



Is There a Need for Congruent Treatment Goals Between Alcohol-Dependent Patients and Caregivers?

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Background: Alcohol-dependent patients have different treatment goals when entering treatment. Furthermore, different treatment settings advocate different treatment goals. Earlier studies have pointed out that treatment goal is important for treatment outcome, both in the treatment setting as well as in the patients themselves. However, to our knowledge, no study has so far investigated the interaction between patient's goal and the goal of the treatment setting. The aim of the study was therefore to study the interaction between these 2 factors on treatment outcome.

Methods: Patients' (n = 201) goals from 2 treatment settings—one that had an abstinence-oriented goal and one with a low-risk drinking goal—were investigated. The patients were followed up 2.5 years after treatment entry and effectiveness of congruent treatment goals on treatment outcome was investigated.

Results: There was no significant association between congruent goals and treatment outcomes (p = 0.060). However, when comparing the effectiveness of congruent treatment goal between the 2 treatment settings, the abstinence-oriented treatment setting was significantly more effective (p < 0.01).

Conclusions: The major finding was that there appeared to be no association between congruence itself and treatment outcome. On the other hand, we found that the treatment outcome was more successful if the patient as well as the treatment setting had abstinence as a goal (i.e., congruent goals of abstinence).

Key Words: Congruent Drinking Goals, Treatment Settings, Alcohol-Dependent Patients, Abstinence, Low-Risk Drinking.

PREVIOUS RESEARCH HAS demonstrated the effectiveness of treatment for alcohol use disorders (AUDs); that is alcohol dependence or abuse. Nevertheless, relapse after treatment is still frequent. There is no consensus in research today about an exact relapse rate, but the risk to resume drinking within a 12-month period after treatment for AUD may be in the range of 65 to 70% (Miller et al., 2001). Relapse into drinking in AUD may have different causes. It is most likely that relapse is caused by a combination of biological, neurocognitive, psychological, psychiatric, and sociodemographic factors (for review, see Bradizza et al., 2006). However, in recent years there has been a discussion concerning how the goal advocated in treatment as well as the patient's goal may affect treatment outcome.

The Treatment Goal Advocated

Treatment goals are differently advocated in different treatment settings. For example, professionals working within the 12-step tradition are known to be strong advocates for abstinence as the only realistic drinking goal, although that view is not limited to this specific treatment tradition. Coldwell and Heather (2006) have given examples of professionals within the motivational interviewing tradition working in treatment settings where abstinence is the only accepted goal. It has, however, become more common for professionals treating alcohol dependence to accept a nonabstinence drinking goal (Davis and Rosenberg, 2013). It should also be noted that it has recently been suggested in the Treatment Guidance for Industry from the Food and Drug Administration that reduction in heavy-drinking days (vs. abstinence) is an appropriate outcome measure for trials evaluating medications for AUDs. There are researchers and caregivers pointing out the benefits of a more flexible approach to goal setting, viewing controlled drinking as a possible goal. Many who hold such a view can be found within the cognitive behavior therapy tradition (see, e.g., Marlatt and Witkiewitz, 2002). This perspective takes the goal of the patient into account, and should the patient not wish to become abstinent, the focus of the treatment will rather be to reduce the consumption or the harm caused by the misuse or addiction.

Two meta-analyses (van Amsterdam and van den Brink, 2013; Walters, 2000), studying treatment outcome in relation

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2 BERGLUND ET AL.

to different treatment goals, have shown no differences between controlled drinking-oriented treatments and abstinence-oriented treatments. The success rate seems to increase when allowing patients to choose their own goal regardless of treatment setting. Low-risk drinking is a viable option for at least some problem drinkers and alcohol-dependent individuals (van Amsterdam and van den Brink, 2013). However, as mentioned by van Amsterdam and van den Brink (2013), it should be noted that the follow-up period in several studies is often relatively short (1 to 2 years), which may hamper a proper evaluation of the reduced drinking approach.

Furthermore, it seems to be of importance for treatment settings to have distinct advocated goals, that is the recommended goal of the treatment setting is clearly formulated. Lozano and Stephens (2010) compared treatment settings with and without advocated goals in a randomized condition: participatively set drinking goals, assigned goals, and no goals. The study was conducted on heavy-drinking college students. The results revealed reduced alcohol use in the 2 groups where goals were established compared with the no-goal group. Even though there was no significant difference in drinking outcome between these 2 groups, the group with participatively set goals reported greater goal commitment and greater self-efficacy related to goal achievement than the assigned goal group.

