pp, 304–316. https://doi.org/10.1111/j.1360-0443.2004.00935.x

Norcross, J.C. and Lambert, M.J. (2019), "Evidence-based psychotherapy relationships: the Third Task Force", Norcross, J.C. and Lambert, M.J. (Eds.), *Psychotherapy relationships*

that work: Volume 1: Evidence-based therapist contributions, Oxford University Press, New York, NY, pp. 1–23.

Norton, P.J., and Kazantzis, N. (2016), "Dynamic relationships of therapist alliance and group cohesion in transdiagnostic group CBT for anxiety disorders", *Journal of Consulting and Clinical Psychology*, Vol. 84, No. 2, pp. 146–155. http://doi.org/10.1037/ccp0000062

Orford, J. (2008), "Asking the right questions in the right way: the need for a shift in research on psychological treatments for addiction", *Addiction*, Vol. 103, No. 6, pp. 875–885. http://doi.org/10.1111/j.1360-0443.2007.02092.x

Perfas, F.B. (2003), *Therapeutic Community: A Practice Guide*, iUniverse, Lincoln.

Pombo, S., Ismail, F. and Cardoso, J. N. (2008), "Cravers pelo álcool", *Psicologia, Saúde e Doenças*, Vol. 9, No. 2, pp. 349-365. http://www.scielo.mec.pt/scielo.php?script=sci_arttextandpid=S1645-00862008000200012andlng=ptandtlng=en.

Pooler, D.K., Qualls, N., Rogers, R., and Johnston, D. (2014), "An Exploration of Cohesion and Recovery Outcomes in Addiction Treatment Groups", *Social Work with Groups*, Vol. No. 37. pp. 4, 314–330. https://doi.org/10.1080/01609513.2014.905217

Ramos, M. (2008), *"Análise das características psicométricas da versão portuguesa do Working Aliance Inventory-Short Revised", working paper*, Universidade do Minho, Braga, 17 December.

Reif, S., George, P., Braude, L., Dougherty, R.H., Daniels, A.S., Ghose, S.S., and Delphin-Rittmon, M.E. (2014), "Residential treatment for individuals with Substance Use Disorders: Assessing the evidence", *Psychiatric Services*, Vol. 65, No. 3, pp. 301–312. https://doi.org/10.1176/appi.ps.201300242

Rice, S.L., and Tonigan, J.S. (2012), "Impressions of Alcoholics Anonymous (AA) group cohesion: A case for a nonspecific factor predicting later AA attendance", *National Institutes of Health,* Vol. 30, No. 1, pp. 40-51. https://doi.org/10.1080/07347324.2012.635550

Santos, A.C., Borrego, M.C., and Behlau, M. (2015), "Efeito de treinamento vocal direto e indireto em estudantes de Fonoaudiologia", *CODAS,* Vol. 27, No. 4, pp. 384-391. https://doi.org/10.1590/2317-1782/20152014232

Sotskova, A., Woodin, E., and Cyr, K. (2016), "Understanding the role of group cohesion and group alliance in a secular peer support group for recovery from substance misuse", *Journal of Groups in Addiction & Recovery*, Vol. 11, No. 2, pp. 137-154. https://doi.org/10.1080/1556035X.2015.1132400

Tsui, J.I., Anderson, B.J., Strong, D.R., & Stein, M.D. (2014), "Craving predicts opioid use in opioid-dependent patients initiating buprenorphine treatment: A longitudinal study", *The American Journal of Drug and Alcohol Abuse*, Vol. 40, No. 2, pp. 163–169. https://doi.org/10.3109/00952990.2013.848875

Urbanoski, K.A., Kelly, J.F., Hoeppner, B.B., and Slaymaker, V. (2012), "The role of therapeutic alliance in substance use disorder treatment for young adults", *Journal of Substance Abuse Treatment*, Vol. 43, No. 3, pp. 344–351. https://doi.org/10.1016/j.jsat.2011.12.013

Wang, L.P., and Maxwell, S.E. (2015), "On disaggregating between-person and within-person effects with longitudinal data using multilevel models", *Psychological Methods*, Vol. 20, No. 1, pp. 63-83. https://doi.org/10.1037/met0000030

Table I. Means and Standard Deviations in the different variables analyzed

	Mean (SD)	Min. – Max.	
		Range of the scale	Sample score
Independent variables			
Therapeutic Alliance	49.25 (7.66)	12 – 60	30 – 60
Involvement	19.13 (4.89)	0 – 30	6 – 29
Avoidance	10.78 (2.70)	0 – 18	3 – 15
Conflict	10.98 (4.99)	0 – 24	0 – 21
Outcome variables			
Well-being	15.36 (3.55)	5 – 25	7 – 25
Discomfort	13.67 (3.52)	5 – 25	7 – 23
Craving	6.17 (6.71)	0 – 30	0 – 28

Table II. Estimated fixed parameters, significance of the linear component, and the contribution of *involvement*, *avoidance*, and *conflict* to *well-being*, *discomfort*, and *craving* depending on high vs. low therapeutic alliance

Model			Fixed effects					
			Well-being	***p***	**Discomfort**	***p***	**Craving**	***p***
1. Null	Intercept	γ_{00}	15.349	.000	13.630	.000	6.011	.001
2. Linear	Intercept	γ_{00}	15.317	.000	14.314	.000	6.804	.002
	Linear component	γ_{10}	0.021	.860	-0.293	.063	-0.042	.920
3. Conditional linear high TA (TA+) vs. low TA (TA-)								
a. Involvement								
	Intercept	γ_{00}	15.181	.000	14.348	.000	6.718	.001
	Linear component	γ_{10}	0.080	.477	-0.312	.051	0.012	.978
	(TA+) Involvement	γ_{01}	0.193	.093	-0.340	.009	-0.374	.105
	(TA-) Involvement	γ_{02}	0.305	.004	.009	.938	0.041	.856
b. Avoidance								
	Intercept	γ_{00}	15.293	.000	14.238	.000	6.358	.002

Linear component	γ_{10}	0.034	.786	-0.267	.095	0.132	.758
(TA+) Avoidance	γ_{01}	0.203	.274	0.442	.030	0.981	.008
(TA-) Avoidance	γ_{02}	0.091	.493	0.136	.351	-0.027	.921
c. Conflict							
Intercept	γ_{00}	15.325	.000	14.061	.000	6.602	.002
Linear component	γ_{10}	0.016	.891	-0.188	.158	0.071	.871
(TA+) Conflict	γ_{01}	-0.006	.950	0.341	.000	0.269	.099
(TA-) Conflict	γ_{02}	-0.018	.833	0.165	.058	-0.056	.734

Note. TA = therapeutic alliance. Example of the well-being variable: null model - well - being$_{ij}$ = γ_{00} + μ_{0i} + e_{ij}; linear model - well − being$_{ij}$ = γ_{00} + γ_{10}(session) + μ_{0i} + e_{ij}; linear conditional model with involvement as the process variable depending on the therapeutic alliance level (Model 3a): high therapeutic alliance (TA+) well − being$_{ij}$ = γ_{00} + γ_{10}(session) + γ_{01} (involvement) + μ_{0i} + e_{ij}; low therapeutic alliance (TA-) well − being$_{ij}$ = γ_{00} + γ_{10}(session) + γ_{02}(involvement) + μ_{0i} + e_{ij}.