

Predicting drop-out during inpatient
psychotherapy for personality disorders:
The predictive validity of Diagnostic and
Statistical Manual of Mental Disorders IV
classifications.



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ABSTRACT

Background: This study examines predictors for dropout during inpatient psychotherapy for personality disorders between two modalities; inpatient group- dialectical behavioural therapy (DBT) and inpatient group- schema therapy (ST). Using the Structured Clinical Interview (SCID) for Diagnostic and Statistical Manual of Mental Disorders (DSM) IV classifications at baseline, the current study aims to find ‘prescriptive’ predictors for dropout. Prescriptive predictors, also known as moderators, are predictors that can predict the optimal treatment modality for a patient, and have yet not been examined for inpatient psychotherapeutic treatment for personality disorders, while this could severely reduce dropout.

Research questions: Based on the current literature, the hypotheses were that lower levels of pathology are predictive of dropout, while dropout from DBT therapy is expected to be predicted by anxiety and dropout from ST by mood disorders. The second question was whether there are different prescriptive predictors between patients from the DBT modality and the ST modality.

Participants: The participants were part of a larger study. They were 213 patients admitted to an inpatient psychotherapy centre with a personality disorder as primary diagnosis.

Methods: Patients’ data was collected from the patient files. First cross tabs were performed to see if there were any significant differences between the two modalities. A chi-square test measured the relationship between clinical and personality disorders, and dropout. Strong associations were used in a logistic regression as predictors for dropout.

Results: The patients from the two modalities were different from each other on several personality disorders, but not on clinical disorders. The patients from the ST modality were significantly more indicated into the wrong treatment compared to the DBT modality and the patients from the DBT modality significantly thought the program was too intensive compared to the ST modality. No significant relationships were found between DSM-IV classifications based on the SCID and dropout from the two modalities as was expected at first.

Conclusions: Known predictors for dropouts were not replicated in a sample of inpatients, nor were other prescriptive predictors found. Future research regarding treatment dropout should examine the differences between the two modalities, the treatment techniques they use and patients expectations and intents more carefully to increase the chance of a patient finishing their treatment.

INTRODUCTION

Patients with personality disorders usually suffer from a broad array of symptoms in several life domains. They are considered one of the most complicated and challenging psychological disorders to treat (Bamelis et al., 2014). Psychotherapy, especially schema therapy and dialectical behaviour therapy, is the first treatment of choice for personality disorders (Budge et al., 2013; Leichsenring & Leibing, 2003). However, some patients do not benefit from initial and mostly outpatient psychotherapy (Schaap, Chakhssi, & Westerhof, 2016) and are referred to specialised inpatient settings. Even from those specialised inpatient settings not all patients finish their treatment.

In the Netherlands dropout from specialised inpatient settings varies between 10% and 35% (Bartak et al., 2011; Schaap et al., 2016). Previous research suggests that less comorbidity (MacMurran, Huband & Overton, 2010) and lower levels of mood disorders are associated with dropout from inpatient schema therapy (Schaap et al., 2016). The authors considered the experience of comorbidity and mood disorders as a distress factor. And distress was seen as a motivator for therapy engagement, with therapy being the means to reduce the level of distress. The experience of distress could be seen as a predictor for treatment commitment and dropout. A 'prescriptive' predictor, such as experience of distress, could help to avoid dropout by predicting optimal treatment for a patient based on their psychopathology at baseline. Prescriptive predictors refer to the optimal treatment for a given patient and have the potential to guide treatment decisions. Using prescriptive predictors could lower the percentage of dropout in treatment.

The current study tries to expand on previous research, by examining differences in predictors of dropout between inpatient schema therapy (ST) and inpatient dialectical behavioural therapy (DBT), based on the patients' psychopathology classifications at baseline. Firstly, we will elaborate on personality disorders, discuss the treatment for personality disorders, look at what we know about drop-out from treatment, specifically for inpatient settings, and describe prescriptive predictors in general.

1.1 Personality disorders

Personality disorders are complex mental health problems with dysfunction in several life domains, a reduced quality of life and high societal costs (Bamelis et al., 2014). The Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5) describes a class of mental disorders characterised by enduring maladaptive patterns of behaviour, cognition and inner experiences, exhibited across many contexts and deviating from behaviour accepted by the individual's culture. These behaviours are developed early, are inflexible and

cause significant distress or disability (American Psychiatric Association, 2013).