The Patients' Treatment Goals

Patients' treatment goals vary. When asking patients of their treatment goals when entering treatment, preference for abstinence ranges from 37 to 80% in different studies (Bujarski et al., 2013; Heather et al., 2010; Mowbray et al., 2013). There are several explanations for these large differences in patients' treatment goals. One explanation is the goal of the treatment setting itself. For example, in 2 treatment programs that had abstinence as a goal, Mowbray and colleagues (2013) found that 83 and 91% patients had abstinence as a goal, whereas in a treatment setting aiming at moderate drinking, only 13% of the patients had abstinence as a goal. This study also showed that patients with previous Alcoholics Anonymous experience were more likely to adopt an abstinence goal. Another explanation is that there is no consensus regarding measurement and categorization of drinking goals (Dunn and Strain, 2013). For example, Bujarski and colleagues (2013) distinguished between patients aiming at complete abstinence and patients with a conditional abstinence goal (e.g., try to be abstinent for a limited amount of time). Finally, it is important to note that the patient's treatment goal is not necessarily static, but can change over time and in interaction with the treatment (Hodgins et al., 1997; Ojehagen and Berglund, 1989).

Studies have found that patients with a goal of abstinence differ in their characteristics from those with a low-risk drinking goal. For example, they have more severe alcohol dependence and more alcohol-related problems (Bujarski et al., 2013; Heather et al., 2010; Mowbray et al., 2013). Furthermore, Heather and colleagues (2010) have shown that those with an abstinence goal are more mentally and physically ill, had less social support for drinking, and reported higher confidence in their ability to resist drinking when tempted. Studies have also shown that having an abstinence goal before entering treatment is related to better treatment outcome measured in percent days abstinent, days engaging in heavy drinking, complete abstinence, and days since last drink (Adamson et al., 2010; Bujarski et al., 2013; Mowbray et al., 2013), although 1 study found no difference (Al-Otaiba et al., 2008). It is of note that Bujarski and colleagues (2013) showed that the group with an abstinence goal drank more on every drinking occasion, even if they drank less frequently.

To sum up, there are studies on how treatment outcome is related to either goals of the patients or to goals advocated in treatment. However, to our knowledge, no study has been conducted on the interaction between these 2 factors (i.e., patients' goals and goals advocated in treatment settings). The aim of this study was therefore to study the interaction between these 2 factors (congruent vs. incongruent treatment goals) on treatment outcome 2.5 years after treatment entry.

MATERIALS AND METHODS

The data used in this study were collected by Gothenburg Alcohol Research Project (GARP), an ongoing multidisciplinary, longitudinal project aiming at investigating risk factors and factors influencing treatment outcome (Berglund et al., 2008, 2013; Dahlgren et al., 2011; Fahlke et al., 2012). The patients of this study were recruited from 2 outpatient treatment settings; traditional 12-step treatment (Setting 1) and psychodynamic treatment (Setting 2). The selection of treatment settings was based on the fact that they had different and distinct advocated treatment goals (abstinence vs. low-risk drinking). Otherwise there was no difference between the 2 treatment settings in geographic localization and /or mode of advertisements.

Setting 1: Abstinence as a Treatment Goal

Setting 1 is aiming at abstinence. The treatment is highly structured and conducted over 12 months in a group format. Optional individual sessions are offered when needed.

Most patients participate in treatment as a rehabilitation program financed by their employer, but the treatment is open for anyone to apply.

Before treatment, a psychiatric assessment is conducted and patients with severe somatic and/or psychiatric comorbidity are excluded from treatment. The patients have to be abstinent for a week prior to treatment. During the treatment, all patients undergo control for alcohol intake by the use of a biochemical marker, that is phosphatidylethanol. If the patients resume drinking, they are thereafter more frequently controlled by the use of this marker for the following 3 months. However, penalties, such as exclusion from the treatment program, are not used.

