

# Prevalence and Risk Factors of Psychotherapy Dropout in a University Outpatient Clinic: Influence of Risky Alcohol Consumption

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## Keywords

Therapy dropout · Outpatient psychotherapy · Predictors · Risky alcohol use

## Summary

**Background:** There are a lack of studies and mixed results concerning predictors of outpatient-psychotherapy dropout. In this study, risk factors of psychotherapy dropout – including risky alcohol use – were examined in a university outpatient psychotherapy clinic. **Patients and Methods:** 178 patients were divided into 2 groups: completers (successful completion of psychotherapy) and dropouts (premature termination). Sociodemographic and clinical characteristics (e.g., Brief Symptom Inventory, Beck Depression Inventory, Alcohol Use Disorders Identification Test) were investigated as predictors of premature dropout. **Results:** 93 patients (52%) completed psychotherapy, while 85 patients (48%) terminated prematurely (45 patients terminated within, 40 patients after probatory sessions). In comparison, the dropouts were older than the completers ( $M = 35.33$  vs.  $M = 29.08$  years,  $p = 0.001$ ), more dropouts were working (64 vs. 45%,  $p = 0.014$ ), they showed more comorbidities (55 vs. 34%,  $p = 0.005$ ), their overall symptom severity was higher (Global Severity Index:  $M = 1.25$  vs.  $1.01$ ,  $p = 0.007$ ), and they consumed more alcohol (AUDIT:  $M = 10.49$  vs.  $M = 5.01$ ,  $p \leq 0.001$ ) at onset of therapy. The level of alcohol consumption at entry significantly predicted premature psychotherapy dropout ( $b = 0.11$ ,  $p = 0.001$ ). Risky alcohol use was associated with premature dropout within probatory sessions ( $p = 0.005$ ). **Conclusions:** Risky drinking behavior is associated with premature psychotherapy dropout and should be assessed and addressed early in psychotherapy.

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## Schlüsselwörter

Therapieabbruch · Ambulante Psychotherapie · Risikofaktoren · Riskanter Alkoholkonsum

## Zusammenfassung

**Hintergrund:** Zu Therapieabbrüchen in der ambulanten Verhaltenstherapie und damit verbundenen Risikofaktoren existieren bisher nur wenige und gemischte Ergebnisse. In dieser Studie wurden Risikofaktoren für Therapieabbrüche erfasst und untersucht, ob sich ein riskanter Alkoholkonsum (bei Therapiebeginn) auf die Therapieabbrüche in einer verhaltenstherapeutischen Hochschulambulanz auswirkt. **Patienten und Methoden:** 178 Patienten wurden unterteilt in a) Completer (reguläre Beendigung der Psychotherapie) und b) Dropouts (vorzeitiger Abbruch). Als Risikofaktoren wurden soziodemografische und klinische Variablen untersucht (z.B. Brief-Symptom-Inventar, Beck-Depressions-Inventar, Alcohol Use Disorders Identification Test). **Ergebnisse:** 93 Patienten (52%) schlossen die Psychotherapie regulär ab (Completer), 85 (48%) brachen vorzeitig ab (Dropouts; davon 45 in Probatorik und 40 danach). Die Dropouts waren bei Therapiebeginn älter als die Completer ( $M = 35,33$  vs.  $M = 29,08$  Jahre;  $p = 0,001$ ), waren häufiger beschäftigt (64 vs. 45%;  $p = 0,014$ ), hatten häufiger komorbide Diagnosen (55 vs. 34%;  $p = 0,005$ ), waren stärker psychisch belastet (Global Severity Index:  $M = 1,25$  vs.  $1,01$ ;  $p = 0,007$ ) und wiesen einen riskanteren Alkoholkonsum auf (AUDIT:  $M = 10,49$  vs.  $M = 5,01$ ;  $p \leq 0,001$ ). Das Alkoholkonsum-Verhalten bei Therapiebeginn prädiizierte einen vorzeitigen Therapieabbruch ( $b = 0,11$ ;  $p = 0,001$ ). Ein riskantes Alkoholkonsum-Verhalten war mit einem Dropout in der Probatorik assoziiert ( $p = 0,005$ ). **Schlussfolgerungen:** Ein riskanter Alkoholkonsum ist bei ambulanten Psychotherapiepatienten mit vorzeitigem Therapieabbruch korreliert. Komorbides riskantes Trinkverhalten sollte zu Beginn der ambulanten Psychotherapie erfasst und inhaltlich thematisiert werden.

