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# Patient's characteristics as predictors of treatment intensity and outcome

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## Preface

This thesis was written in the course of my master's degree "positive psychology and technology" at the University of Twente. This paper is the completion of my time as a student. I already started the next challenge of my life and I am on my way to a psychological psychotherapist. I would like to thank those people who accompanied me during this period. Many thanks to Gerben Westerhof for your support, feedback and the opportunity to skype. Also, I would like to thank Peter ten Klooster for your feedback. I would also like to thank Sander de Vos, for answering my questions. Finally, a special thank you to my family and friends.

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**Abstract**

**Introduction**: Eating disorders are psychiatric disorders with the highest mortality rate of all mental illnesses. Although much research has been done in this field, treatment and recovery of various eating disorders is still challenging. Literature review indicates that certain personality traits impede individuals to recover from severe diseases. The aim of this study is to provide insight in the relationship between certain individual personality traits and eating disorders. It will be explored to what extent client factors and personality factors are predictive for the treatment intensity and outcome of patients with eating disorders.

**Methods**: A longitudinal observational study-design was conducted. The investigation took place over a period of two years. For this study, the data of the first year of treatment were used. The Routine Outcome Monitoring (ROM) was carried out at 5 measurements during treatment. The ROM consists of The Outcome Questionnaire 45 (OQ-45), the Eating Disorder Questionnaire (EDE-Q) and the Mental Health Continuum- short form (MHC-SF). To investigate several personality aspects, participants filled in the Personality Inventory for DSM-5 (PID-5) and the Impact Herstel Inventarisatie (IHI). Two groups of participants were included in the study. The PID-5 group consists of 207 participants and the IHI-group was made up of 378 participants.

**Results**: There were significant improvements in psychopathology and mental health over the first year of treatment in the total group. Furthermore, results revealed that high scores on client factors are related to more intense treatment and more general psychopathology. Higher scores on detachment are also related to more intense treatment. Moreover, people with high scores on negative affect reported more general- and eating disorder psychopathology. They also reported lower levels of mental health. High scores on psychoticism were related to less mental health. Because treatment of eating disorder is so complex, further research in this field is needed.

## Introduction

Among all mental illnesses, there is one disease which has an impact on different areas of affected individuals, has different faces and moreover, has the highest mortality rate of all mental illnesses (de Vos, LaMarre, Radstaak, Bijkerk, Bohlmeijer, & Westerhof, 2017; Chesney, Goodwin, & Fazel ,2014). As different as the faces of this disease may be, they all have one thing in common: Feelings, thoughts and behavioural patterns revolve around the topic of food. The umbrella term of this psychiatric disorder is eating disorders. In the past, much research has been done in this field. Nevertheless, the treatment and recovery of various eating disorders is still difficult. Many studies have shown that, among other factors, individual personality seems to play a role in the development and course of eating disorders and also have an impact on the success of treatment (Claes, Vandereycken, Luyten, Soenens, Pieters, and Vertommen, 2006). However, there still remains ambiguity regarding the course and treatment of eating disorders in connection with personality factors. The aim of the current research is to provide insight in the relationship between certain individual personality traits and eating disorders. In particular, it will be explored whether different personality traits can predict the intensity and success of treatment. To gain more knowledge of these influences is important to improve the treatment of this disease.

According to the Diagnostic and statistical manual of mental disorders (American Psychiatric Association, 2013) eating disorders include Anorexia nervosa (AN), Bulimia nervosa (BN), Binge eating disorder (BED), other eating disorders and eating disorder, unspecified. Anorexia nervosa is characterized by the pathological desire to reduce weight. This behaviour often results in life-threatening malnutrition. Other essential characteristics of Anorexia nervosa are light weight, the fear of gaining weight, distorted body perception and, among women; amenorrhoea can occur (Stice, 2002). Thus, Anorexia nervosa can cause serious physical damage, and this can lead to so called biological scars, which means irreversible damage for instance to the brain may arise (Herpertz-Dahlmann & de Zwaan,

2011). Anorexia nervosa and Bulimia nervosa have many psychopathological determinants in common, as for example the fear of gaining weight (Fairburn, Cooper, & Shafran, 2003). Furthermore, Bulimia nervosa is characterized by uncontrollable food craving or "eating attacks", followed by weight-reducing actions, for example vomiting. Vomiting reflects the compensatory behaviour of the binge, which is typical for the clinical picture of Bulimia nervosa (Stice, 2002). People with Binge eating disorder, will not take action to reduce weight, in contrast to people suffering from Bulimia nervosa. Furthermore, this disease is often accompanied with being overweight (Fairburn, Cooper, Doll, Norman, & O`Connor, 2000; Telch, Agras, & Linehan, 2001). The diagnosis of other eating disorder and eating disorder, unspecified is given to people who only partially meet the criteria for one specific eating disorder (American Psychiatric Association, 2013).

Regarding the incidence rate of Anorexia nervosa and Bulimia nervosa, clear statistics are difficult to make because it is assumed that many cases remain unreported (Hoek, 2006). Nevertheless, Hoek (2006) reported that 8 per 100 000 people per year are diagnosed with Anorexia nervosa and 13 per 100 000 people per year develop Bulimia nervosa. Anorexia nervosa seems to be most common among 15- 19-year-old females (Smink, van Hoeken, & Hoek, 2012). In contrast, Binge eating disorder is more likely to affect men and older people in general (Smink, van Hoeken, & Hoek, 2012).

Eating disorders can cause serious damages and various negative consequences for affected individuals. Relevant studies show that the suicide rate of women suffering from Anorexia nervosa is 10 times higher than in the general population (Chesney, Goodwin, & Fazel, 2014). Another study indicated that 10 percent of those suffering from Anorexia nervosa die because of this disease (Kaplan & Garfinkel, 1999).

The treatment of people suffering from an eating disorder is challenging and even if the circumstances are optimal, a recovery from Anorexia nervosa, for example, often takes

many years (McHugh, 2007) and eating disorder patients in general are in treatment for a long period of their lives (Steinhausen, Boyadejiieve, Griogoroiu-serbanescu, & Neumärker, 2003). There are various options for treating eating disorder patients, of which outpatient, inpatient and day patient treatment are the most common (Fairburn, 2005). So far, there is no scientific evidence for giving preference to one of these options, and there is even conflicting information regarding the effectiveness of the different treatments. However, what can be stated is that patients often do not have positive feelings about hospitalization (Fairburn, 2005). Nonetheless, the treatment-seeking behaviour and hospitalization is very high (Stice, 2002). Inpatient care is indispensable, as a large proportion of, for example, Anorexia nervosa patients will need the hospital setting at some point during the course of their illness. Outpatient or day patient treatment would be insufficient here (Kaplan & Garfinkel, 1999). Additionally, outpatient treatment is a very important part of treating eating disorders because even patients who are first treated in hospital, afterwards, receive outpatient treatment (Fairburn, 2005). According to Kaplan and Garfinkel (1999), outpatient treatment is accompanied with insufficient response of the patients to this kind of treatment, correspondingly, the presence of inpatient- and day patient treatment is of great importance. Although there are various treatment options, the outcome for people with eating disorders is still poor. Knowledge of evidence-based and successful strategies (Fairburn, 2005) and individualized approaches to achieve better outcome, is needed (Abbate-Daga, Amianto, Delsedime, De-Bacco, & Fassino, 2013).

Regarding the challenge of treating eating disorders and the low success rate of treatment there are a few aspects which need to be considered (Steinhausen, 2002): One aspect is that eating disorders usually go hand in hand with high rates of chronification and relapse (Stice, 2002; de Vos, et al., 2017; Fairburn, 2005; Steinhausen, 2002). Another aspect, which influences the success of outcome is the high rate of comorbidity and a reduced quality of life experienced by eating disorder patients. Steinhausen (2002) also stated that there are

high rates of chronification in people with eating disorders. In his study he focused on people with Anorexia nervosa and among these patients, not even half of them could recover from their intractable disease. Thus, knowledge in this area, especially in relation to the treatment of eating disorders, is important not only for clinical psychiatry but also for the health care system and the affected persons (Herpertz-Dahlmann & de Zwaan, 2011).