Prevalence worldwide is estimated around 0.2% to 1.8% in the general population in one year. The similarities between European and North American studies provide evidence of the ability to generalise the outcomes of research of different countries of prevalence of personality disorders (Feenstra & Hutsebaut, 2014). The prevalence of personality disorders is estimated from 7 to 15% in an North American adult population, depending on the diagnostic procedures and samples used. The prevalence among mental health patients is higher, with 8% to 11% of mental health outpatients and 14% to 20% of inpatients meeting the criteria for borderline personality disorder (Linehan, 2000).

1.2 Personality disorders treatment

In the past, personality disorders were thought to be relatively stable and treatment did not seem to have effect. However, recent meta-analysis has shown that several psychotherapeutic models have a beneficial effect on personality disorder pathology, including dialectical behavioural therapy (DBT) and schema therapy (ST) (Budge et al., 2013).

DBT is an effective way of treating personality disorder (Linehan et al., 1999). The main concept in DBT is that increased emotion dysregulation, compared to the average person, has a central role in the disruption of the patients life (Herbert & Forman, 2011). Therefore it could take a significant longer amount of time to return to normal emotional arousal levels. DBT focuses both on validating and acceptance of the patient and their emotion while simultaneously stimulating him or her to change their behaviour. It helps patients learn about the triggers that lead them to these dysregulated emotions and how to cope with these in a more helpful way. Patients are taught skills that help them deal with the difficulties they face in life (Linehan et al., 1999).

DBT showed significant greater clinical improvements compared to the standard group therapy in several mood and emotion areas such as anxiety, irritability, anger and affect instability. A reduction in general psychiatric symptoms was also observed (Soler et al., 2009). In a randomised controlled trial with one hundred clinically referred women with recent suicidal and self-injurious behaviours it was found that one year of DBT was associated with better outcomes concerning suicide and self-injurious acts compared to one year of community treatment by experts at a one year follow up measurement (Linehan et al., 2006). Patients in an in-clinic DBT group improved significantly more than the patients on the waiting list on many factors, including social adjustment, self-mutilation, depression and anxiety. In a research with 50 female

patients meeting the criteria for borderline personality disorder, three months of inpatient DBT treatment was more beneficial than a non-specific outpatient treatment on seven of the nine variables analysed (these included, but were not limited to depression, anxiety, interpersonal functioning, global psychopathology and self-mutilation) (Bohus et al., 2004).

Another therapy that seems effective in treating personality disorders has been ST (Skewes, Samson, Simpson, & van Vreeswijk, 2015). ST has been developed for personality disorders and other complex, chronic clinical presentations. It is an integrative psychotherapy that combines cognitive, experimental, behavioural and interpersonal techniques. It is based on the idea that rigid pathological characteristics of personality disorders are the result of a negative childhood environment in which core fundamental needs were not met. It uses a model that states that certain sets of schemas and coping styles that are active at a given time can be either adaptive or maladaptive. Schemas or coping styles are certain behavioural or thinking patterns that help a person deal with situations. Attachment trauma's or other traumas in childhood are viewed as origins of dysfunctional schemas (Bamelis, 2014; Genderen, Jacob, & Seebauer, 2012). A significantly greater proportion of 323 patients recovered after fifty sessions of ST compared to treatment as usual. There was a lower dropout rate, suggesting higher acceptability for ST from the patients themselves compared to treatment as usual (Bamelis et al., 2014). Farrell et al. (2009) found that between 32 patients randomly assigned to either ST with treatment-as-usual, or just treatment as usual, 94% of the patients that had undergone ST, did not meet the criteria for borderline personality disorder any more. This compared to 16% in the treatment-as-usual condition.

Both DBT and ST are used to treat personality disorders, DBT more from a cognitive behavioural approach, and ST from a psycho-analytical approach. Yet while DBT and ST seem relatively successful in treating personality disorders, not all patients finish their treatment. One study showed that not finishing treatment led to worse outcomes for individuals than if they did not receive any treatment at all (McMurrin & Theodosi, 2007). Dropout from therapy reduces the effects of the therapy (McMurrin, Huband & Overton, 2010).