Setting 2: Low-Risk Drinking as a Treatment Goal

Setting 2 has low-risk drinking rather than abstinence as a goal and this is customized to the individual. Before treatment, an assessment is conducted and patients with severe psychiatric comorbidity

and social problems are excluded. The patients are not required to be abstinent prior to or during the treatment. The treatment consists mainly of individual therapy. According to the caregivers, the average treatment period is 6 months, but can be extended or reduced depending on the needs of the patients.

Subjects and Procedure

All patients entering treatments were invited to participate, and if they approved, they underwent a structured interview and filled in self-rating questionnaires. Patients were excluded if they had severe psychiatric comorbidity and/or other drug dependencies than alcohol and nicotine. The interview was conducted by researchers from GARP. The total number of included patients was 201 (105 patients were included from Setting 1 and 96 from Setting 2).

The follow-up took place 2.5 years after treatment entry. The dropout between the baseline and follow-up was in total 24%. The dropout rate (Setting 1: 31%; Setting 2: 16%) differed significantly between the settings, $\chi^2(1, N=201)=6.17, p<0.05$. The main reason for this difference was that in Setting 1, the records of the patients were destroyed after 2 years according to the procedure in the Swedish 12-step treatment units. Therefore, it was more difficult to locate and interview the patients from this treatment unit. No other significant pattern was detected when comparing the group dropping out with the group remaining in the study with regard to patient characteristics, treatment goal, alcohol dependence severity, or mental health.

Informed consent was obtained from all patients. The study was approved by the regional ethical board at University of Gothenburg (No: 487-03)

Measures

Addiction Severity Index. Addiction Severity Index (ASI) is a standardized structured interview method used to assess abuse and dependence in adults (McLellan et al., 1992). It also covers mental and physical health and functioning, and social functioning. The interview has overall shown good reliability and validity measures in assessing patients with abuse or dependence.

The ASI interviews were administered when the patients started treatment and 2.5 years thereafter. We used the following background data from the ASI interview: age, sex, education, relationship, employment, alcohol consumption, and years with alcohol problems. For the purpose of GARP, the ASI interview was extended, with additional questions regarding treatment goals, alcohol dependence criteria, and alcohol consumption. The patients were asked to describe their alcohol consumption during an average week the last 12 months. The volumes of the various alcoholic beverages were recalculated into grams of pure alcohol. Answers to the question of what goal the subjects had for the treatment were the following: "abstinence," "reduced drinking," or "do not know/other goal". We interpreted the last answer as patients not having decided their goal yet. Questions regarding alcohol consumption in the follow-up interview were among others: "Have you been drinking any alcohol at all during the last 1.5 years?" and "How much have you been drinking an average week during the last year?" These 2 questions were selected from the ASI follow-up interview to enable us to categorize treatment outcome (abstinence, low-risk drinking, risk drinking).

Data Preparation and Statistics

Treatment outcome at follow-up was categorized as (i) abstinence, (ii) low-risk drinking, or (iii) risk drinking (Dawson et al., 2008; Statens folkhälsoinstitut, 2005). Abstinence was defined as no drinking at all or to have been drinking alcohol at 1 or a few occasions (2 to 3 times) after end of treatment. Low-risk drinking was

defined as <110 g of pure alcohol for women and 170 g of pure alcohol for men an average week during the last year. Risk drinking was defined as a consumption exceeding these limits. Limits are based on recommendations from the Swedish National Institute on Public Health (Statens folkhälsoinstitut, 2005).

The statistical analysis was performed using IBM SPSS Statistics for Windows, Version 21.0 (released 2012; IBM Corp., Armonk, NY). The chosen significance level was p < 0.05. t-Test or 1-way analysis of variance was used when comparing continuous variables and chi-square when comparing categorial variables.

RESULTS

Characteristics of Patients Belonging to Treatment Settings with the Goal of Abstinence (Setting 1) Versus Low-Risk Drinking (Setting 2)

As seen in Table 1, in Setting 1, there was a significantly higher proportion of men ($\chi^2 = 4.53$, p < 0.05) and the age of the patients was significantly higher, t(198) = 4.491, p < 0.001, than in Setting 2. Furthermore, in Setting 1, the patients had fewer years of school education, t(198) = 3.838, p < 0.001, and they had on average consumed significantly more grams of pure alcohol per week during the last year, t(170) = 2.665, p < 0.01, than patients in Setting 2. There were no other significant differences in background variables between the patients in the 2 treatment settings.