Another aspect which has a negative impact on treatment outcome is the strong ambivalence of people suffering from eating disorders. To recover means gaining weight in many cases. This requires a change in behaviour in terms of eating habits which, in turns creates resistance to the treatment (Nordbø, Gulliksen, Espeset, Skårderud, Geller, & Holte, 2008; Ziser, Resmark, Giel, Becker, Stuber, Zipfel, & Junnie, 2018). Nordbø et al. (2008) also mentioned that although there is no intention to change behaviour, the desire to recover from the illness may still be present. The intention or motivation to change pathological behaviour is related to the duration of the illness. People who have been suffering from an eating disorder for a long time are less motivated to change which consequently results in poorer therapy outcomes (Abbate-Gage, Aminanto, Delsedime, De-Bacco, & Fassino, 2013). It is of high importance that treatment and various interventions are adjusted to each individual and their motivation to change as best as possible, in order to leverage the patient to a higher level of motivation to change (McHugh, 2007) and accordingly to better treatment outcomes. Treatment adherence is another complex parameter in treating eating disorder patients, which is closely connected with the just mentioned motivation to change. This is reflected in the figures of a study about treatment of anorexia nervosa-patients: according to this study, 20 to 51 percent of the patients that receive inpatient treatment resist treatment or drop out and in the patient group that receives outpatient treatment the drop out and reject- rate is 23 to 73 percent. Among other things, this fact makes the treatment of eating disorders so complex. The motivation to change is a fundamental precondition for adherence and can prevent relapse (Abbate-Gage et al., 2013). Thus, the attitude of the affected person, especially at the

beginning of the treatment, plays a key role in predicting the success of outcome (Abbate-Gage et al., 2013). For the successful treatment of eating disorder, it is important to get a clearer understanding of determinants which have an impact on the motivation to change and treatment compliance and, therefore, have a positive influence on treatment outcome (Kaplan & Garfinkel, 1999).

In sum, the treatment of eating disorders is complex and there is a lack of knowledge in the literature about personalized therapies. It is still unclear which treatment duration and intensity is necessary to achieve positive treatment outcomes. To get more insight in this field, it is important to consider personality factors in further research, because certain personality traits impede individuals to recover from their severe diseases (Abbate-Daga et al., 2013; Thompson-Brenner & Western, 2005) Therefore, the investigation of these traits is of great importance in predicting length and outcome of a treatment (Claes, Vandereycken, Luyten, Soenens, Pieters, & Vertommen, 2006). The current study makes a contribution to gaining more insight into this topic in order to improve the therapy outcome of eating disorders in the long term.

Personality traits of a person describe how a person thinks, feels and behaves, whereby people differ from each other. No one has the same thoughts, feelings or behavioural patterns as another individual (Robert & Mroczek, 2008). Previous research has indicated that individuals with pathological personality traits, in addition to their eating pathology, have greater mood instabilities and difficult courses of treatment, and accordingly need more time to recover (Claes et al., 2006). Several studies have shown that individuals with eating disorders often suffer from anxiety disorders, phobias and affective disorders as primary disease (Jacobi, Hayward, de Zwaan, Kraemer, and Agras, 2004; Steinhausen, 2002), which, in turn, leads to poorer prognoses regarding the therapy outcome (Steinhausen, 2002). According to Jacobi et al., (2004) a similar relationship could be established between Anorexia nervosa and Obsessive-Compulsive Disorder. Another study indicated

perfectionism (Fairburn, Cooper, & Shafran, 2003) and in general obsessive-compulsive traits as potential predisposing determinants for eating disorders (Lilenfeld, Wonderlich, Riso, Crosby, & Mitchell, 2006; Strinivasagam, Kaye, Plotnicov, Greeno, Weltzin, & Rao, 1995). Regarding the outcome of treatment, Thompson-Brenner and Western (2005) concluded that traits like dysregulation or constriction have a negative impact on the therapy outcome. In addition, people with dysregulations had less chance to recover after treatment in contrast to the group of constricted and high functioning people; the latter have done best among the three groups (Claes et al., 2006). According to a study by Levallius, Roberts, Clinton, and Norring (2016), there is a positive relation between extraversion and recovery. This implicates that people are more likely to recover from an eating disorder if they are assertive, sociable and have positive emotions. These findings are consistent with another study about personality traits in people with eating disorders, in which five different groups of people and their therapy-outcomes were compared. It was found that the group with the avoidant-insecure people had the worst results compared to the other groups. Furthermore, they had longest duration for treatment (Thompson-Brenner, Eddy, Satir, Boisseau, & Western, 2008).

One should keep in mind that for many of these factors it is difficult to determine what appeared first or which influenced which (Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004). Nevertheless, personal characteristics, especially risk factors (personality traits) can lead to worse outcomes for patients with eating disorders (Thompson-Brenner & Western, 2005). Moreover, it is important to look at the individual´s personality in order to predict the duration, extend and success of the eating disorder treatment (Thompson-Brenner & Western, 2005). Personality traits are not something which are engraved in stone (Robert & Mroczek, 2008). This implicates that there is a way to provide support through appropriate interventions and diversified treatment programmes to achieve better therapy outcome for eating disorder patients (Levallius et al., 2016). So far, different traits have been identified as being meaningful or influential in connection with eating disorders, but there is a lack of a

systematic overview of these relationships. The aim of this study is to expand the knowledge in this area by taking a broader look at the relationship between personality and the treatment of eating disorders. To achieve this, the Personality inventory for DSM-5 (PID-5), a comprehensive self-assessment measure of personality is used. This questionnaire distinguishes five broader domains of personality traits. These domains are (1) negative affect, (2) detachment, (3) antagonism, (4) disinhibition and (5) psychoticism (Al-Dajani, Granlnick, & Bagby, 2016). These main factors cover those individual facets of the personality structure (which have already been mentioned to be problematic) and seem to have an influence on the treatment of eating disorder. Examples are: *impulsivity*, *perfectionism*, *anxiousness*, *depressively* and *unusual beliefs and experiences* (Strickland, Drislane, Lucy, Krueger, & Patrick, 2013). The current study investigates whether one of the domains can predict which therapy is suitable for which person.

In summary, there are different determinants which may have an impact on the treatment and the outcome of patients with eating disorders. In the current study these determinants will be divided in client factors and personality factors. Client factors include (1) *intrinsic motivation* (to change), (2) *mental resilience*, (3) *problem-solving ability*, (4) *hope for recovery, (5) self-reflexion, (6) illness insight and (7) involvement in therapy.* These factors are chosen because they form part of the questionnaire used to collect the date from this study. The developer of the questionnaire, assumes, based on literature review that these determinants have an impact on the outcome of the therapy of people with eating disorders (de Vos, personal communication, march, 2019). Furthermore, these factors gives a broad impression of possible influencing aspects. Personality factors are the five broad domains described above (1) *negative affect*, (2) *detachment*, (3) *antagonism*, (4) *disinhibition* and (5) *psychoticism*. The client factors are scored by therapists and the personality factors are assessed by the clients themselves. Because it is still not clear which treatment is useful for which patient with an eating disorder (Hay, 2013), these factors and their predictive

capabilities, regarding the treatment intensity (inpatient and outpatient) and outcome, will be examined in more detail. Only if the treatment can be optimally adapted to the needs of each patient, optimal results, respectively more positive outcome can be achieved. The current study aims to answer the following research question: *To what extent are client factors and personality factors predictive for the treatment intensity and outcome of patients with eating disorders?*

This general question is subdivided into the following research questions:

1. To what extent are client factors predictive for the intensity of treatment of people with eating disorders?

2. To what extent are client factors predictive for the treatment outcome of people with eating disorders?

3. To what extent are the broad domains of the PID-5 predictive for the treatment intensity of people with eating disorders?