1.3 Dropout

For the past 50 years the dropout rate in therapy has been stable (Barret et al., 2008). The rates of dropout measured vary from 30% to 80% in mental healthcare (Cornelissen et al., 2010). A lower dropout rate has significant positive influences on the effects of the therapy (McMurrin et al., 2010), as patients benefit more

from a treatment if they complete it (Chiesa et al., 2000). Also, the longer the patients stayed in treatment, the more effective it was in lowering the symptoms they were treated for (Gunderson et al., 1989). Dropout also affects other patients in the group. Dropout can decrease the group cohesiveness and increase feelings of insecurity among the other patients in treatment (Kooiman, 2008). Therefore, looking into the causes for dropout has many positive effects on the effectiveness of the therapy.

Many studies have explored the problems and causes of drop out and early treatment determination, but methodological issues seem to obscure the answers. Drop out has been defined in various ways: missing two consecutive sessions, failure to attend the last scheduled session, or termination within the first 9 months. The range of definitions can be concerning since contradictory definitions have a great impact on the findings. For example, one meta-analysis showed that defining dropout by failure to attend a scheduled session lead to lower dropout rates, compared to defining dropout by either therapist judgment or number of sessions attended (Wierzbicki & Pekarik, 1993).

In most psychological practices, a patient deciding to quit therapy before the end of the protocol or leaving before the therapists considered this decision as appropriate is considered dropout (Meulenbeek, Seeger & Peter, 2015). This definition also suits the framework of this study the best and is therefore the definition used in this study.

Compared to other client groups, people with personality disorders do not seem to be more prone to drop out. Nonetheless, the rate of non-completion is substantial and has consequences on treatment efficacy (McMurran, Huband & Overton, 2010). Single studies may have shown contradictory results (Richmond, 1992), however when dropout for patients with personality disorders was systematically reviewed it was found that it was indicated that patients with more comorbidity have a higher chance of finishing their treatment (Gunderson et al., 1989; McMurran et al., 2010). This could be explained as that more comorbidity leads to an increased experience of distress. Experiencing distress could be seen as a motivator for therapy engagement, with therapy being the solution to their distress (Gunderson et al., 1989; McMurran et al., 2010; Schaap et al., 2016).

Compared to standard group therapy, DBT has half the number of dropouts and almost a 30% greater probability of completing the treatment. Dropout from DBT seems to be greater with patients who experience more trait anxiety and more experiential avoidance (Rüsch et al., 2008; Kröger et al., 2013).

Even more remarkable is the data from the research of Farrell et al., 2009, investigating adding schema-focused therapy in treatment with borderline patients. It was found in this research that adding schema-focused therapy to the treatment as usual lead to a dropout rate of 0%, compared to 25% with just the treatment as usual. Bamelis et al., (2014) also found that ST had a significantly lower dropout rate compared to treatment as usual. Those who dropped out from an inpatient ST group did not differ from those who completed treatment regarding demographic and clinical variables. However they did show a difference on levels of mood disorders. The patients who finished their treatment showed a higher prevalence of mood disorders (Schaap et al., 2016).

So far, there has not been any scientific research comparing dropout between ST and DBT within an in-clinic psychotherapy setting, while it could greatly reduce the amount of dropout. Reducing the amount of dropout within these patients greatly enhances the effectiveness of the therapy.

1.4 Prognostic and prescriptive predictors

There are two types of predictors for treatment; prognostic and prescriptive predictors. Research aimed at finding prognostic predictors hold treatment constant and seek to determine individual differences that predict the response to the treatment. These predictors tell us which patients benefit most from a certain type of therapy, but not which therapy is the best suited for a type of patient. As opposed to prescriptive predictors, also known as moderators, that can predict the most optimal treatment for a patient. Prescriptive predictors indicate which patient might benefit the most from the therapy and which patient is better suited with a different treatment (Huibers et al., 2014; Zeeck et al., 2016). Most previous research on dropout addressed the prognostic predictors while in this paper the focus lays on the prescriptive predictors, to try and provide a more complete overview of factors that can decrease the dropout rate and therefore increase the benefits from therapy.

1.5 Current study

The current study aimed to find prescriptive factors for dropout for two modalities of inpatient psychotherapy treatment for personality disorders: ST and DBT. Prescriptive factors were examined using patients' diagnoses based on DSM-IV classifications by the SCID-I and II.

