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The Impact of Childhood Maltreatment on the Alliance in the Treatment for Persistent Depression: Analyses on the Differential Effects of the Cognitive Behavioral Analysis System of Psychotherapy and Supportive Psychotherapy.

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ABBREVIATIONS

BSP……..……Brief Supportive Psychotherapy

CAU……Care as Usual

CBASP……..Cognitive Behavioral Analysis System of Psychotherapy

CBT……Cognitive Behavioural Therapy

CFA……..……Confirmatory Factor Analysis

CFI……Comparative Fit Index

CM……..Childhood Maltreatment

CTQ……...Childhood Trauma Questionnaire

DBT……Dialectical Behaviour Therapy

df……..Degrees of Freedom

EFA……..……Exploratory Factor Analysis

DSM-IV…….Diagnostic and Statistical Manual of Mental Disorders, 4th edition

DSM-V……...….Diagnostic and Statistical Manual of Mental Disorders, 5th edition

HA1……Helping Alliance dimension 1

HA2……Helping Alliance dimension 2

HAQ……...Helping Alliance Questionnaire

HAq-II……revised version of the HAQ

HAQ-P……..Helping Alliance Questionnaire for patients

HAQ-T……...Helping Alliance Questionnaire for therapists

HRSD……Hamilton Rating Scale for Depression

ICD-10…….International Classification of Disease, 10th edition

IIP……..Inventory of Interpersonal Problems

M……Mean

MDD……..Major Depressive Disorder

RCT……Randomized Controlled Trial

RMSEA……..Root Mean Square Error of Approximation

SCID……..Structured Clinical Interview for DSM-IV

SD……...Standard Deviation

SP……..Supportive Psychotherapy

SRMR……Standardized Root Mean Square Residual

TAU……Treatment as Usual

TFP……..Transference-Focused Psychotherapy

TLI……..Tucker Lewis Index

1 INTRODUCTION

Considerable evidence suggests that depressive disorders and in particular persistent forms of depression are associated with the experience of childhood maltreatment (CM) (Bailer et al., 2014; Klein, Roniger, Schweiger, Spath, & Brodbeck, 2015; Rehan, Antfolk, Johansson, Jern, & Santtila, 2017; Riso, Miyatake, & Thase, 2002; Spinhoven et al., 2010; Teicher & Samson, 2013; Wiersma et al., 2009). CM, that is, "all forms of physical, and/or emotional or sexual abuse, deprivation and neglect of children or commercial or other exploitation resulting in harm to the child's health, survival, development or dignity in the context of a relationship of responsibility, trust or power" (World Health Organization, 2013, p.1) increases the risk to develop a persistent form of depression. Moreover, a history of CM has a negative effect on response and outcome of treatment for persistent depression (Nanni, Uher, & Danese, 2012).

Persistent forms of depression are prevalent (Keller & Shapiro, 1982; Kessler et al., 2005; Murphy & Byrne, 2012; Satyanarayana, Enns, Cox, & Sareen, 2009), particularly burdensome for patients as well as for society (Angst, Gamma, Rössler, Ajdacic, & Klein, 2009; Holzel, Harter, Reese, & Kriston, 2011; Satyanarayana et al., 2009), and more difficult to treat than episodic depression (Cuijpers et al., 2010; Keller & Boland, 1998; Kocsis, 2003).

According to McCullough (2000), CM is central to the aetiology of early onset persistent depression. He postulates that patients with a history of significant CM typically exhibit certain characteristics: Piagetian preoperational thinking, diminished insight into the interpersonal effects of one's own behaviours, a lack of perceived agency which goes along with felt and expressed despair, and a submissive or hostile-submissive interpersonal behavioural style. McCullough (2000) argues that these features can impede the working relationship between patient and therapist - hereafter referred to as the *alliance*. He maintains, that persistently depressed patients necessitate a distinct personal therapeutic alliance which provides new relational experiences for patients. Thus, McCullough (2000) developed the first disorder-specific treatment for persistent depression called the Cognitive Behavioral Analysis System of Psychotherapy (CBASP). CBASP explicitly addresses the alliance between patients and therapists. It incorporates specific techniques, such as analyzing interpersonal situations as well as transference and countertransference

between patient and therapist, in order to help patients improve on their cognitive-emotional processing, interpersonal skills and social deficits (Arnow, 2005; McCullough, 2000; 2012).

There is reasonable evidence suggesting that CBASP is an effective treatment option for persistently depressed patients (e.g., Kriston, Wolff, Westphal, Hölzel, & Härter, 2014) and that alliance predicts outcome of treatment with CBASP (Arnow et al., 2013). Yet, little is known about how persistently depressed patients perceive the alliance over the course of treatment with CBASP. Furthermore, although it is assumed that patients' experience of CM aggravates the alliance, it remains unknown how CBASP effects the alliance in patients with a history of CM. Given that the therapeutic alliance is considered one of the most important facilitators of therapeutic change (Wampold & Imel, 2015), an understanding of how CBASP influences the alliance, and how this effect is impacted by CM, appears necessary for both research and practice.

This dissertation sought to address the described gap in the literature by means of two empirical studies: The first study examined the psychometric properties of the German Helping Alliance Questionnaire (HAQ; Bassler, Potratz, & Krauthauser, 1995). The second study applied the HAQ to investigate the patient-rated alliance in a sample of persistently depressed patients who receive either CBASP or nonspecific supportive psychotherapy (SP), and who have experienced different degrees of CM. The studies will be embedded into introductory chapters on the theoretical background and a closing general discussion. Both studies have taken place within a clinical trial titled „A comparison of the Cognitive Behavioral Analysis System of Psychotherapy against supportive psychotherapy for early onset chronic depression", which was registered on ClinicalTrials.com (NCT00970437) (Schramm, 2015).

2 THEORETICAL BACKGROUND

It was estimated that globally, depression is the fourth most burdensome disease and that by the year 2020 depression will rank second (Murray & Lopez, 1996; Ustun, Ayuso-Mateos, Chatterji, Mathers, & Murray, 2004). In Europe, Depression is among the most prevalent psychiatric disorders (Wittchen & Jacobi, 2005; Wittchen et al., 2011). Its 12-month prevalence rate is estimated between 6-11% (Busch, Maske, Ryl, Schlack, & Hapke, 2013; Jacobi et al., 2015; Jacobi et al., 2004; Riolo, Nguyen, Greden, & King, 2005; Wittchen, Jacobi, Klose, & Ryl, 2010; Wittchen et al., 2011). Findings on lifetime prevalence are higher and vary between 11.6% and 19% (Busch et al., 2013; Jacobi et al., 2004; Wittchen et al., 2010). For patients, depression is associated with grave personal suffering, impaired social functioning, and an increased risk for comorbidities (e.g., Angst et al., 2009; Wittchen et al., 2010). On a societal level depression entails high illness-related cost, such as the cost for treatments or absenteeism from work (Andlin-Sobocki, Jönsson, Wittchen, & Olesen, 2005; Federal Statistical Office (Destatis), 2015; Friemel, Bernert, Angermeyer, & König, 2005; Kleine-Budde et al., 2013; Luppa, Heinrich, Angermeyer, König, & Riedel-Heller, 2007; Wittchen et al., 2010).

Both the individual and the societal burden of depression is aggravated when the disorder is persistent, which it is for approximately 30% of cases (Angst et al., 2009; Arnow & Constantino, 2003; Holzel et al., 2011; Kessler et al., 2005; Murphy & Byrne, 2012; Satyanarayana et al., 2009). What is more, persistent forms of depression are more difficult to treat than episodic depression (Cuijpers et al., 2010; Keller & Boland, 1998; Kocsis, 2003).

In the following chapters, persistent depression will be defined and epidemiologically described. Following that, risk factors and models on the aetiology of persistent depression will be presented before giving an overview on treatment options and their efficacy.

2.1 Definition

According to Brakemeier, Schramm, & Hautzinger (2012), persistent depressive symptoms have been described in the literature in the context of personality disorders: renowned concepts like Kraepelin's *depressive temperament*, Schneider's *depressive psychopathology*, and Kernberg's *depressive-masochistic personality*

disorder allude to what today is referred to as persistent depression. Akiskal's introduction of the term *dysthymia* moved persistent depressive symptoms from the realm of personality disorders into the category of affective disorders (Brakemeier et al., 2012).

Today, an internationally recognized definition of persistent depression is lacking. There is however consensus that persistent depression can take different forms and endures at least 2 years with no period of full remission lasting 2 months or longer (Berger, van Calker, Brakemeier, & Schramm, 2015; Gelenberg, Kocsis, McCullough, Ninan, & Thase, 2006). In terms of persistent depression, the International Classification of Disease, 10th edition (ICD-10; World Health Organization, 2004) only addresses and specifies diagnostic criteria for *dysthymia* which is a milder form of depression. Dysthymia is defined as a prolonged state of depressed mood which lasts at least 2 years and in which episodes of depressive symptoms do not meet the diagnostic criteria for recurrent depressive disorder. The Diagnostic and Statistical Manual, 4th edition (DSM-IV; American Psychiatric Association, 2000) uses separate diagnostic categories for 2 forms of persistent depression: *dysthymic disorder* and *major depressive episode, chronic type*. Dysthymic disorder is defined as a relatively mild condition, which begins without a prior major depressive episode, presents with depressed mood and a minimum of 2 additional depressive symptoms. The symptoms prevail for at least 2 years and persist without symptom free periods of more than 2 months. Major depressive episode, chronic type describes a more severe clinical condition in which a person experiences major depression, that is, depressed mood and/or loss of interest and at least 5 additional depressive symptoms, continuously for at least 2 years.

In addition to these formally acknowledged and defined disorders other subtypes of persistent depression have been observed: Most patients with dysthymic disorder experience superimposed major depressive episodes (Klein, Shankman, & Rose, 2006). This comorbidity, while not formally recognized, is referred to as *double depression* (Klein, 2010). Patients who experience recurrent major depression with partial interepisode recovery for more than two years may also be regarded as suffering from persistent depression (Klein, 2010).

The differentiation between the above categories of persistent depression could not be supported by studies on aetiology and treatment outcome, though. Rather, research findings indicated that persistent forms of depression share distinct

characteristics that are different from episodic depression independent of symptom severity (Klein, 2008, 2010). Hence, to arrive at more valid diagnostic classes, the recent Diagnostic and Statistical Manual, 5th edition (DSM-V; American Psychiatric Association, 2013), collapsed the DSM-IV diagnoses major depressive episode, chronic type and dysthymic disorder into the new category *persistent depressive disorder.* Diagnostic criteria for persistent depressive disorder are based on those for dysthymic disorder from DSM-IV. Furthermore, additional specifiers allow distinguishing between early and late onset as well as between 4 subtypes of persistent depression: 1) with pure dysthymic syndrome; 2) with persistent major depressive episode; 3) with intermittent major depressive episodes, with current episode, and 4) with intermittent major depressive episodes, without current episode (Figure 1). Throughout this dissertation, the term persistent depressive disorder or persistent depression will be used to refer to any form of persistent depression, if not otherwise specified.

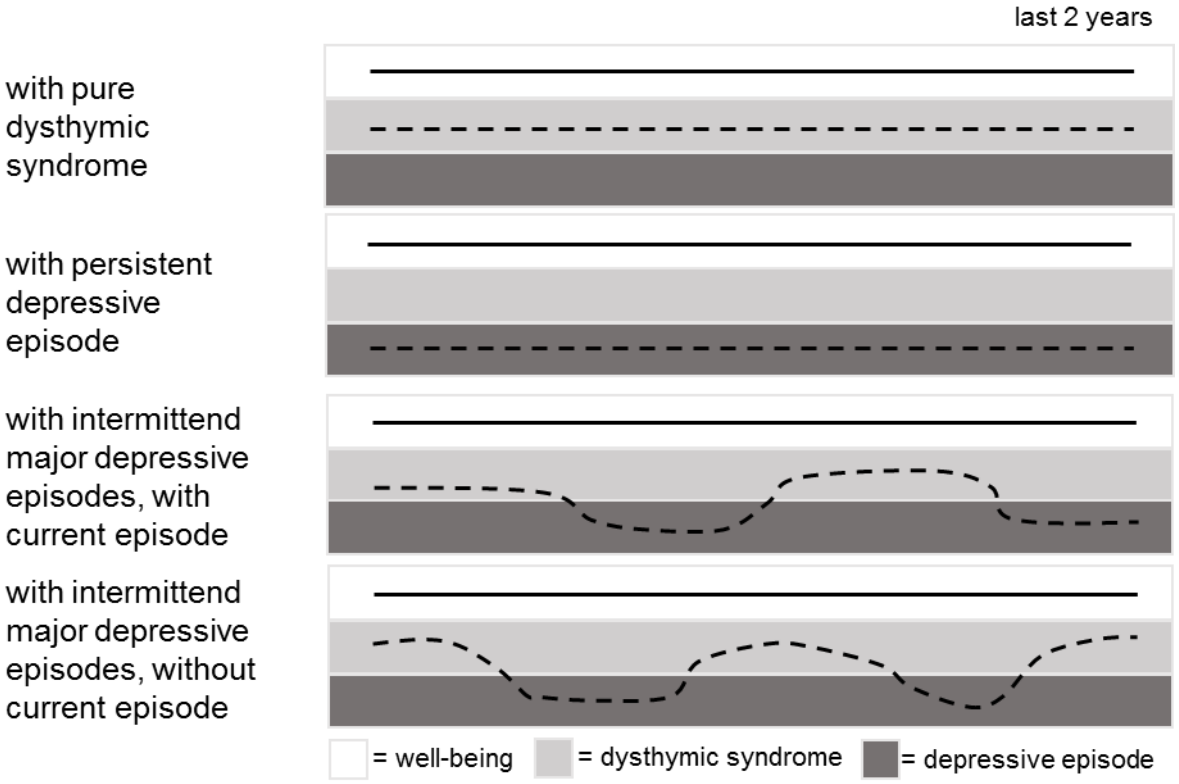

*Figure 1***.** DSM-V persistent depressive disorder (adapted from Klein & Beltz, 2014, p. 13).

2.1.1 Epidemiology and course of persistent depression

As mentioned in the introduction, depressive disorders are common and burdensome (e.g., Murray & Lopez, 1996; Ustun et al., 2004). It has been estimated that 22-36% of all outpatients are affected by dysthymic disorder (Klein & Santiago, 2003). Approximately 20% of patients suffering from depression meet the criteria for persistent depressive disorder (Arnow & Constantino, 2003; Gilmer et al., 2005; Klein & Santiago, 2003); about one third of cases with a lifetime diagnosis of depression have been affected by persistent depressive disorder (Murphy & Byrne, 2012). Most patients with persistent depression experience an early onset of the disorder, that is, before the age of 21 (e.g., Keller et al., 2000; Klein et al., 1999; Schramm et al., 2015). For all forms of persistent depression 12-months prevalence rates range from 0.5-4.5%; lifetime prevalence rates vary between 0.9-6.1% depending on study and type of persistent depression (Blanco et al., 2010; Jacobi et al., 2015; Kessler et al., 2005; Murphy & Byrne, 2012; Riolo et al., 2005; Satyanarayana et al., 2009; Wittchen et al., 2010). Major depressive disorder, chronic type is comparatively seldom and has a 12-months/lifetime prevalence of 1.5% and 3.1% respectively (Blanco et al., 2010). Prevalence rates are significantly higher for dysthymic disorder: 1.7-4.5% (12-months prevalence) and 2.5-6.1% (lifetime prevalence) (Jacobi et al., 2015; Kessler et al., 2005; Riolo et al., 2005; Wittchen et al., 2010). Women are almost twice as often affected from persistent depression as men (Blanco et al., 2010). The 20 years cumulative incidence of persistent depression in a prospective study on a community sample was 5.7% (Angst et al., 2009).

Studies on the course of persistent depression underscore the burden of the disease: In a 10-year observation of 431 patients with major depressive disorder, Mueller et al. (1996) found that 12.3% of patients remained continuously depressed for the first 5 years. Of the non-remitters, 38% recovered within the following 5 years of the study. Klein and colleagues published prospective studies on the naturalistic course (i.e., treatment was not controlled for) of persistent depression in 86 and 97 outpatients with early onset dysthymic disorder (Klein, Schwartz, Rose, & Leader, 2000; Klein et al., 2006). They found that after 5 years, 52.9% of patients had recovered but that 45.2% of them relapsed during the following observation period which on average lasted 23 months. 73.7% of patients who had no lifetime diagnosis of major depressive disorder before study begin, developed a major depressive episode during follow-up (Klein et al., 2000). In the 10-year follow-up study, 73.9% of

patients with early onset dysthymic disorder recovered within a medium time of 52 months. Of the recovered patients, 71.4% experienced a relapse into another persistent depression. In comparison to patients with non-persistent depression, dysthymic patients showed a slower improvement in symptoms and indicated greater depressive symptoms after 10 years (Klein et al., 2006). Secondary analyses on the data from the 5-year prospective study (Klein et al., 2000) suggested that higher probabilities to recover were correlated with bipolar disorder in the family; lower rates of recovery were associated with persistent stress, comorbid anxiety disorder, and characteristics of dependent, obsessive-compulsive and depressive personality disorder. Poorer outcome at follow up with regards to depression severity was predicted by a positive family history of persistent depression, early adversity, lifetime diagnoses of anxiety or eating disorder, certain personality features, neuroticism and the experience of long-term strain (Hayden & Klein, 2001). Together these findings indicate that persistent depression has relatively low rates of spontaneous remission, high rates of relapse and increases the risk for future affective symptoms and disorders.

2.1.2 Correlates of persistent depression

Beyond the above findings on what influences the course of the disorder, research found that persistent depression causes forgone human capital (e.g., educational attainment or earnings), especially in female patients (Berndt et al., 2000). Persistent depression has been linked to several aspects of socioeconomic disadvantage, racial or ethnic minority group affiliation as well as a younger age of onset, a greater illness burden in general and a history of suicide attempts (Gilmer et al., 2005; Murphy & Byrne, 2012).

Persistent depression in general has been linked to more frequent medical and psychiatric comorbidities, more depressive episodes, increased disability and utilization of the health care system as well as to suicidality (Angst et al., 2009; Murphy & Byrne, 2012; Satyanarayana et al., 2009). In comparison to non-persistent depression, dysthymic disorder is associated with more severe depressive symptoms, a higher burden on the health care system, a lower level of functioning, and a greater probability to attempt suicide or to be hospitalized (Klein et al., 2000; McFarland & Klein, 2005)

With regards to comorbidities, persistent depression is associated with a range of conditions: cardiac and respiratory syndromes, insomnia, pain other than

headache or backache, sexual problems, social phobia, benzodiazepine abuse, panic attacks, agoraphobia, obsessive-compulsive and generalized anxiety disorder, binge eating as well as neurasthenia (Angst et al., 2009; Gilmer et al., 2005). With regards to personality disorder it has been found that almost 50% of persistently depressed patients had at least one, most frequently Cluster C (avoidant, dependent, and obsessive-compulsive), comorbid personality disorder (Russell et al., 2003).

Beyond unsystematic reviews on factors associated with persistent depression (Klein & Santiago, 2003; Riso et al., 2002), Holzel et al. (2011) systematically reviewed the literature and identified younger age of onset, longer duration of depressive episodes, a history of affective disorders in the family, comorbid anxiety, personality, and substance abuse disorders, lower severity of depressive symptoms, as well as problems in the social environment as risk factors for the development of persistent depression. Evidence on other factors, that is, gender and age, alcohol abuse, critical life events, physical, and sexual abuse, substance abuse in the family, number of past depressive episodes, low socio-economic, educational and family status, was inconsistent (Holzel et al.; 2011).

In terms of treatment outcome, persistent depression has been linked to worse response to pharmaco- and psychosocial therapy than episodic depression (e.g., Klein, 2008).

2.1.3 Aetiology of persistent depression

Finding on risk factors are integral to the multifactorial aetiological model of persistent depression which includes biological, psychological, and social components (Brakemeier et al., 2012) as well as to McCullough's (2000) model of persistent depression on which he developed the disorder-specific CBASP.

According to the multifactorial explanatory model (Brakemeier et al., 2012), the distal biological, psychological, and socio-cultural factors form patients' vulnerability to develop persistent depression (Figure 2). The biological factors include genetics and all somatic influences on mental health or lack thereof. Examples of biological vulnerabilities are hormonal, physiological or pre/perinatal influences. Low self-esteem, learning deficits, dysfunctional cognitions, neuroticism, lacking resources or skills, and early bonding disorders compose psychological vulnerabilities for persistent depression. Social-cultural risk factors include for example, aversive social conditions during upbringing, a lack of support and the experience of traumatic events. Together these represent vulnerabilities, which the multifactorial model also

refers to as *scars*. The model further assumes that the amplitude of these vulnerabilities or scars explains why confrontation with even slight stressors can trigger the onset and maintenance of depression (Brakemeier et al., 2012).

Traumatic experiences and CM are particularly relevant to the explanatory model of persistent depression. This is because approximately two thirds of persistently depressed patients, especially those with an early onset of depression, report a history of significant CM (Klein & Santiago, 2003; Nemeroff et al., 2003; Schramm et al., 2011b; Wiersma et al., 2009). Most frequently reported forms of maltreatment are minor trauma, that is, emotional neglect and abuse; by contrast, physical and sexual abuse is reported less often (Schramm et al., 2011b; Wiersma et al., 2009). The multifactorial model incorporates that a history of CM and generally all traumatic events can trigger psychological and physiological reactions, such as intrusions or emotional dysregulation. These psycho-physiological reactions leave patients feel helpless, who due to their vulnerability may use dysfunctional coping strategies and may lack skills, resources and social support. Hence, patients may feel a sense of lost self-efficacy and unable to adequately process their emotional and cognitive experiences. This interplay of multifaceted vulnerabilities and acute or chronic stressors may explain why patients do not remit from acute depression and eventually experience persistent depression (Brakemeier et al., 2012).