Characteristics of Patients with an Abstinence Goal, a Low-Risk Drinking Goal, and No Decided Goal

Regardless of settings, 50% (n = 99) of the patients had abstinence as a goal and 26% (n = 52) had reduced drinking as a goal. The rest of the patients, 24% (n = 49) had not decided their goal.

As seen in Table 2, there was an overall significant difference between the 3 groups in age, F(2, 197) = 4.349, p < 0.05, as well as the years of school education, F(2, 197) = 4.543, p < 0.05, and years of university education,

Table 1. Background Variables by Treatment Group

	Treatment group		
	Setting 1 (<i>n</i> = 105)	Setting 2 (<i>n</i> = 96)	<i>p</i> -Value
Age Sex	50.9 ± 8.0	44.2 ± 12.6	<0.001
Men Women	83 (79%) 22 (21%)	62 (65%) 34 (35%)	<0.05
Years in school Years in university	11.2 ± 1.9 $1.7 + 2.5$	12.3 ± 2.3 2.3 + 2.6	<0.001 ns
Relationship	65 (63%) 97 (93%)	69 (73%) 82 (85%)	ns
Employment Grams of pure alcohol per week last year	592 ± 471	429 ± 317	ns <0.01
Years with alcohol problems	10.7 ± 8.4	10.4 ± 8.7	ns
Alcohol dependence	93 (90%)	87 (93%)	ns

Data are presented as mean \pm SD, or as frequencies (percentage).

4 BERGLUND ET AL.

F(2, 197) = 5.236, p < 0.01. Regarding alcohol consumption (average of consumed grams of pure alcohol per week last year), there was a significant overall difference, F(2, 169) = 4.908, p < 0.01; the abstinence group had consumed about 40% more grams of pure alcohol per week last year. With respect to years of duration of alcohol problems, there was a significant overall difference, where the low-risk drinking group had about 40% shorter duration, F(2, 184) = 5.711, p < 0.01. There were no other significant differences between the 3 groups.

Treatment Outcome in Relation to Congruent and Incongruent Goals Between Patients and Treatment Providers, Regardless of Treatment Settings

Treatment outcome was strictly defined as the congruence between the goals of the patients and the treatment settings. Consequently, we therefore only included "goals achieved" and not "goals achieved or exceeded" in the calculation. There was no significant association between congruent goals and treatment outcomes; see Table 3. It should, however, be noted that the *p*-value was 0.060.

Treatment Outcome in Relation to the Goal of the Patients and the Goal Advocated in the Different Treatment Settings

The frequencies of different goals of the patients (total abstinence, low-risk drinking, and no decided goal) in relation to treatment outcome are presented in Tables 4 and 5. It appeared to be more common to have abstinence as a goal in the abstinence-oriented treatment and more common to have low-risk drinking as a goal in the low-risk drinking-oriented treatment. Due to the low number of subjects in the different groups, it was not possible to perform statistical calculations. Notable is that patients with no goal had a significantly more favorable treatment outcome in Setting 1 than in Setting 2, $\chi^2(1, N = 37) = 5.55$, p < 0.05. Only 3 of 16 in Setting 1 continued to have a risk consumption at the follow-up in comparison with Setting 2, where 12 of 21 continued to have a risk consumption.

Table 3. Congruent and Incongruent Goals Between Patient and Treatment Providers, Regardless of Settings, in Relation to Outcome 2.5 Years After Treatment Entry. The Figures Represent Number of Patients (Within Parentheses is Percentage)

	Congruent treatment goals $(n = 83)$ (%)	Incongruent treatment goals $(n = 27)$ (%)
Treatment outcome in accordance with treatment goal	48 (58)	10 (37)
Treatment outcome not in accordance with treatment goal	35 (42)	17 (63)

ns(p = 0.060).

Comparisons were made between the 2 treatment settings regarding the effectiveness of having a congruent goal between the patient and the treatment setting (see Table 6). Of the patients who had abstinence as a treatment goal and had been treated in the abstinence-oriented setting, 88% (29 of 33) had reached and maintained their goal (abstinence) at the time for the follow-up. This was 18% *more* patients than statistically expected (23 of 33). In the treatment setting with a low-risk drinking goal, 54% of the patients (20 of 37) with a congruent goal had low-risk alcohol consumption/abstinence at the follow-up. This was 16% *less* patients than statistically expected (26 of 37). A congruent goal of abstinence was significantly more effective— $\chi^2(1, N = 69) = 9.5$, p < 0.01—than a congruent goal of low-risk drinking.