Our first expectation was that more comorbidity on the SCID-I and SCID-II classifications will lead to less dropout, since previous research has indicated that comorbidity increases the experience of distress and experiencing distress is a motivational factor for therapy engagement (MacMurran et al., 2010).

Therefore it is expected that comorbidity is a prescriptive predictor to dropout within this setting.

Our second expectation was to find different prescriptive predictors for dropout between a group-DGT setting and a group-ST setting. Earlier studies have shown that dropout from DBT seems to be correlated with trait anxiety and more experiential avoidance (Rüsch et al., 2008; Kröger et al., 2013). While patients that drop out from ST seem to have a lower prevalence of mood disorders (Bamelis et al., 2014; Schaap et al., 2016).

METHOD

2.1 Participants

Patients' files were examined from an in-clinic patient psychotherapy treatment centre specialised in personality disorders. The treatment groups, ST or DBT, consisted of 25-27 patients. The mean age of the participants was 26 years ($SD = 7.0$), with almost 88% being female. The average duration of treatment within the participant group was 6 months ($SD = 3.7$). As can be seen in table 1, more than 46% of the participants met the criteria for at least one DSM-IV personality disorder, while almost 40% got more than one diagnoses of personality disorders. Almost 27% had no classifications of clinical disorders, 42% of the patients had one classification of a clinical disorder, and 31% had one or more. The most common personality disorders among the participants was borderline personality disorder and avoidant personality disorder.

Table 1

Represents the amount of classifications in the samples.

	All		Dialectical Behavioural Therapy				Schema therapy					
	(N=213)		(N=116)				(N=97)					
	Clinical		Personality		Clinical		Personality		Clinical		Personality	
	N	%	N	%	N	%	N	%	N	%	N	%
0 ^a	57	26,8%	27	12,7%	24	20,7%	14	12,0%	23	23,7%	13	13,4%
1 ^a	90	42,3%	100	46,9%	48	41,4%	66	56,9%	42	43,3%	34	35,0%
2 ^a	58	27,2%	61	28,6%	29	25,0%	28	24,1%	29	29,9%	33	34,0%
3 ^a	8	3,7%	22	10,3%	7	6,0%	8	6,9%	1	1,0%	14	14,4%
4 ^a	-	-	3	1,4%	-	-	2	1,7%	-	-	1	1,0%

Note: ^aamount of classifications

2.2 Setting

The setting was an in-patient treatment centre specialised in personality disorders. Two treatment modalities were offered; DBT and ST. In both modalities the patients stayed in the clinic from Sunday evening till Thursday afternoon. The standard duration of the intervention is nine months. The first modality, group-DBT, focused on emotion regulation and inter-human contact. The treatment was segmented into three sections. The first eight weeks were used to set individual treatment goals and gain better insight in the diagnostics of the patient. Then the treatment phase started in which the patient can work on their goals, learn their own identity, learn to set healthy boundaries, learn to see connections between their behaviour and their past, and learn and practise their new skills. Different parts of their treatment are DBT therapy, music therapy, psychomotor therapy, society re-integration hour and patient-staff meetings. In the last phase patients focus on reintegrating into society, taking care of their treatment after the clinic and saying goodbye, a skill most patients have not adequately developed.

The second modality, group-ST, focused on (mal)adaptive patterns of dealing with others or yourself. The modality has three treatment guidelines; social functioning, in which the clinic is seen as a teaching and practise area for social skills; behaviour change, in which they look at the schemas and patterns in patients behaviour; and societal functioning, which deals with skills such as taking care of one self, professional skills, education or being able to fulfil a meaningful role in society. There are different therapy segments, including sociotherapy, psychotherapy, schema-therapy, psychomotor therapy, society re-integration hour, patient-staff meetings and music therapy.

2.3 Procedures

The participants were part of a larger study. Approval of the study was obtained from the ethical committee at the University of Twente. The DSM-IV classifications based on Structural Clinical Interview (SCID) scores were previously gathered as part of a larger study. Data on dropout was collected by master psychology students who had an internship in the treatment centre. The data were anonymously coded and could not be related to individuals.