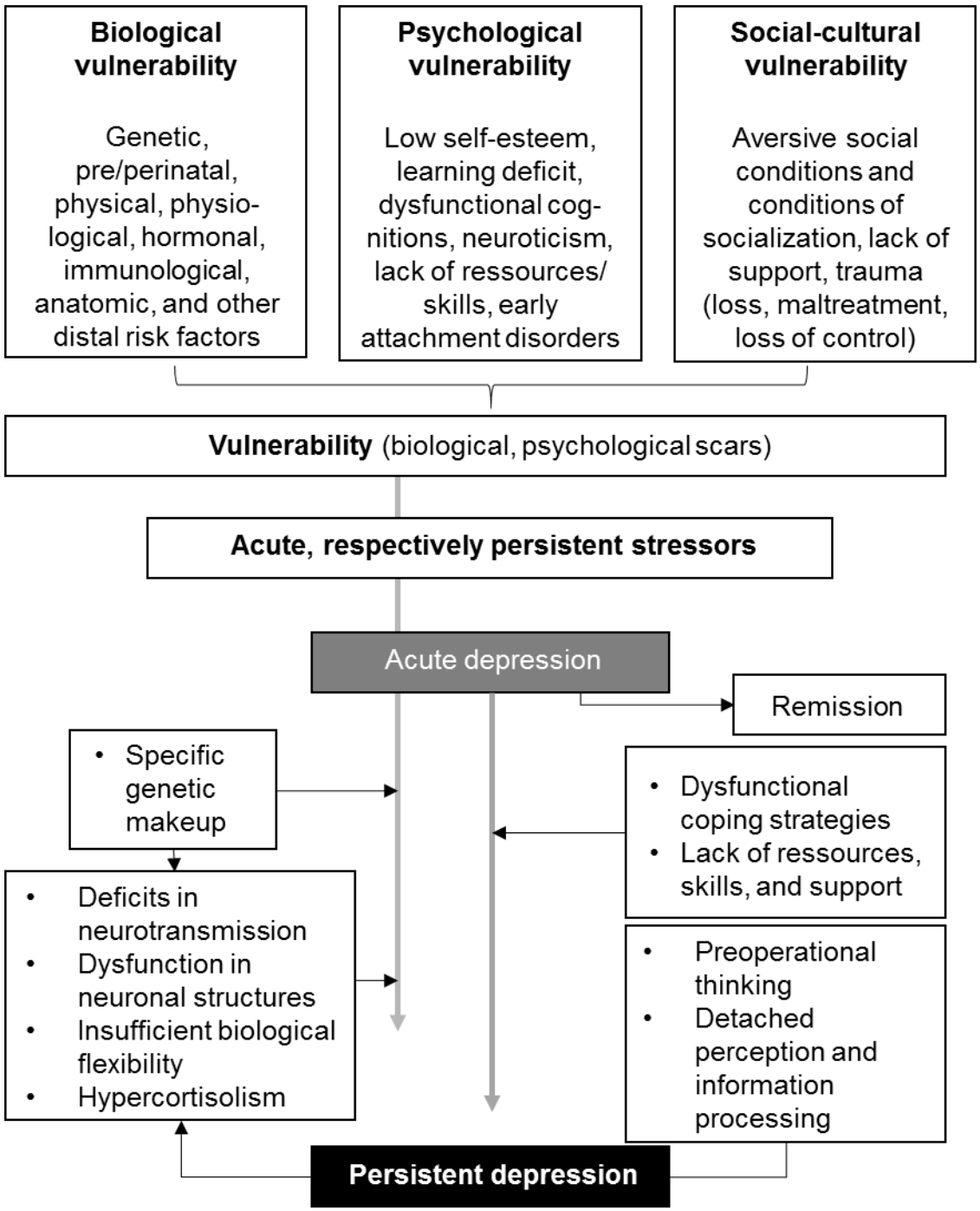

Figure 2. Bio-psycho-social model for the development of persistent depression (adapted from Brakemeier & Hautzinger, 2008, as cited in Brakemeier et al., 2012, p. 21).

In McCullough's (2000) aetiological model of early onset persistent depression, CM is central to the development and maintenance of depression. According to McCullough (2000), CM leads to the cessation of normal cognitive-emotional maturational processes in patients. Therefore, early onset persistently depressed patients exhibit preoperational features, otherwise observed in children

who are in the preoperational cognitive-emotional developmental stage as defined by Piaget (Piaget 1954/1981, as cited in McCullough, 2000): Global, prelogical reasoning, cognition which is hardly susceptible to logic or arguments, egocentrism, talking in monologue, a lack of empathy, and little emotional control when under stress. McCullough's (2000) model (Figure 3) describes how persistent depression is the result of a vicious circle that begins with CM by significant others (e.g., the caregiver). Through their behaviour, the significant others create an abusive and/or neglecting environment. People who grow up and live within such threatening or even dangerous surroundings are likely to develop avoidance behaviour to escape from the imminence. This avoidance includes social and consequently cognitive and emotional withdrawal which ultimately leads to *detached perception* (Klein & Beltz, 2014). By this, McCullough (2000) means that patients do not recognize their own effect on their surroundings, that is, other people. Detached perception also means that the environment has little to no impact on the cognition, emotion, and behaviour of the detached person (Klein & Beltz, 2014). McCullough (2000) argues that patients who are stuck in the preoperational cognitive-emotional stage keep others at a distance and are unable to see how their avoidant behaviour endangers satisfactory relationships. Moreover, he maintains that because of these preoperational features, patients find it difficult to make corrective experiences, which could challenge negative assumptions and foster more adaptive views on themselves and others. Therefore, patients cannot improve on their social skill deficits and continue to experience disappointment in social interaction. The latter reinforces social avoidance, maintains the hostile-submissive interpersonal style and thereby perpetuates the vicious circle of persistent depression (Klein & Beltz, 2014; McCullough, 2000).

Late-onset persistent depression, that is, after the age of 21, is also explained in terms of Piaget (Piaget,1954/1981, as cited in McCullough, 2000). For this group of patients McCullough (2000) assumes that intense emotionality in form of a depressive episode leads to the deterioration of the otherwise normal adult cognitive-emotional development. The experience of the depressive episode ultimately causes the patient to regress to preoperational functioning. Arguably, McCullough's aetiological model is best suited for the explanation of early onset persistent depression (Klein & Beltz, 2014).

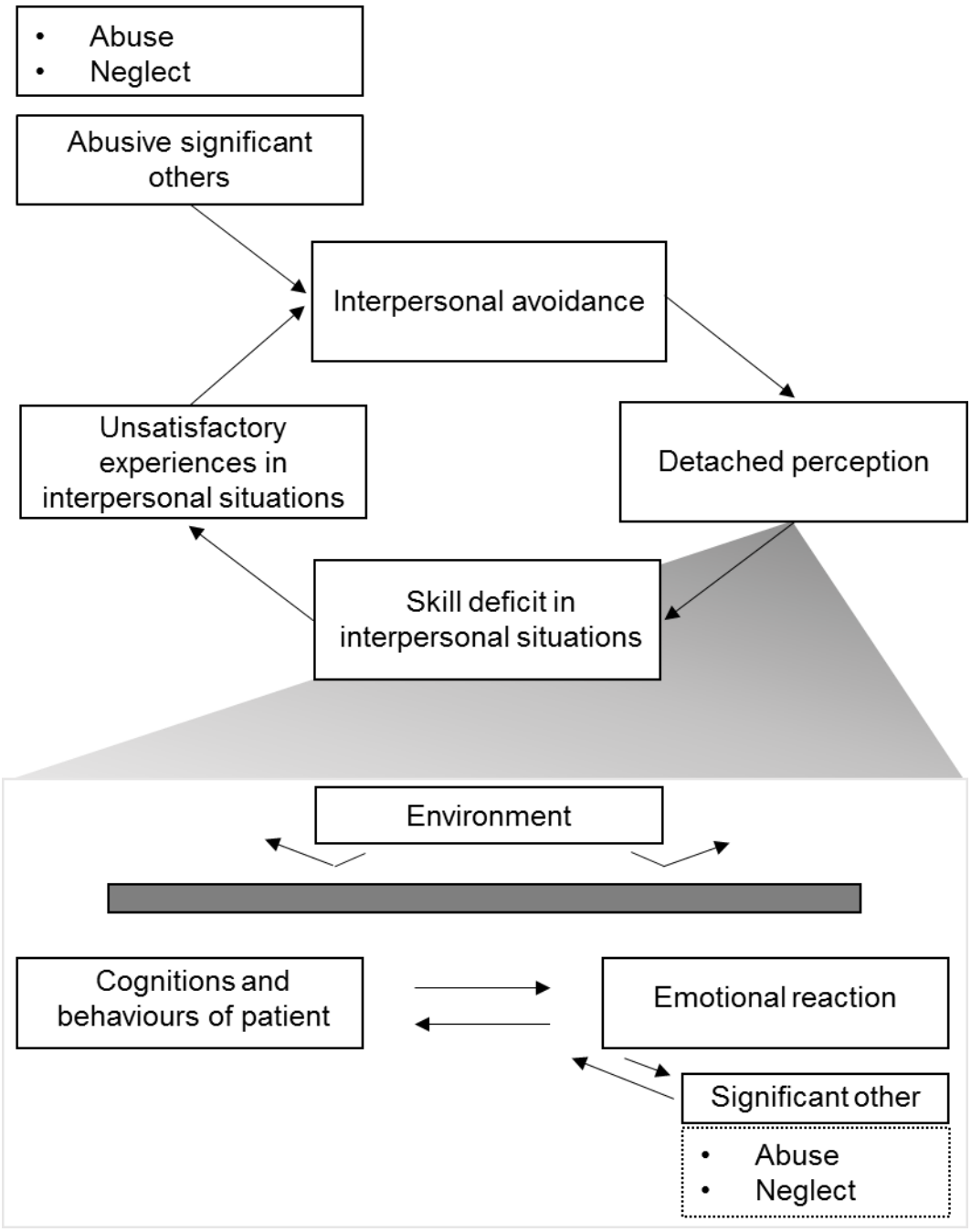

Figure 3. McCullough's model of persistent depression with integrated model of detached perception (adapted from Klein & Beltz, 2014, p. 15, 17).

2.1.4 Treatments for persistent depression

A combination of pharmacotherapy and psychotherapy is the recommended treatment for persistent depression and should be offered to the patient. Because of the high chronicity of persistent depression, both therapies should be continued as maintenance treatments after symptoms have declined (Berger et al., 2015; DGPPN, BÄK, KBV, & AWMF on behalf of the guidelines group for unipolar depression, 2015).

Since both pharmaco- and psychotherapy are recommended for treatment, this chapter will first provide a brief overview on pharmacotherapies before turning to psychotherapeutical approaches.

2.1.4.1 Pharmacotherapy

Antidepressants are the most commonly prescribed drugs for persistent depression and therefore constitute the most relevant form of pharmacotherapy (Bschor, Bauer, & Adli, 2014). There are no differential indications for any antidepressant drug. Rather, the choice for a specific antidepressant should be made in consideration of a patient's symptoms, earlier response to antidepressants, comorbidities and the drug's side effects (Berger et al., 2015). Table 1 gives an overview on antidepressant drugs, common side effects, and risks.

The efficacy of antidepressants in the treatment for persistent depression has been established in several studies. Meta-analyses on the efficacy of Tricyclic Antidepressants (TCA), Selective Serotonin Reuptake Inhibitors (SSRI) and Monoamine Oxidase Inhibitors (MAO-Inhibitors) in the treatment of patients with dysthymia or double depression found that antidepressants were superior to placebos; no significant differences in treatment efficacy were found between the drug classes (De Lima, Hotoph, & Wessely, 1999; Lima & Moncrieff, 2000). Similarly, in a more recent meta-analysis in patients with dysthymic disorder or double depression TCA and SSRI were superior to treatment in the placebo condition (von Wolff, Hölzel, Westphal, Härter, & Kriston, 2013). Other reviews on the treatment for medium or severe depressive episodes, chronic type conclude that antidepressants are more effective than placebo conditions (Kocsis et al., 2003; Michalak & Lam, 2002). A meta-analysis found differential effects of several evidence-based treatment: Antidepressants are superior to placebos and the combination of psychotherapy (here, Interpersonal Psychotherapy (IPT)) and antidepressants is more effective than pharmacotherapy alone (Kriston et al., 2014).

Table 1

Antidepressants, common side effects and risk

Substance group and active ingredients	**Side effects and risks**
Tricyclic Antidepressants (TCA):	
• Amitriptyline, Clomipramine, Desipramine, Doxepine, Imipramine, Lofepramine, Nortriptyline, Trimipramine	Anticholinergic and cardiovascular effects, orthostatic hypotension, sedation, increase in appetite and weight, overdose is potentially lethal
Tetracyclic Antidepressants:	
• Maprotiline	
Monoamine Oxidase Inhibitors (MAO-Inhibitors):	
• Irreversible: Tranylcypromine • Reversible: Moclobemide	Disturbed sleep, orthostatic hypotension, dry mouth; for tranylcypromine: risk of hypertensive crises, risk of serotonin syndrome when combined with serotonergic medication
Selective Serotonin Reuptake Inhibitor (SSRI):	
• Citalopram, Fluoxetine, Paroxetine, Escitalopram, Fluvoxamine, Sertraline	Nausea, restlessness, disturbed sleep, sexual dysfunction, syndrome of inappropriate ADH secretion; for Fluoxetine, Paroxetine, and Fluvoxamine: risk of interactions with other drugs
Selective Norepinephrine Reuptake Inhibitor (SNRI):	
• Venlafaxine, Duloxetin	Nausea, restlessness, sexual dysfunction, high blood pressure, dry mouth, diaphoresis syndrome of

	inappropriate ADH secretion
Autoreceptor blockers:	
• Mianserine, Mirtazapine	Sedation, increase in appetite and weight; for Mianserine: risk of changes in blood count
Others:	
• Trazodone[a]	Tiredness, nausea, dizziness, gastrointestinal and cardiovascular effects, dry mouth, hypotension, priapism
• Bupropion	Restlessness, disturbed sleep, headache, high blood pressure, dry mouth
• Reboxetine	Tachycardia, orthostatic hypotension, inner restlessness, disturbed sleep, dry mouth, urogenital symptoms

Notes. The table was adapted from Bschor and Adli (2008, Table 2); [a]information was added from the recommendations by the Drug Commission of the German Medical Association (2006).

2.1.4.2 Psychotherapy

The efficacy of psychotherapy in treating depression has generally been established; its outcomes depend however on the specific kind, severity and persistence of the depressive symptoms (DGPPN et al., 2015). With regards to persistent depression, literature on psychotherapy outcome studies is relatively scarce (de Jong-Meyer, Hautzinger, Kühner, & Schramm, 2007). The available empirical findings, summarized in a review, suggest that only 41% of patients with dysthymic disorder or double depression respond to Cognitive Behavioural Therapy (CBT) alone (Markowitz, 1994).

Research indicates that psychotherapy alone is inferior to pharmacotherapy alone. Cuijpers et al. (2010) found that while psychotherapy alone had a significant small effect on outcome in samples with dysthymic patients, it was less effective than pharmacotherapy with SSRIs. Findings from a network analysis by Kriston et al. (2014) further elaborated that pharmacotherapy alone achieves better treatment

outcomes than IPT and Supportive Psychotherapy (SP) alone, but that pharmacological treatment fares equally well to CBASP and CBT alone.

Moreover, combining pharmacotherapy with psychotherapy appeared more effective than treatment with either therapy alone (Cuijpers et al., 2010; DGPPN et al., 2015). More specifically, the combination of both treatments was more effective than monotherapy when patients experience a form of persistent depression other than dysthymia, when antidepressants other than SSRI were used, and when CBASP was not the studied psychotherapeutic intervention (Kriston, von Wolff, & Hölzel, 2010; von Wolff, Hölzel, Westphal, Härter, & Kriston, 2012).

Findings that psychotherapy can achieve relatively satisfactory results when conducted for at least 18 sessions (Cuijpers et al., 2010) and that psychotherapy which is tailored to the specific needs of persistently depressed patients promotes outcome (Kriston et al., 2014) inspires optimism. However, despite the wide array of treatment options, persistent depression has been undertreated or not treated adequately. Kocsis et al. (2008) found that just 33% of persistently depressed patients in their study had ever had an adequate antidepressant treatment trial, with adequacy of treatment being defined by both duration and dose of an antidepressant. Analysis of routine data from a German health insurance indicated that 12% of those insurance holders with registered chronic depression were treated with a combination of pharmaco- and psychotherapy; 31% received no treatment at all and another 45% received pharmacotherapy alone, some of which did not get the minimal dose of antidepressant medication required to bring about clinical change (Melchior, Schulz, Härter, Walker, & Ganninger, 2014). When treated adequately, the prospect of success is still modest. Klein and Santiago (2003) state that “most patients eventually recover from chronic depression, but the recovery process can be prolonged and recurrence is common” (p. 814).

2.2 Cognitive Behavioral Analysis System of Psychotherapy (CBASP)

McCullough (2000) integrated cognitive, behavioural, interpersonal, and psychodynamic elements in order to develop the first disorder-specific psychotherapy for persistent depression, that is, CBASP. As explained in chapter 2.1.3, McCullough assumes that a history of CM leads to derailment of the cognitive-emotional maturation of early-onset persistently depressed patients. Alternatively, in late-onset persistently depressed patients, the experience of a depressive episode results in the regression to an earlier form of functioning. In both cases, McCullough (2000)

assumes that patients exhibit preoperational functioning which manifests itself in unsatisfactory interactions between the patients and their social environment on the behavioural, cognitive and emotional level. McCullough's (2000) conceptualization of persistent depression is inherently interactional which is why he designed CBASP to be explicitly interpersonal. Hence, the alliance between patient and therapist becomes central. The alliance in CBASP differs from alliance in other forms of psychotherapy, such as CBT, in that firstly, therapists need to involve themselves personally and secondly, specific techniques are used to address patients' issues in the transference to the therapist (McCullough, 2000; 2012).

In the following paragraphs the goals of CBASP will be outlined before describing its different interventions and procedures. At the end of this chapter, findings from outcome studies on treatment with CBASP will be summarized.

2.2.1 Aims

The overarching aim of CBASP is for patients to move beyond the preoperational towards to formal operational stage of reasoning, dissolve the perceptual detachment from the environment, to experience satisfactory relationships and genuine empathy as well as to overcome or at least manage the depression (McCullough, 2000). More specifically, CBASP pursuits the following goals (Brakemeier et al., 2012): (1) Patients should learn to understand the negative consequences of their behaviour. This should enable them to overcome helplessness and to gain self-efficacy. (2) Patients should understand their own and others' stimulus character in order to gain empathy. (3) Patients should learn how to obtain goals in interpersonal situations. (4) Patients should overcome the impact of earlier abuse and neglect on interpersonal situations.

2.2.2 Methods

McCullough (2000) drew insights from Piaget (theory on cognitive-emotional development), Skinner (operant learning), Seligman (learned helplessness), Beck (cognitive model of depression), Bandura (social learning theory), Kiesler (interpersonal theory), and Freud (transference and therapeutic alliance) in the development of CBASP. Despite the conceptual proximity to the above pioneers in psychology, the following interventions are unique to CBASP and distinguish it from other psychotherapeutic approaches (McCullough, 2000, 2012):

- *Significant-other history (SOH):* The SOH is a systematic assessment of how the past behaviour of significant others have influenced patients. To this end, therapists will begin by asking patient to name 4 to 6 significant others and to describe their behaviour towards them. Following that, therapist seek to draw causal inferences by asking questions like “Now, what effect has your mother’s behaviour had upon the way you live?”, “How has your life been influenced by your mother?”, “What kind of person are you today because of your mother’s influence?” (McCullough, 2000, p.88). Subsequently, patients, guided by therapists, deduct causal associations on the impact that the significant others have had on them and their interpersonal expectations.
- *Transference hypotheses:* Based on the preliminary causal associations, therapists and patients then formulate transference hypotheses for the following four domains: (1) interpersonal intimacy, (2) emotional needs, (3) failure or mistakes, and (4) negative affect.

  Unknowingly encountered in therapy, transference regarding the above domains may present ruptures to the alliance between patient and therapist. Hence, therapists should know about these hot spots in order to purposefully use them for the therapeutic process.
- *Interpersonal discrimination exercise (IDE):* The IDE aims at teaching patients that negative experiences they made in the past will not repeat themselves in the interaction with the therapists. The IDE allows patients to feel safe in the therapy and enables them to gain new relational experiences so that the interpersonal trauma can heal. McCullough (2000) calls it offering the patient “new interpersonal realities” (p. 187). This experience, when made explicit by therapists, helps patients challenge their global, negative social expectations. The IDE describes a procedure in which therapists contrast their own benevolent reactions to patients’ hot spots with the maltreatment that patients used to receive by significant others. Therapists may do this by asking the following questions: (1) ‘How did I react when you told me that you were (e.g.) feeling sad an anxious?’, (2) ‘How would your mother (and other significant others) react, when you (e.g.) told her about your negative feelings?’, (3) ‘What is the difference between your significant other’s (here, mother’s) reaction and my reaction?’, (4) ‘What does it mean to you that I reacted differently?’ (Brakemeier et al., 2012)

- *Disciplined personal involvement (DPI):* In contrast to other forms of psychotherapy, CBASP demands of therapists to personally open up to patients - in a disciplined way – and thereby actively shape the alliance. There are three reasons behind DPI: (1) Therapists act as models for patients, teaching them how to open up personally and engage in empathetic encounters. (2) Patients learn to discriminate between experiences within the alliance to therapists and early dysfunctional relationships only through therapists' genuine personal reactions. (3) In openly displaying reactions to patients' hostile behaviour, patients can learn that their behaviours have negative consequences on others' feelings. CBASP distinguishes between positive and negative DPI. An example of a positive DPI is: 'I am very happy, you managed to be on time today.' An example of a negative DPI is: 'I am realizing how sad it makes me feel to hear you say that you don't trust me.' (Brakemeier et al., 2012)
- *Kiesler's interpersonal circle:* The circle is a graphic depiction of the Impact Message Inventory (IMI; Kiesler & Schmidt, 1993). The IMI is a self-report questionnaire which assesses covert cognitive, emotional, and behavioural reactions a person triggers in others. Results from the IMI can be mapped onto Kiesler's interpersonal circle, which then illustrates the impact of someone's interpersonal style (Figure 3). The interpersonal circle is mapped against two orthogonal axes which represent the interpersonal dimensions *control* and *affiliation*. Control runs vertically from one extremity (dominant) to the other (submissive). Horizontally, the axis affiliation depicts the continuum from hostile to friendly. It follows that there are interpersonal octants: dominant, hostile-dominant, hostile, hostile-submissive, submissive, friendly-submissive, friendly, and friendly-dominant. The assumption of complementarity is the circle's underlying rational. Complementarity herein means that any interpersonal style triggers behaviours from the counterpart, which are complementarily mirrored over the axis of affiliation. Patients' hostile-submissive style triggers (unhelpful) hostile-dominant behaviour from therapists. In CBASP, the interpersonal circle is used for therapists to understand how to shape the alliance, in order not to elicit destructive, "knee-jerk responses" (McCullough, 2000, p. 171) in patients. In addition to that, the interpersonal circle finds application in later stages of therapy to help patients

understand and modify their own impact on others (Brakemeier et al., 2012; McCullough, 2000).

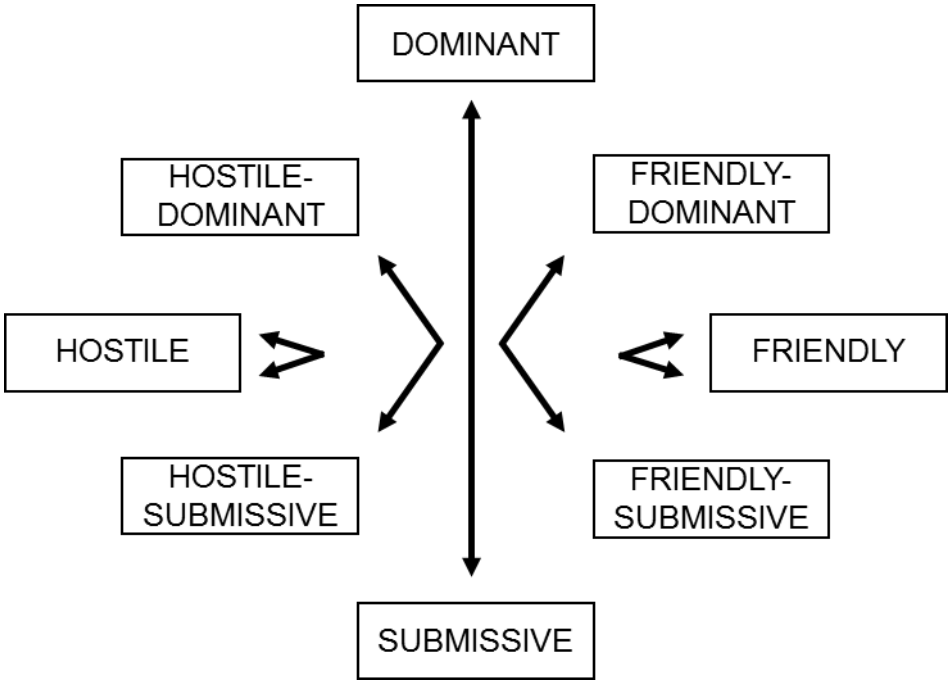

Figure 3. Kiesler's interpersonal circle and the octant complementarity (adapted from McCullough, 2000, p. 172).