4. To what extent are the broad domains of the PID-5 predictive for the treatment outcome of people with eating disorders?

## Method

### *Procedure*

The investigation took place at *Stichting Human Concern*. Human Concern (HC) is a Dutch-based centre specialized in the treatment of all kinds of eating disorders (https://www.humanconcern.nl/). The therapists working at Human Concern have expert knowledge with personal experiences with eating disorders in their own past or had comparable difficult experiences in their lives. The therapists have successfully recovered from this disease. Working with these experts makes the therapy at Human Concern special. Human Concern offers, besides many other treatment options, both outpatient and inpatient treatment. The client´s free will and intrinsic motivation are at the key focus of the treatment. According to Human Concern, there are different areas which should be build up equally, as for instance the reinforcement of one´s own personality, underlying functions of the eating disorder will be examined and autonomy and self-esteem are supported during treatment (https://www.humanconcern.nl/).

The design of this research is a longitudinal observational study- design without the use of a control group. The gathered data for this study were collected over a period of two years (March 2015 until January 2017), as part of the routine outcome monitoring (ROM). In order to be able to assess the course of treatment, the Routine Outcome Monitoring (ROM) is carried out at the intake, at the beginning of the treatment (2 measurements) then every three months during treatment. For this study, only the data of the first year of treatment were used. All participants in the study were patients at Human Concern and had to meet certain criteria, to be able to participate. The conditions for participation was a minimum age of 16 years, there must be a DSM-5 (American Psychiatric Association, 2013) diagnosis of an eating disorder during intake and, of course, an informed consent must be approved and signed. The study was also approved by the Ethics committee of Behavioural, Management and social sciences (BMS) of the University of Twente. The participants were diagnosed by a

psychiatrist, working with a team of specialists (dietician, psychiatrist or clinical psychologist and a special trained expert with an eating disorder diagnosis in the personal history).

*Participants*

All in all, 471 participants were diagnosed with an eating disorder during the data collection. In this study, two questionnaires form the independent variables, namely the *Personality inventory for DSM-5* (PID-5) and the Impact *Herstel Inventarisatie* (IHI). These two had to be filled in completely to be able to answer the respective research question. For this purpose, two groups were taken for the study. The group, who filled in the PID-5, consists of 207 participants and the group who completely filled in the IHI was made up of 378 participants. Only 6 of the participants were male, which is a very small sample size, in the further course of data analysis they are excluded. Thus, in total 378 for the IHI group and 207 for the PID-5 group, female participants were included in the study. A relatively large amount of missing values is present in the data. Data from participants were identified as missing data, if the PID-5 or the IHI questionnaires have not been completed. This can have different reasons, for example drop outs, rehospitalization or patients who recovered during data collection.

In the following, the descriptive statistics of the two groups will be examined, the numbers in parenthesis refer to the PID-5 group. In the IHI-group, 33% (30.4 %) were diagnosed with anorexia nervosa, 18.8% (25.1 %) with bulimia nervosa, 9.8% (13.5 %) with binge eating disorder and 38.1% (31.0 %) with other specified feeding or eating disorder. Furthermore, the Global Assessment of Functioning (GAF-score) of the participants was recorded. 6.3% (4.6%) had a GAF-score of 35, 36.0% (44.3%) a score of 45, 42% (40.2%) a score of 55, 12.1% (8.2%) a score of 65 and 3.0% (2.0%) had a GAF-score of 75, the score of the remaining 14 (13) participants is unknown. Also, the age of the participants was recorded. 37.0% of the participants in the IHI group were between 16 and 21 years old (34.3%), 37.8%

(38.2%) and thus the largest group were between 22 and 30 years old, 15.6% (17.4%) was between 31 and 40 and 9.5% (10.1%) were 41 or older.

*Measurements*

As mentioned before, participants filled in several questionnaires during the intake procedure and in the further course of the treatment The ROM includes the following questionnaires: The Outcome Questionnaire 45 (OQ-45), the Eating Disorder questionnaire (EDE-Q) and the Mental Health Continuum – short form (MHC-SF). In addition, the Personality Inventory for DSM-5 (PID-5) and the Impact Herstel Inventory (IHI) were used in this study.

*The Outcome Questionnaire 45 (OQ-45)*

The OQ-45 was developed by Michael Lambert and Gary Burlingame and is used today as a measurement for psychopathology very frequently (De Jong, Nugter, Lambert, & Burlingame, 2008). Different domains are measured and accordingly, it is not just focussed on measuring the symptoms, but also social and interpersonal relations are considered (De Jong, et al., 2008). Participants can answer the questions on a 5-point Likert scale varying between 0 ("never") to 4 ("always"). The OQ-45 is a 45-item, self-report questionnaire with good psychometric properties. According to a comparable study with a clinical sample, the internal consistency of the total score was .91 (de Jong, et al.,2007).

*The Eating disorder questionnaire (EDE-Q)*

The EDE- questionnaire measures with in total 28 self-report items, eating disorder psychopathology. This questionnaire is a commonly used measurement in assessing the psychopathology of eating disorders (Fairburn & Beglin, 1994) on four different subscales:

'restraint', 'eating concern', 'weight concern' and 'shape concern'. Patients are interviewed over the past 28 days and these questions are about their attitude, behaviour and feelings, in connection with eating disorder pathology. Based on the results of this measurement, it is possible to make a preliminary diagnosis (Luce, Crowther & Pole, 2008). Patients use a 7-point Likert scale to assess frequencies or intensities ranging from 0 ("not one day") to 6 ("every day"). The internal consistency of this questionnaire was .92, in the study by De Vos et al., (2018).

*Mental Health Continuum – Short Form (MHC-SF)*

The MHC-SF (Keyes, Wissing, Potgieter, Temane, Kruger, & Van Rooy, 2008) is used to measure well-being in general. In total there are 14 self-report items which ask questions about the emotional, social and psychological well-being, taken together they form the total positive mental health (Lamers, Westerhof, Bohlmeijer, ten Klooster, & Keyes, 2011). Participants rate frequencies on a 6-point Likert scale, which ranges from 0 ("never") to 6 ("each day"). The internal consistency of this scale is .89 (Lamers, et al., 2011).

*Personality Inventory for DSM-5 (PID-5)*

The PID-5 (Personality Inventory for DSM 5) consists of 220 items and covers in total 25 facets of personality and assesses the presence of pathological personality traits (Krueger, Derriger, Markon, Watson, & skodol, 2012). Certain groups of three facets can be grouped together, from which the five broad domains of the personality arise (1) negative affect, (2) detachment, (3) antagonism, (4) disinhibition and (5) psychoticism (Zimmermann, Altenstein, Krieger, Grosse Holforth, Pretsch, Alexopoulos et al., 2014). An overview of the facets and how they are grouped together, can be found in Table 1. Each item can be judged by the

participant on a 4-point Likert scale, ranging from 0 ("very false or often false"), 1 ("sometimes or somewhat false"), 2 ("sometimes or somewhat true"), 3 ("very true or often true"). Consistently high values on a facet or domain can indicate problematic areas for the person being treated (Zimmermann et al., 2014). According to various studies, the internal consistency of all the domain scales is high with a Cronbach's alfa of >.90 (Krueger et al., 2012; Fossati, Kruiger, Markon, Borroni, & Maffei, 2013).