The Structural Clinical Interview for DSM-IV (SCID) is a semi-structured interview, consisting of two parts, that classifies clinical and personality disorders of the patients. The reliability and validity of the SCID is comparable to other instruments that measure axe-disorders based on the DSM-IV (First et al., 1995). The SCID has an moderate to excellent inter-rater reliability of the clinical disorders, and an excellent

inter-rater reliability for the assessment of personality disorders (Lobbestael, Leurgans & Arntz, 2010).

Dropout was categorised by looking into the resignation letter in the patients dossier. As soon as the resignation letter indicated that the therapy had to stop earlier than intended, and included a reason, it was coded as drop out. Several explanations for dropout were found in the resignation letters; such as an increase of complaints, finding out about a different diagnoses or violation of the treatment conditions (such as, but not limited to the use of drugs, alcohol, aggressive behaviour, conflicts with therapist or other patients or theft). The dropout was then categorised into 8 different categories by tallying the different explanations; the patient showed crisis behaviour such as (attempted) suicide or severe automutilation, abused substances, had a non-commitment attitude, got into a conflict with either the therapist or fellow inpatients, the modality was not the right treatment for them, their physical health was not good enough, the modality was too intensive for them, and a category for reasons that didn't fit into any of the previously mentioned.

2.4 Statistical analyses

The statistical analyses were performed using SPSS statistics version 23. The clinical and personality disorder classifications of each patient were recoded into a binary variable for each diagnoses according to the different categories of the DSM-IV. For the clinical disorders these were; mood-, sleeping-, adjustment-, anxiety-, dissociative-, eating -, impulse control-, somatoform-, sexual-, psychotic-, substance use- disorders, and ADHD. For the personality disorders these were: antisocial-, paranoid-, schizoid-, schizotypal-, obsessive compulsive-, histrionic-, dependent-, narcissistic-, avoidant-, borderline-, not otherwise specified-, and no- personality disorder. Two count variables were computed, one for clinical- and another for personality disorders, which counted the number of diagnoses the participants had on clinical- and personality disorders. To see if there were certain significant differences between the two groups concerning demographical and clinical characteristics cross tabs were used.

The following statistical analyses were performed to answer the first hypothesis. To examine the relation between the two categorical variables, the predicting variables (the categories of the DSM-IV) and dropout, chi-square tests were computed. The chi-square test is commonly used for testing relationships between categorical variables (Fields, 2013).

For the purpose of the current study, clinical and/or personality disorders that showed a moderate association with drop-out ($r > 0.2$) and a correlation p -value below 0.10 were regarded as relevant predictors for dropout. These variables were analysed using a backwards logistic regressions to see if there were any

variables that, together, would have a significant effect on drop out. Backward logistic regressions starts with all the variables, testing the model fit after deletion of each variable, and subsequently deleting the variable whose loss improves the goodness of the model fit, the most. This process is repeated until no further variables can be deleted without significant loss of fit, unlike forward logistic regression that starts with zero variables and adds the variables whose inclusion gives the most statistically significant improvement of fit, until no variable improves the model in a significant way anymore. Both methods are considered effective, but a backwards logistic regression was used here because of the hypothesis that more comorbidity (variables) would be predictive of dropout. Therefore starting out with all the variables and removing the ones that can be deleted without significant loss of fit seemed like the most effective way of analysing this question.

To answer the second hypothesis the modalities were selected separately within SPSS. Then the same statistical analyses were performed to see if there were specific diagnoses correlating with dropout from either ST or DBT. Different predictors for dropout from either ST or DBT would suggest prescriptive predictors. So, again, first chi-square tests were computed to see if there was any relationship between clinical and personality disorders and dropout from either DBT or ST. Clinical and/or personality disorders that showed a moderate association with drop-out ($r > 0.2$) and a correlation p -value below 0.10 were regarded as relevant predictors for dropout. These variables were analysed using a backwards logistic regression to see if there were any variables that had a significant effect on dropout.

RESULTS

Most patients in the DBT modality had a mood disorder (42,6%). The most frequent personality disorder was a borderline personality disorder (90,7%). Most patients in the ST modality had a mood disorder (52,6%). The most frequent personality disorder was an avoidant personality disorder (66,3%). In the overall population mood disorder (45,1%) and anxiety disorder (31,9%) were the most common clinical disorders, and borderline (64,8%) the most common personality disorder. As can be seen in Table 2, the difference between the two modalities was significant for obsessive compulsive, avoidant, borderline and personality disorder not otherwise specified. Borderline personality disorder was found more in the DBT modality, while avoidant, obsessive compulsive and personality disorder not otherwise specified were found more in the ST modality. Noteworthy was that there were no significant differences found between the two modalities with regards to clinical disorders. 69.9% of all the patients had comorbidity with at least one clinical disorder and one or more personality disorders.