- *Situational analysis (SA):* As depicted in Figure 4, SA constitutes the major intervention in CBASP and dominates the psychotherapeutic process (Brakemeier et al., 2012). According to (McCullough, 2000), SA trains patients to overcome preoperational reasoning in several ways: (1) it constrains patients to focus on one specific situation rather than to think globally; (2) SA demonstrates to patients their interpersonal impact; (3) SA teaches patients the consequences of their behaviour towards others. In addition to that, (4) during SA, patients engage in dialogue rather than in their habitual monologue. Lastly, (5) SA points out to patients that they benefit from more adaptive social behaviours. SA is conducted by means of work sheets, which structure SA in that they outline its steps. SA can be subdivided into a phase of exploration and a phase in which a solution is found. In the earlier phase, patients learn to describe and interpret difficult interpersonal situations. They recognize the causal link between their behaviour and its often unsatisfactory outcome. In the latter phase, therapists guide patients to revise their earlier global interpretation of the situation and make it more specific. Additionally,

patients learn to modify unhelpful behaviour so that it becomes more constructive. This way, patients experience that their actions have impact and thereby gain self-efficacy. In a final step, patients are asked to draw conclusions and to transfer their new knowledge to other situations. Initially, therapists guide patients through SA, but later ask patients to do SAs on their own (Brakemeier et al., 2012; McCullough, 2000).

CBASP is a very structured form of psychotherapy. Figure 4 displays a possible course of psychotherapy for persistent depression with CBASP. Initially, the focus lies on understanding patients' biographies, their individual history becoming persistently depressed and on arriving at a sound diagnosis. Following that, therapists will guide patients to develop a list of significant others and assess the SOH. Subsequently, therapists and patients will jointly work on formulating the transference hypotheses. The exact number of sessions necessary to collect this information may vary. Yet, usually after the 5th or 6th session, SAs begin to be the focal point of each session. SA may include roleplays and reference to Kiesler's circumplex where appropriate. What is more, therapists are encouraged to apply IDE and DPI where appropriate (Brakemeier et al., 2012; McCullough, 2000).

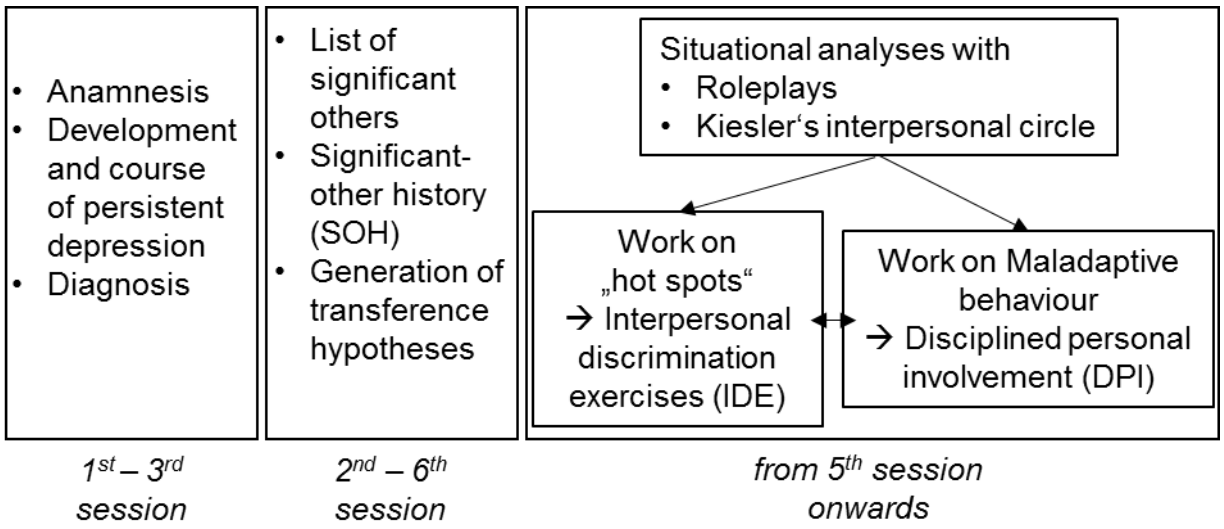

Figure 4. Course of therapy for persistent depression with CBASP (adapted from Brakemeier et al., 2012, p. 36).

2.2.3 Efficacy and effectiveness

Some of the following studies in samples of persistently depressed patients were already touched upon in chapter 2.1.4 but will be summarized here in more detail and with specific regards to CBASP.

The first study to establish CBASP as a reasonable treatment option was a large trial by Keller and colleagues (2000), which compared the relative efficacy of 12 weeks outpatient treatment with nefazodone, CBASP or both. Treatment with CBASP consisted of 16 to 20 sessions. Of the 662 patients included in the analysis, almost 50% responded (or remitted) in the medication and CBASP alone treatment groups. When treatment was combined, though, response significantly increased to 73% in the third intervention group. For patients, who completed the study, response rate was even higher (nefazodone alone: 55%, CBASP alone: 52%, combined treatment: 85%). Dropout was similar in all groups. In a reanalysis of the data, it was found that for patients with a history of CM, CBASP was more effective than antidepressants and that the combination of CBASP and pharmacotherapy was just slightly more beneficial than monotherapy when comparing symptom change relative to the first week of treatment (Nemeroff et al., 2003, 2005). Patients who had not responded to 12 weeks of treatment with nefazodone or CBASP alone were included in another study (Schatzberg et al., 2005). Schatzberg and colleagues (2005) conducted a crossover trial to investigate if the non-responders would benefit from the other treatment option, respectively. They treated patients, who had not responded to medication, with 12 weeks of CBASP and prescribed CBASP for 12 weeks to non-responders of nefazodone. Results indicated that a switch from one form of treatment to the other was beneficial: almost 60% of non-responders to monotherapy with nefazodone responded to CBASP, and over 40% of CBASP non-responders responded after having switched to medication. When CBASP (22 sessions) was compared to treatment with escitalopram (plus clinical management), results indicated that there was no significant difference in decrease of clinician-rated symptom severity 8 and 28 weeks into treatment (Schramm et al., 2015). For those study participants who did not show improvement after 8 weeks, treatment was augmented by adding the respective other treatment condition for the following 20 weeks. After 28 weeks both treatment groups were similarly effective with regards to response and remission. Moreover, initial non-responders benefitted from augmentation to the effect that at the end of treatment there were no differences to

initial improvers any more. A large multicentre study called REVAMP trial (Research Evaluating the Value of Augmenting Medication with Psychotherapy; Kocsis et al., 2009) investigated the additional effects of CBASP versus brief Supportive Psychotherapy (BSP) versus optimized pharmacotherapy on response and remission in a sample of patients receiving algorithm-guided pharmacological treatment for 12 weeks. Augmentation treatment lasted another 12 weeks after which there were no significant differences between the three treatment groups.

There are only few studies comparing the efficacy of CBASP to other psychotherapies. In a pilot study by Schramm et al. (2011b) on the comparison between CBASP and IPT, 30 patients were randomized to CBASP or IPT (22 sessions in 16 weeks). Results indicated that CBASP led to better remission (57%) than IPT (20%), but that one year post treatment, there were no significant differences in self-reported symptoms. Recently a multicentre study by Schramm et al. (2017) comparing the efficacy of CBASP versus supportive psychotherapy (SP), in which treatment lasted for 48 weeks and included 32 individual sessions, found that CBASP was more effective in reducing depressive symptoms. More specifically, patients in the CBASP condition had significantly lower levels of depressive symptoms than patients receiving SP after 20 and 48 weeks of treatment. After 20 weeks 39% of patients undergoing CBASP reached response whereas only 24% in the SP condition did. Similarly, significantly more patients in CBASP reached remission (22%; SP: 13%). Another study compared the efficacy of mindfulness-based cognitive therapy (MBCT) plus treatment as usual (TAU) versus CBASP plus TAU versus TAU alone (Michalak et al., 2015). CBASP and MBCT lasted 8 weeks and were conducted as group therapy. CBASP was significantly more effective in reducing depressive symptoms than TAU; findings for MCBT were equivocal.

There is one German non-controlled trial investigating outcome and feasibility of inpatient treatment with CBASP (Brakemeier et al., 2015). In the study, CBASP was conducted in form of a 12-week inpatient program. 70 inpatients with persistent depression or treatment resistant depression participated in the study. Most patients (76%) responded and 40% of patients remitted after inpatient treatment with CBASP. When depressive symptoms were assessed in follow ups, response was initially (after 6 months) still high but declined to approximately 50% after 12 months.

A Dutch study investigated the effectiveness of CBASP (Wiersma et al., 2014). 139 patients, who could take additional medication, were assigned to either CBASP

or care as usual (CAU). Patients received on average 23 sessions of outpatient psychotherapy over a period of 52 weeks. There was no significant difference in symptom severity after 8, 16, and 32 weeks, but patients receiving CBASP showed a significantly greater decline in depressive symptoms than patients who received CAU.

There are two meta-analyses that make specific reference to CBASP. In a network meta-analysis, Kriston et al. (2014) stated that CBASP was more effective than IPT and similarly effective to medication alone. They note, that findings on the efficacy of CBASP plus pharmacotherapy remains equivocal, which may be due to moderating effects of symptom severity. A later meta-analysis concluded that CBASP, as compared to other treatments or TAU, appeared to have a small effect. In comparison to TAU and IPT, CBASP has a moderate to high effect, and a similar effect compared to medication alone. Medication plus CBASP had a larger affect than antidepressant medication alone (Negt et al., 2016).

As has been mentioned before in this dissertation, CM is an important risk factor for the development and maintenance of persistent depression (e.g., Wiersma et al., 2009). Moreover, McCullough's (2000) aetiological model for early onset persistent depression uses CM as a starting point for the explanation of persistent depression and for the development of CBASP. Therefore, studies investigated whether a history of CM serves as an indication for CBASP. Recently in a subgroup analysis of the trial comparing the efficacy of CBASP versus SP (Schramm et al., 2011, 2017), the presence of CM appeared to have a moderating effect on the superiority of CBASP (Klein et al., 2018). Likewise, another study found that for patients with a history of CM, CBASP was more effective than antidepressants and that the combination of CBASP and pharmacotherapy was just slightly more beneficial than monotherapy when comparing symptom change relative to the first week of treatment (Nemeroff et al., 2003, 2005). Yet, in a smaller and underpowered study, pharmacological treatment with escitalopram and treatment with CBASP led to a comparable treatment response in patients with and without CM (Bausch et al., 2017).

2.3 Supportive Psychotherapy

Supportive psychotherapy (SP) may be the most commonly employed form of psychotherapy (Tanielian, Marcus, Suarez, & Pincus, 2001). Yet, it lacks a sufficient

definition (Douglas, 2008) and is sometimes inaccurately used as an “umbrella term” or “synonym for eclectic therapy” (Markowitz, 2014, p. 285, 286). More specifically, SP can be defined as a form of psychotherapy in which „the therapist strives to create a supportive relationship by emphasizing nonspecific therapeutic interactions and techniques that convey to the patient the therapist’s interest, concern, and understanding. It emphasizes the patient’s strengths and assets.“ (Markowitz & Sacks, 2002, p. 6)

In psychotherapy research, SP is commonly studied in either of two ways: either as a genuine treatment in itself or, more often than not, as the comparator, or control condition, to an experimental treatment (Cuijpers et al., 2012). This dissertation comprises two studies in which data from a multicentre randomized controlled trial (RCT) were used (Schramm, 2015). In this RCT, manualized SP was employed as the nonspecific active control condition. In describing the aims and methods of SP, I will therefore rely on the manual adhered to in the RCT (Markowitz & Sacks, 2002).

2.3.1 Aims

SP pursues the common factors of psychotherapy, namely facilitation of affect, establishing a relationship in which patients feel understood, a treatment rationale, empathy, a treatment ritual, experiences of success, fostering hope and therapeutic optimism (Markowitz & Sacks, 2002). These nonspecific factors have been studied intensively and are assumed to account for most variance in psychotherapy outcome (e.g., Wampold & Imel, 2015).

2.3.2 Methods

The methods employed to achieve the above aims are outlined below. Some methods may be integral to other forms of psychotherapy, such as CBT, too. In order to differentiate SP from other psychotherapies, Markowitz & Sachs (2002) therefore, additionally explicate behaviours a therapist is to avoid in SP.

- *Supportive relationship:* Similarly to Rogers’ (1951) core conditions of empathy, congruence and unconditional positive regard, SP therapists should seek to establish a genuine warm, interested, understanding alliance in which the patient can feel safe. This supportive alliance is the imperative to SP. Therapists should promote a positive alliance by means of a facing body posture and by seeking affect. The latter can be achieved by for example,

repeating emotional utterances by the patient or by adding understanding, affirmative interjections (Markowitz & Sacks, 2002).

- *Strengths and assets:* Whenever possible, therapists should point out patients' skills, strengths, prior successes or adaptive coping experiences. This may also include positive reframing of characteristics patients perceive negatively. By reminding patients of their resources, they may begin to overcome hopelessness (Markowitz & Sacks, 2002).
- *Therapeutic stance*: The role of therapists in SP is to be the patients' allies. Therapists should verbally and non-verbally welcome, encourage and reinforce patients. Therapists should follow patients' lead throughout therapy and provide only subtle guidance. Therapists should facilitate patients to express and reflect on their emotional experience (Markowitz & Sachs, 2002).
- *To be avoided behaviours*: In SP, therapists should refrain from specific techniques inherent to other forms of psychotherapy, such as CBASP, CPT, IPT or psychodynamic techniques. Therapists should for example, not assign homework, interpret patients' dreams or actively solve patients' problems. Rather, therapists should facilitate patients to arrive at their own solutions (Markowitz & Sacks, 2002).

In their manual, Markowitz and Sacks (2002) differentiate between an initial, middle and closing phase of treatment. To further illustrate SP, exemplary elements of the three different phases will be explicated.

In the beginning of SP, therapists should welcome patients, explore the reasons for seeking treatment and understand the history of the present problems. In addition to that, the first sessions should be used to do the housekeeping and to accustom patients to the therapeutic setting and tone. Moreover, therapists should strive to foster the therapeutic alliance verbally and non-verbally. An example of non-verbally strengthening the alliance can be to lean forward; by using the proverb 'we', therapists can verbally underscore the alliance. Moreover, therapists should minimize ruptures to the alliance, by for example, illuminating patients' negative reactions to the treatment and resolving potential upset on part of the patients (Markowitz & Sacks, 2002).

In the middle phase, treatment topics usually narrow down to one critical theme. In the case of persistently depressed patients, this theme may be related to

self-hatred, distress, anhedonia or unhappy relationships. Therapists should refrain from active interventions and facilitate patients to arrive at their own conclusions on how to deal with the circumstances. To do so, therapists could for example, normalize patients' problems, educate patients about their problems or focus on adaptive coping skills. Other supportive techniques include explicitly encouraging patients and guiding patients through their experience of negative affect (Markowitz & Sacks, 2002).

In the closing phase of SP, therapists should invite patients to review the therapy by talking about how the patients' understanding of their problems have developed over the course of treatment. Additionally, therapists and patients should address remaining issues of patients, and patients may be provided with contact details for further support (Markowitz & Sacks, 2002).

In contrast to more structured, directive psychotherapies such as CBASP, it is difficult to manualise exactly what therapists have to do. Yet, research shows that therapists are able to adhere to SP (Markowitz, Spielman, Scarvalone, & Perry, 2000).

2.3.3 Efficacy

SP has been studied extensively, mainly as a comparator to an experimental treatment condition, and has fared well in many research trials covering diverse diagnoses (Cuijpers et al., 2012; Markowitz, 2014). In comparison to other disorder-specific treatments, SP reached comparable results in treating anorexia nervosa (McIntosh et al., 2005) and social phobia (Lipsitz et al., 2008). Regarding personality disorders, SP was found to be generally as effective as Transference-Focused Psychotherapy (TFP) and Dialectical Behavioral Therapy (DBT) in treating borderline personality disorder (Clarkin, Levy, Lenzenweger, & Kernberg 2007). In another study comparing SP to dynamic psychotherapy, both treatments were equally effective in treating patients suffering from a Cluster C personality disorder (Hellerstein et al., 1998). With regards to depressive disorders, results were similar: In contradiction to the study's hypothesis, SP fared equally well as CBASP in treating persistently depressed patients in a large trial (Kocsis et al., 2009). In another study on the effects of psychotherapy on persistently depressed patients, SP and IPT had comparable antidepressant effects (Markowitz, Kocsis, Bleiberg, Christos, & Sacks, 2005). In a sample of depressed patients who were HIV-positive, treatment outcomes of patients receiving SP were comparable to patients receiving CBT (Markowitz,

Kocsis, Fishman, & et al., 1998). In a meta-analysis, Cuijpers et al. (2012) found that SP was effective, less so than other psychotherapies, though. Yet, the latter effect may be due to researcher allegiance, that is, the extent to which a researcher identified with or favoured one treatment over the other. This means that after controlling for allegiance, SP is arguably comparably effective to other psychological treatments (Markowitz, 2014).

2.4 Alliance

The concept of alliance will be described by firstly explicating its historical roots (cf. Horvath, 2000). Following that, the most frequently used instruments to measure alliance will be introduced. Lastly, findings on the relationship between alliance and outcome will be summarized. Specific results from the scarce body of literature on the alliance-outcome link in treatment with CBASP will be presented.

2.4.1 Historical roots

The concept of alliance between patient[1] and therapist is rooted in the writings by Freud (Horvath & Luborsky, 1993). Freud regarded the therapeutic relationship, which in this dissertation is referred to as alliance, as the positive transference of the patient onto the therapist (Freud, 1913). This perspective underscored the intrapsychological and neurotic component of the relationship. Since Freud understood the alliance as the product of transference, it was subject to the psychoanalytic process and was meant to dissolve (Horvath, 2000). Later, Freud (1913) expanded this conceptualization by a reality-based form of attachment (Horvath & Luborsky, 1993). Yet, the importance he assigned to transference becomes apparent when he writes: “It [transference] is a universal phenomenon of the human mind, it dominates the whole of each person’s relations to his human environment” (Freud, 1927/1961, as cited in Flückiger et al., 2018, p. 2).

Other analysts later followed up on the idea that transference may be separable from a reality based form of the relationship, and developed different conceptualizations of the alliance between patients and therapists. It was Zetzel (1956), who coined the term *therapeutic alliance.* She proposed that in

[1] In the literature on alliance, patients are often referred to as clients (e.g., Flückiger, Del Re., Wampold, & Horvath, 2018). In this dissertation, the term *patient(s)* will be used for the sake of consistency.

psychoanalysis, patients need to vacillate between transference and a non-neurotic therapeutic alliance with the therapist. The term *working alliance* was coined by Greenson who defined it as:

> the relatively nonneurotic, rational rapport which the patient has with his analyst. It is this reasonable and purposeful part of the feelings the patient has for the analyst […]. It can be seen at its clearest when a patient, in the throes of an intense transference neurosis, can yet maintain an effective working relationship with the analyst. (Greenson, 2008, pp. 79-80)

Beyond psychoanalysis, Rogers (1951) developed client-centred psychotherapy. There, empathy, congruence and unconditional positive regard on behalf of therapists towards patients are sine qua non for the alliance. Rogers assumed these three variables to be curative, sufficient and necessary for the patient to grow and heal. According to Horvath (2000), the school of behaviourism and behavioural psychotherapy had adopted the view that therapists are teachers to patients, instructing them in new and more adaptive skills and behaviours. Here, the alliance between patient and therapist was traditionally regarded as the by-product or consequence of therapeutic interventions. Only later did the behaviouristic school of psychotherapy assume that it was the alliance which created the environment in which techniques could operate (Horvath, 2000). An alternative conceptualization, brought forward by attachment theorists, holds that “the client, as part of the therapy process, develops the capacity to form a positive, need-gratifying relationship with the therapist” (Horvath & Luborsky, 1993, p. 561).

Later, based on Freud’s explanations, Luborsky (1976) introduced the *helping alliance* which he defined as “the patient’s experience of the treatment or relationship with the therapist as helpful or potentially helpful” (Alexander & Luborsky, 1986, p. 326). The helping alliance is assumed to constitute two types: Type I - the perceived supportiveness of the therapist and Type II - the joint working on treatment goals (Luborsky, 1976; Luborsky, 2000). Luborsky further assumed that Type I was more pronounced at the beginning of a therapy, whereas Type II was more dominant in the later stages of the process. While Luborsky’s theory originated from classic psychoanalytic writings, his conceptualization of the helping alliance has been applied to treatment forms over and above psychoanalysis (Flückiger et al., 2018).

Based on Greenson’s working alliance, Bordin (1979) formulated a deliberate pantheoretical conceptualization of alliance, which comprises three components:

goals, tasks, and bonds. By *goals* Bordin means the mutually agreed upon goals of the therapeutic intervention. *Tasks* refer to certain behaviours inherent to the psychotherapeutic practise (e.g., free association or repeating certain behaviours) and *bonds* represent the nature of the relationship and include for example, trust or liking. Further, Bordin assumed that goals, tasks, and bonds constituted the alliance in all forms of treatments, but that the weighing of components varied between treatments (Flückiger et al., 2018).

Generally, interest in a pantheoretical conceptualization of the alliance increased as the accumulating body of literature on therapy outcome indicated that it was not any one method of therapy, but rather one general factor, which best predicted therapy outcome (Horvath, 2000).

2.4.2 Operationalisations and research instruments

The scientific engagement with the alliance construct gave rise to the development of numerous measurement instruments. Among the most prominent ones are the Pennsylvania Helping Alliance Scales (Alexander & Luborsky, 1986; Luborsky, Crits-Christoph, Alexander, Margolis, & Cohen, 1983; Luborsky, McLellan, Woody, O'Brien, & Auerbach, 1985; Morgan, Luborsky, Crits-Christoph, Curtis, & Solomon, 1982), the Vanderbilt Psychotherapy Process Scales (VPPS; Suh, Strupp, & O'Malley, 1986), the Working Alliance Inventory (WAI; Horvath & Greenberg, 1989), and the California Psychotherapy Alliance Scales (CALPAS; Marmar, Gaston, Gallagher, & Thompson, 1989) (Flückiger, Horvath, Del Re, Symonds, & Holzer, 2015; Hatcher & Barends, 2006). In fact, about two thirds of all studies included in a recent meta-analysis on the link between alliance and outcome were based on some version of the above instruments (Flückiger et al., 2018), which have acceptable reliability (Martin et al. 2000). An exploratory factor analysis on the WAI, CALPAS and one of the Pennsylvania Helping Alliance Scales found that common to the instruments was a factor called Confident Collaboration (Hatcher & Barends, 1996).