## Theoretical Background

According to meta-analyses 30–60% of all patients drop out of outpatient psychotherapy [Swift and Greenberg, 2012; Wierzbicki and Pekarik, 1993]. Different international opinions exist regarding the definition of premature termination and onset of psychotherapy [Wierzbicki and Pekarik, 1993]. This definition gap leads to heterogeneous results concerning psychotherapeutic dropout. In German-speaking countries, it is recommended to define the onset of therapy when the probatory phase, which is used to initiate therapy, is completed and additionally 1–3 therapeutic sessions were carried out [Hiller et al., 2011]. Using this definition, therapy dropout rates ranged between 15–20% in studies conducted in German university outpatient clinics. [Cinkaya et al., 2011; Jacobi et al., 2011]. However, this definition only examines a subset of patients, and dropout rates are skewed. Therefore, this definition appears to be insufficient to identify risk factors that lead to premature discontinuation or failure to receive therapy after the initial contact [Pekarik, 1985]. For further development of treatment measures, it is important to determine those factors from the onset of therapy that lead to an early termination of therapy.

There have been few and varied results regarding the predictors and underlying mechanisms associated with treatment discontinuation so far. The impact of sociodemographic (e.g., education) and clinical (e.g., diagnosis) characteristics on therapy success has often been examined. In these studies, poor level of education, pronounced psychopathology, comorbidity, and certain disorders (e.g., borderline personality disorder) were correlated with therapy dropout [Cinkaya et al., 2011; Jacobi et al., 2011; Wierzbicki and Pekarik, 1993]. Until today, studies concerning comorbid alcohol consumption and its influence on the course of psychotherapy have not been sufficiently addressed. This is surprising since it has been known for many years that mental disorders – especially anxiety disorders, but also depression – are often associated with comorbid alcohol consumption [Grant et al., 2004; Regier et al., 1990]. The combined occurrence of alcohol dependence and comorbid anxiety or depression seems to have a negative effect on the outcome and success of outpatient psychotherapy [Burns et al., 2005]. However, only few studies and mixed findings exist regarding the effects of comorbid risky drinking behavior on the success or failure of outpatient psychotherapy [Arndt et al., 2011; Haynes et al., 2008]. Similarly, few studies have included alcohol abuse as a potential predictor in the assessment of risk factors for therapeutic failure and therapy dropout [Fenger et al., 2011; Jensen et al., 2014]. In these studies, alcohol abuse was related to treatment discontinuation. However, these investigations were carried out in the outpatient group setting in Denmark, and results are therefore only conditionally comparable to the processes of outpatient psychotherapy in the German health care system.

Due to the lack of data on psychotherapy dropout and possible associated risk factors, the following was investigated in a cognitive-behavioral university outpatient clinic:

(1) What is the average premature rate of dropouts from psychotherapy?

(2) Which variables predetermine premature dropout of therapy, and, in particular, is risky alcohol consumption linked to premature dropout of therapy?

In addition to the findings published so far, we included all patients in the investigation that performed at least 1 additional (probatory) session after the initial clinical interview.

## Methods

### Setting

Data was collected in the psychotherapeutic outpatient clinic at the University of Konstanz from 2012 to 2016. The university outpatient clinic carries out cognitive-behavioral therapies (CBT), which are covered by health insurance companies. All therapists have a Master's degree in psychology and are either approved CBT psychotherapists (psychological psychotherapists) or in advanced training. Supervision and intervision sessions are carried out regularly. All patients are informed about the treatment process and the confidentiality of their data in the initial clinical interview. Diagnosis is made based on the International Classification of Mental Disorders (ICD-10, chapter V (F) [Dilling and World Health Organization, 1993]) and on disorder-specific self-report questionnaires routinely answered by all patients within the first 5 probatory sessions. All disorder-specific measures used in the study are shown below.

### Measures

The German version of the *Brief Symptom Inventory* (BSI [Franke, 2000]) is filled out during the initial clinical interview by all patients. The BSI consists of 53 items that assess mental symptoms of the past 7 days. Moreover, 9 subscales exist: 'somatization', 'obsessive-compulsive', 'interpersonal sensitivity', 'depression', 'anxiety', 'hostility', 'phobic anxiety', 'paranoid ideation', and 'psychoticism'. The Global Severity Index (GSI) is designed to capture global psychological distress. GSI scores above 0.56 indicate pathological psychological distress [Hiller et al., 2011].