Table 2

Represents the frequencies of the different classifications by the SCID I&II for the patients within the complete group and their modalities.

Variable	Population					
	All		DBT ^b		Schema-therapy	
	(n=213)		(n=116)		(n=97)	
	N	%	N	%	N	%
Gender						
Female	186	87,3%	107	92,2%	79	81,4%
Male	27	12,7%	9	7,8%	18	18,6%
Clinical disorders						
Mood disorder	96	45,1%	46	42,6%	50	52,6%
Anxiety disorder	68	31,9%	40	37,0%	28	29,5%
Eating disorder	42	19,7%	24	22%	18	18,9%
No clinical disorder	20	9,4%	11	10,2%	9	9,5%
ADHD ^a disorder	9	4,2%	6	5,6%	3	3,2%
Other	7	3,3%	4	3,7%	3	3,2%
Psychotic disorder	4	1,9%	4	3,7%	0	0,0%
Somatoform disorder	4	1,9%	3	2,8%	1	1,1%
Personality disorder						
Borderline*	138	64,8%	98	90,7%	40	42,1%
Avoidant*	98	46,0%	35	32,4%	63	66,3%
PDNOS ^b *	42	19,7%	14	13,0%	28	29,5%
Obsessive compulsive*	10	4,7%	2	1,9%	8	8,4%
Narcissistic	7	3,3%	3	2,8%	4	4,2%
Histrionic	2	0,9%	1	0,9%	1	0,9%
Antisocial	1	0,5%	1	0,9%	0	0,0%

Variable	Population					
	All		DBT ^b		Schema-therapy	
	(n=213)		(n=116)		(n=97)	
	N	%	N	%	N	%
Dependent	1	0,5%	0	0,0%	1	1,1%
Schizoid	1	0,5%	0	0,0%	1	1,1%
Paranoid	0	0,0%	0	0,0%	0	0,0%
Schizotypal	0	0,0%	0	0,0%	0	0,0%
Personality disorder with comorbidity clinical disorder						
One personality disorder	72	33.8%	47	40.5%	25	25.8%
Two personality disorders	56	26.3%	25	21.6%	31	32.0%
Three personality disorders	17	8.0%	7	6.0%	10	10.3%
Four personality disorders	4	1.9%	2	1.7%	1	1.0%

Note: ^aattention deficit/hyperactivity disorder
^bDialectical Behaviour Therapy
*Difference between the two modalities is significant with $p < 0.05$.

Of all the 213 patients, 104 (48.8%) dropped out. 46 (44,2%) of those were in the ST group and 58 (55,8%) were from the DBT therapy group. The difference between the two programs in the reason why the patients dropped out of the treatment was significant, $\chi^2(7, N = 213) = 20,540, p < 0.05$. As can be seen in Table 3, most patients dropped out of the DBT therapy group because the modality was too intensive while most patients dropped out of the ST therapy group because the treatment was not the right fit for them.

Table 3

Representation of frequencies of patients per modality and dropout categories.

Variable	Sample					
	All		DBT ^a		Schema-therapy	
	N	%	N	%	N	%
Participants	213	100%	116	54.5%	97	45.5%
Reasons for dropout	104	48,8% ^b	58	55,8%	46	44,2%
Critical behaviour ^c	5	2,3%	5	8,6%	0	0,0%
Addiction	8	3,8%	6	10,3%	2	4,3%
Non-commitment	19	8,9%	9	15,5%	10	21,7%
Conflicts ^d	3	1,4%	2	3,4%	1	2,2%
Treatment not the right fit	27	12,7%	7	12,1%	20	43,5%
Problems with physical health	4	1,9%	4	6,9%	0	0,0%
Modality too intensive	34	16,0%	22	37,9%	12	26,1%
Remaining reasons	4	1,9%	3	5,2%	1	2,2%
Total	104	100,0%	58	100%	46	100%

Note. ^aDBT = Dialectical Behaviour Therapy

^bout of all 213 participants

^cCritical behaviour being behaviour that imposed a risk for the patient themselves (automutilation, or suicide attempts), or the patients around them (aggressive behaviour) that forced them to drop out of the therapy.