**Table 1** The broad domains and the associated facets of the PID-5

| Broad domain | Facets which belong to the domain |
|---|---|
| *Negative affect* | Emotional Lability |
| | Perseveration |
| | Anxiousness |
| | Separation Insecurity |
| | Hostility |
| | Submissiveness |
| | Suspiciousness |
| *Detachment* | Restricted Affectivity |
| | Anhedonia |
| | Depressivity |
| | Withdrawal |
| | Intimacy Avoidance |
| *Antagonism* | Manipulativeness |
| | Deceitfulness |
| | Callousness |
| | Grandiosity |
| | Attention Seeking |
| *Disinhibition* | Rigid Perfectionism |
| | Impulsivity |
| | Irresponsibility |
| | Distractibility |
| | Risk Taking |
| *Psychoticism* | Perceptual Dysregulation |
| | Eccentricity |
| | Unusual Thoughts or Beliefs |

*Impact Herstel Inventarisatie (IHI)*

The IHI (Impact Herstel Inventarisatie) is a checklist which is intended to be filled in by the therapist. It is used to make assessments about various facets of the client. The developers of this questionnaire assume that higher total scores indicate more risk of a negative treatment result or increased demand for medical care (de Vos, personal communication, march, 2019). Thus, with this questionnaire obstructing factors can be mapped, which impede the chance of recovery. These factors include 'client factors', 'system factors' and 'therapy factors'. For this research only the 'client factors' are used, which includes questions about the (intrinsic) motivation, self- reflection, hope of recovery, problem solving behaviour, mental resilience and illness insight. As mentioned before, in general one could say that the higher the client scores, the more he has to deal with factors which impede a recovery. Because in the current study, only the 'client factors' are included, it can be assumed, that the higher the score on the subscale 'client factors', the more chance of positive therapy outcome. The therapist scores the assessment of his client after the first three month of therapy, on a 4-point Likert scale which ranges from "insufficient", "moderate", "sufficient" and "high". (de Vos, personal communication, March 2019). Because the IHI is a newly developed questionnaire, there are no studies on the reliability. The Cronbach`s alpha of the client factors (seven items) in this research was .87. Part of the questionnaire can be found in the appendix (A).

**Analysis**

The anonymized data were analysed by using the statistic program SPSS (Statistical Package for the Social Sciences) version 22. First, the appropriate variables were prepared, which were necessary for carrying out the analysis. In total, 16 items of the PID-5 had to be recoded. Subsequently, the facet domains and then the 5 broad domains could be calculated. To calculate the facet domains, the questions within a facet are summed up to get the raw scores.

The mean value of the facets was calculated by dividing the raw values by the number of facet- related questions. The domain scores were calculated by averaging the three facet values that belong to a particular domain. High mean values indicate pronounced dysfunction in a particular facet or domain. Finally, the following 5 variables were created based on the PID-5: 'negative affect', 'detachment', 'antagonism', 'disinhibition' and 'psychoticism'. For the IHI, no recoding was necessary. The 7 items of the sub scale client factor were summed up and divided by the number of questions.

In order to be able to make a statement about the course of treatment over the time (first year of treatment) a one- way repeated measures ANOVA was carried out. This analysis was carried out for the three outcome questionnaires: OQ-45, EDE-Q and the MHC-SF. 'Time' was used as the within-subject factor, which includes the 5 measurement dates (intake, Q1, Q2, Q3 and Q4). Mauchly`s test of Sphericity indicated that the assumption of sphericity had been violated and therefore, a Huynh Feldt correction was used for all the executed analysis. Statistical significance for all the following analysis was set at the .05-level.

To answer the first (sub-) research question 'to what extent are 'client factors' predictive for the intensity of treatment of people with eating disorders?' a one-way ANOVA with post-hoc test was carried out. As dependent variable the 'total direct patient contact in hours' was used. This variable represents an indicator of the treatment intensity. As factor, the variable 'client factors' were used. This type of analysis requires a categorical variable as between-subject variable. However, as it was a continuous measurement level, the variable had to be adjusted accordingly. Based on tertilles, the 'client factors'- group were divided into 3 similar sized groups: 'low' (lowest thru 1.00), 'medium' (1.00 thru 1.43) and 'high' (1.43 thru highest)

In order to answer the second (sub-) research question '*to what extent are 'client factors' predictive for the treatment outcome of people with eating disorders?*' a repeated

measures ANOVA was conducted for each of the outcome variables (OQ-45, EDE-Q and MHC-SF). As within-subject factor the variable 'time' were used, with the 5 measurement dates (intake, Q1, Q2, Q3 and Q4) as number of levels. As between-subject factor, the variable 'client factors' were used. The analysis was conducted for all the three outcome questionnaires (OQ-45, EDE-Q and MHC-SF), accordingly, the analysis was carried out three times.

To be able to make statements about the third (sub-) research question '*to what extent are the broad domains of the PID-5 predictive for the treatment intensity of people with eating disorders?'* Separate one-way ANOVA's were carried out. The variable 'total patient contact in hours' was used as within-subject factor and as between-subject factor, the respective broad domain of the PID-5 were used (negative affect, detachment, antagonism, disinhibition, psychoticism). The variable of the PID-domains also had to be transformed into a categorical variable before analysis, as described above for the 'client factors' of the IHI questionnaire.

To answer the last (sub-) research question '*to what extent are the broad domains of the PID-5 predictive for the treatment outcome of people with eating disorders?*' a repeated measurement ANOVA was executed. As within-subject factor the variable 'time' was used, for the three outcome questionnaires (OQ-45, EDE-Q and MHC-SF). As between-subject factor the respective domain of the PID-5 were used (negative affect, detachment, antagonism, disinhibition and psychoticism). In total 15 analysis were carried out. For all the analysis, Mauchly`s test indicated that the condition of sphericity had not been met and therefore the sphericity assumption was violated, the degrees of freedom were corrected by Huynh Feldt.

## Results

*Descriptive*

An overview about the descriptive statistics of the five PID-5 domains are given in Table 2. Looking at the total mean values of the domains, one sees that the mean of the domain 'negative affect' with a mean of 1.52 is highest in contrast to the others. The domain 'antagonism' has the lowest total mean with a value of 0.48.

**Table 2** Descriptive statistics of the f broad domains of the PID-5

| **Domain** | **Categories** | **Frequencies** | **Total Mean** | **Standard deviation** |
|---|---|---|---|---|
| Negative affect | Low | 68 | | |
| | Medium | 69 | | |
| | High | 70 | | |
| | Total | 207 | 1.52 | 0.57 |
| Detachment | Low | 67 | | |
| | Medium | 70 | | |
| | High | 70 | | |
| | Total | 207 | 1.15 | 0.57 |
| Antagonism | Low | 70 | | |
| | Medium | 72 | | |
| | High | 65 | | |
| | Total | 207 | 0.48 | 0.37 |
| Disinhibition | Low | 68 | | |
| | Medium | 69 | | |
| | High | 70 | | |
| | Total | 207 | 0.94 | 0.54 |
| Psychoticism | Low | 68 | | |
| | Medium | 69 | | |
| | High | 70 | | |
| | Total | 207 | 0.65 | 0.48 |

Analysis revealed that the course of **general psychopathology** (OQ-45) were significant different over time, $F(2.88, 872.48)= 33.78$, $p<0.001$, partial $\eta^2= .10$. It could also be determined that the mean values of the different measurement times decreased over time. At the intake the mean score of the OQ-45 was 50.41 and at the fourth measurement the mean value was 43.50. Accordingly, the general psychopathology of people with eating disorders in

this study, decreases in the course of treatment. The mean scores and standard deviations of the OQ-45, at the five measurements are shown in table 3.

**Table 3** Means and standard deviations of the **OQ-45** at the five measurements

| Measurement | Mean | Standard deviation |
|---|---|---|
| Intake | 50.41 | 13.44 |
| Q1 | 48.89 | 14.13 |
| Q2 | 47.01 | 15.11 |
| Q3 | 45.60 | 16.19 |
| Q4 | 43.50 | 17.03 |

A similar picture is presented at the course of **eating disorder pathology** (EDE-Q). There were significant differences over time, $F(2.55, 754.22)=83.27$, , $p<0.001$, partial $\eta^2= .22$. The mean values of the EDE-Q decrease statistically significant over time. At the intake the mean value was 4.02 and at the fourth measurement 3.00. Accordingly, the eating disorder pathology of people with eating disorders in this study, decreases in the course of treatment. The mean scores and standard deviations of the EDE-Q, at the five measurements are shown in table 4.