As the studies in this dissertation employed one of the Pennsylvania Helping Alliance Scales, they will be described in more detail. The Pennsylvania Helping Alliance Scales are based on Luborsky's (1976) concept of the helping alliance and seek to measure both types of the helping alliance, that is, the patient perceiving the therapist as helpful and supportive and working together towards common goals. At first, Luborsky and colleagues developed the Helping Alliance Global Rating Method (HAr; Morgan et al., 1982) and the Helping Alliance Counting Sign Method (HAcs;

Luborsky et al., 1983). Both instruments rely on observer ratings and are highly correlated (Luborsky et al., 1983). Later, the Helping Alliance Questionnaire was developed as a self-rating instrument (HAq; Luborsky et al., 1985). The HAq was subsequently revised into the HAq-II. The Haq-II was short off 6 items on early symptomatic improvement and complemented by 14 items on the collaboration between patients and therapists, on how patients perceived therapists and on how patients perceived therapists feeling toward them (Luborsky et al., 1996). Because the HAq-II lacks psychometric testing and application in the literature, the HAq is still commonly used and recommended (Elvins & Green, 2008; Martin, Garske, & Davis, 2000; Nübling et al., 2017).

2.4.3 Findings on the alliance-outcome link in psychotherapy

By means of these and other research instruments on the alliance, research has generally been concerned with four broad areas: firstly, how does alliance relate to therapy outcome? Secondly, how does therapy outcome relate to alliance as assessed from various standpoints, that is, self-ratings, patient, therapist, and observer ratings? Thirdly, what is the size of the alliance-outcome link at different times over the course of therapy? And lastly, how does alliance emerge and develop over time? (Horvath, 2005).

Several meta-analyses have investigated primary studies on the association between alliance and therapy outcome. Indeed, Horvath and Symonds (1991) included 24 studies in their meta-analysis and found a moderate association between a good working alliance and outcome - with clients' assessments of alliance being the best predictor. Moreover, their meta-analysis showed that the magnitude of the correlation between alliance and outcome did not significantly vary with treatment type or number of treatment sessions (Horvath & Symonds, 1991). Similarly, Martin et al. (2000) and Horvath et al. (2011) found a moderate alliance-outcome link, which was not substantially influenced by a number of moderator variables (e.g., type of treatment). Later meta-analyses paralleled earlier findings and thereby supported the notion that there is a medium association between alliance and outcome (Del Re, Flückiger, Horvath, Symonds, & Wampold, 2012; Flückiger et al., 2015). The latest meta-analysis did not only confirm the robustness of the alliance-outcome link but could further provide evidence that the alliance is indeed a causal predictor of therapy outcome (Flückiger et al., 2018).

Only 2 studies have examined the alliance-outcome link in treatment for persistent depression with CBASP. A study which analysed data from the study by Keller et al. (2000) found that after controlling for earlier symptom improvement and several patient characteristics (e.g., gender or history of abuse and neglect), patient-rated early alliance predicted subsequent reduction in depressive symptoms. Additionally, the study observed that patients who had received combined treatment of CBASP and pharmacotherapy had higher alliance ratings than patients receiving CBASP alone. The positive effect of alliance on treatment outcome, that is, depressive symptoms, was similar in both treatment conditions (Klein et al., 2003). Similarly, an analysis on the Kocsis et al. (2009) data found that early alliance ratings by patients, who were treated with either CBASP or BSP predicted depressive symptoms improvement after controlling for prior depression reduction and global functioning at baseline. The alliance-outcome link was more pronounced in the group of patients receiving CBASP (Arnow et al., 2013). Both studies considered the reverse hypothesis, that is, that alliance resulted from a reduction in depressive symptoms. The findings however indicated that in treatment with CBASP better alliance facilitates better treatment outcome (Constantino et al., 2016).

Generally, 2 mechanisms have been proposed to explain the alliance-outcome link in CBASP: In the first mechanism, a quality alliance acts as a precondition in which the specific techniques of CBASP, such as SA, can be effective. In the second mechanism, a sound alliance enables the patient to make new and corrective relational experiences which are a precondition for interpersonal change to occur (Constantino et al., 2016). The first putative mechanism was investigated in a reanalysis of the data by Keller et al. (2000). Results showed that a specific skill taught in CBASP, SA, did not mediate the association between alliance and treatment outcome and therefore rejected the explanatory model (Santiago et al., 2005). Another reanalysis of the same dataset supported the second possible mechanism (Constantino et al., 2016). The authors found that the alliance-outcome link was mediated by patients' interpersonal change: Higher patient-rated early alliance predicted a decrease in hostile-submissiveness which was associated with lower depression at the end of treatment. These findings support CBASP change theory which posits that the alliance can positively impact the interpersonal functioning and that such changes positively influence the symptoms of persistently depressed patients (Constantino et al., 2016).

All in all, the literature on the alliance-outcome link supports the notion that the alliance between patient and therapist is central to treatment in general and to treatment of persistent depression with CBASP in particular.

3 AIMS AND HYPOTHESES

Despite the alliance being central to CBASP, little is known about how CBASP effects the alliance. This dissertation sought to investigate the alliance between persistently depressed patients and their therapists who received either the disorder-specific CBASP or the non-specific SP. In order to study the alliance in CBASP, this dissertation intended to firstly, examine the psychometric properties of the German HAq (hereafter spelled HAQ), which was translated by Bassler et al. (1995) and is available for patients (HAQ-P) and therapists (HAQ-T). The authors propose that the HAQ has a two-dimensional structure with the factors 'satisfaction with therapeutic outcome' and 'relation to the patient/therapist' The HAQ is a highly important instrument in psychotherapy research (Elvins & Green, 2008; Nübling et al., 2017; Wampold & Imel, 2015). Yet, there is inconclusive evidence on its psychometric properties (Nübling et al., 2017; Puschner, Bauer, Horowitz, & Kordy, 2005). Furthermore, psychometric examination of the German HAQ-T is lacking entirely. Hence, Study 1 aimed at expanding on the literature on the HAQ by investigating the specific psychometric aspects of the German HAQ-P and HAQ-T. Study 1 was guided by the hypotheses below:

- The patient and therapist version of the HAQ (HAQ-P and HAQ-T) consist of two theoretically proposed factors, that is, 'satisfaction with therapeutic outcome' and 'relation to the patient/therapist' *(hypothesis 1).*
- The resulting subscales 'satisfaction with therapeutic outcome' and 'relation to the patient/therapist' are reliable and convergently valid *(hypothesis 2)*.

Study 2 investigated how the patient-rated alliance between persistently depressed patients and their therapists developed over the course of a 48-week long treatment with either CBASP or SP. McCullough (2000) posits that CM is aetiological for characteristics which impede the formation of a positive alliance. McCullough (2000) further argues that persistently depressed individuals necessitate a distinct personal therapeutic relationship with their therapist. Hence, unlike in other forms of treatment, CBASP entails specific techniques which are aimed at enabling the patient to make new relational experiences with the therapist (McCullough, 2000, 2012). So

far, the positive effect of CBASP, as compared to BSP, on the average patient-rated alliance has been established in only one study (Arnow, 2013). This dissertation investigated both the overall average differences in alliance ratings between CBASP and SP as well as the development of alliance ratings over time. In addition to that, it was examined whether CBASP and SP have differential effects on the course of alliance ratings between patient groups with distinct degrees of CM.

Based on the results by Arnow et al. (2013) and the assumptions of CBASP theory, Study 2 tested the following hypotheses:

- CBASP has a more positive effect on the therapeutic alliance than supportive psychotherapy (SP) *(hypothesis 1).*
- Alliance improves over the course of therapy with CBASP and SP *(hypothesis 2).*
- The increase in alliance ratings is most pronounced in patients with severe CM receiving CBASP *(hypothesis 3).*

4 METHODS

Both, Study 1 and 2, analysed data from a large multicentre, observer blind, prospective, parallel-group, randomized controlled trial (RCT) on the comparative efficacy of CBASP versus SP for early onset persistent depression (Schramm et al., 2011). The RCT was conducted at 9 university centres in Germany: (1) Department of Clinical and Developmental Psychology, University of Tuebingen, Principal Investigator: Martin Hautzinger, PhD); 2) Department of Psychiatry, University of Heidelberg (Site Principal Investigator: Matthias Backenstraß, PhD); 3) Central Institute of Mental Health in Mannheim (Site Principal Investigator: Josef Bailer, PhD); 4) Psychological Outpatient Clinic, University of Marburg, (Site Principal Investigator: Katrin Wambach, PhD); 5) Department of Psychiatry and Psychotherapy, University of Luebeck, Germany (Site Principal Investigator: Philipp Klein, MD); 6) Department of Psychiatry; University Medical Center Bonn (Site Principal Investigator: Dieter Schoepf, MD); 7) Department of Psychosomatic Medicine and Psychotherapy, University Medical Center Hamburg-Eppendorf and Clinic Center Eilbek (Site Principal Investigator: Bernd Löwe, MD); 8) Department of Psychiatry and Psychotherapy, University Medical Center Freiburg (Site Principal Investigator: Elisabeth Schramm, PhD); (9) Institute of Clinical Psychology, Hospital Stuttgart (Site Principal Investigator: Matthias Backenstraß, PhD)). 268 medication free outpatients were randomized into receiving either CBASP or SP as the active, nonspecific control treatment. The RCT was registered at ClinicalTrials.gov (NCT00970437) and was titled “A comparison of the Cognitive Behavioural Analysis System of Psychotherapy against supportive psychotherapy for early onset chronic depression”.

The study intervention constituted of two treatment phases (acute and continuation) of either CBASP or SP. The acute treatment phase included 20 weeks with 24 individual therapy sessions and was followed by the continuation phase. In the latter, patients received 28 weeks with 8 psychotherapy sessions. Figure 5, taken from Schramm et al. 2011, depicts the procedures of the RCT.

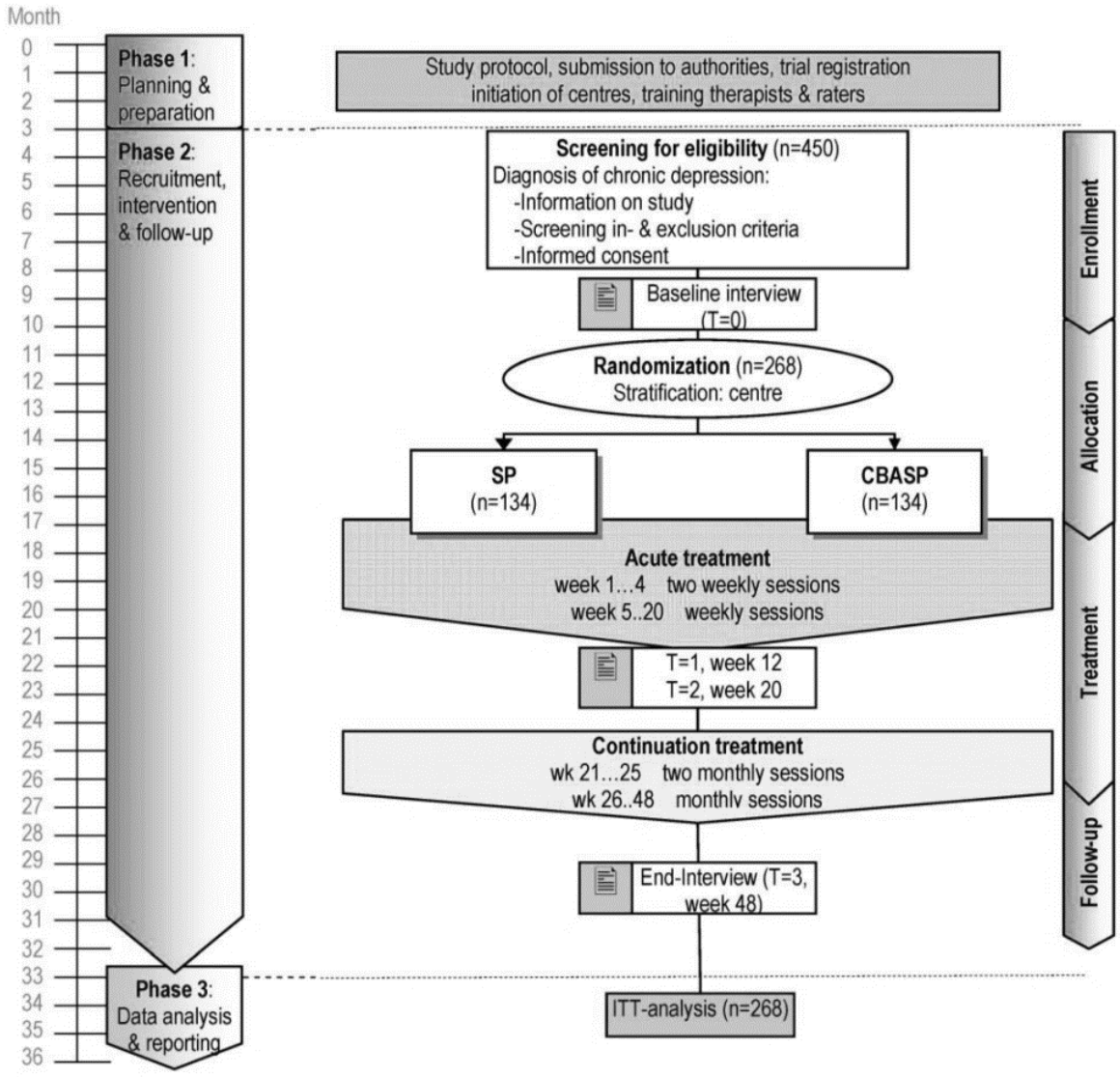

Figure 5. Design of multicentre randomized controlled trial (reprinted from Schramm et al., 2011a, p. 3); CBASP: Cognitive Behavioral Analysis System of Psychotherapy; SP: Supportive Psychotherapy; wk: week.

450 patients were screened for eligibility at the participating study sites. Inclusion criteria were: (i) age 18 to 65; (ii) early onset (before the age of 21) chronic Major Depressive Disorder (MDD), or current MDD superimposed on a pre-existing dysthymic disorder ("double depression"), or recurrent MDD with incomplete remission between episodes (as diagnosed according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric American Psychiatric Association, 2000)); and (iii) a score of 20 or above on the 24-item Hamilton Rating Scale for Depression (HRSD-24; Hamilton, 1967). Patients on antidepressant medication were asked to discontinue the medication (at least 2

weeks of washout) before entering the trial. Exclusion criteria were (i) acute suicidality, (ii) a history of psychotic symptoms, bipolar disorder, or organic brain disorder, (iii) a comorbid primary diagnosis of another axis I disorder, substance use disorder, (iv) antisocial, schizotypal, or borderline personality disorder, (v) severe cognitive impairment, (vi) non-response to CBASP and/or SP in an earlier trial, (vii) ongoing psycho-/pharmacotherapy, and (viii) a serious medical condition. All participants were given information on the study and gave written informed consent before the study commenced. This sampling procedure resulted in 268 participants who were stratified by centre and randomized into either CBASP (*n* = 134) or SP (*n* = 134).

CBASP and SP were conducted according to manual (Markowitz & Sacks, 2002; McCullough, 2000) and by separate therapists (*n* = 81). All therapists had completed a 3-year psychotherapy training or were in an advanced stage of training and had been trained in either SP or CBASP in a 2-day workshop. Before therapy began, therapists had to fulfil the criteria for the mastery in CBASP or SP. Mastery was assessed by evaluating therapists' performance during 2 pilot cases which were videotaped. During the therapy, all sessions were videotaped and supervised at regular intervals. Moreover, manual adherence was checked on a random basis (Markowitz, 2003; McCullough, 2000).

Throughout the treatment, there were four measurement points: baseline (T0), week 12/session 16 (T1), week 20/session 24 (T2), and week 48/session 32 (T3). Diagnoses were derived at T0, T2, and T3 from the Structured Clinical Interview for DSM-IV (SCID-I and II) (First et al., 1997a und b). At T0, patients were asked for socio-demographic and medical data, for example, sex, age, medical history, and suicidal attempts. Outcome measures included the severity of depression, treatment expectation, levels of anxiety, perceived quality of life, interpersonal problems, social functioning, and CM. Additionally, pre/post evaluations of the depressive symptoms by a relative of the patient were assessed. Moreover, patients and therapists evaluated the perceived helping alliance after each session. All clinical ratings were conducted by independent evaluators who were blinded to treatment condition. For more details on the procedure see Schramm et al. (2011a).

To test the specific hypotheses of this dissertation, data from screening and baseline (sociodemographic information, medical history, diagnoses, depressive symptomatology, and CM) was combined with longitudinal data from every session

throughout treatment (alliance ratings): Sociodemographic variables and medical history included sex, age, marital status, education, age of depression onset. Clinical diagnoses were derived from the Structured Clinical Interviews for DSM-IV (SCID I and II; First, Gibbon, Spitzer, Williams, & Benjamin, 1997; First, Spitzer, Gibbon, & Williams, 2002) and severity of depressive symptoms was quantified by the 24-item version of the HRSD (Hamilton, 1967). CM was measured by means of the Childhood Trauma Questionnaire (CTQ; Bernstein et al., 2003) and the Early Trauma Inventory (ETI; Bremner, Vermetten, & Mazure, 2000). The alliance was assessed by the German version of the Helping Alliance Questionnaire for patients and therapists (Bassler et al., 1995; Luborsky et al., 1996). Study 1 included data on the alliance (HAQ-P and HAQ-T) at the beginning of therapy, that is, session 1 (if data from session 1 was missing, data from session 2 or session 3 was used instead) whereas in Study 2, HAQ-P data from all measurement points were included in the analyses. Methods employed for data analyses and more details on the measurement instruments will be described in the respective studies.

5 STUDY 1: THE GERMAN VERSION OF THE HELPING ALLIANCE QUESTIONNAIRE: PSYCHOMETRIC PROPERTIES IN PATIENTS WITH PERSISTENT DEPRESSIVE DISORDER

Eich, H. S., Kriston, L., Schramm, E., & Bailer, J. (2018). The German version of the helping alliance questionnaire: psychometric properties in patients with persistent depressive disorder. BMC Psychiatry, 18(1), 107. doi: 10.1186/s12888-018-1697-8

Abstract

Background: The Helping Alliance Questionnaire (HAQ) is a frequently used and highly relevant instrument to assess the therapeutic alliance. The questionnaire was translated into German by Bassler and colleagues (1995) and is available for patients (HAQ-P) and therapists (HAQ-T). Whereas the HAQ-P has been tested regarding psychometrics, the HAQ-T has not. This study aimed at further investigating the psychometric properties of both the HAQ-P and HAQ-T. We hypothesized that the instrument is reliable and shows factorial as well as convergent validity. *Methods*: Within the framework of a multisite, randomized-controlled clinical trial, comparing the efficacy of Cognitive Behavioral Analyses System of Psychotherapy (CBASP) and supportive psychotherapy (SP) in the treatment of early onset persistently depressed outpatients, the HAQ was filled out by patients (n=255) and therapists (n=81). 66.0% of patients were female; average age at randomization was 44.9 years (SD=11.8). Several confirmatory factor analyses were conducted to test different structures for the HAQ. In addition, correlations between the HAQ and the Inventory of Interpersonal Problems (IIP) were calculated to test for convergent validity. *Results*: Goodness of fit indices for both a model with two different but strongly related factors named ‘relation to the patient/therapist’ and ‘satisfaction with therapeutic outcome’ and a second model with only one global helping alliance factor were comparable: Chi-Square-based indices rejected the models; RMSEA closely approached the threshold of good model fit, and CFI/TLI and SRMR suggested that both models sufficiently fit the data. The internal consistency (Cronbach’s α) calculated for the different scales of the HAQ ranges between questionable to good. Finally, the HAQ scores were significantly related to some of the IIP scores. *Conclusions*: The German versions of the HAQ offer sufficient reliable instruments for the quick assessment of different facets of the therapeutic alliance. The HAQ global scores can be used as indicators for the global impression of the patients’ and therapists’ perception of the

quality of the therapeutic alliance. However, the small correlations found between the IIP and the HAQ puts the question of external validity into perspective.

Trial registration: This study analysed data from a RCT which was registered on ClinicalTrials.com (NCT00970437). First submitted on September 1, 2009.

Keywords: Helping alliance questionnaire (HAQ), Helping alliance, Therapeutic alliance, Psychometrics, Persistent depression

5.1 Background

The relationship between patient and therapist is one important factor in psychotherapy which predicts therapy outcome (Crits-Christoph, Gibbons, & Mukherjee, 2013; Wampold & Imel, 2015). One perspective on this relationship is the concept of alliance which was originally defined by Bordin (1979) and "describes the degree to which the therapy dyad is engaged in collaborative, purposive work" (Hatcher & Barends, 2006, p.293). Today, it is the most studied process variable in psychotherapy research (Flückiger et al., 2015). Three internationally often used instruments to measure alliance are the Helping Alliance Questionnaire (Luborsky, 2000), the Working Alliance Inventory (Horvath & Greenberg, 1989) and the California Psychotherapy Alliance Scales (Hatcher & Barends, 1996; Marmar, Weiss, & Gaston, 1989). The Working Alliance Inventory (Horvath & Greenberg, 1989) is directly derived from Bordin's theory of alliance (Hatcher & Barends, 2006). It measures the agreement of patient and therapist on goals for and tasks in therapy as well as the affective bond between patient and therapist (Horvath & Greenberg, 1989). The California Psychotherapy Alliance Scales, which incorporates several perspectives on alliance, assesses the (i) patient's commitment to therapy, (ii) the working capacity of the patient, (iii) the therapist's understanding and involvement and (iv) the agreement of patient and therapist on goals and tasks (Gaston, 1991). The Helping Alliance Questionnaires (HAQ), of which one was investigated in this study, were developed by Alexander and Luborsky (1986). The first version of the HAQ was designed so that it encompasses two dimensions: HA1, that is, the patient perceiving the therapist as helpful and supportive and HA2, that is, working together towards common goals. Despite the two dimensions, authors themselves worked with the sum score of all items (Luborsky et al., 1985). Later, Luborsky and colleagues developed a revised version of the HAQ, the HAq-II, in which the authors removed 6 items on early symptomatic improvement and added 14 items on the collaboration between patient and therapist, on how the patient perceived the therapist and on how the patients perceives the therapist's feeling toward him or her (Luborsky et al., 1996). The revised version however lacks sound psychometric testing and application in research (Nübling et al., 2017). Hence, while there is the HAq-II (for patients, therapists and observers), the HAQ is still widely used and recommended for research (Elvins & Green, 2008; Martin et al., 2000). The factor structure and psychometric properties of the HAQ have been investigated in six

studies, which included in- and outpatient samples with heterogeneous diagnoses and receiving different forms of psychotherapy (Bassler & Nübling, 2015; Bassler et al., 1995; De Weert-Van Oene, Jorg, & de Jong, 2006; Hatcher & Barends, 1996; Hendriksen et al., 2010; Nübling et al., 2017). The studies generally confirmed the HAQ's quality and its two factors: one related to the relationship and the other to outcome. Yet, the assignment of items to factors as well as the labelling of factors differed between studies. The authors attributed these discrepancies to differing statistical approaches (e.g., relying solely on exploratory factor analysis or allowing for correlated errors in confirmatory factor analysis), linguistic, cultural and scaling influences on responses, as well as differences in study setting such as study sample and treatment (Bassler & Nübling, 2015; Bassler et al., 1995; De Weert-Van Oene et al., 2006; Hatcher & Barends, 1996; Hendriksen et al., 2010; Nübling et al., 2017).