^dConflict with patients and/or therapists.

To answer our first hypothesis a chi-square test of independence was performed to examine the relation between all variables and dropout. While a lot of the relations had a large effect size (Pearson $r > 0.5$), most were non-significant ($p > 0.10$). The relation between anxiety disorders and dropout in both modalities was marginally significant, $\chi^2(1, N = 213) = 2,907, p < 0.10$. A logistic binary regression was conducted to predict dropout with this variable. Nevertheless, the predictor (anxiety disorder) was not found to be statistically significant in predicting dropout, $\chi^2(1, N=213) = 2,913, p < 0.10$.

For our second hypothesis a chi-square test of independence was performed to examine the relation between all variables and dropout with only one of the two modalities selected. No specific variables were found to have a (marginally) significant relation with dropout within the DBT modality. The relation between having an avoidant personality disorder and dropout in the schema-therapy group was marginally significant, $\chi^2(1, N=95) = 3,310, p < 0.10$. A logistic binary regression was conducted to predict dropout for the ST modality with avoidant personality disorder but it was not significant, $\chi^2(1, N=95) = 3,317, p < 0.10$.

DISCUSSION

This study aimed to investigate prescriptive predictors for dropout for personality disorders during an inpatient psychotherapy setting within two modalities; DBT and ST. Based on current literature there were two hypotheses. The first expectation, whether more comorbidity on the SCID-I and SCID-II classifications will lead to less dropout from therapy, could not be confirmed by the findings from this study. The second expectation, different prescriptive predictors between the two modalities, could also not be supported by the data from this study.

Previous studies imply that that higher comorbidity, and therefore more distress, leads to lower levels of dropout (Gunderson et al., 1989; MacMurran, 2010). Less distress means less motivation for therapy and a higher chance of ending the therapy before completion. However, no significant connection was found between the amount of (clinical and personality disorder) classifications the participants had and dropout. The expectation that more comorbidity on the SCID-I and SCID-II will lead to less dropout could not be supported by this data. In fact, no prescriptive factors for dropout could be found for both modalities, or separately. This is remarkable, especially compared to previous research like Schaap et al., (2016) or Bamelis et al., (2014). They found that higher level of mood disorders correlated with lower chance of drop out.

One explanation for not being able to replicate these findings could be the difference between interpretive therapy and supportive therapy. According to MacMurran (2010) levels of distress were not associated with dropout from interpretive therapy, but were associated with dropout from supportive therapy. While DBT uses mostly supportive therapy techniques, and ST interpretive therapy techniques (Piper et al., 2002) it could be that both modalities used more interpretive treatment techniques than previous research. This could be an explanation as to why no prescriptive predictors could be found within this setting. Interpretive therapies emphasise insight into repetitive conflicts and traumas underlying a patient's problems,

while supportive therapies emphasise improving the patient's immediate adaptation to their environment (Piper et al., 2002). Furthermore a lot of techniques fall on a scale between supportive and interpretive (Piper et al., 2002), making a clear distinction between the two not always obvious. In the research of Schaap et al., (2016) patients received Group-ST therapy two times a week, with four weekly group sessions surrounding specific ST techniques in an inpatient clinic setting, while in Bamelis et al., (2014) the patients had individual outpatient psychotherapies once a week. In the current study patients received ST therapy once a week, or DBT therapy once a week, in combination with an array of different therapies such as music therapy and psychomotorical therapy. The association between distress and attendance could be dependent on what the treatment aims to do in relation to a patient's problems.

The other hypothesis was that there are different prescriptive factors between the two modalities. Earlier studies show that dropout from DBT seems to be correlated with trait anxiety (Rüsch et al., 2008; Kröger et al., 2013), while patients that dropout from ST seem to have a lower prevalence of mood disorders (Bamelis et al., 2014; Schaap et al., 2016). Again, the findings from the current study could not support this assumption.