The *Beck Depression Inventory II* (BDI-II [Hautzinger et al., 2009]), assessed within probatory sessions, is a 21-item, self-report rating inventory that measures the severity of depression. All items are added up, and scores from 14–19 indicate mild depression, scores from 20–28 indicate moderate depression, and scores above 29 indicate severe depression.

The *Beck Anxiety Inventory* (BAI [Margraf and Ehlers, 2007]), also assessed within probatory sessions, consists of 21 items measuring anxiety symptoms. Items assess physiological, somatic, and cognitive anxiety of the past week. All items are added up, and sum scores from 0–9 indicate light anxiety, scores from 10–18 mild to moderate anxiety, scores from 19–29 moderate to severe anxiety, and scores above 29 indicate severe anxiety.

The *Alcohol Use Disorders Identification Test* (AUDIT [Babor et al., 2001]) was developed by the World Health Organization (WHO) to assess alcohol consumption, drinking behaviors, and alcohol-related problems. This test was performed during probatory sessions. The AUDIT is a 10-item, self-report questionnaire, and scores can range from 0–40. The WHO declares risky drinking behavior with scores  $\geq 8$ . However, it is suggested to use country-specific cut-off values. Studies conducted in Germany recommend a cut-off value of 5 for risky drinking behavior [Bischof et al., 2007].

### Patients

A total of 281 patients received an initial clinical interview at the university outpatient clinic from 2012 to 2016. These 281 patients make up the population of the data analysis. 103 of 281 patients were excluded from further analyses to predict premature therapy dropout for the following reasons: 80 (29%) patients were in ongoing therapy, 18 (6%) patients dropped out because of non-relevant dropout criteria (e.g., graduation, move), and 5 (2%) did not meet the criteria for psychotherapy at the university outpatient clinic. In total, 178 patients were included in the data analyses. All 178 patients received the initial clinical interview and, additionally, at least 1 probatory session. Patients were divided into 2

**Table 1.** Cross tabulation for sociodemographic and clinical characteristics: completers versus dropouts (N = 178)

	Total sample	Completers	Dropouts	Level of significance
Age, years	M = 32.06	M = 29.08; SE = 1.15	M = 35.33; SE = 1.62	t(890) = -3.19; p = 0.001
Gender: male, % (n)	42	42 (39)	42 (36)	$\chi^2 = 0.003$ , $\phi = 0.004$ ; p = 0.955
Relationship: committed, % (n)	23	22 (20)	25 (21)	$\chi^2 = 0.26$ , $\phi = 0.038$ ; p = 0.612
A-Level: passed, % (n)	77	81 (75)	73 (62)	$\chi^2 = 1.49$ , $\phi = -0.091$ ; p = 0.223
Employment: employed, % (n)	54	45 (42)	64 (54)	$\chi^2 = 6.03$ , $\phi = 0.184$ ; p = 0.014
Comorbid diagnoses: yes, % (n)	44	34 (32)	55 (47)	$\chi^2 = 7.85$ , $\phi = 0.210$ ; p = 0.005
Former psychotherapeutic/psychiatric treatment: yes, % (n)	53	48 (45)	59 (50)	$\chi^2 = 1.94$ , $\phi = 0.104$ ; p = 0.163
BSI_GSI	M = 1.12	M = 1.01; SE = 0.06	M = 1.25; SE = 0.07	t(13 228) = -2.70; p = 0.007
BDI-II	M = 19.82	M = 17.84; SE = 1.03	M = 21.98; SE = 1.37	t(281) = -2.42; p = 0.016
BAI	M = 18.72	M = 16.76; SE = 1.23	M = 20.87; SE = 1.81	t(145) = -2.12; p = 0.036
AUDIT	M = 7.63	M = 5.01; SE = 0.54	M = 10.49; SE = 1.10	t(163) = -4.50; p ≤ 0.001

All  $\chi^2$ -tests: df = 1.  
M = mean; SD = standard deviation; SE = standard error; BSI\_GSI = Brief Symptom Inventory: Global Severity Index; BDI-II = Beck Depression Inventory II; BAI = Beck Anxiety Inventory; AUDIT = Alcohol Use Disorder Identification Test.

groups for data analysis: (a) completers (successful completion of psychotherapy) and (b) dropouts (premature termination; within or after probatory sessions).