5.1.1 German version of the HAQ

5.1.1.1 Factor structure

Only the first version of the HAQ was translated into German (Bassler et al., 1995). Like Alexander and Luborsky (1986), the German authors found two factors (Bassler & Nübling, 2015; Bassler et al., 1995). Yet, the assignment of items to factors and the number of items per factor differed to the originally proposed two-dimensional structure by Alexander and Luborsky (1986) (Elvins & Green, 2008; Martin et al., 2000). Two studies explicitly investigated the factor structure of the German version of the HAQ which is available in two versions – one for the patient (HAQ-P) and one for the therapist (HAQ-T). The earlier study (Bassler et al., 1995) tested the HAQ-P in a sample of 239 psychodynamically treated inpatients with diverse diagnoses and found two factors, which they called 'satisfaction with therapeutic outcome' (items 2, 3, 4, 5, 11) and 'relation to the therapist' (items 1, 6, 7, 8, 9, 10). Item 2 and item 3 did not load clearly on either factor. Based on the items' semantics, the authors assigned these items to the factor labelled 'satisfaction with therapeutic outcome'. This assignment was later confirmed by test theoretical examination. Cronbach's α of the global alliance scale was 0.89; the internal reliability of the subscales was similarly high ('relation to the therapist': Cronbach's $\alpha = 0.89$, 'satisfaction with therapeutic outcome': Cronbach's $\alpha = 0.84$). The intercorrelation between the factors was $r = 0.43$. Recently, a study by Nübling et al. (2017) generally supported the two-factorial structure in a combined sample of three studies with in total 4626 in- and

outpatients. Yet, items 1, 2 and 3 loaded inconsistently on the factors. Moreover, the fit indices of the confirmatory factor analyses suggested that the two items should be removed from the questionnaire. The authors however retained the two-dimensional structure of the HAQ-P including all 11 items for content-related reasons and because it is commonly used. The factors correlated between $r = 0.45$ and $r = 0.76$. Hence, considering the equivocal findings with regards to the factor structure of the HAQ, the call for a sound psychometric foundation of the widely used HAQ-P (Nübling et al., 2017) and its appropriateness to measure the helping alliance (Puschner et al., 2005) remains open to discussion. Furthermore, psychometric examination of the German HAQ-T is entirely lacking. Therefore, this study aimed at adding to the already existing literature by testing the reliability and the factorial structure, of the German version of the HAQ-P and HAQ-T.

5.1.1.2 Validity

The German HAQ-P was found to have satisfactory convergent and discriminant validity as assessed by a number of variables which directly or indirectly measure therapy outcome and motivation for therapy (Bassler & Nübling, 2015; Bassler et al., 1995; Nübling et al., 2017). We sought to expand the research on the validity of the HAQ by correlating the HAQ-P and HAQ-T with patients' pre-treatment interpersonal problems. Patients with friendly-submissive behaviours facilitate a positive alliance with the therapist, whereas patients with hostile-dominant behaviours negatively impact alliance (Muran, Segal, Samstag, & Crawford, 1994). Also, McCullough (2000) postulates that the hostile and hostile-submissive behaviours of persistently depressed patients impedes the interactions between patient and therapist. Hence, alliance scores should be negatively related to patients being overly hostile-dominant, hostile and hostile-submissive. Patients being friendly-submissive should be positively related to alliances scores.

5.1.1.3 Hypotheses

We hypothesised that the two theoretically proposed factors, that is, 'satisfaction with therapeutic outcome' and 'relation to the patient/therapist', would be confirmed and that the resulting subscales would be reliable and convergently valid.

5.2 Methods

The hypotheses were tested with data from a randomized controlled trial (RCT) comparing the efficacy of the Cognitive Behavioural Analysis System of Psychotherapy (CBASP) to an active control group, that is, supportive psychotherapy (SP). The RCT was registered on ClinicalTrials.com (NCT00970437). This prospective and observer-blind study was conducted at eight university centres throughout Germany. For details on the procedures, methodology, and outcome of the RCT see (Schramm, 2015; Schramm et al., 2017).

5.2.1 Participants

Patients between the age of 18 and 65 years, who had been diagnosed according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 2000) with an early onset (before the age of 21) diagnosis of chronic Major Depressive Disorder (MDD), current MDD superimposed on a pre-existing dysthymic disorder ("double depression") or recurrent MDD with incomplete remission between episodes and scoring a minimum of 20 points on the 24-item Hamilton Rating Scale for Depression (HRSD; Hamilton, 1967) were eligible to participate. Patients on antidepressant medication had the opportunity to discontinue it (at least two weeks of washout) before entering the trial. Unless any of the following exclusion criteria were met, patients were invited to take part in the study. Exclusion criteria were (i) acute suicidality, (ii) a history of psychotic symptoms, bipolar disorder, or organic brain disorder, (iii) a comorbid primary diagnosis of another axis I disorder, substance use disorder, (iv) antisocial, schizotypal, or borderline personality disorder, (v) severe cognitive impairment, (vi) non-response to CBASP and/or (SP) in an earlier trial, (vii) ongoing psycho −/pharmacotherapy, and (viii) a serious medical condition (Schramm, 2015). This sampling procedure resulted in 268 participants of whom 66% were female and who were on average 44.91 (*SD* = 11.82) years old (Table 1).

Table 1

Patient characteristics at baseline

Variable	Participants (*n* = 268)
Age, *M, SD*	44.91; 11.82
Gender, *n* (%)	
Male	91 (34.0)
Female	177 (66.0)
Age at onset, *M; SD*	13.00; 4.41
Marital status, *n* (%)	
Married; cohabiting	106 (39.6)
Single	117 (43.7)
Divorced, widowed	45 (16.8)
Educational level, *n* (%)	
≤ 11 years	96 (35.8)
≥ 12 years	172 (64.2)
Diagnosis[a], *n* (%)	
Double Depression	119 (45.8)
Chronic Major Depression	82 (31.5)
Recurrent Major Depression without complete remission between episodes	59 (22.7)
Early trauma[a, b], *n* (%)	194; 74.6
CTQ global sum score[a], *M; SD*	52.82; 16.03
Emotional abuse[a], *M; SD*	13.82; 5.57
Physical abuse[a], *M; SD*	7.83; 4.21
Sexual abuse[d], *M; SD*	6.52; 3.03
Emotional neglect[e], *M; SD*	16.18; 5.02
Physical neglect[a], *M; SD*	8.43; 3.17
HRSD score[c], *M; SD*	27.07; 5.61

Notes. [a] *n* = 260 (different to Schramm et al. (2017), we included belatedly collected (session 3) CTQ data for 4 participants for whom data was missing at baseline); [b] at least moderate to severe in 1 of 5 dimensions assessed with the Childhood Trauma Questionnaire; [c] HRSD = Hamilton Rating Scale of Depression; [d] *n* = 258, [e] *n* = 259.

5.2.2 Treatments

Psychotherapy ran in parallel in both conditions (CBASP and SP) and included an acute therapy phase (20 weeks, 24 individual sessions) followed by eight continuation sessions over the next 28 weeks. CBASP is a highly structured intervention in which patients learn to recognize the effects of their behaviours on others, to actively deal with interpersonal problems and to strengthen self-efficacy by reaching their desired outcomes with other people. SP is a supportive, nonspecific, client-centred approach to psychotherapy including elements of psychoeducation and facilitation of affect (Markowitz, Manber, & Rosen, 2008).

5.2.3 Therapists

CBASP and SP were conducted by two groups of psychotherapists (n = 81), all of whom had either completed a three-year psychotherapy training or were in an advanced stage of training. In addition, therapists had been trained in a two-day workshop and had at least one practice day in either CBASP or SP. Before therapists began working with patients, they had to meet the criteria for mastery in CBASP or SP. During the therapy, all sessions were videotaped, and supervision took place regularly.

5.2.4 Measures

5.2.4.1 Demographic variables and early maltreatment

During the initial screening, sociodemographic variables, such as sex, age, nationality, marital status, education, occupation, and employment were recorded. Additionally, the Childhood Trauma Questionnaire (CTQ; Bernstein et al., 2003) was used to assess early traumatization in terms of emotional and physical abuse or neglect and sexual violence.

5.2.4.2 Diagnoses and depressive symptomatology

Before therapy commenced, clinical diagnoses had been derived from the Structured Clinical Interviews for DSM-IV (SCID I and II; First et al., 1997; First et al., 2002) and severity of depressive symptoms had been quantified by the 24-item version of the HRSD.

5.2.4.3 Therapeutic alliance

Alliance was assessed at the beginning of therapy, that is, after session 1. If the alliance questionnaire was not distributed and/or was not returned after session 1, alliance was assessed after session 2 or 3. Both patient and therapist filled out the HAQ-P and HAQ-T (Bassler et al., 1995), respectively. The 11 items of these self-report instruments take maximally 10 min to fill out. All items were rated on a 6-point Likert Scale from “strongly agree” (3 points) to “strongly disagree” (−3 points).

5.2.4.4 Pretreatment interpersonal problems

We measured interpersonal problems by means of the German version of the Inventory of Interpersonal Problems (IIP-64; Horowitz, Alden, Kordy, & Strauß, 2000). Its 64 items (5-point Likert scale) assess several aspects of social malfunctioning on 8 subscales which are correlated in the form of a circumplex: (i) domineering/controlling, (ii) vindictive/self-centred, (iii) cold/distant, (iv) socially inhibited, (v) non-assertive, (vi) overly accommodating, (vii) self-sacrificing, (viii) intrusive/needy. The subscales 1 through 4 describe problems with being too dominant, hostile, hostile-dominant, and hostile-submissive. The other subscales deal with problems concerning friendly submissiveness or friendly dominance. The questionnaire has been found to be a reliable and valid research instrument in English and German populations (Horowitz et al., 2000).

5.2.5 Data analysis

To test the factor structure of the German HAQ for patients and therapists, we performed confirmatory factor analyses (CFA) by means of structural equation modelling with diagonally weighted least squares estimation (WLSMV). In the analyses items were modelled as ordinally scaled. Based on the recommendation to consider several tests when evaluating model fit (Chen, Curran, Bollen, Kirby, & Paxton, 2008), we included the following indices: Normed Chi-Square (Chi-Square Test of Model Fit divided by Degrees of Freedom), Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), Tucker Lewis Index (TLI) and the Standardized Root Mean Square Residual (SRMR). In order to interpret the fit indices we relied on the same cut-off values (Table 3) as Nübling et al. (2017) did in their study on the HAQ. The models were investigated with regards to internal

consistency and external validity. The internal consistency of the HAQ was assessed by use of Cronbach's α. To externally validate the German HAQ as a measure to assess the therapeutic alliance between patient and therapist, we performed Pearson correlations (two-tailed) between HAQ and IIP (total score and subscale scores). All descriptive statistics, analyses on internal consistency and external validation were performed using IBM SPSS Statistics 24 (SPSS Inc., 2015); lavaan for R (Rosseel, 2012) was used to perform the CFA.

5.3 Results

The sample comprised of 268 patients (Table 1), 177 (66.0%) of whom were female, with an average age of 44.91 (*SD* = 11.82). Almost half of the sample was suffering from double depression (45.8%). The other patients had either chronic major depression (31.5%) or recurrent major depression without complete remission between episodes (22.7%). Patients reported a mean age of onset of 13 years (*SD* = 4.41). The average HRSD score at baseline was 27.07 (*SD* = 5.61). Most patients were single (43.7%) or married (39.6%), 16.8% were divorced or widowed. About one third (35.8%) of patients had been in formal education for at least 12 years. Over 70% reported early childhood maltreatment. Of the 255 patients, who returned the HAQ-P, 254 also filled out the IIP.

5.3.1 Confirmatory factor analysis and internal consistency

To confirm the postulated two-dimensional factor structure of the HAQ (Bassler & Nübling, 2015; Nübling et al., 2017), we assumed a model with two latent factors in confirmatory factor analysis. This model was tested for both the patient and the therapist versions of the questionnaire. Structural equation modelling showed that 6 relationship items and 5 outcome items correlated significantly with the latent factors (Table 2) and that the two factors strongly correlated (HAQ-P: $r = .83$; HAQ-T: $r = .88$). While the goodness of fit indices were mostly satisfactory for the HAQ-T ($\chi^2 = 153.98$, $df = 43$, $p < .001$, $\chi^2/df = 3.58$, RMSEA = .10, CFI = .98; TLI = .97, SRMR = .08), the indices were inconclusive for the HAQ-P ($\chi^2 = 213.36$, $df = 43$, $p < .001$, $\chi^2/df = 4.96$, RMSEA = .12, CFI = .98; TLI = .98, SRMR = .07) (Table 3). Cronbach's α of the two scales ranged from .89 to .75 on the HAQ-P and from .85 to .63 on the HAQ-T. Because of the high correlation between the factors and cross-

loadings between items and factors, we tested a competing one-factor model (Table 2).

Table 2

Standardized factor loadings of items on factors for a two- and one-factorial model

	2 factors		1 factor
HAQ-P[a]	*Relation to the patient/therapist*	*Satisfaction with therapeutic outcome*	*Helping alliance*
1: I believe that my therapist is helping me.	.91[c]		.88[c]
6: I feel I can depend on my therapist.	.75**		.74**
7: I feel the therapist understand me.	.78**		.77**
8: I feel the therapist wants me to achieve my goals.	.84**		.83**
9: I feel I am working together with the therapist in a joint effort.	.88**		.87**
10: I believe we have similar ideas about the nature of my problems.	.73**		.72**
2: I believe that the treatment is helping me.		.95c	.85**
3: I have obtained some new understanding.		.69**	.64**
4: I have been feeling better recently.		.65**	.62**
5: I can already see that I will eventually work out the problems I came to treatment for.		.76**	.70**
11: I feel now that I can understand myself and deal with myself on my own.		.22**	.21**
Correlation between factors	.83**		
M; *SD*	1.56; 0.84	-0.06; 1.15	0.82; 0.88
Cronbach's *α*	.89	.75	.87

HAQ-T[b]			
1: I believe that I am helping my patient.	.77[c]		.76 [c]
6: I feel that my patient relies on me.	.66**		.66**
7: I feel that my patient feels understood.	.87**		.86**
8: I feel my patient believes I am committed to the attainment of his/her goals.	.91**		.90**
9: I feel that my patient is working together with me in a joint effort.	.79**		.78**
10: I believe my patient and I have similar ideas about the nature of his/her problems.	.69**		.69**
2: I believe that the treatment is helping my patient.		.77[c]	.71**
3: I believe that my patient has obtained some new understanding.		.71**	.66**
4: I believe that my patient has recently been feeling better.		.32**	.30**
5: I believe my patient will eventually work out the problems he/she came to treatment with.		.57**	.53**
11: I feel now that my patient can understand him/herself and can deal with him/herself on his/her own.		.28**	.26**
Correlation between factors	.88**		
M; *SD*	0.91; 0.80	-0.32; 0.83	0.35; 0.72
Cronbach's *α*	.85	.63	.84

Note. [a] *n* = 255; [b] *n* = 260; ** *p* < .001; * *p* < .05; [c] reference item in the model; HAQ-P = Helping Alliance Questionnaire for patients; HAQ-T = Helping Alliance Questionnaire for Therapists.

In the one-factor model all items load onto one latent global factor. This model had comparable or slightly inferior fit indices than the two-factor model: HAQ-P ($\chi^2 = 268.42$, $df = 44$, $p < .001$, $\chi^2/df = 6.10$, RMSEA = .14, CFI = .98; TLI = .97, SRMR = .09) and HAQ-T ($\chi^2 = 163.95$, $df = 44$, $p < .001$, $\chi^2/df = 3.73$, RMSEA = .10, CFI = .98; TLI = .97, SRMR = .08) (Table 3). Cronbach's α of the global scale was .87 for the HAQ-P and .84 for the HAQ-T.

Table 3

Goodness of fit indices for a two- and one-factorial model

Model	**χ^2**	***df***	***p***	**χ^2/df**	**RMSEA**	**CFI/TLI**	**SRMR**
Two-factorial model							
HAQ-P	213.36	43	< .001	4.96	.12	.98/.98	.07
HAQ-T	153.98	43	< .001	3.58	.10	.98/.97	.08
One-factorial model							
HAQ-P	268.42	44	< .001	6.10	.14	.98/.97	.09
HAQ-T	163.95	44	< .001	3.73	.10	.98/.97	.08
Cut-off			> .05	< 3	≤.10	≥ .95/≥ .90	< .11

Note. *df* = degrees of freedom; RMSEA = root mean error of approximation; CFI = comparative fit index; TLI = Tucker Lewis index; SRMR = standardized root mean square residual; HAQ-P = Helping Alliance Questionnaire for Patients; HAQ-T = Helping Alliance Questionnaire for Therapists.

5.3.2 External validity

Table 4 shows the correlations between the HAQ global alliance score and its subscales with the IIP total score and its subscales.

Table 4

Correlations between the HAQ and the IIP total score and its 8 subscales

		HAQ-P[b]			HAQ-T[c]		
		Relation to the patient/therapist	*Satisfaction with therapeutic outcome*	*Helping alliance*	*Relation to the patient/therapist*	*Satisfaction with therapeutic outcome*	*Helping alliance*
IIP[a]	*M; SD*	*r*	*r*	*r*	*r*	*r*	*r*
total score	14.92; 3.69	-0.10	-0.15*	-0.14*	-0.05	-0.05	-0.06
Domineering/controlling	8.31; 5.10	-0.14*	-0.10	-0.13*	-0.12	-0.12	-0.13*
Vindictive/self-centred	11.02; 5.19	-0.17**	-0.18**	-0.19**	-0.11	-0.11	-0.12
Cold/distant	14.79; 6.04	-0.21*	-0.21**	-0.23**	-0.08	-0.08	-0.09
Socially inhibited	17.93; 6.71	-0.16*	-0.23**	-0.22**	-0.11	-0.11	-0.12*
Non-assertive	20.04; 6.68	-0.03	-0.12	-0.08	0.00	0.01	0.01
Overly accommodating	17.49; 5.83	0.07	-0.00	0.03	0.10	0.10	0.11
Self-sacrificing	18.71; 5.29	0.11	-0.01	0.06	0.08	0.08	0.09
Intrusive/needy	11.10; 5.33	0.05	-0.09	0.08	-0.01	-0.02	-0.02

Note. [a] $n = 254$; [b] $n = 255$; [c] $n = 260$; ** $p < .01$, *$p < .05$; HAQ-P = Helping Alliance Questionnaire for Patients, HAQ-T = Helping Alliance Questionnaire for Therapists; IIP = Inventory of Interpersonal Problems.

5.3.3 HAQ-P

The IIP total score correlated significantly negatively with the HAQ-P global helping alliance score ($r = -0.14$, $p = .03$) and with the subscale 'satisfaction with therapeutic outcome': $r = -0.15$, $p = .02$). The HAQ-P global score also had a significant negative relationship with the following interpersonal problems: domineering/controlling ($r = -0.13$, $p = .04$), vindictive/self-centred ($r = -0.19$, $p < .01$), cold/distant ($r = -0.23$, $p < .01$), and socially inhibited ($r = -0.22$, $p < .01$). Likewise, the subscale 'relation to the therapist' was negatively correlated with the same octants: domineering/controlling ($r = -0.14$, $p = .03$), vindictive/self-centred ($r = -0.17$, $p = .01$), cold/distant ($r = -0.21$, $p < .01$), and socially inhibited ($r = -0.16$, $p = .01$). The HAQ-P subscale 'satisfaction with therapeutic outcome' was only related to the following IIP subscales: vindictive/self-centred ($r = -0.18$, $p < .01$), cold/distant ($r = -0.21$, $p < .01$), and socially inhibited ($r = -0.23$, $p < .01$).

5.3.4 HAQ-T

For the HAQ-T, significant correlations were found between the helping alliance global scale and the octants domineering/controlling ($r = -0.13$, $p = .03$) and socially inhibited ($r = -0.12$, $p = .04$).

5.4 Discussion

We examined the psychometric properties of the German HAQ in a large sample of early-onset persistently depressed outpatients and their therapists. By means of structural equation modelling we sought to confirm the elsewhere (Nübling et al., 2017) assumed two-factorial structure of the HAQ. Fit indices were heterogeneous: Chi-Square-based indices rejected the model; RMSEA closely approached the threshold of good model fit, and CFI/TLI and SRMR suggested that this two-factorial model sufficiently fit the data. Because of the ambiguous fit indices, items cross loading on factors and the high correlation between the factors (HAQ-P: $r = .83$; HAQ-T: $r = .88$), we ran additional CFA on a competing one-factor model. The second analysis showed that a one-factorial model had a mostly comparable model fit. Standardized loadings of items on latent factors were generally high. Only item 11 (HAQ-P: "I feel now that I can understand myself and deal with myself on my own.", HAQ-T: "I feel now that my patient can understand him/herself and can deal with him/herself on his/her own.") had consistent loadings of < .30 onto the factor 'satisfaction

with therapeutic outcome' in the two-factorial model and on the global factor in the one-factorial model. This may be due to the fact that data was collected at the very beginning of treatment when agreeing to this item is unlikely. Other items can be agreed on earlier in the process of therapy. We expect that at a later point in the treatment, item 11 will load onto the factor labelled 'satisfaction with therapeutic outcome', which it has been assigned to mainly for content-related reasons.

Generally, our findings mirror that of other studies on the psychometric properties of the HAQ: the HAQ, that is, its global scale and its subscales are internally consistent. Like in other studies, we found very high correlation between the latent factors, which indicates how close, the dimensions 'relation to the therapist/patient' and 'satisfaction with therapeutic outcome' are. While the intercorrelation between the latent factors parallels earlier findings, the magnitude of the herein reported correlation may have been overestimated due to using WLSMV estimation in a small sample (Li, 2016).

Like in other studies which employed CFA to verify a theoretically proposed factor structure (Muncer & Campbell, 2004), our results failed to unambiguously confirm the HAQ scale(s). Our findings are partially in line with Nübling et al. (2017): they, too, found flaws in the two-factorial structure. In their analyses a two-factorial model without item 2 and 3 proved superior to the proposed model. Because of content related reasons and due to the dispersion of the two-factor solution which includes all 11 items, the authors retained the unsatisfactory yet well-known model. No other German study has sought to confirm a one factor structure of the HAQ.