This could be explained by the comparison of DBT and ST treatments and the patients in the two modalities. Scientific literature suggests that DBT and ST have several similarities, such as the same behavioural and cognitive principles (Montgomery-Graham, 2015; Sennef, Westerhof & Pol, 2015). Both DBT and ST recognise problems in mentalization within patients. This means that patients have difficulties recognising their own emotions and dealing with them (Paris, 2015). Both therapies deal with mentalization, using the same techniques such as exposure, reinforcement and skills training (Kellogs & Young, 2006). No different prescriptive predictors could be found for dropout from the specific modalities. This could be because the patients from the DBT and ST modalities might not differ from each other. The characteristics in the patients that benefit from these therapies might not vary from each other in the predicting variables researched. Based on the results in this research it might seem that there are no different predicting variables found within the personality disorders between DBT and ST in this particular setting.

Yet in this research patients did differ in the reason why they dropped out of the study. From the DBT group, most patients that dropped out found the treatment too intensive, and in the ST group most patients dropped out because they, or the therapists, thought they were wrongly indicated. Perhaps this could be explained by the patients difference in self-control under pressure (Sennef, Westerhof & Pol, 2015). After all, therapy in an in patient psychotherapy setting is not effortless and puts a lot of pressure on the patients. It

could be theorised that patients in the ST modality that show severe inhibited behaviour in response to this pressure, might be seen by therapists as not benefiting from the treatment. The therapist therefore concluding that these patients were in the wrong treatment. While patients in DBT that act out impulsively might stay home from the clinic, and are therefore seen as if the treatment is too intensive for them. Meta-analyses of psychotherapy dropout also suggest that perhaps more research should be done into the intentions and expectations of patients towards the therapy they receive (McMurrin et al., 2010; Wierzbicki & Pekarik, 1993), instead of the characteristics of the patients. In this line of thinking the question rises; maybe patients that drop out from this setting weren't wrongly indicated to the modality, but wrongly indicated in the context. Perhaps an in-clinic based group therapy setting was too intensive, and therefore not the right treatment for this particular group of patients.

A limitation to this research could be the definition of dropout. There are some indications that the amount of previous therapy patients had is more correlated with early than with late dropout (Kamerlingh, R.J., Chakhssi, F., & Meulenbeek, P., 2017; Salmoiraghi & Sambhi, 2010). So looking at the time spend in the clinic could help with differentiating between early dropout and late dropout. The lack of an universal definition of dropout is a cause for methodological issues. As stated before, defining dropout in a different way could lead to significant different results for the analyses performed (Wierzbicki & Pekarik, 1993). This suggests that if dropout was defined, or tallied, in a different manner in this research, different results could have been found. One different way of looking at the dropout would be to see if patients actually go to the therapy. Even though they are in an in-clinic setting, some patients still remain at the clinic but skip therapy sessions without permission from the therapists. This would probably lead to higher percentages of dropout. A different definition, one with a higher percentage, could mean that marginally significant predictors, such as anxiety disorder, might actually have a significant effect on that particular definition of dropout.

Another limitation is that the main diagnose of the patients could not be found within the data. More than 40% of the patients had more than one personality disorder. It would have been interesting to see which one of those was their main diagnose, and therefore probably the main focus of attention in the treatment. Since there were significant differences between the two modalities on borderline, avoidant, obsessive compulsive and personality disorder not otherwise specified, it would be intriguing to see if there are also significant differences between the two modalities and the patients main diagnose. Would a patient with a main diagnose of borderline personality disorder, but also suffering from avoidant personality disorder, benefit more from the DBT treatment, or the ST treatment?

Looking at McMurrin et al., (2010) which states that perhaps more research should be done towards the patients expectations of therapy and which intentions patients have entering therapy (Wierzbicki & Pekarik, 1993), it might not be so easy to say that a certain personality disorder might be more beneficial in a certain treatment. Perhaps it has more to do with the patients personality, than with their personality disorder.

In the end, the known predictors for dropouts were not replicated in a sample of inpatients, nor were prescriptive predictors found. Future research regarding treatment dropout should examine the differences between the two modalities and the treatment techniques they use more carefully.

Whichever predictive factors there are to find, it is safe to say that research the past couple of years has made great improvements with regards to the treatment of personality disorders. Not to say that the difficulties surrounding the remission of personality disorders, due to their complex needs and high burden placed on health services, are less. More so that now a climate of hope is developing within the healthcare about the effect of therapy on personality disorders. Looking at predictive factors and their effect on dropout could greatly enhance the effectiveness of treatments.

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