Both sociodemographic and clinical variables were included in the prediction of therapy dropout. The sociodemographic variables used for prediction (assessed at onset of therapy) were 'age', 'gender', 'relationship status' (committed relationship vs. no relationship), 'education' (A-Level vs. no A-Level), and 'employment' (employed vs. not employed). Clinical variables used were 'comorbid diagnoses' (comorbid vs. no comorbid diagnoses), 'former psychotherapeutic/psychiatric treatments' (yes vs. no), and 'symptom severity' (GSI of BSI (BSI\_GSI); sum score BDI-II; sum score BAI; sum score AUDIT). Main diagnoses were affective disorders (ICD-10: F30) in 43% of all patients, anxiety disorders (ICD-10: F40) in 34%, substance use disorders (ICD-10: F10) in 5%, and other disorders (ICD-10: F50-90) in 3% of all patients. 58% of all patients were diagnosed with 1 psychological disorder, 30% with 2 disorders, and 12% with 3 disorders. 3 patients had an Axis II disorder as a main, secondary, or third diagnosis. Main diagnoses were not included in the prediction of therapy dropout and are therefore only reported for sample description. Since all patients, regardless of the type of disorder, were supposed to be evaluated pertaining to the prediction of therapy dropout, patients with substance use disorders were not excluded from analyses. In total, 16.19% of the values were missing. The study sample is described in table 1.

#### Statistics

Data was analyzed using SPSS (IBM SPSS Statistics für Macintosh, Version 23.0.). We used bivariate methods to assess group differences regarding sociodemographic (age, gender, relationship status, education, and employment) and clinical variables (comorbid diagnoses, former psychotherapeutic/psychiatric treatment as well as symptom severity (BSI\_GSI), level of depression (BDI-II), anxiety (BAI), and alcohol consumption (AUDIT) at onset of therapy). Sample distributions for both groups, completers and dropouts, were checked for the predictors 'age', 'BSI\_GSI', 'BDI-II', 'BAI', and 'AUDIT'. Homogeneity of variance was tested using Levene-Test. T-Tests with bootstrapping were used for continuous variables and Chi<sup>2</sup>-tests were used for dichotomous variables.

Variables with significant differences between completers and dropouts were inserted in a binary regression analysis to predict therapy dropout. Since BDI-II and BAI correlated strongly with BSI\_GSI, only BSI\_GSI was inserted in the binary regression analysis as a measure of symptom severity to reduce multicollinearity. Main effects were calculated for the variables 'age', 'employment', 'comorbid diagnoses', 'symptom severity' (BSI\_GSI), and 'alcohol consumption' (AUDIT). Strength of association was quantified with Odds Ratio (OR). We used Chi<sup>2</sup>-tests to assess the influence of alcohol consumption (low-risk consumption: AUDIT < 5; risky consumption: AUDIT ≥ 5) on time of therapy dropout (within probatory sessions or after). Post-hoc analyses were corrected with the Bonferroni method. The phi-coefficient ( $\phi$ ) is reported to show the strength of association between alcohol drinking behavior and time of therapy dropout.

The pattern of missing values of all variables was checked for significance by the MCAR test (MCAR = missing completely at random [Little, 1988]) and found to be 'missing at random'. According to the recommendations for analyzing data of alcohol use behavior [Witkiewitz et al., 2015], we used multiple imputation for missing values. Five data sets were created for imputation of missing values. The Markov-Chain-Monte-Carlo (MCMC) method of simulation was used. Moreover, it was checked if results remained the same without imputation of missing values.