**Table 4** Means and standard deviations of the **EDE-Q** at the five measurements

| Measurement | Mean | Standard deviation |
|---|---|---|
| Intake | 4.02 | 1.16 |
| Q1 | 3.67 | 1.25 |
| Q2 | 3.37 | 1.37 |
| Q3 | 3.23 | 1.43 |
| Q4 | 3.00 | 1.49 |

Also the course of **general well-being** (MHC-SF) indicated that there were significant differences over time, $F(3.08,709,28)=16.42$, , $p<0.001$, partial $\eta^2= .07$. In this case the mean scores of the four measurements increases over time. Thus, the mean value at the intake was 2.31 and at the forth measurement time it was 2.63. Accordingly, general well-being of people

with eating disorders in this study, increases over the course of the treatment. The mean scores and standard deviations of the MHC-SF at the five measurements are shown in table 5.

**Table 5** Means and standard deviation of the **MHC-SF** at the five measurements

| Measurement | Mean | Standard deviation |
|---|---|---|
| Intake | 2.31 | .95 |
| Q1 | 2.31 | .97 |
| Q2 | 2.41 | 1.03 |
| Q3 | 2.49 | 1.03 |
| Q4 | 2.63 | 1.11 |

*Client factors and intensity of treatment*

Regarding the first research question: *to what extent are 'client factors' predictive for the intensity of treatment of people with eating disorders?* a one-way ANOVA was conducted to assess the effect of 'client factors' on the intensity of treatment (measured by total patient contact in hours). A significant effect of the 'client factors' on the intensity of treatment (total patient contact in hours) of the three conditions (low, medium, high) was found. [F(2,375)= 7.19, p=.001]. Homogeneity of variance was violated (Leven's test, p<.05). Post-hoc comparisons using the Games-Howell test analysis revealed a significant difference ($p < .001$) between total direct patient contact in hours of two groups. Mean level of patient contact in hours increases from low to medium scores at 'client factors' (-6.62, 95%-CI[-13.05, -0.18]) and from low to high 'client factors' scores (-11.50, 95%-CI[-19.49, -3.51]). Figure 1 shows that the higher people scored on 'client factors', the more hours they had for therapy.

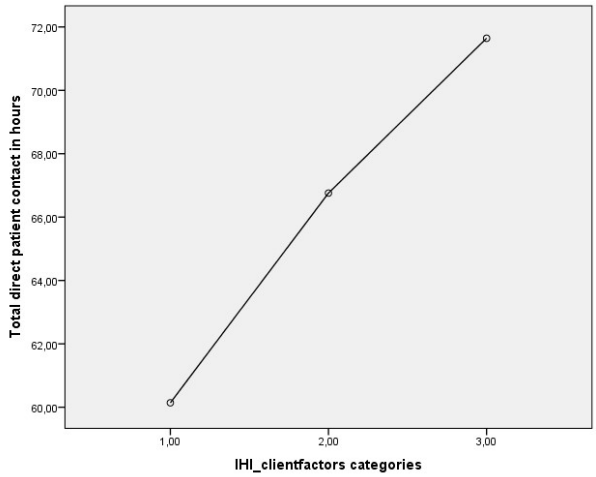


Figure 1*: Total direct patient contact (treatment intensity) for the three groups (low, medium, high) of the 'client factors'*

*Client factors and treatment outcome*

Regarding the second research question: *to what extent are 'client factors' predictive for the treatment outcome of people with eating disorders?* analysis indicated that there was a statistically significant interaction between general psychopathology over time and the 'client factors' (IHI), Huynh-Feldt F(6.00, 773.08)=2.90, p=.009, partial $\eta^2$= .02. Figure 2 shows that the participants who scored low on 'client factors' had the largest decrease in general psychopathology over time. There was also a significant main effect for group, thus, there was a significant overall difference between the three groups (low, medium, high) of the 'client factors', F(2,133)=16.57, , p<0.001, partial $\eta^2$=.20. This means that participants which scored high on 'client factors', also reported more complaints regarding general psychopathology.

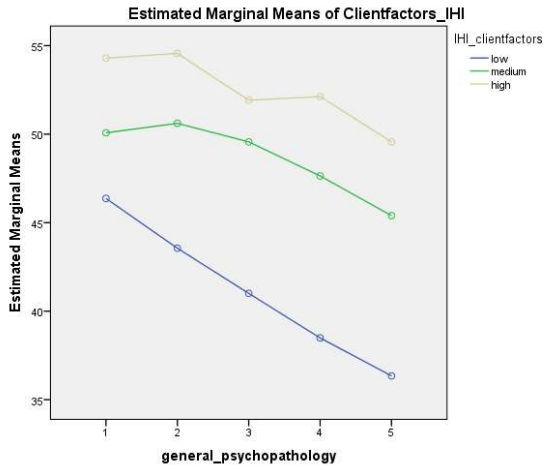


Figure 2*: Course of general psychopathology (OQ-45) of the three groups (low, medium, high) of the 'client factors'*

There was also a statistically significant interaction between eating disorder psychopathology and the 'client factors', Huynh-Feldt F(5.25,663.86)=4.16, p=.001, partial $\eta^2$=.03. Figure 3. shows the course of eating disorder psychopathology for the three groups of 'client factors'. The group which scored low on 'client factors' had the largest decrease in eating disorder psychopathology over time. There was also a significant main effect for group. Accordingly, the three 'client factors' groups differed significantly, Huynh-Feldt F(2,253)=16.53, , p<0.001, Partial $\eta^2$= .12, which means that the participants with higher scores on the 'client factors' reported more eating disorder psychopathology.

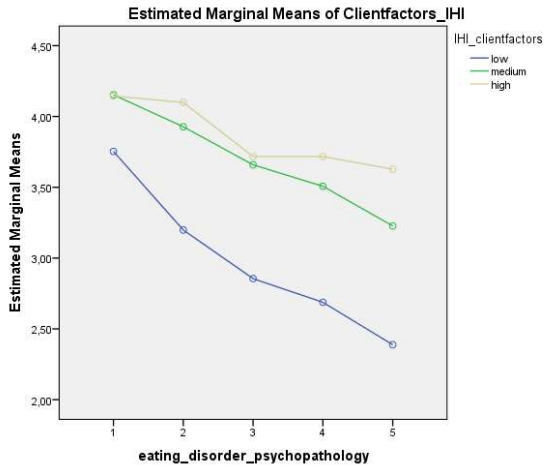


Figure 3: *Course of eating disorder psychopathology (EDE-Q) for the three groups (low, medium, high) of the 'client factors'*

There was also a statistically significant interaction-effect between mental health and 'client factors', Huynh-Feldt $F(6.35,622.45)=2.96$, $p=.006$, partial $\eta^2=.03$. Figure 4 shows the course of mental health of the three groups (low, medium, high). The group which scored low on 'client factors' had the largest increase in mental health over time. There was also a significant main effect of the 'client factors', thus the three groups (low, medium, high) differed significantly, $F(2, 196)=19.64$, , $p<0.001$, partial $\eta^2=.17$. Participants which scored high on 'client factors' reported worse mental health.