As there were some differences in background variables between Settings 1 and 2 (see Table 1), further correlational analyses in relationship to treatment outcome (grams of pure alcohol per week last year at follow-up) were performed. The analyses revealed that these potential confounders (gender, age, grams of pure alcohol per week last year before treatment) had no impact on the main findings.

DISCUSSION

The aim of this study was to investigate how the interaction between the treatment goal of the patients and the goals

Table 2. Background Variables According to the Patient's Goal Preference

	Patient group			
	Abstinence (n = 99)	Low-risk drinking ($n = 52$)	No decided goal $(n = 49)$	<i>p</i> -Value
Age	50.0 ± 9.4	45.2 ± 13.0	45.8 ± 11.0	<0.05
Sex				
Men	71 (72%)	37 (71%)	36 (74%)	ns
Women	28 (28%)	15 (29%)	13 (27%)	
Years in school	11.3 \pm 2.0	11.9 \pm 2.4 $^{'}$	12.4 \pm 2.0	< 0.05
Years in university	1.4 ± 2.0	2.8 ± 2.9	2.3 ± 2.9	< 0.01
Relationship	61 (62%)	37 (73%)	35 (71%)	ns
Employment	90 (92%)	45 (87%)	43 (88%)	ns
Grams of pure alcohol per week last year	608 ± 453	413 ± 307	421 ± 372	< 0.01
Years with alcohol problems	12.1 \pm 8.5	7.2 ± 5.8	11.0 ± 10.2	< 0.01
Alcohol dependence	91 (94%)	45 (88%)	44 (90%)	ns

Table 4. Setting 1: Total Abstinence Goal of Treatment. Patients' Own Goal (Total Abstinence, Low-Risk Drinking, No Decided Goal) Versus Treatment Outcome 2.5 Years After Treatment Entry. The Figures Represent Number of Patients

	Patients' goal		
	Abstinence (n = 46)	Low-risk drinking $(n = 5)$	No decided goal $(n = 16)$
Treatment outcome Abstinence Low-risk drinking Risk drinking	29 13 4	2 2 1	10 3 3

Table 5. Setting 2: Low-Risk Drinking Goal of Treatment. Patients' Own Goal (Total Abstinence, Low-Risk Drinking, No Decided Goal) Versus Treatment Outcome 2.5 Years After Treatment Entry. The Figures Represent Number of Patients

	Patients' goal		
	Abstinence (n = 22)	Low-risk drinking (n = 37)	No decided goal (n = 21)
Treatment outcome Abstinence	5	1	1
Low-risk drinking	8	19	8
Risk drinking	9	17	12

Table 6. Analysis of the Effectiveness of Congruence Between Patients' Goals and the Advocated Treatment Goal, Regarding Goal Achievement 2.5 Years After Treatment Entry. Comparisons are Made Between Setting 1 (Goal of Abstinence) and Setting 2 (Goal of Low-Risk Drinking)

Patient goal	Setting 1: Abstinence $n = 33 (\%)^a$	Setting 2: Low-risk drinking $n = 37 (\%)^a$
Goal achieved or exceeded ^b	29 (88)	20 (54)
Goal not achieved ^c	4 (12)	17 (46)

^aIndividuals in Setting 1 who had abstinence as an individual goal, and achieved low-risk drinking (n = 13) are not included in this analysis.

advocated in the settings (congruent vs. incongruent treatment goals) affected the treatment outcome. The major finding was that there appeared to be no association between congruence itself and treatment outcome. That is, when comparing treatment outcomes of patients who had congruent goals with those who had incongruent goals, regardless of treatment settings, there was no statistically significant association (p=0.060). However, if both the patient and the treatment setting had abstinence as a goal (congruent treatment goals), 88% of the patients reported abstinence 2.5 years after treatment entry. This was 18% *more* patients than statistically expected. In the treatment setting with a low-risk drinking goal, about half of the patients (54%) with a congruent goal had low-risk alcohol consumption at the

follow-up. This was 16% *less* patients than statistically expected. Thus, it appears more favorable to have a goal congruent with the treatment setting in abstinence-oriented treatment settings, as the probability to reach the goal is significantly higher in these settings. It should be noted that in the abstinence-oriented treatment setting, there were only 4 patients (9%) with a congruent goal who reported a risk consumption at the follow-up compared to 17 patients (46%) in the setting with a low-risk drinking goal.