## Results

### Therapy Completion and Dropout in Comparison

A total of 178 patients were included in the data analysis. 93 (52%) patients completed therapy (completers), while 85 (48%) patients dropped out prematurely (dropouts). 45 (26%) patients dropped out of therapy during probatory sessions, 40 (22%) patients after probatory sessions. Sociodemographic and clinical characteristics of therapy completion and dropout are shown in

table 1. There were no differences between completers and dropouts regarding gender, relationship status, education, and former psychotherapeutic/psychiatric treatment. Patients that dropped out of therapy prematurely were at the onset of therapy significantly older ( $M = 35.33$  vs.  $M = 29.08$  years,  $p = 0.001$ ), were significantly more employed (64 vs. 45%,  $p = 0.014$ ), they showed significantly more comorbid diagnoses (55 vs. 34%,  $p = 0.005$ ), their psychological distress was significantly higher (GSI:  $M = 1.25$  vs.  $1.01$ ,  $p = 0.007$ ), and they consumed significantly more alcohol (AUDIT:  $M = 10.49$  vs.  $M = 5.01$ ,  $p \leq 0.001$ ).

Completers and dropouts did not differ with respect to alcohol consumption (AUDIT:  $M = 7.18$  vs.  $M = 4.53$ ,  $p = 0.005$ ) after exclusion of the 8 patients (5%) diagnosed with a substance use disorder (completers:  $n = 1$ , dropouts:  $n = 7$ ).

#### Prediction of Therapy Dropout

All variables that showed significant differences in bivariate comparison between completers and dropouts, i.e., ‘age’, ‘employment’, ‘comorbid diagnoses’, ‘psychological distress’ (BSI\_GSI), as well as ‘alcohol consumption’ (AUDIT), were inserted a binary logistic regression model. Comorbid alcohol consumption at onset of therapy proved to be the strongest significant predictor of premature therapy dropout ( $b = 0.11$ ,  $p = 0.001$ ). Age and psychological distress (BSI\_GSI) at onset of therapy also predicted premature therapy dropout significantly (age:  $b = 0.03$ ,  $p = 0.035$ ; BSI\_GSI:  $b = 0.69$ ,  $p = 0.027$ ). 30% of variance was explained by the model (Nagelkerke’s  $R^2$ ). Results are shown in table 2.

#### Influence of Alcohol Consumption on the Time of Therapy Dropout

In order to check the influence of alcohol consumption on the time of dropout, all patients were classified according to their drinking status (low-risk consumption: AUDIT < 5; risky consumption: AUDIT  $\geq 5$ ) and the time of dropout (during probatory sessions and after). A total of 45 (25%) patients dropped out of therapy within probatory sessions, while 40 (22%) patients dropped out after probatory sessions. Overall, there was a significant difference in risky alcohol consumption among the 3 groups ( $p = 0.006$ ). Post-hoc comparisons between groups showed significant differences between completers and dropouts that dropped out of therapy within probatory sessions ( $p = 0.005$ ), whereas completers and dropouts that dropped out after probatory sessions tended to differ ( $p = 0.024$ ). Results are shown in table 3.

Risky alcohol consumption at onset of therapy proved to be the strongest and only significant predictor of premature therapy dropout, even without imputation of missing values ( $N = 135$ ,  $R^2 = 0.22$  (Nagelkerke), Model  $\chi^2(4) = 23.03$ , AUDIT:  $b = 0.10$ ,  $p = 0.001$ ). In the analysis of the influence of alcohol consumption on the time of dropout, AUDIT values were available for 17 patients who dropped out of therapy within probatory sessions and for 37 patients who dropped out after probatory sessions. Without imputation of missing values, there was a significant difference in risky alcohol consumption among the 3 groups ( $p = 0.013$ ). Risky alcohol consumption significantly predicted therapy dropout for pa-

**Table 2.** Binary logistic regression analysis for the prediction of therapy dropout including the variables ‘age’, ‘comorbid diagnoses’, ‘BSI\_GSI’, and ‘AUDIT’ ( $N = 178$ )

	B (SE)	p	OR
Constant	-2.92 (0.70)		
Age	0.03 (0.01)	0.035	1.03
Employment	0.36 (0.44)	0.416	1.44
Comorbid diagnoses	0.35 (0.38)	0.353	1.42
BSI_GSI	0.69 (0.31)	0.027	1.99
AUDIT	0.11 (0.03)	0.001	1.11

$R^2 = 0.30$  (Nagelkerke); Model  $\chi^2(5) = 44.84$ .  
 B = regression coefficient; SE = standard error of regression coefficient; p = level of significance; OR = odds ratio =  $\text{Exp}(B)$ ; BSI\_GSI = Brief Symptom Inventory, Global Severity Index; AUDIT = Alcohol Use Disorders Identification Test.

tients who discontinued therapy after probatory sessions ( $p = 0.016$ ) and it tended to predict dropout for patients who discontinued within probatory sessions ( $p = 0.028$ ).