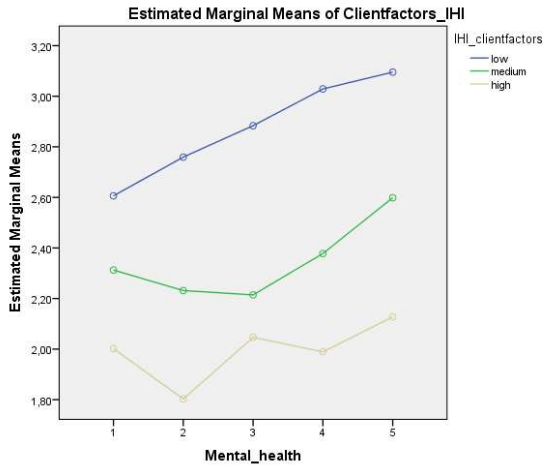


Figure 4: *Course of mental health (MHC-SF) of the three groups (low, medium, high) of the 'client factors'*

*PID-5 domains and treatment intensity*

Regarding the third research question: *'to what extent is one of the broad domains of the PID-5 predictive for the treatment intensity of people with eating disorders?*' analysis indicated that there was significant main effect between the domain '**detachment'** of the PID-5 and total direct patient contact in hours at the p<.05 level for the three conditions (low, medium, high). [F(2,204)= 4.80, p=.009]. Post-hoc comparisons using the Tukey HSD test indicated that the mean scores for the low-'detachment' condition [(M=59.80, SD=15.50)] was significantly different from the high- 'detachment' condition [(M=69.91, SD=20.14)]. Figure 5 shows that the higher people scores on 'detachment' the more hours contact they had with their therapist. In other words, people with high scores on 'detachment' needed a more intensive treatment, compared to the other PID-5 domains.

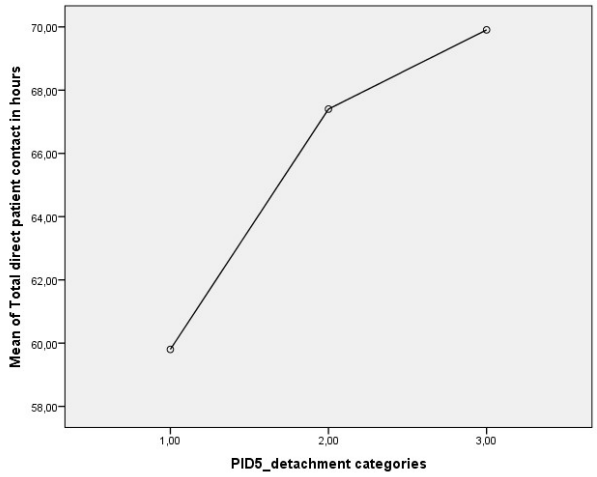


Figure 5*: interaction of 'detachment' and total direct patient contact in hours*

There was no significant effect of the other domains of the PID5 on the total direct patient contact in hour at the p <.05 level of the three conditions (low, medium, high): **negative affect** [F(2,204)= 2.47, p=.088], **antagonism** [F(2,204)= 2.77, p=.065], **disinhibition** [F(2,204)= 1.34, p=.265] and **psychoticism** [F(2,204)= 4.78, p=.621].

*PID-5 domains and treatment outcome*

Regarding the fourth research question *'to what extent is one of the broad domains of the PID-5 predictive for the treatment outcome of people with eating disorders*?' a repeated measures ANOVA was conducted. The results of the interaction effects and between subject effects of the PID-5 domains and the outcome questionnaires (OQ-45, EDE-Q, MHC-SF) are shown in table 6. Analysis showed that there was statistically significant interaction effect between general psychopathology and the domain '**negative affect**'. Thus, there was a significant difference in the course of treatment of general psychopathology between the three groups (low, medium, high) of the domain 'negative affect' of the PID-5. The course of general psychopathology of the domain 'negative affect' is shown in figure 6. Looking at this graph, it becomes clear that the group which scores high on 'negative affect' had the most

decrease in general psychopathology over time. There was also statistically significant between-subject effect, which means that the three groups (low, medium, high) of the domain 'negative affect' differed significantly. Participants with higher scores on 'negative affect', reported more general psychopathology.

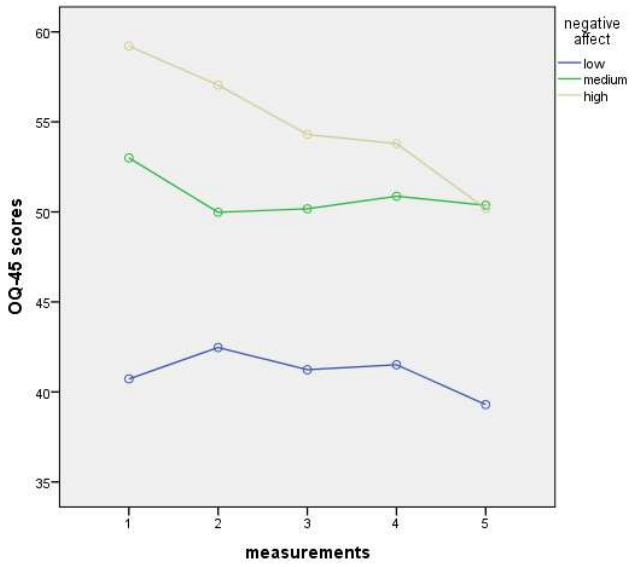


Figure 6*: course of general psychopathology (OQ-45) of the three groups of the domain 'negative affect' of the PID-5*

Regarding the other domains of the PID-5 and general psychopathology, no statistically significant interaction-effects were found: There was no statistically significant interaction between general psychopathology and the domain '**detachment'** and no statistically significant interaction between general psychopathology and the domain '**antagonism'**. There was no statistically significant interaction between general psychopathology and the domain '**disinhibition'**. And there was also no statistically significant interaction between general psychopathology and the domain '**psychoticism'**.

Various statistically significant between-subject effects were found between the domains of the PID-5 and general psychopathology. There were significant differences

between the three groups (low, medium, high) of the domain 'detachment', 'disinhibition' and 'psychoticism'. Participants with high scores on the respective domain, reported more general psychopathology.

**Table 6** Results of the repeated measures ANOVA for the PID-5 domains and the outcome questionnaires (OQ-45, EDE-Q and MHC-SF)

| Outcome | PID5 domain | Interaction effect | | | Between subject effect | | |
|---|---|---|---|---|---|---|---|
| | | df | F | p | df | F | p |
| OQ-45 | Negative affect | 6.82 | 2.40 | **.021** | 2 | 16.57 | **.000** |
| | Detachment | 6.84 | 1.92 | .066 | 2 | 24.68 | **.000** |
| | Antagonism | 6.71 | .68 | .684 | 2 | 1.50 | .227 |
| | Disinhibition | 6.82 | 2.03 | .051 | 2 | 5.10 | **.007** |
| | Psychoticism | 6.80 | 1.76 | .096 | 2 | 8.01 | **.001** |
| EDE-Q | Negative affect | 6.26 | 1.34 | .237 | 2 | 4.46 | **.013** |
| | Detachment | 6.20 | 6.8 | .667 | 2 | 6.39 | **.002** |
| | Antagonism | 6.20 | 1.06 | .387 | 2 | 4.79 | **.010** |
| | Disinhibition | 6.33 | 1,93 | .071 | 2 | 4.78 | **.010** |
| | Psychoticism | 6.25 | .92 | .481 | 2 | 2.23 | .112 |
| MHC-SF | Negative affect | 6.46 | 1.73 | .108 | 2 | 5.89 | **.004** |
| | Detachment | 6.45 | 1.01 | .421 | 2 | 16.90 | **.000** |
| | Antagonism | 6.45 | 1.14 | .338 | 2 | 7.87 | .118 |
| | Disinhibition | 6.45 | 1.60 | .141 | 2 | 1.57 | .212 |
| | Psychoticism | 6.51 | 2.52 | **.018** | 2 | 2.98 | .054 |

*Note: significant results are highlighted in bold.*

Regarding the eating disorder psychopathology and the domains of the PID-5, no statistically significant interaction effects were found. There are no significant differences in the course of eating disorder psychopathology between the groups of the domains of the PID-5. However, analysis showed that there were statistically significant between subject-effects of the domain 'negative affect', 'detachment' and 'disinhibition'. This means that the respective groups (low, medium, high) of these domains differed significantly over time. High scores on the domain 'negative affect', 'detachment' and 'disinhibition' are associated with

more eating disorder pathology. In contrast to the domain 'antagonism'. In this case, participants which high scores on this domain, reported less eating disorder psychopathology.