Previous research on the Dutch HAQ (Hendriksen et al., 2010), too, compared the fit of a two- and a one-factor model of the HAQ and also found items cross-loading (two-factorial model) and correlated measurement errors in the models. Moreover, they had slightly inferior fit indices for the one- than for the two-factorial model, which is why they retained the two-factorial model.

In the literature the HAQ is used uni- and two-dimensionally. Our findings from CFA suggest that the model fit of a two- and one-factorial model is largely comparable. Hence, two models reasonably fit the data. Like in other herein cited studies, model fit was not persistently conclusive, but acceptable with regards to CFI, TLI, and SRMR. The finding that the fit indices are inconclusive is unfortunate but not surprising as they are differently susceptible to aspects of structural equation modelling (e.g., Fan, Thompson, & Wang, 1999).

It is known that most fit indices can be affected by sample size, but also by estimation method and other aspects (Fan et al., 1999; Marsh, Balla, & McDonald, 1988). One study employed Maximum Likelihood (ML) and Generalized Least Squares (GLS) estimation and found that in comparison to other indices RMSEA and CFI were minimally influenced by sample size (Fan et al., 1999). Regarding the herein employed diagonally weighted least squares estimation (WLSMV) method, there is, to our knowledge, no consensus as to how sample size affects the resulting fit indices. Rather, the WLSMV estimator has not been studied sufficiently yet (Beauducel & Herzberg, 2006). Two studies investigating the effect of sample size on WLSMV estimation found that WLSMV performs equally well as ML across different sample sizes (Beauducel & Herzberg, 2006). Another study (Li, 2016) however found that in small samples (i.e., $n = 200$) models based on WLSMV tend to be over rejected by the Chi-Square Test. Therefore, the common assumption that Chi-Square based fit indices are lenient in small samples (Fan et al., 1999) may not hold true for our study. Rather, the unsatisfactory Chi-Square results in our study may be due to having relied on WLSMV estimation in a relatively small sample.

In light of the herein used methods and the results, looking at the global alliance scale or the subscales of the HAQ is both equally feasible. Therefore, the researcher or clinician will have to decide what approach better fits the purpose. Working with a two-factorial model holds the advantage of comparability: the subscales are well known and commonly used. Moreover, items on the scale ‘satisfaction with therapeutic outcome’ are confounded with therapy outcome (Nübling et al., 2017). Therefore, assessing alliance on both subscales allows a more fine graded disentanglement of process and outcome variables in psychotherapy research. On the other hand, assessing alliance on one global score is arguably very economic. What is more, relying on one global HAQ score is frequently done (e.g., Constantino & Smith-Hansen, 2008).

Previously, validity of the German HAQ-P had been established through symptom-, treatment-, and health related instruments (Nübling et al., 2017). To our knowledge, this is the first study, which used a measure of interpersonal problems to validate both versions of the HAQ in a sample of persistently depressed patients. We found that patients’ ratings of the global helping alliance were significantly and negatively related to a sum score of interpersonal problems. This means that the more interpersonal problems a patient had before therapy, the more negative was the evaluation of the helping alliance. Additionally, we found that the more severe problems a patient had with being too dominant, too hostile

or too hostile-submissive (i.e., subscales domineering/controlling, vindictive/self-centred, cold/distant, socially inhibited), the more negative the patient perceived the global alliance. These results are in line with research that found that being too hostile (Puschner et al., 2005) or too hostile-dominant (Connolly Gibbons et al., 2003) negatively impacts the helping alliance at treatment begin. What is more, our finding that patients who are too hostile-submissive evaluate the alliance with the therapist more negatively fits McCullough's assumption that persistently depressed patients exhibit passive, submissive, and hostile behaviours towards the therapist which impedes the interaction with the therapist (McCullough, 2000).

Looking at the subscales of the HAQ-P, the results are generally similar: the higher the interpersonal distress and the more problems a patient has with being too hostile-dominant, hostile and hostile-submissive, the more negative the patient evaluated the 'satisfaction with therapeutic outcome'. Therapists' evaluation of the global alliance however, was significantly related only to patients' interpersonal problems with being too dominant or too hostile-submissive. These findings are principally in line with our expectations. Yet, just part of our hypotheses was confirmed: Only the patient rated global helping alliance correlated consistently with patients' pre-treatment problems with being too dominant, hostile-dominant, hostile, hostile-submissive, and the total IIP score.

For the subscales and the therapist-rated alliance the correlational matrix was not so consistent. Moreover, contrary to our hypothesis, we did not find any (positive) correlations between the HAQ and interpersonal problems relating to being overly friendly-submissive.

One must acknowledge that the magnitude of the association between facets of the IIP and the HAQ is only weak (Taylor, 1990). At the same time, the association is comparable in size to a study by Puschner et al. (2005). Therefore, while the results are relevant to the important question of how interpersonal problems are related to the helping alliance, the IIP may not be the most suitable instrument to establish external validity of the HAQ. This is because one may not expect medium or high correlations. Having said that, correlation coefficients in our study may reflect the homogeneity of our sample (persistent depressive patients), which may have decreased the variance in our data.

Our findings must be viewed considering some limitation the study holds. Firstly, we did not check for a socially desirable response stile, that is, evaluating the alliance more positive than actually perceived, of neither patients nor therapists. In addition to that, not taking into account the hierarchical structure of the data (i.e., several patients were treated

by the same therapist) is a drawback: Theoretically, it is possible that the alliance construct is unidimensional on one level, but two-dimensional on the other level. Differences between our results and those in other studies may also be accounted for by the hierarchical structure. Yet, the relatively big sample size and the multicentre approach of the study support the generalizability of the results. To the best of our knowledge, this was the first study to run confirmative factor analyses on both versions of the German HAQ and to employ a measure of patients' pre-treatment interpersonal problems as a criterion for convergent validity.

5.5 Conclusion

The HAQ is a reliable instrument. CFA did not clearly recommend a two-factorial model over a one-factorial model or vice versa. Thus, our findings suggest using the instrument uni- or two-dimensionally, that is, to work with the global alliance scale or the subscales 'relation to the therapist/patient' and 'satisfaction with therapeutic outcome'. Patients' and therapists' perception of the alliance is related to pre-treatment interpersonal problems of the patient. These findings are particularly relevant to research on and with the HAQ as it is a standard, perhaps most widely used instrument in current psychotherapy research (Elvins & Green, 2008; Wampold & Imel, 2015), especially in German speaking countries (Nübling et al., 2017). Moreover, our results contribute to the ongoing debate on the factor structure of the HAQ (e.g., Hendriksen et al., 2010; Nübling et al., 2017). In summary, the HAQ, both for patients and therapists, is an economically applicable research instrument. It assesses the therapeutic alliance via two subscales 'relation to the therapist/patient' and 'satisfaction with therapeutic outcome' or one global scale. Moreover, its common usage in previous research, its brevity, the option to use it one- or two dimensionally, and its ability to measure changes in alliance over time (Bassler & Nübling, 2015) make the HAQ a recommendable instrument.

Abbreviations: CBASP: Cognitive Behavioral Analysis System of Psychotherapy; CFI: Comparative Fit Index; CTQ: Childhood Trauma Questionnaire; df: Degrees of Freedom; DSM-IV: Diagnostic and Statistical Manual of Mental Disorders, fourth edition; HA1: Helping Alliance dimension 1; HA2: : Helping Alliance dimension 2; HAQ: Helping Alliance Questionnaire; HAq-II: revised version of the HAQ; HAQ-P: Helping Alliance Questionnaire for patients; HAQ-T: Helping Alliance Questionnaire for therapists; HRSD: Hamilton Rating Scale for Depression; IIP: Inventory of Interpersonal Problems; M: Mean; MDD: Major Depressive Disorder; RCT: Randomized Controlled Trial; RMSEA: Root Mean Square Error of Approximation; SCID: Structured Clinical Interview for DSM-IV; SD: Standard Deviation; SP: Supportive Psychotherapy; SRMR: Standardized Root Mean Square Residual; TLI: Tucker Lewis Index

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Availability of data and materials: Methodologically sound proposals to gain access to the datasets used for the presented analyses should be directed to Dr. Schramm (elisabeth.schramm@uniklinik-freiburg.de) and will be assessed by the primary investigators of the study that this analysis was based on. Upon approval, signing a data use agreement will be necessary.

Authors' contributions: HSE formulated the research question, analyzed the data, interpreted the results, and drafted the manuscript. LK contributed to the analysis of the data and the interpretation of the results. LK and ES revised the manuscript substantially. JB supervised the conception of the study, interpreted the results, and critically revised the manuscript. All authors read and approved the final version of the manuscript.

Ethics approval and consent to participate: This study is part of a larger RCT, which was approved by Institutional Review Board/Institutional Ethical Committee (IRB/IEC) of the University of Freiburg. The IRB/IECs of each participating study center confirmed the approval before the RCT commenced. Written informed consent was given by all participants before the trial began. The study was conducted in compliance with the guidelines for Good Clinical Practice and the applicable regulatory requirements.

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6 STUDY 2: DIFFERENTIAL EFFECTS OF DISORDER-SPECIFIC VERSUS NONSPECIFIC PSYCHOTHERAPY FOR PERSISTENT DEPRESSION ON THE THERAPEUTIC ALLIANCE

Eich, H. S., Kriston, L., Schramm, E., Rief, W., Stenzel, N., & Bailer, J. Differential Effects of Disorder-Specific versus Nonspecific Psychotherapy for Persistent Depression on the Therapeutic Alliance. Submitted to *Frontiers in Psychology*.

Abstract

*Objective***:** McCullough's Cognitive Behavioral Analysis System of Psychotherapy (CBASP) was developed to help persistently depressed patients to improve on interpersonal difficulties rooted in childhood maltreatment (CM). These interpersonal problems also arise in the relationship between patient and therapist, herein referred to as therapeutic alliance, which is at the core to therapy with CBASP. We hypothesized that (1) CBASP has a more positive effect on the overall mean ratings of the therapeutic alliance than supportive psychotherapy (SP), that (2) alliance increases over the course of therapy with CBASP and SP, and that (3) this increase is most pronounced in patients with severe CM receiving CBASP. *Method***:** In a multisite randomized-controlled clinical trial on the efficacy of CBASP vs. SP, patients (n = 268) were asked to fill in the Helping Alliance Questionnaire (HAQ; 2 subscales: 'relation to the therapist' and 'satisfaction with therapeutic outcome') after each session. CM was measured with the Childhood Trauma Questionnaire (CTQ) at baseline. Based on their CTQ total score, patients were divided into low, medium and high CM groups. Treatments lasted 48 weeks and included 32 individual sessions à 50 minutes. We fitted a hierarchical linear model to test the hypotheses. *Results***:** We found that (1) patients in the CBASP condition rated the alliance on both subscales more positively than patients receiving SP. On both subscales, (2) ratings became more favorable with time. (3) The differential effects of treatment group on increase in alliance ratings differed significantly between CM groups. This difference is primarily due to patients with high CM who receive CBASP rating the alliance increasingly better than high CM patients who receive SP. *Conclusion***:** Our findings indicate that CBASP is more effective than SP in creating a positive therapeutic alliance across treatment. Moreover, CBASP has a particularly positive effect on the increase of 'satisfaction with therapeutic outcome' in the subgroup of patients with a history of severe CM.

Keywords: CBASP, supportive psychotherapy, persistent depression, childhood maltreatment, therapeutic alliance

6.1 Introduction

Considerable evidence suggests that depressive disorders and in particular persistent forms of depression are linked to the experience of childhood maltreatment (CM) (Bailer et al., 2014; Klein et al., 2015; Rehan et al., 2017; Riso et al., 2002; Spinhoven et al., 2010; Teicher & Samson, 2013; Wiersma et al., 2009). CM can be defined as "all forms of physical, and/or emotional or sexual abuse, deprivation and neglect of children or commercial or other exploitation resulting in harm to the child's health, survival, development or dignity in the context of a relationship of responsibility, trust or power" (World Health Organization, 2013, p.1). It has also been shown that CM not only increases the risk for recurring or persistent forms of depression but that it also impedes treatment response and outcome (Nanni et al., 2012).

In line with these findings, McCullough (2000) emphasized the importance of CM for the development of persistent depressive disorders. This type of depression lasts at least two years (American Psychiatric Association, 2013), is prevalent (Keller & Shapiro, 1982; Kessler et al., 2005; Murphy & Byrne, 2012; Satyanarayana et al., 2009), particularly burdensome (Holzel et al., 2011; Satyanarayana et al., 2009), and more difficult to treat than episodic depression (Angst et al., 2009; Cuijpers et al., 2010; Kocsis, 2003).

According to McCullough (2000), persistently depressed patients exhibit characteristics which, he argues, result from CM and impede a positive, helpful therapeutic alliance. These characteristics include preoperational thinking (which involves egocentricity, a lack of empathy and responsiveness to feedback), lack of understanding how one's own behavior affects others, and a submissive or hostile-submissive behavioral style. Because of these characteristics, McCullough (2000) argues, persistently depressed individuals necessitate a distinct personal therapeutic relationship with their therapist. Therefore, his Cognitive Behavioral Analysis System of Psychotherapy (CBASP) focusses on and works with the therapeutic relationship, hereafter referred to as alliance. Specific techniques in CBASP, such as disciplined personal involvement, including interpersonal discrimination exercise, contingent personal reaction, and use of Kiesler's circumplex model are aimed at enabling the patient to make new relational experiences (McCullough, 2012).

With regards to therapy outcome, studies of CBASP have been inconclusive. On the one hand, some studies suggested antidepressant effects (Kriston et al., 2014). CBASP also appears to be equally effective to medication alone and has shown to significantly

increase response and remission rates when combined with pharmacological treatments (Keller et al., 2000; Kriston et al., 2014; Schramm et al., 2015). CBASP was found to be at least as effective as other evidence-based treatments (Wiersma et al., 2014) and superior to treatment as usual (Michalak, Schultze, Heidenreich, & Schramm, 2015). CBASP was also more effective than nonspecific supportive psychotherapy (SP) in a recent trial (Schramm et al., 2017), whose data is used in the present study. Yet, the REVAMP trial (Research Evaluating the Value of Augmenting Medication with Psychotherapy), which investigated the additional effects of CBASP versus Brief Supportive Psychotherapy (BSP) to continued pharmacotherapy for partial and non-responders of pharmacotherapy only, found no differences between both psychotherapy conditions (Kocsis et al., 2009).

In addition to these outcome studies, process research has been concerned with variables contributing to CBASP's underlying assumptions. With regards to the assumed hostile-submissive interpersonal style, Constantino et al. (2008) found that therapists rated patients with persistent depression to be more hostile and less friendly-dominant than acutely depressed individuals. Compared to healthy controls, persistently depressed patients were found to be more hostile, hostile-submissive, and less friendly dominant. Moreover, personality disorder and negative social interactions are a risk factor for persistent depressive disorder (Holzel et al., 2011). In line with CBASP theory, which posits that the alliance is central for therapy outcome, studies found that early alliance, as rated by patients, predicted reduction of depressive symptoms in a sample of patients receiving CBASP alone or with medication even after controlling for prior improvement (Klein et al., 2003). Similarly, after controlling for earlier reduction in depression and baseline global functioning, in patients treated with CBASP, alliance ratings were more strongly correlated with subsequent outcome ratings than in patients receiving BSP (Arnow et al., 2013). The latter study also found that patient rated alliance was more positive in patients receiving CBASP and antidepressant medication than in patients receiving supportive psychotherapy and antidepressants.

The present study sought to add to the literature on CBASP and the therapeutic alliance by comparing patient-rated alliance between CBASP and nonspecific SP and by investigating the course of alliance over a 48 week long psychotherapy. As theory posits that CM is etiological for characteristics which impede the formation of a positive alliance, we also investigated if the course of alliance ratings differs not only between treatment but also between patients who had been differently exposed to CM. Based on the results by

Arnow et al. (2013), we expected that patients in the CBASP group rate the therapeutic alliance (averaged across all measurements) significantly more positively than patients in the SP group (hypothesis 1) and that ratings of the therapeutic alliance in both treatment conditions increase as psychotherapy progresses in time (hypothesis 2). We also hypothesized that the improvement of alliance during treatment is most pronounced in the patient group which CBASP was designed for, that is, persistently depressed patients with a history of severe CM (hypothesis 3).

6.2 Methods

6.2.1 Design

The current study analyzed data from a clinical trial titled „A comparison of the Cognitive Behavioral Analysis System of Psychotherapy against supportive psychotherapy for early onset chronic depression“, which was registered on ClinicalTrials.com (NCT00970437). The prospective and observer-blind study was conducted at eight university centers throughout Germany. The study participants, who had been recruited primarily through private practitioners and outpatient centers, were randomly assigned to one of the two psychotherapeutic interventions without additional pharmacotherapy. For details on the procedures, methodology, and outcome of the original study see Schramm et al. (Schramm et al., 2011a; Schramm et al., 2017).

6.2.2 Participants

Outpatients were recruited at different sites. Inclusion criteria were: (i) age 18 to 65; (ii) early onset (before the age of 21) chronic Major Depressive Disorder (MDD), or current MDD superimposed on a pre-existing dysthymic disorder (“double depression”), or recurrent MDD with incomplete remission between episodes (as diagnosed according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric American Psychiatric Association, 2000)); and (iii) a score of 20 or above on the 24-item Hamilton Rating Scale for Depression (HRSD-24; Hamilton, 1967). Patients on antidepressant medication had the opportunity to discontinue the medication (at least two weeks of washout) before entering the trial.

Exclusion criteria were (i) acute suicidality, (ii) a history of psychotic symptoms, bipolar disorder, or organic brain disorder, (iii) a comorbid primary diagnosis of another axis

I disorder or substance use disorder, (iv) antisocial, schizotypal, or borderline personality disorder, (v) severe cognitive impairment, (vi) non-response to CBASP and/or SP in an earlier trial, (vii) ongoing psycho-/pharmacotherapy, and (viii) a serious medical condition (Schramm, 2015). This sampling procedure resulted in 268 participants (Table 1).

6.2.3 Treatments

Psychotherapy ran in parallel in both groups and included an acute therapy phase (20 weeks, 24 individual sessions) followed by eight continuation sessions over the next 28 weeks.

6.2.3.1 Cognitive Behavioral Analysis System of Psychotherapy (CBASP)

CBASP is a highly structured intervention in which patients learn to recognize the effects of their behaviors on others, to actively deal with interpersonal problems and to strengthen self-efficacy by reaching their desired outcomes with other people. CBASP is a psychotherapy specifically designed for patients with persistent depression. It explicitly addresses and works with the therapists´ emotional reactions to the patients´ dysfunctional behavior.

6.2.3.2 Supportive Psychotherapy (SP)

SP is a supportive, nonspecific, client-centered approach to psychotherapy including elements of psychoeducation and facilitation of affect (Markowitz et al., 2008). First findings from the superordinate study showed that CBASP is more effective in reducing depressive symptoms than SP (Schramm et al., 2017).

6.2.4 Psychotherapists, supervision and protocol adherence

CBASP and SP were conducted by two separate groups of psychotherapists (n = 81 in total), all of whom had either completed a three-year psychotherapy training or were in an advanced stage of training. In addition, therapists had been trained in a two-day workshop and had at least one practice day in either CBASP or SP. Therapists on average had 4.00 (SP) to 5.45 (CBASP) years of experience in treating depression. Therapists in both conditions were roughly comparable with regards to age, sex, and experience (Schramm et al., 2017). Before therapists began working with patients, they had to meet the criteria for

mastery in CBASP or SP, which was assessed on specific rating scales (Markowitz, 2003; McCullough, 2000). During the therapy, all sessions were videotaped and supervised at regular intervals. Moreover, whether therapists adhered to the manualized procedures (Markowitz, 2003; McCullough, 2000) was checked on a random basis.

6.2.5 Measures and procedures

6.2.5.1 Childhood maltreatment

CM was assessed at baseline with the short form Childhood Trauma Questionnaire (CTQ; Bernstein et al., 2003). The CTQ is a retrospective self-assessment instrument with 25 items on which the frequency of exposure to CM is measured on a five-point Likert-scale. The items cover the dimensions of emotional abuse, physical abuse, sexual abuse, emotional neglect and physical neglect during childhood or adolescence. In order to validate self-reported CM, a second clinician-rated instrument, the Early Trauma Inventory (ETI; Bremner et al., 2000) was used. The ETI comprises 56 items assessing emotional, physical, and sexual abuse, as well as general trauma. For subsequent analyses total scale and subscale scores were computed for both the CTQ and the ETI.

6.2.5.2 Therapeutic alliance

After each therapy session, the German version of the Helping Alliance Questionnaire (HAQ; Bassler et al., 1995) was filled out by the patient. The HAQ for patients consists of 11 items, which are rated on a 6-point Likert Scale from “strongly agree” (+3 points) to “strongly disagree” (-3 points). The HAQ measures the therapeutic alliance on two correlated subscales: ‘relation to the therapist’ and ‘satisfaction with therapeutic outcome’ (Bassler & Nübling, 2015; Nübling et al., 2017). In our sample, Cronbach’s α ranged from .89 on the scale ‘relation to the therapist’ to .75 on the scale ‘satisfaction with therapeutic outcome’ (Eich, Kriston, Schramm, & Bailer, 2018).

6.2.5.3 Depressive symptoms

Depression severity from before treatment begin was rated with the 24-item version of the Hamilton Rating Scale for Depression (HRSD-24; Hamilton, 1967).

6.2.6 Statistical analyses

In order to test our hypotheses, we fitted a hierarchical linear model with an autoregressive residual covariance structure. Tests were conducted with SPSS 24 (SPSS Inc., 2015) using a two-tailed α of 0.05 to indicate statistically significant results. Analyses were performed on the intention-to-treat (ITT) population, which included all randomized patients. We utilized the same model that was used in the primary efficacy analysis of the trial (Schramm et al., 2017). Incomplete data were handled by maximum likelihood estimation, assuming that data were missing at random conditional on the information in the model. The model included treatment (CBASP vs. SP), time (natural logarithm of 32 consecutively numbered sessions as a continuous variable) and CM group (low vs. medium vs. high CM) main effects; time x treatment interaction, time x CM group interaction, treatment x CM group interaction, and CM group x treatment x time interaction for testing slope differences between treatment and CM groups; site and baseline HRSD as covariates; and a random intercept to model time-invariant interindividual differences between patients. In order to be able to illustrate the results from analyses on the ITT sample, a priori selected measurement points (session 1, 16, 24 and 32, which correspond to the efficacy endpoints in the study by Schramm et al. (2017) were used to report estimated marginal means with group comparisons. Cohens's *d* was calculated for group comparisons by dividing the estimated difference of group means by the pooled observed standard deviation. As a sensitivity analysis, we ran the model on the per-protocol sample in order to test the robustness of our findings.

6.3 Results

6.3.1 Descriptive characteristics

A total of 268 patients (66% females; mean age 44.91, *SD* = 11.82) were randomized on the two treatment arms (CBASP: *n* = 137; SP: *n* = 131) (Table 1). No systematic group differences between the treatment groups were found with regards to depression severity, age, or age of onset. Neither was gender, level of education, marital status, diagnostic category, or frequency of CM distributed unequally between the two treatment groups. A significant history of trauma (according to Bernstein and Fink (1998) defined by scoring at least "moderate to severe" in 1 of 5 dimensions assessed with the CTQ) was experienced

by more than 70% of patients, emotional neglect (66%) and emotional abuse (59%) was experienced most frequently (Schramm et al., 2017).