There appeared to be fewer individuals with a goal of abstinence in the low-risk drinking-oriented treatment setting as well as fewer individuals with a low-risk drinking goal in the abstinence-oriented treatment setting. This may be due to the fact that participants self-selected their treatment setting. In the follow-up, only 5 of 22 patients with a goal of abstinence reached abstinence in the low-risk drinkingoriented treatment setting. However, 8 of these patients with an abstinence goal had a low-risk drinking in the follow-up. In the abstinence-oriented treatment setting, 2 of 5 patients with an initial goal of low-risk drinking reached abstinence and 2 of 5 reached low-risk drinking. Thus, only 1 of these patients was still in the risk-drinking category at the time of follow-up. In general, the abstinence-oriented patients had a more severe alcohol dependence (they had on average been drinking more alcohol last year and the duration of alcohol problems was significantly longer), which is consistent with earlier studies (Bujarski et al., 2013; Heather et al., 2010; Mowbray et al., 2013). The findings highlight the importance of offering a treatment setting with a goal congruent to the patient's goal at least in the low-risk drinking-oriented treatment setting. This is particularly important for patients who have medical and/or psychiatric complications due to their alcohol consumption and for whom abstinence is strongly recommended. Given the result in the present study of lower goal achievement for this group of patients in a treatment setting advocating low-risk drinking as a goal, treatment providers may need to consider reallocating these patients to a treatment setting with a goal of abstinence.

In our study, we also noted that 26% of the patients had not decided their treatment goal. To our knowledge, the effect of the goal of the treatment settings on the treatment outcome in patients with no decided goal has not been studied. We found that patients who had not decided their goal achieved abstinence or low-risk drinking to a greater extent if they were at a treatment setting with abstinence as a goal (81% vs. 43%).

Finally, there is an ongoing discussion on whether low-risk drinking may be a viable option for at least some problem drinkers and alcohol-dependent individuals and if low-risk drinking behavior can be maintained over longer time periods (several years) after end of treatment (see van Amsterdam and van den Brink, 2013). In the present study, we thus found that about half (54%) of the patients with a treatment goal of low-risk drinking achieved and maintained their treatment goal 2.5 years after start of treatment in a treatment setting with congruent treatment goal. Apart from the

^bGoal achieved or exceeded is abstinence in Setting 1 and low-risk drinking or abstinence in Setting 2.

[°]Goal not achieved is continuation of risk drinking in both settings. χ^2 : 9.5, df = 1, p < 0.01.

BERGLUND ET AL.

need for more long-term (several years) follow-up studies, there is also a need for studies of predictors (e.g., age, gender, clinical characteristics) indicating which patients may be able to achieve and maintain their low-risk drinking behavior over longer time periods (several years).

There are several limitations with the present study. First, there were a relatively low number of participants and only 1 example of each treatment setting type. It could therefore not be excluded that the major finding of no association (p = 0.060) between congruent treatment goals and treatment outcome would be different in a study with a larger sample and additional treatment settings. Second, the participants were not randomly allocated to the treatment settings. Thus, there may be a self-selection of patients to treatment settings and, if so, this may be a significant barrier to the interpretation of the results. Third, the dropout rate was significantly higher in the treatment setting with the goal of abstinence, which had a more favorable outcome. However, we believe that the major reason for this higher dropout rate was of practical nature. The patients in the treatment setting advocating abstinence as a treatment goal were more difficult to locate and interview at the follow-up, as their records were destroyed after 2 years according to policy in the treatment setting. Fourth, the alcohol consumption data were based only on self-reports by the patients and no biochemical markers for alcohol consumption, such as carbohydratedeficient transferrin or phosphatidylethanol, were used.

To sum up: This is, to our knowledge, the first study that investigates the interaction between the goal advocated in the treatment setting and the patient's goal. The major finding was that there appeared to be no association between congruence itself and treatment outcome. On the other hand, we found that the treatment outcome was more successful if the patient as well as the treatment setting had abstinence as a goal (i.e., congruent goals of abstinence).

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