## Discussion

The present study examined if risky alcohol consumption or other sociodemographic and clinical variables can predict premature psychotherapy dropout in an outpatient university clinic. In addition to previous publications on the prediction of therapeutic failure using sociodemographic and clinical variables, we also included comorbid alcohol consumption at onset of therapy in the prediction of premature therapy dropout. Moreover, all treatment dropouts, including those within probatory sessions, were included in the analysis. Risky alcohol consumption is, as in the general population, a common phenomenon among outpatient psychotherapy patients [Arndt et al., 2011]. Until today, the consequences of comorbid alcohol consumption on the course of therapy and premature dropout have not been sufficiently investigated.

#### Prevalence of Premature Therapy Dropout

Our analyses showed that 52% of the examined patients completed their therapy (completers), whereas 48% dropped out prematurely (dropouts), with 22% dropping out after probatory sessions. This shows that the different definition and interpretation of the term ‘therapy dropout’ causes considerable problems when comparing study results [Swift and Greenberg, 2012]. In order to prevent therapeutic failure and to develop and individualize treatment options, all patients, including those discontinuing therapy at an early stage, should be included in the analyses [Agras, 1987].

#### Predictors of Premature Therapy Dropout

In order to ensure accessibility and the success of psychotherapy, it is of great importance to consider possible risk factors and obstacles that could lead to treatment failure. In group compari-

**Table 3.** Influence of alcohol consumption on the time of therapy dropout (N = 178)

	Completers [1] (n = 93)	Dropouts within probatory sessions [2] (n = 45)	Dropouts after probatory sessions [3] (n = 40)	
AUDIT < 5 (n = 89)	61% (n = 57)	36% (n = 16)	40% (n = 16)	$\chi^2 = 10.10$ , $df = 2$ , $\phi = 0.238$ , $p = 0.006$
AUDIT $\geq 5$ (n = 89)	39% (n = 36)	64% (n = 29)	60% (n = 24)	
				post-hoc (df 1) <sup>a</sup> : [1] versus [2]: $\chi^2 = 8.06$ , $p = 0.005$ ; [1] versus [3]: $\chi^2 = 5.12$ , $p = 0.024$ ; [2] versus [3]: $\chi^2 = 0.18$ , $p = 0.673$
<sup>a</sup> Bonferroni correction: $\alpha = 0.0167$ .				
AUDIT = Alcohol Use Disorders Identification Test.				

sions of sociodemographic and clinical differences, we identified 5 risk factors with significant differences for completers and dropouts: patients who dropped out of therapy prematurely were older, more often employed, they showed more comorbidities, higher psychological distress (examined with BSI), and their alcohol use was higher. After including these 5 variables in the multivariate model for predicting therapy dropout, risky alcohol use at onset of therapy proved to be the strongest significant predictor of therapy dropout. This result is surprising given the fact that comorbid alcohol use, a potential risk factor affecting premature dropout, was neglected in previous studies on therapeutic failure. These studies focused mainly on sociodemographic and other clinical variables [Cinkaya et al., 2011; Nelson and Hiller, 2013]. In the present study, premature therapy discontinuation was significantly associated with therapy dropout within probatory sessions and it tended to be significantly associated with dropout after probatory sessions. There are several publications that addressed the prevalence of comorbid occurrence of anxiety and mood disorders and alcohol use disorders [Boschloo et al., 2011; Burns and Teesson, 2002], as well as the resulting consequences for the course of disorder [Bruce et al., 2005; Hasin et al., 1996]. However, only few studies have examined the effects of comorbid alcohol use on the course of treatment for anxiety and mood disorders in outpatient psychotherapy. An example is the study by Arndt et al. [2011], in which risky alcohol consumption had a negative impact on the outcome of treatment in depressed men; however, there were no differences in treatment dropouts between low-risk and high-risk drinkers.