6.3.2 Definition of CM groups

Following Spinhoven et al. (2010) who suggest to use the CTQ global scale to capture childhood maltreatment comprehensively, we built CM groups based on the continuous CTQ global scale. We were interested in comparing groups of patients with clearly differing levels of CM. In the absence of defined cut-offs for the CTQ global scale (theoretical range 25-125), we subdivided the sample along the dispersion of the CTQ global score into tertiles with discriminative degrees of CM, similarly to an approach used in a previous study (Driessen, Schroeder, Widmann, von Schönfeld, & Schneider, 2006). This split of the sample into tertiles resulted in the following groups: none or low CM ($n = 87$; CTQ scores ≤ 44), medium CM ($n = 88$; CTQ scores ranging from 45 to 59), and high CM ($n = 85$; CTQ scores ≥ 60). The validity of the CTQ based CM groups was verified by analysis of variance using the ETI total score as dependent variable and correlational analyses. The CTQ groups differed significantly with regard to their ETI total score ($F(2, 254) = 82.60$, $p < .001$, partial $\eta^2 = .39$; low CM group $M = 7.83$, $SD = 3.48$; medium CM group $M = 12.32$, $SD = 4.58$; high CM group $M = 16.39$, $SD = 4.87$). Bivariate correlations indicated significant relationships between the ETI and CTQ total scores ($r = .70$, $p < .001$) as well as their corresponding subscales: physical abuse ($r = .64$, $p < .001$), emotional abuse ($r = .69$, $p < .001$), and sexual abuse ($r = .77$, $p < .001$).

Table 1

Patient characteristics at baseline

Variable	Total (*n* = 268)	CBASP (*n* = 137)	SP (*n* = 131)
Age, *M* (*SD*)	44.91 (11.82)	44.65 (12.06)	45.18 (11.60)
Gender, *n* (%)			
Male	91 (34.0)	41 (29.9)	50 (38.2)
Female	177 (66.0)	96 (70.1)	81 (61.8)
Age at onset, *M* (*SD*)	13.00 (4.41)	12.96 (4.46)	13.05 (4.39)
Marital status, *n* (%)			
Married; cohabiting	106 (39.6)	52 (38.0)	54 (41.2)
Single	117 (43.7)	61 (44.5)	56 (42.7)
Divorced, widowed	45 (16.8)	24 (17.5)	21 (16.0)
Educational level, *n* (%)			
≤ 11 years	96 (35.8)	46 (33.6)	50 (38.2)
≥ 12 years	172 (64.2)	91 (66.4)	81 (61.8)
Diagnosis[a], *n* (%)			
Double Depression	119 (45.8)	59 (43.7)	60 (48.0)
Chronic Major Depression	82 (31.5)	42 (31.1)	40 (32.0)
Recurrent Major Depression without complete remission between episodes	59 (22.7)	34 (25.2)	25 (20.0)
Childhood maltreatment[a, b], *n* (%)	194 (74.6)	97 (70.8)	97 (74.0)
CTQ global sum score[a], *M* (*SD*)	52.22 (16.70)	53.45 (15.01)	53.81 (16.04)
HRSD score[c], *M* (*SD*)	27.07 (5.61)	27.15 (5.49)	27.05 (5.74)

Notes. [a] *n* = 260 (different to Schramm et al. (2017), we included belatedly collected (session 3) CTQ data for 4 participants for whom data was missing at baseline); [b] at least moderate to severe in 1 of 5 dimensions assessed with the Childhood Trauma Questionnaire; [c] HRSD, Hamilton Rating Scale of Depression; [d] *n* = 258, [e] *n* = 259.

6.3.3 Patients' evaluation of the Helping Alliance – 'relation to the therapist'

In the hierarchical linear analyses, we found that the evaluation of the 'relation to the therapist' had a positive slope over time ($F(1, 1306.03) = 285.99$, $p < .001$) and that patients receiving CBASP rated the alliance on average more positively than patients receiving SP ($F(1, 280.02) = 4.19$, $p = .042$). While the course of the 'relation to the therapist' was similar in both treatment groups for patients in the low CM group, the increase in satisfaction in the medium CM group was more pronounced in the SP group, while the increase of satisfaction in the high CM group was stronger for patients receiving CBASP ($F(2, 1301.04) = 6.22$, $p = .002$) (see Table 2 and Figure 1).

Treatment group comparisons (see Table 2) showed that ratings on 'relation to the therapist' did not significantly differ between CBASP and SP in the low CM group at the pre-defined measurement points (session 1: $p = .184$, $d = 0.21$; session 16: $p = .488$, $d = 0.10$; session 24: $p = .594$, $d = 0.10$; session 32: $p = .678$, $d = 0.06$). In the medium CM group, patients in the CBASP group indicated significantly better alliance after session 1 ($p = .008$, $d = 0.41$). At the other points in time, we did not find significant group differences (session 16: $p = .172$, $d = 0.23$; session 24: $p = .287$, $d = 0.15$; session 32: $p = .398$, $d = 0.14$). There were no statistically significant differences between patients in the high CM group who received either CBASP or SP (session 1: $p = .511$, $d = 0.11$; session 16: $p = .168$, $d = 0.21$; session 24: $p = .133$, $d = 0.26$; session 32: $p = .113$, $d = 0.32$).

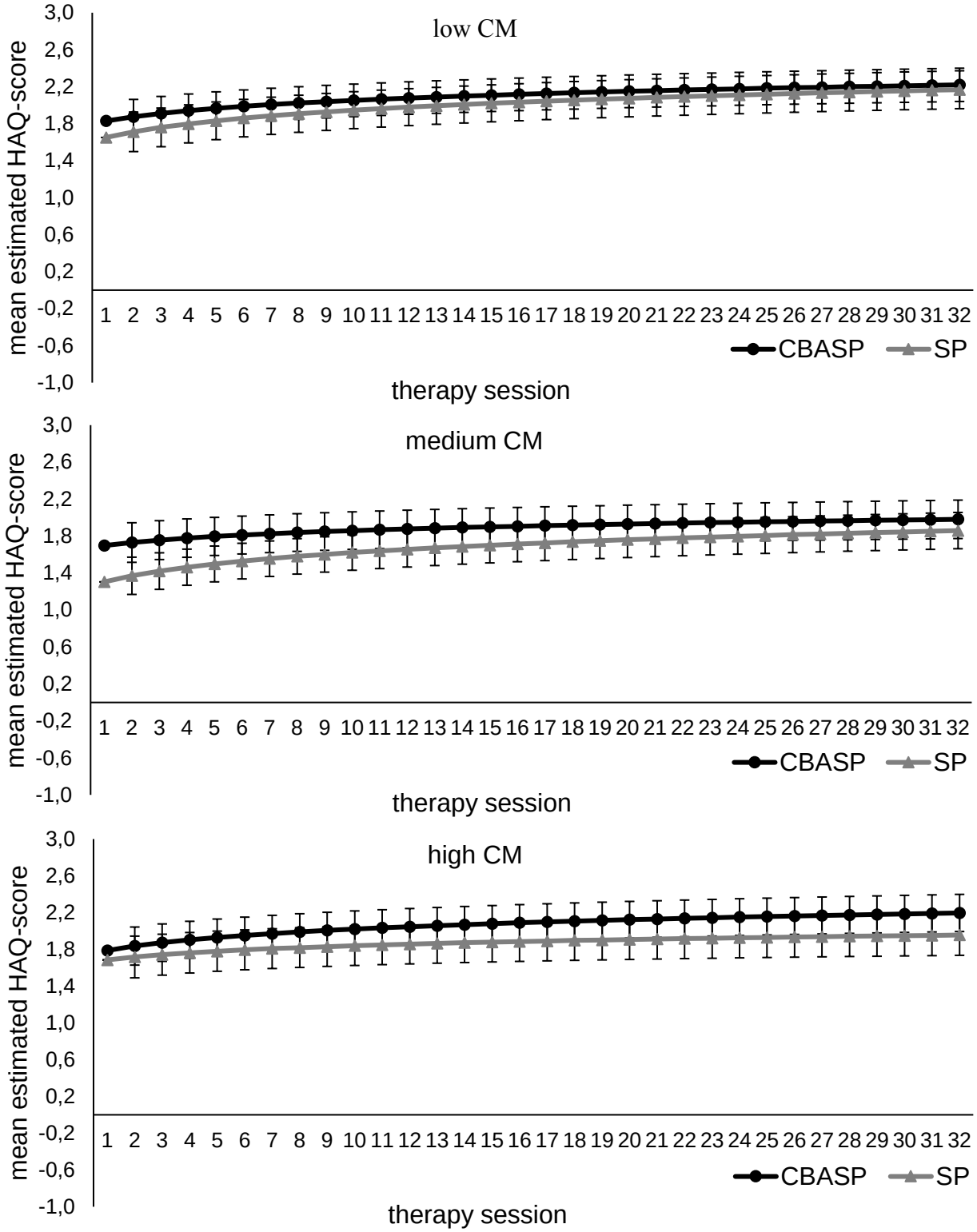

Figure 1. Estimated marginal means on the 'relation to the therapist' subscale of the Helping Alliance Questionnaire by childhood maltreatment (CM) and treatment group (CBASP vs SP).

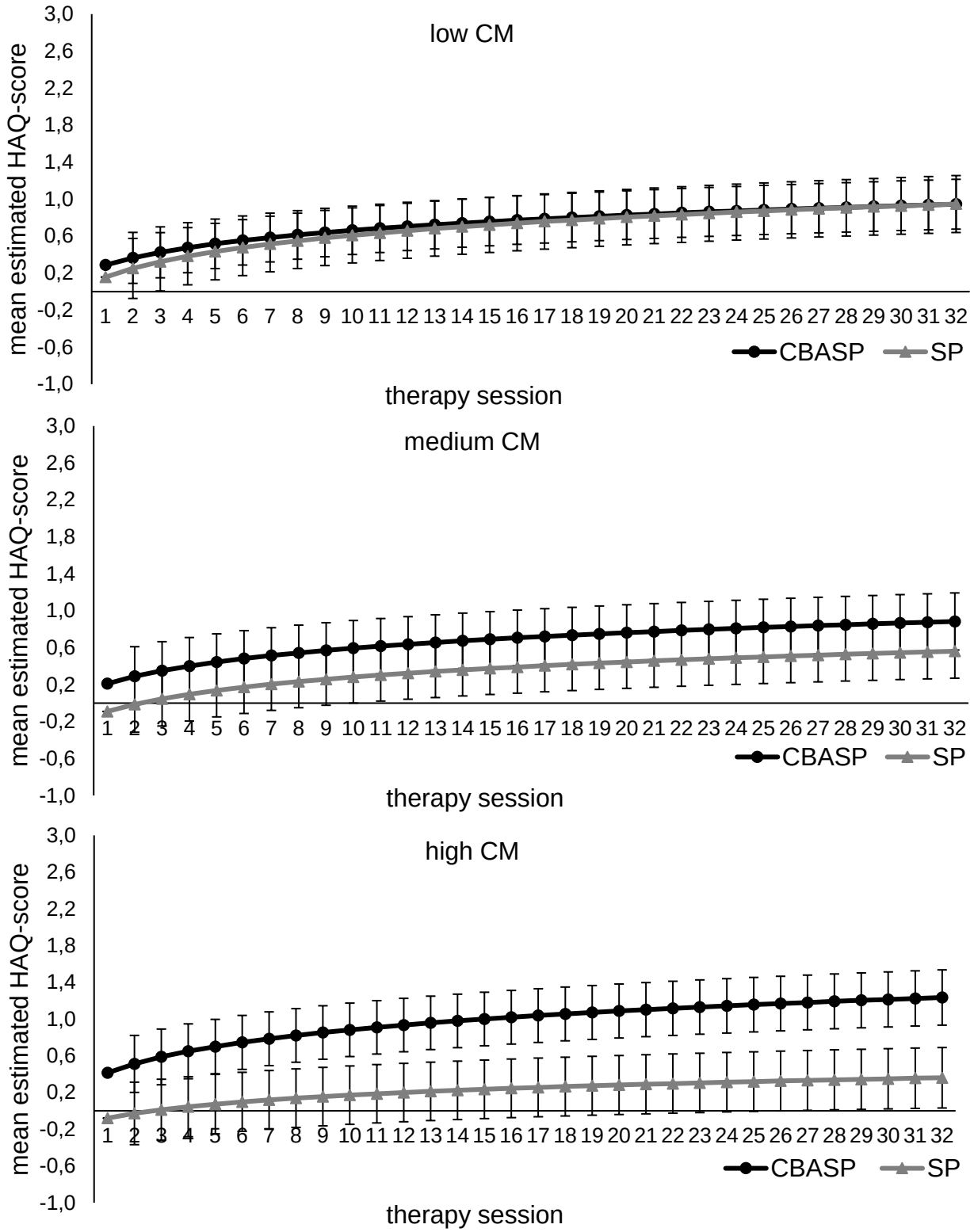

Figure 2. Estimated marginal means on the 'satisfaction with therapeutic outcome' subscale of the Helping Alliance Questionnaire by childhood maltreatment (CM) and treatment group (CBASP vs SP).

Table 2

Patients' ratings on the Helping Alliance Questionnaire's subscales at selected points in time (sessions 1, 16, 24 and 32)

	'Relation to the therapist'								'Satisfaction with therapeutic outcome'							
	CBASP		SP		adjusted effect estimates				CBASP		SP		adjusted effect estimates			
					Mean difference								Mean difference			
Time	*n*	*M*, *SD*	*n*	*M, SD*	(95% CI interval)	*p*	*d*	22	*n*	*M, SD*	*n*	*M, SD*	(95% CI interval)	*p*	*d*	
Low CM																
S 1	37	1.72, 0.73	29	1.49, 0.68	0.18 (-0.09, 0.44)	.184	0.21		37	0.20, 1.10	29	-0.08, 0.86	0.13 (-0.27, 0.53)	.526	0.13	
S 16	38	2.07, 0.86	24	2.05, 0.63	0.09 (-0.15, 0.33)	.488	0.10		38	0.62, 1.18	24	0.74, 1.32	0.03 (-0.33, 0.39)	.859	0.03	
S 24	34	2.38, 0.53	23	2.27, 0.38	0.07 (-0.17, 0.31)	.594	0.10		34	0.93, 1.14	23	1.09, 1.07	0.01 (-0.36, 0.38)	.946	0.01	
S 32	26	2.30, 0.63	24	2.22, 0.68	0.05 (-0.19, 0.30)	.678	0.06		26	1.19, 1.30	24	1.11, 1.33	-0.00 (-0.38, 0.37)	.993	0.00	
Medium CM																
S 1	34	1.57, 0.88	35	1.04, 0.90	0.39 (0.10, 0.68)	.008	0.41		34	-0.18, 1.21	35	-0.31, 1.30	0.30 (-0.14, 0.74)	.177	0.27	
S 16	27	1.94, 0.62	29	1.65, 0.77	0.19 (-0.08, 0.47)	.172	0.23		27	0.73, 1.33	29	0.03, 1.07	0.32 (-0.09, 0.73)	.129	0.29	
S 24	25	1.96, 1.18	31	1.91, 0.93	0.15 (-0.13, 0.43)	.287	0.15		25	0.81, 1.44	31	0.56, 1.23	0.32 (-0.10, 0.73)	.131	0.28	
S 32	21	2.08, 0.86	22	2.19, 0.66	0.12 (-0.16, 0.41)	.398	0.14		21	0.92, 1.59	22	0.96, 1.13	0.32 (-0.10, 0.74)	.135	0.27	
High CM																
S 1	36	1.73, 1.07	27	1.69, 0.59	0.10 (-0.20, 0.41)	.511	0.11		36	0.29, 1.22	27	-0.17, 1.06	0.49 (0.04, 0.95)	.034	0.46	
S 16	29	2.14, 0.99	26	2.04, 0.77	0.20 (-0.09, 0.49)	.168	0.21		29	0.92, 1.22	26	0.64, 1.09	0.77 (0.35, 1.20)	.000	0.72	
S 24	28	2.18, 0.73	30	1.91, 0.78	0.23 (-0.07, 0.52)	.133	0.26		28	1.15, 1.33	30	0.39, 1.32	0.83 (0.39, 1.27)	.000	0.72	
S 32	23	2.54, 0.54	18	2,17, 0.59	0.24 (-0.06, 0.54)	.113	0.32		23	1.86, 1.01	18	0.45, 1.32	0.87 (0.43, 1.32)	.000	0.81	

Notes. CBASP = Cognitive Behavioral Analysis System of Psychotherapy; SP = Supportive Psychotherapy; CM = Childhood Maltreatment; *d* = Cohen's *d* (positive values indicate superiority of CBASP) small effect: *d* ≥ .2, medium effect: *d* ≥ .5, large effect: *d* ≥.8; S = Session; session 1 corresponds to treatment onset, session 16 corresponds to week 12, session 24 corresponds to week 20, session 32 corresponds to week 48 in Schramm et al. (2017).

6.3.4 Patients' evaluation of the Helping Alliance – 'satisfaction with therapeutic outcome'

Baseline depression severity was significantly associated with patients' outcome satisfaction ratings ($F(1, 238.12) = 7.65$, $p = .006$). Generally, ratings on the 'satisfaction with therapeutic outcome' increased with time ($F(1, 1254.59) = 269.67$, $p < .001$) and patients in the CBASP condition rated the 'satisfaction with therapeutic outcome' on average more positively than patients in the SP condition ($F(1, 278.19) = 10.33$, $p < .001$). The course of the 'satisfaction with therapeutic outcome' was similar in both treatment groups for patients in the low and medium CM groups. Yet, in the high CM group of patients, the increase in outcome satisfaction was more pronounced in the group receiving CBASP than in the SP group ($F(2, 1260.03) = 3.35$, $p = .035$) (see Table 2 and Figure 2).

Treatment group comparisons (see Table 2) showed that ratings on 'satisfaction with therapeutic outcome' were comparable between CBASP and SP in the low CM group (session 1: $p = .526$, $d = 0.13$; session 16: $p = .859$, $d = 0.03$; session 24: $p = .946$, $d = 0.01$; session 32: $p = .993$, $d = 0.00$). In the medium CM group there were no statistically significant differences either (session 1: $p = .177$, $d = 0.27$; session 16: $p = .129$, $d = 0.29$; session 24: $p = .131$, $d = 0.28$; session 32: $p = .135$, $d = 0.27$). In the high CM group, patients receiving CBASP indicated significantly greater 'satisfaction with therapeutic outcome' from session 1 onwards; the discrepancy increased over the measurement points: (session 1: $p = .034$, $d = 0.46$; session 16: $p < .001$, $d = 0.72$; session 24: $p < .001$, $d = 0.72$; session 32: $p < .001$, $d = 0.81$).

6.3.5 Sensitivity analysis

As reported elsewhere, 171 patients (CBASP: $n = 99$; SP: $n = 72$), completed the study according to protocol (Schramm et al., 2017). Conducting the above analysis on data of the per-protocol sample reached similar results. Patients' 'relation to the therapist' ratings increased with time ($F(1, 911.42) = 205.78$, $p < .001$) and were generally more positive in the CBASP than SP group ($F(1, 188.32) = 5.11$, $p = .025$) (see Figure 3). The increase of 'relation to the therapist' was similar in both treatment groups for patients in the low CM group, the increase in satisfaction in the medium CM group was more pronounced in the SP group, while the increase of satisfaction in

the high CM group was stronger for patients receiving CBASP (F(2, 914.30) = 7.70, p < .001).

Patients' 'satisfaction with therapeutic outcome' ratings also improved with time (F(1, 843.03) = 177.90, p <.001) and were generally more positive in the CBASP than SP group (F(1, 188.31) = 5.30, p = .022) (see Figure 3). The course of the 'satisfaction with therapeutic outcome' was similar in both treatment groups for patients in the low and medium CM groups. In the high CM group, the increase in outcome satisfaction was more pronounced in the group receiving CBASP than in the SP group (F(2, 846.69) = 3.88, p = .021). Unlike in the ITT sample, baseline depression severity did not have a significant influence on the alliance ratings (F(1, 155.95) = 2.19, p = .141).

Figure 3 displays the mean observed HAQ ratings on both subscales of patients in the per-protocol sample.

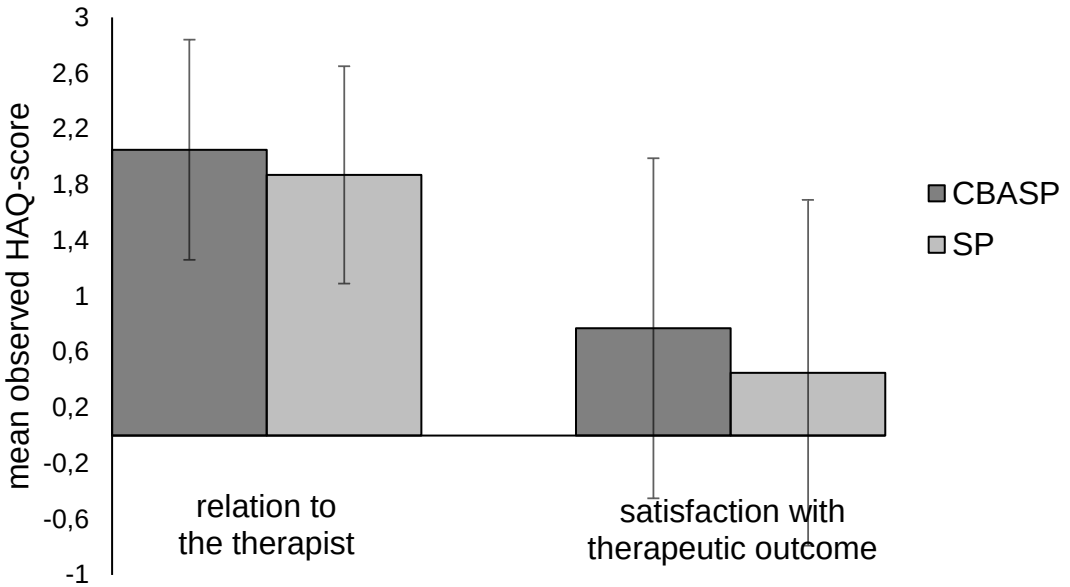

Figure 3. Observed means on the 'relation to the therapist' and 'satisfaction with therapeutic outcome' subscales of the Helping Alliance Questionnaire by treatment group (CBASP vs SP).

6.4 Discussion

This study sought to test whether CBASP and SP had differential effects on the therapeutic alliance over the course of a 48 week long outpatient psychotherapy and if differential effects were different between patients with varying degrees of CM. We

found that patients in the CBASP condition rated the alliance on both subscales, averaged across treatment, significantly more positively than patients receiving SP. On both subscales, ratings became more favorable with time. Hence, hypotheses 1 and 2 were supported by the data.