Analysis of interaction effects between mental health and the domains of the PID-5 showed that there was a statistically significant interaction effect between mental health and the domain 'psychoticism', Huynh-Feldt $F(6.51,407.10)=2.52$, $p=.02$, partial $\eta^2=.04$. There was a significant difference in the course of treatment of mental health between the three groups (low, medium, high) of the domain 'psychoticism'. The course of mental health is shown in figure 3. This figure shows that the group which scored medium at 'psychoticism' had the most increase in mental health over time. The other two groups had also an increase in mental health during the first year of treatment. Looking at the figure (3), it is noticeable that there is a marked drop in perceived mental health in the low-psychoticism-group, at the beginning of treatment.

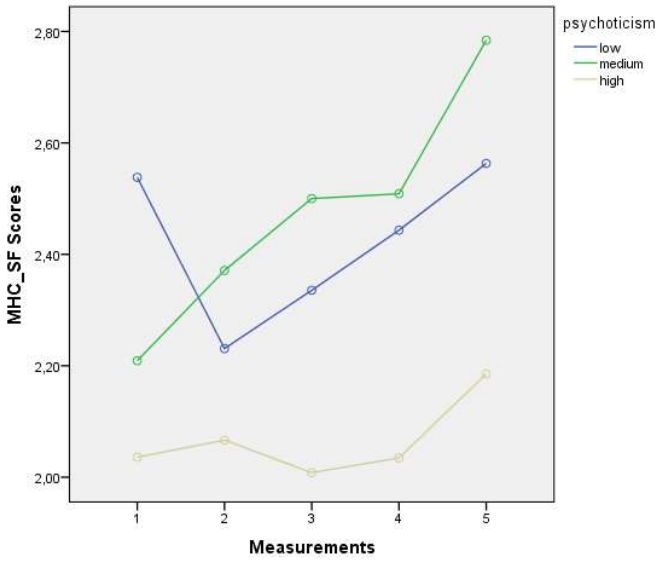


Figure 7: *Course of mental health (MHC-SF) of the three groups of the domain 'psychoticism' of the PID-5*

No further interaction-effects could be detected between mental health and the domains of the PID-5: There was no statistically significant interaction between mental health and the domain 'negative affect', Huynh- Feldt F(6.46,403.70)=1.73, p=.12, partial $\eta^2$=.03. There was no statistically significant interaction between mental health and the domain 'detachment', Huynh- Feldt F(6.45,402.97)=1.00, p=.42, partial $\eta^2$=.07. There was no statistically significant interaction between mental health and the domain 'antagonism', Huynh- Feldt F(6.45,403.24)=1.14, p=.34, partial $\eta^2$=.03. And there was also no statistically significant interaction between mental health and the domain 'disinhibition', Huynh- Feldt F(6.45,403.33)=1.60, p=.14, partial $\eta^2$=.02.

There were statistically significant between-subject effects. There were significant differences in mental health between the three groups (low, medium, high) of the domain 'negative affect' and 'detachment'. In both cases, participants with high scores on the respective domain, reported lower levels of mental health.

**Discussion and conclusion**

The aim of this study was to investigate to what extent client factors and certain personality factors are predictive for treatment intensity and outcome of people with eating disorders.

Analysis of the data showed that there were significant improvements in psychopathology and mental health over time in the total group. General- and eating disorder psychopathology decreased during the first year of treatment and mental health increased during the first year of treatment. In sum the personality factors seem to be less influential in prediction of treatment outcome and intensity than expected. In comparison to the client factors, which seem to be of greater influence: The first two research questions were about the predictive ability of '*client factors'* for the intensity of treatment and the outcome of people with eating disorders. Results show that people with high scores on client factors had more

total contact in hours with their therapist. For this study we assumed that more hours of contact with the therapist reflect the intensity of treatment. These finding are the opposite of what would one expect at first glance. The client factors include motivation (to change), problem solving behaviour, self-reflection, involved in therapy, illness insight and mental resilience. These findings are not consistent with other studies about the attitude of eating disorder patients and the relation of the attitude and outcome. According to Kaplan and Garfinkel (1999), motivation to change and treatment compliance have a positive influence on therapy. A possible explanation for these findings could be that people who are more motivated, have more knowledge of their illness, are more self-reflective, so those who score high on the client factors, make more use of the treatment, compared to people with lover levels of motivation, hope for recovery and less insight in their illness. Another possible explanation could be that therapists treat patients differently, due to various factors that could play a role here.

Furthermore, analysis showed that there was significant interaction between client factors and general psychopathology. People with high scores on client factors reported more general psychopathology. However, the largest decrease of psychopathology over time was seen by those participants with low scores on client factors. This is not what would be expected intuitively and also the study of Abbate-Gage et al., (2013) stated that less motivated people had poorer therapy outcome, so exactly the opposite of the results of the current study. A possible explanation for the fact that people with little motivation (low scores on client factors), had the most decrease in psychopathology, could be that they reported less psychopathology and accordingly may had a lower level of suffering and are also closer to a healthy life. People with high scores on client factors reported more psychopathology and accordingly have longer and perhaps harder paths of recovery.

The third and fourth research question covers the personality domains of the PID-5 and their predictive ability of treatment intensity and outcome. Regarding the treatment intensity, results show significant interaction between **detachment** and contact in hours with the therapist and accordingly, people with higher scores on detachment had more intense treatment. The domain detachment contains the facets: intimacy avoidance, anhedonia, depressivety, withdrawal and restricted affectivity. These results are consistent with findings of Thompson-Brenner, et al. (2008). In their study different groups were compared and they stated that avoidant- insecure people had the highest duration for treatment.

Regarding the personality domains and different outcome, two significant interaction effects could be found: There was an interaction between **negative affect** and general psychopathology, which means that there were significant differences in the course of treatment of the three groups (high, medium, low). Furthermore, people who scored high on negative affect reported more general- and eating disorder psychopathology and reported lower levels of mental health. These findings are in line with those of Westen, Thompson-Brenner, and Peart (2006). They stated that in people with eating disorders, the presence of negative affect often plays a role. Furthermore, high scores on negative affect in this study are also related to the most decrease in general psychopathology during therapy. The prognosis, in contrast to what Steinhausen (2006) claims therefore, is better for those with high scores on negative affect. At least, if we look at the course over time. Because, looking at the end state after one year, it is noticeable that those who score high on negative affect still report more psychopathology than those who scored low on negative affect (see figure 6). A possible explanation for this fact is that they may have more room for improvement. Negative affect includes the following seven personality facets: emotional lability, perseveration, anxiousness, separation insecurity, hostility, submissiveness and suspiciousness. According to Jacobi, et al., (2004) people with eating disorders often suffer from anxiety- and affective disorders. The findings of the current study provide support for a relationship between eating

disorder psychopathology and negative affect. But it also provides hope, because those who scored high on negative affect, had the most decrease in psychopathology over time. Even though they still indicate more psychopathology than the 'low-negative affect group'.

The other significant interaction was found between the domain **psychoticism** and mental health. Results show that high scores on psychoticism are related to more general psychopathology and less mental health. The group which scored medium on this domain, showed the largest increase in mental health over time. The domain psychoticism includes the following personality facets: perceptual dysregulation, eccentricity and unusual thoughts or beliefs. Thompson-Brenner and Western (2005) stated that personality traits like dysregulation are related to poorer outcome. In this study mental health is one of three outcome measurements, which in turn, means that people who have high scores on psychoticism have lower mental health and therefore have poorer outcome. The group with low scores on psychoticism had a marked drop in perceived mental health at the beginning of their treatment (see figure 7). Even though the reason for this rapid decline is unclear, it is a striking feature.