For further development and optimization of treatment methods, the question arises why patients with risky alcohol consumption terminate therapy prematurely. Future studies should identify mechanisms for dropout. Various mechanisms are conceivable, e.g., that alcohol use causes problems with meeting appointments [Lindenmeyer, 2013]. It could also be that alcohol consumption correlates with high symptom severity, which is proven to lead to higher dropout rates [Odenwald and Semrau, 2012]. We also found support for this finding in our study (GSI was higher for dropouts). Another reason could be the early addressing of comorbid alcohol use in therapy, which might trigger resistance and conflict in patients towards therapy [Horak and Soyka, 2004; Moggi and Donati,

2004]. Alternatively, disregard of risky alcohol consumption might result in patients not receiving optimal treatment [Arndt et al., 2011; Hintz and Mann, 2006].

To our knowledge, there are no studies that have investigated the influence of risky alcohol consumption on premature therapy dropout in the German-speaking outpatient health care system. This may be due to the fact that outpatient psychotherapy for patients suffering from abuse and dependence on alcohol, medication, or drugs has only been approved by the Federal Joint Committee since 2011. Until then, outpatient psychotherapeutic treatment was hardly available for this group of patients. Our results show the importance of assessing risky alcohol consumption at onset of therapy since risky drinking behavior can have a major impact on the course of therapy. Based on these results, we are now screening for risky alcohol use by default and offering motivational brief interventions.

#### Limitations

The data for the present study was collected in a cognitive behavioral outpatient psychotherapy university clinic. Patients that undergo treatment are comparatively young and highly educated. Moreover, results from the present study are not directly comparable with other previously published studies on therapeutic failure, as here, the phenomenon of premature termination of therapy is operationalized differently. Considering sample selection, we used the method described by Hiller et al. [2011], in which relevant therapy dropouts, i.e., dropouts that should be considered in assessing the quality of treatment and improvement considerations (e.g., patient discontinues therapy against therapeutic advice), are differentiated from non-relevant therapy dropouts (e.g., move). However, we did not define the onset of therapy when 5 probatory and at least 1–3 additional therapy sessions have taken place as suggested by Cinkaya et al. [2011] and Hiller et al. [2011]; we defined the onset of therapy as soon as the initial clinical interview and at least 1 additional therapy session were carried out. Using this definition, we also wanted to identify those variables that influence the course of therapy at onset or lead to premature dropout and to better address these factors in the future. For better comparison of study results, future studies should use representative patient samples and a consistent definition of premature psychotherapy dropout.

We included both sociodemographic and clinical variables in the model for predicting therapy dropout. However, we were unable to ensure correct assessment of Axis II disorders, as in the German therapy system, the diagnosis is made at onset of therapy. At this time, it is not possible to fully assess and diagnose personality disorders. In the present study, only main diagnoses at onset of therapy were assessed. For this reason, existing personality variables might have affected therapy dropout. Nevertheless, personality variables are a risk factor for therapy dropout, according to past studies [Swift and Greenberg, 2012], and should therefore be included in future studies examining therapy dropout. Moreover, therapist variables such as experience and therapeutic relationship seem to play a role in the prediction of therapy dropout [Sharf et al., 2010; Swift and Greenberg, 2012]. However, therapist characteristics such as age, gender, experience, and specialization were not included in the analysis.

Patients with the main diagnosis of a substance use disorder were included in the analysis because all patients, regardless of the type of disorder, were supposed to be evaluated in the prediction of therapy dropout. In order to rule out the influence of patients with substance use disorders, the analysis for the prediction of therapy dropout was also carried out excluding those patients. Even after excluding patients with the main diagnosis of a substance use disorder, risky alcohol use was a significant predictor for premature therapy dropout.

In addition, it remains unclear whether therapists of the university outpatient clinic addressed risky alcohol consumption right at the beginning of therapy or not at all. Klein et al. [2003] described that it is important to clarify expectations and objectives between therapist and patient at the beginning of therapy in order to build a therapeutic alliance. Different opinions between patient and therapist might exist whether comorbid alcohol use is perceived as a problem and to what extent it should be addressed in therapy. This in turn can affect the further course of therapy and lead to premature termination of therapy.

## Conclusion

In the present study, we found evidence that dropout rates in outpatient psychotherapy are high in all treatment phases and that risky alcohol consumption is a strong predictor of therapy dropout. Future studies should investigate whether interventions addressing alcohol use at the beginning of therapy, e.g., motivational brief interventions [O'Donnell et al., 2013], can prevent premature psychotherapy dropout.

## Disclosure Statement

The authors state no conflict of interest.

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