The differential effects of treatment group on increase in alliance ratings differed significantly between CM groups. When relying on the *p*-values of the post-hoc analyses it becomes apparent that the three-way interaction of treatment group x CM group x time on the subscale 'relation to the therapist', was attributable to an initially (session 1) more positive ratings of CBASP patients with medium CM which diminished over time. Hence, patients with medium CM receiving SP started off with lower ratings which increased to a greater degree. On the subscale 'satisfaction with therapeutic outcome', the differential effect between treatment groups could be explained by CBASP patients giving significantly and increasingly higher ratings than SP patients.

One drawback of our analyses is that they were lacking statistical power as the number of patients in the three CM groups split into two treatment groups was relatively small. Hence, it may be instructive to evaluate between group differences beyond their mere statistical significance and to additionally consider effect sizes. This approach illustrates that for patients with low CM both treatments fare equally well with regards to alliance, that is, level and increase of ratings on both subscales are comparable between CBASP and SP. For patients with a history of medium CM, there is a small stable level advantage of CBASP across all of treatment regarding the 'satisfaction with therapeutic outcome' subscale. Arguably, this advantage may be due to patients in CBASP having the expectation that they were in the more effective and new disorder-specific intervention. Yet, if the level advantage of CBASP in the medium CM group was merely caused by expectations, this positive expectation should emerge in all CM groups. As clearly there is no superiority of CBASP in the low CM group, higher expectations alone, cannot explain the more favorable ratings of patients with medium CM receiving CBASP. Only in the group of patients with high CM did we find a level advantage for CBASP, which was incremental over the course of treatment on both subscales. This superiority was a small yet increasing effect on the subscale 'relation to the therapist'. On the subscale 'satisfaction with therapeutic outcome' the effect was initially small and became large towards the end of treatment.

Conclusions from sensitivity analyses in the per-protocol sample were similar, which lends support to the robustness of our findings. Hence, our results indicate that SP and CBASP have comparable effects on the alliance on patients with a history of low CM and that CBASP has a small average level advantage on the 'satisfaction with therapeutic outcome' subscale for medium CM patients. Lastly, only the group of patients with high CM benefitted consistently and increasingly more from treatment with CBASP with regards to both, the 'relation to the therapist' and the 'satisfaction with therapeutic outcome' subscale.

It is interesting that baseline depression severity did not negatively impact the alliance in the per-protocol sample while it did in the ITT sample. This may have resulted from lower statistical power in the per-protocol sample. Another explanation may be that baseline depression severity differed between completers and non-completers of the study. This, however, was not the case ($p > .05$). Future subgroup analyses may help to understand which third factor variables, such as interpersonal problems, explain the differential impact of baseline depression on alliance.

The strengths of this randomized controlled trial's design have been reported elsewhere (Schramm et al., 2017). With regards to our specific research question, one can add that data on alliance was collected continuously after every therapy session which allowed for a more fine graded analysis.

One limitation is that from this study we cannot know how exactly CBASP, or which CBASP technique specifically, affects patients with high CM. Moreover, given that the HAQ includes items related to 'satisfaction with therapeutic outcome' (e.g., "I believe that the treatment is helping me."), alliance ratings were arguably confounded by therapeutic improvement achieved. Future studies may dismantle the relation between alliance and outcome by employing for example cross-lagged study designs.

Our study was confined to data on the patient-rated alliance. We had chosen to do so since CBASP theory allows to deduct specific hypotheses as to how patients should experience the relationship to the therapist. However, future research on the relationship between alliance and outcome may incorporate data from both the patient- and the therapist-rated alliance as was for example done in a recent study by Laws et al. (2017), who employed dyadic multilevel modelling and found some support for their hypothesis that an increasing convergence on alliance ratings of patient and therapist was associated with better treatment outcomes.

Another limitation is that we did not take into account that the patient data were nested by therapist. While different therapists may account for variability in alliance ratings (Dinger, Strack, Leichsenring, Wilmers, & Schauenburg, 2008), we refrained from including therapists in the model so to parallel the analyses from the main publication as closely as possible.

Our results are partly in line with results by Arnow et al. (2013), who found that early in therapy aspects of the patient-rated working alliance which concern the agreement of tasks and goals, were rated more positively by patients who in addition to medication received CBASP than by patients receiving brief supportive psychotherapy. Yet, our findings contradict Arnow et al. (2013) in that in our study the overall mean ratings on the subscale 'relation to the therapist' was higher in CBASP than in SP. The subscale 'relation to the therapist' bears some resemblance to the bond subscale in Arnow's study. This difference may be accountable to other and fewer items on the bond subscale of the short version Working Alliance Questionnaire (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989) used by Arnow et al. (2013).

Lastly, the finding that in the subgroup of patients with a history of high CM CBASP has a particularly positive impact on the development of the alliance corresponds to the subgroup analyses by Klein et al. (2018) on the same sample. There, the presence of CM appeared to have a moderating effect on the superiority of CBASP with regards to depressive symptom change. Another study found that for patients with a history of CM, CBASP was more effective than antidepressants and that the combination of CBASP and pharmacotherapy was just slightly more beneficial than monotherapy when comparing symptom change relative to the first week of treatment (Nemeroff et al., 2003, 2005). Yet, in a smaller and underpowered study, medication with escitalopram led to a comparable treatment response in patients with CM (Bausch et al., 2017). Hence, while the question if CM can serve as an indicator for whether to treat persistent depression with CBASP remains equivocal, our findings support the notion that CBASP appears beneficial in the group of patients with high CM when it comes to establishing a good alliance.

We conclude that CBASP is more effective than SP in creating a positive therapeutic alliance across treatment. Moreover, CBASP has a particularly positive effect on the increase of 'satisfaction with therapeutic outcome' in the subgroup of patients with a history of severe CM.

Conflict of Interest: Dr. Schramm receives book royalties and honoraria for workshops and presentations on the Cognitive Behavioral Analysis System of Psychotherapy (CBASP). Other than that, the authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Author Contributions: HSE formulated the research question, analyzed the data, interpreted the results, and drafted the manuscript. LK contributed to the analysis of the data and the interpretation of the results. LK, ES, NS and WR revised the manuscript substantially. JB supervised the conception of the study, interpreted the results, and critically revised the manuscript. All authors read and approved the final version of the manuscript.

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Data Availability Statement: Methodologically sound proposals to gain access to the datasets used for the presented analyses should be directed to Dr Schramm

(elisabeth.schramm@uniklinik-freiburg.de) and will be assessed by the primary investigators of the study that this analysis was based on. Upon approval, signing a data use agreement will be necessary.

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7 GENERAL DISCUSSION

This dissertation investigated how the alliance between persistently depressed patients and their therapists developed over the course of a 48-week long treatment with either the disorder-specific CBASP or the nonspecific SP. CBASP theory assumes that CM is aetiological for early-onset persistent depression and leads to characteristics which can impede the alliance. CBASP interventions are specifically targeted at these characteristic features which include for example, egocentrism, lack of empathy, and global, prelogical reasoning. Therefore, this dissertation additionally tested the impact of CM on the differential effects of CBASP versus SP on the development of alliance over the course of the treatment.

To this end, Study 1 examined the psychometric properties, that is, factor structure, internal consistency and convergent validity, of the commonly used HAQ in its German versions for patients (HAQ-P) and therapist (HAQ-T) (Bassler et al., 1995). Study 2 employed the HAQ-P to explore the course of alliance over 48 weeks of treatment and to test if CBASP had on average a more positive effect on the alliance. Lastly, Study 2 investigated whether CBASP and SP had differential effects on the development of alliance ratings by patients with a history of low, medium and high CM.

The following paragraphs are a joint discussion of both studies. To begin, the studies' main results and implications will be summarized. Outlook on possible future research will be presented before turning to the studies' limitations, strengths and final conclusions.

7.1 Main findings

Structural equation modelling in Study 1 arrived at comparable goodness of fit indices for a model with two interrelated factors (HAQ-P: $r = .83$; HAQ-T: $r = .88$) called 'relation to the patient/therapist' and 'satisfaction with therapeutic outcome' and a model with one global helping alliance factor: Chi-Square-based indices and RMSEA rejected or only closely approached the threshold of good model fit; CFI/TLI and SRMR indicated that both models sufficiently fit the data. Internal consistency was moderate to high on both subscales and on the global helping alliance scale (HAQ-P: Cronbach's $\alpha \geq .75$; HAQ-T: Cronbach's $\alpha \geq .63$).

Convergent validity was examined by means of correlating the HAQ (subscales and global scale) with the IIP and its eight dimensions. Analyses arrived at small ($r \leq .30$) but significant correlations between the HAQ and some dimensions of the measure for interpersonal problems. Patients' ratings of the global helping alliance were negatively related to the IIP total score and the following dimensions: domineering/controlling, vindictive/self-centred, cold/distant and socially inhibited. Similar correlational matrices were found for the subscales. Therapists' evaluation of the global alliance negatively related to the IIP dimensions domineering/controlling and socially inhibited.

Therefore, the hypotheses of Study 1 could only partially be supported. The results indicated that the patient and therapist versions of the German HAQ (Bassler et al., 1995) are reliable. Yet, the factor structure remains ambiguous as fit indices suggested that a one- and a two-factorial model fitted the observed data comparably well. In addition to that, item 11 of the HAQ (HAQ-P: "I feel now that I can understand myself and deal with myself on my own.", HAQ-T: "I feel now that my patient can understand him/herself and can deal with him/herself on his/her own.") had very small loadings (< .30) on the factor 'satisfaction with therapeutic outcome' in the two-factorial model and on the global factor in the one-factorial model. This specific psychometric shortcoming may be due to the time point the data was collected at. Arguably, agreeing to item 11 is easier at a later point in treatment, which may result in higher loadings. However, issues with the factorial quality of the HAQ have previously been reported in other studies, too: Findings from CFA indicated relatively high correlations between factors, items loading inconsistently onto factors and modification indices suggesting the elimination of individual items altogether. Yet, for content-related reasons and customariness, the authors retained the two-factorial model, betimes aided by application of modification indices (De Weert-Van Oene et al., 2006; Hendriksen et al., 2010; Nübling et al., 2017).

The high correlation between the latent factors reported in Study 1 may have been overestimated because of the estimation method employed (Li, 2016). However, the fact that the found correlation mirrored the intercorrelations reported in other studies (De Weert-Van Oene et al., 2006; Hendriksen et al., 2010; Nübling et al., 2017), indicates how close the dimensions 'relation to the therapist/patient' and 'satisfaction with therapeutic outcome' are.

Analyses on the convergent validity of the HAQ found correlations with some dimension of the IIP ($r \leq .30$). Arguably, these small correlation coefficients challenge the HAQ in terms of validity. However, Puschner et al. (2005) found comparably sized correlations. Hence, an alternative explanation may be that correlations between the HAQ and the IIP cannot be expected to be very large. The latter reasoning suggests that the IIP may not be an appropriate instrument to inspect the convergent validity of the HAQ. This reasoning holds true as previously, the validity of the HAQ has been established by correlating it to other (symptom-related) measures (e.g., Nübling et al., 2017).

In light of the results reported in Study 1 and elsewhere (e.g., De Weert-Van Oene et al., 2006; Hendriksen et al., 2010; Nübling et al., 2017), Study 2 employed the HAQ-P and relied on its subscales to achieve a finely graded measure of the alliance between patients and therapists. Findings from Study 2 confirmed the a priori hypotheses: In both treatment conditions, alliance developed positively over time, that is, the alliance ratings increased from the beginning to the end of treatment. Patients receiving CBASP had higher overall mean alliance ratings on both subscales of the HAQ than did patients who received SP. CBASP and SP had differential effects on the increase in alliance ratings by patients with low, medium and high degrees of CM. In both treatment conditions, the development of alliance ratings was largely similar in patients with low and medium CM. Only in the group of patients with high CM CBASP did have a superior effect on the increase in alliance over the course of treatment. This effect was more pronounced on the HAQ subscale ‘satisfaction with therapeutic outcome’.

Beyond the scope of the hypotheses, there were two additional interesting findings: In the group of patients with medium CM, on the subscale ‘satisfaction with therapeutic outcome’, there was a stable small level advantage of CBASP over SP. In the same patient group, there was a small level advantage for CBASP on the subscale ‘relation to the therapist’, too. This effect however diminished by session 16 as ratings by patients in the SP condition increased quicker and caught up with patients’ ratings in the CBASP condition. After session 16 there were no differences between the treatment conditions anymore.

7.2 Limitations

Findings from both studies must be viewed considering some statistical, methodological and content- or scope-related limitations. One statistical shortcoming is the neglect of potential bias due to a socially desirable response style. Neither study considered this possible bias in patient and therapist data. In addition to that, both studies failed to take into account that patients' HAQ data was nested by therapists. This arguably affected Study 1 with regards to the results on the factor structure. With regards to Study 2, this is a valid criticism, too, as therapist effects contribute to variance in alliance ratings (Dinger et al., 2008). The reason not to consider the nested structure of patients' alliance ratings in Study 2 was, that we sought to parallel the hierarchical linear model of the main publication (Schramm et al., 2017) as closely as possible. Another drawback was that Study 2 lacked statistical power which may have led to non-significant results in the analyses of between-group differences. These power issues arose from splitting the sample into six relatively small groups, that is, two treatment groups (CBASP and SP) and three CM groups (low, medium and high CM). The main publication of the superordinate RCT examined effects between the two treatment groups only, which is why that study did not encounter power issues (Schramm et al., 2017). To circumvent type II error, we included effect sizes in the interpretation of the results.

Methodologically, one may argue that the superior effects of CBASP may be due to therapist allegiance, that is, the degree to which therapists identify with the treatment they perform. However, the superordinate RCT took several measures to avoid allegiance bias: Training and supervision in both treatment conditions was conducted by experts in the respective form of treatment. What is more, the experts were not involved as therapists in the study (Schramm, 2017). Lastly, the results themselves contradict the alleged allegiance: there is no sensible explanation for why allegiance should influence only the group of medium CM patients (small stable level advantage on 'satisfaction with therapeutic outcome' and small initial advantage on 'relation to the therapist') and high CM patients (small but increasing effects on 'relation with therapist' and small to large effects on 'satisfaction with therapeutic outcome'). Surely, if allegiance did account for the effects, CBASP's superiority should become apparent in the group of low CM patients, too.

With regards to content, Study 2 leaves several questions unanswered: Firstly, from the results one cannot deduct which specific interventions of CBASP lead to

better alliance ratings. What is more, the analyses did not incorporate data on treatment outcome. Hence, one cannot rule out the possibility that the increased alliance ratings were merely a result of the improved depression (Klein et al., 2018; Schramm et al., 2017). Investigating the latter point of criticism goes beyond the scope of this dissertation though. Possible approaches to the open research questions will be elaborated on later. Lastly, Study 2 was limited to patients' evaluation of the alliance, as assessed by the HAQ-P. The reason for that was that CBASP theory allows deducting specific hypotheses on how patients perceive the relationship to their therapist.

7.3 Conclusion and perspective

Vis-à-vis its limitations, the studies show several strengths which allow drawing meaningful conclusions. Foremost, both studies were conducted within a relatively long (i.e., 48 weeks, 32 sessions), carefully planned and executed RCT. The trial included participants who exhibited features central to persistent depression, such as moderate substance abuse, CM and persistent suicidality (Schramm, 2015; Schramm et al., 2017) In addition to that, Study 1 was the first examination of the German HAQ-P and HAQ-T in a sample of persistently depressed patients with regard to its psychometric qualities. Regarding Study 2, one must point out that to our knowledge no prior study has investigated the effects of CBASP versus a nonspecific therapy, here SP, on the alliance over such a long observation period and with data from every single session. Furthermore, the novelty of Study 2 lies in the consideration of the impact of CM on the alliance during treatment with CBASP and SP. Subdividing the patient sample into tertiles with low, medium and high CM poses a further advantage. It allowed for the comparison of patients with discriminative degrees of CM. This resulted in a richer picture than the one achieved if we had relied on a dichotomous division of patient groups with versus without CM as done elsewhere (e.g., Bausch et al., 2017; Klein et al., 2018).

In synopsis of the studies' results, their limitations and strengths, one can conclude that the German HAQ, its versions for patients and therapist, offer sufficiently reliable measurement instruments. The HAQ may be used unidimensionally to assess the global alliance or two-dimensionally to measure the subscales 'relation to the therapist/patient' and 'satisfaction with therapeutic outcome'. These findings are relevant to psychotherapy research as the HAQ is a

very frequently applied instrument, especially in the German speaking countries (Elvins & Green, 2008; Nübling et al., 2017; Wampold & Imel, 2015). Yet, the HAQ presents psychometric shortcomings which suggest that future research may seek to improve on the HAQ or aim at establishing alternative instruments. Potentially, the HAQ-II by Luborsky et al. (1996), a revised version of the HAQ, devoid of outcome-related items and enriched by additional items on the relationship aspect of the alliance, may be translated into German and subsequently examined. Arguably, a new instrument could only replace the HAQ with all its advantages, for example, economic usability, widespread application in the scientific literature, when the superiority of the new assessment tool in terms of psychometrics has firmly been established.

The results from Study 2 suggest that CBASP is more effective than SP in creating a positive therapeutic alliance with persistently depressed patients in general. CBASP and SP fare comparably well regarding the alliance with patients who have experienced low or medium degrees of CM. In the subgroup of patients with a history of severe CM, CBASP has a superior effect on the increase of alliance ratings, which is particularly pronounced on the subscale ‘satisfaction with therapeutic outcome’.

Future research may expand the analyses by taking into account that patient data was nested by therapists. That approach would allow investigating to what degree therapist effects explain variance in the data. Del Re et al. (2012), for instance, found that the ratio of patients to therapist significantly moderates the relationship between alliance and treatment outcome. Hence, future studies, which aim at disentangling the relationship between alliance and treatment outcome, here for example, HRSD scores, in persistently depressed patients, may want to examine therapist-related moderators.

In order to achieve a more comprehensive understanding of the alliance in the treatment of persistent depression, future research should study the alliance from the therapist’s perspective, too. To this end, one could firstly answer the question if the findings from Study 2 are paralleled by the therapists’ HAQ ratings. Further studies could then approach patients’ and therapists’ evaluations from a dyadic stance as was recently done by Laws et al. (2017). The authors tested if discrepancy or divergence in alliance ratings by persistently depressed patients and their therapists predicted therapy outcome. Results indicated that patients’ and therapists’ ratings

converged over time, which was associated with some outcome measures. The alliance data from the superordinate RCT by Schramm et al. (2011a), which this dissertation relied on, was collected at sessions over a longer treatment period than in the study by Laws et al. (2017). Hence, applying this methodology (Laws et al., 2017) to the herein employed data may provide a more detailed understanding.

From the methodological approach in this dissertation, one cannot deduct which specific techniques in CBASP lead to overall higher mean ratings and to a stronger increase in alliance ratings in the subgroup of high CM patients over time. Future process research should seek to disseminate how CBASP effects alliance.

Testing different mediational models could further analyse how the incremental increase in alliance ratings came about. Constantino et al. (2016), for example, found support for an explanatory model in which CBASP lead to improved alliance, which resulted in a decrease in patient hostile-submissiveness and in better therapy outcome (Constantino et al., 2016). One could test whether the increase in alliance ratings (early versus late alliance) is mediated by patients' interpersonal change. And whether to this effect there are differences between patients with distinct levels of CM. If in CBASP the link between early and late alliance ratings is mediated by interpersonal change this would explain the pronounced increase in alliance ratings, especially on the subscale 'satisfaction with outcome' in the subgroup of patients with high CM.

Results from Study 2 support the notion by Klein et al. (2018) that higher CM may serve as a differential indicator for treatment with CBASP. Future research on adverse side effects is needed to further elucidate CBASP's contraindications. More particularly, further studies should examine the possible side effects considering that there may be differences depending on the degree of CM experienced by patients. Analyses on positive and negative effects of CBASP, in patients with different characteristics, for instance, history of CM, may then inform practitioners on when to apply or refrain from CBASP

One can conclude that the instrument used in this dissertation to assess the alliance between persistently depressed patients and their therapists, that is, the HAQ, exhibits acceptable psychometric properties. The thereby assessed patient rated alliance improved over the course of a 48-week long treatment with CBASP and SP, respectively. On average, CBASP was more effective than SP in creating a positive therapeutic alliance across treatment. Moreover, CBASP has a more positive

effect on the increase of alliance in the subgroup of patients with a history of high CM, which was particularly pronounced on the subscale ‘satisfaction with therapeutic outcome’. Several follow-up issues remain open to future research. Among other, these include questions on therapist effects, the outcome-alliance link and process-research on how CBASP achieves superior change in the subgroup of patients who have experienced severe maltreatment growing up.

8 SUMMARY

The present dissertation investigated the impact of childhood maltreatment (CM) and the differential effects of the disorder-specific Cognitive Behavioral Analysis System of Psychotherapy (CBASP) and nonspecific Supportive Psychotherapy (SP) on the alliance. The alliance was assessed by the German Helping Alliance Questionnaire (HAQ), whose psychometric quality was examined for that purpose. Analyses relied on data from a randomized-controlled clinical trial which compared CBASP to SP in the treatment of 268 early-onset persistently depressed outpatients. Both treatments ran in parallel and consisted of 32 individual sessions over the course of 48 weeks.

The first study explored the psychometrics of the German HAQ for patients (HAQ-P) and therapists (HAQ-T). Results indicated that the HAQ is internally consistent and may be used unidimensionally to assess a global helping alliance or two-dimensionally to examine the two subscales ‘relation to the patient/therapist’ and the ‘satisfaction with therapeutic outcome’. Analyses on convergent validity to a measure of interpersonal problems found small significant correlations. The second study investigated how both dimensions of the alliance developed over time, if CBASP had a superior effect on the mean alliance ratings, and whether there were differential effects of CBASP and SP on the course of alliance between patients with low versus medium versus high CM. Findings indicated an improvement of alliance in both treatments and that CBASP led to more positive overall mean alliance ratings. Only in the group of patients with high CM did CBASP have a distinctly more positive effect on the increase in alliance ratings: Patients with high CM receiving CBASP rated the alliance increasingly more favourable than patients who received SP. This effect was more pronounced on the subscale ‘satisfaction with therapeutic outcome’.

Together, the two studies demonstrated that the German HAQ provides an adequate instrument for the uni- and two-dimensional measurement of the alliance. Patients perceived the alliance, as assessed by the HAQ-P, increasingly positive over the course of both CBASP and SP. In comparison to the nonspecific treatment, there appears to be an overall positive effect of CBASP on both dimensions of the alliance, that is, ‘relation to therapist’ and ‘satisfaction with therapeutic outcome’. Only in the group of patients with high CM, did CBASP have a more favourable effect on the increase in alliance ratings, which was particularly large on the ‘satisfaction with therapeutic outcome’.

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10 CURRICULUM VITAE

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EDUCATION

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ACADEMIC EDUCATION

2008 - 2011	**Jacobs University Bremen**, Bremen
03.06.2011	B.A. in Integrated Social and Cognitive Psychology (1.3)
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2011 - 2014	**Ruprecht-Karls-Universität Heidelberg,** Heidelberg
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ACADEMIC CAREER

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01 - 06/2010	Teaching Assistant to Prof. Dr. Gerald Echterhoff for social psychology course *Attitudes and Social Influence.*

Universität Leipzig, Klinik und Poliklinik für Psychiatrie und Psychotherapie

2013 - 2014	Research Assistant for the evaluation of a care program for depression

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