Regarding the other personality domains, results show that high scores on detachment and disinhibition are related to more general- and eating disorder psychopathology. Detachment is also related to less mental health. The domain disinhibition includes the facets: perfectionism, impulsivity, irresponsibility, distractibility and risk taking. Fairburn et al., (2003) stated that perfectionism is an important predisposing determinant for eating disorders. This is in line with the current study, which shows that high scores on disinhibition, which includes perfectionism, are related to more eating disorder psychopathology.

**Strengths and weaknesses**

The current research has, like all studies both, strong and weak characteristics. So, the collected data for this study also have its advantages and disadvantages. Because the data

collection took place in an official eating disorder facility, it was possible to create optimal conditions for the gathering of data. It is therefore real-world data. This resulted in five measurement points over a period of one year. This made it possible to make statements about the course of treatment. Furthermore, the outcome could be detected not only by evaluating the course of psychopathology but also by the presence or absence of mental health, which gives an integrated overview. On the other hand, the fact that the data collection took place exclusively at 'Stichting Human Concern' is also a point which may have negative effect on the generalizability of the result. Due to the special features of its therapists, 'Stichting Human Concern' also has a special offer regarding treatment. The treatment is unique, as the therapists themselves have suffered from an eating disorder in their past or have gone through a comparable difficult time in their lives. Accordingly, it is difficult to say whether other forms of therapy and at other treatment centres would lead to similar results. Further research could focus on a broader data collection. Furthermore, the collected data (Routine Outcome Monitoring) are observational data and therefore no causal inferences can be made. Future investigations could add qualitative data to be able to make statements about causality.

Another limitation of this study is the fact that the IHI- questionnaire which measures the client factors, consists of items with different weights. There are factors that may have more influence on the intensity and outcome of treatment than others. Intrinsic motivation, for example may have more impact on positive outcome than another item of the scale. This is not corrected by the scoring or interpretation of the questionnaire (de Vos, personal communication, March 2019). This is in line with previous studies which indicated, that even if people could have little motivation to change their behaviour, the hope for recover may still be present (Nordbø et al., 2008). Considering the literature, motivation seems to be an important factor in the treatment of people with eating disorders (McHugh, 2007). Perhaps this factor should be considered individually and independently of the other factors. But, of cause the questionnaire is also having a great added value, because it is filled in by the

therapist. Since all other questionnaires are self-rated questionnaires, the IHI gives a broader perspective of the patient's characteristics.

Regarding the personality factors, negative affect and detachment seem to play an interesting role. It would be worth looking at these factors in more detail. Especially, the further course of, for example negative affect on perceived psychopathology would be interesting to look at.

Also, the single consideration of specific eating disorders and the respective personality structure would be revealing. Other studies have proven that binge eating disorder for example is associated with impulsivity and anorexia nervosa with more rigid personality traits (Claes, Vendereycken, Luyten, Soenens, Pieters & Vertommen, 2006). In this study no difference was made between the different eating disorders. Further research may look at the level of specific eating disorders to be able to make more specific statements.

## Implications for practice

The current research suggests that the treatment of patients with eating disorders in the field of general- and eating disorder psychopathology, and in the field of mental health, is on the right track. The mean values of general- and eating disorder psychopathology decreased and mental health increased statistically significant during the first year of treatment in the total sample. In general, the treatment at 'Stichting Human Concern' of people with eating disorders seems to be well adapted to the needs of the patients. Moreover, results indicated that client factors seem to include important determinants, regarding treatment intensity. The higher people scored on client factors, the more hours they spend with their therapist. Moreover, people with high scores on detachment, seems to need more intensive treatment.

This is important for practice because it emphasizes the importance of a good relationship between client and therapist.

Furthermore, results showed that people with high scores on client factors, reported more general- and eating psychopathology and less mental health. High scores on client factors are related to the largest decrease in general psychopathology, giving the impression that treatment is well adapted to the needs of patients with high scores on client factors. Results show that they indeed need particular attention because after one year (end state) they still reported more psychopathology over time than the other two groups. Moreover, people with high scores on detachment and psychoticism also needs more attention and further investigation needs to be done on these domains

In any case, this study offers added value in the treatment of people with eating disorders. As mentioned at the beginning, the topic of treating eating disorders remains complex and requires further research in this area.

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**Appendix**

A.

IHI Questionnaire

Impact Herstel Inventarisatie (IHI) vragenlijst

*In hoeverre schat je in dat de volgende zaken aanwezig waren in de afgelopen drie maanden bij de cliënt?*

*Cliëntfactoren*

1. De (interne) **motivatie** (bereidheid tot verandering) van de cliënt is?

☐ Onvoldoende ☐ Matig ☐ Voldoende ☐ Hoog

2. Cliënt is **betrokken** in de therapie: werkt zelf aan herstel/volgt behandeladviezen op/doet huiswerk.

☐ Onvoldoende ☐ Matig ☐ Voldoende ☐ Hoog

3. Cliënt kan op zichzelf **reflecteren** (kijkt/onderzoekt bij zichzelf, kijkt naar het eigen aandeel in problemen/situaties en legt/zoekt de oorzaak van eigen problemen niet altijd buiten zichzelf).

☐ Onvoldoende ☐ Matig ☐ Voldoende ☐ Hoog

4. Cliënt ervaart **hoop** op herstel.

☐ Onvoldoende ☐ Matig ☐ Voldoende ☐ Hoog

5. Cliënt heeft **probleemoplossend vermogen** (een effectieve copingstijl).

☐ Onvoldoende ☐ Matig ☐ Voldoende ☐ Hoog

6. Cliënt heeft **mentale veerkracht** (het op de lange termijn herstellend vermogen om met probleemsituaties en stress om te kunnen gaan).

☐ Onvoldoende ☐ Matig ☐ Voldoende ☐ Hoog

7. Cliënt heeft **ziekte-inzicht** (cliënt is zich bewust van en (h)erkent, (eet)stoornis, eigen angsten, depressie en de gevolgen daarvan).

☐ Onvoldoende ☐ Matig ☐ Voldoende ☐ Hoog

8. Cliënt heeft de **neiging om sociaal wenselijk te antwoorden** op de vragenlijsten in QM.

☐ Niet ☐ Mogelijk ☐ Waarschijnlijk ☐ Zeker

9. De afgelopen drie maanden was er sprake één of meerdere **indicaties** die de eetstoornis behandeling in de weg staan (specifieke thema's zoals verslaving, extreme angst, dominantie of agressief gedrag).

☐ Geen ja, te weten; ☐ ☐ ☐

10. De afgelopen drie maanden was er sprake van farmacotherapie en/of medische/somatische complicaties.

Indien ja, vul in van welke complicaties de afgelopen maanden sprake was.

☐ Geen ja, te weten; ☐ ☐ ☐

*Systeem en omgevingsfactoren*

11. Heeft het systeem een stimulerende werking op het herstel van de eetstoornis?

☐ Onvoldoende/ontwrichtend ☐ Matig ☐ Voldoende ☐ Hoog

12. De cliënt heeft een **zinvolle dagbesteding.**

☐ Niet aanwezig ☐ Beperkt aanwezig ☐ In voldoende mate aanwezig

*Therapie en therapeut factoren*

13. De kwaliteit van therapeutische relatie was de afgelopen drie maanden: (denk daarbij aan (tegen)overdracht, projectie, identificatie, externalisering).

☐ Onvoldoende ☐ Matig ☐ Voldoende ☐ Hoog

14. De ingezette **technieken/methodieken/behandelmodules** van de afgelopen drie maanden passen bij de huidige problematiek.

☐ Onvoldoende ☐ Matig ☐ Voldoende ☐ Hoog

Opmerkingen:

Klik hier als u tekst wilt invoeren.