The role of self-concept in child anxiety disorders

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Hovedoppgave ved Psykologisk institutt

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Abstract

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Supervisor: Krister Westlye Fjermestad.

Title: The role of self-concept in child anxiety disorders.

Background: Anxiety disorders are the most prevalent mental health disorders in children. Cognitive behavioral therapy (CBT) has been established as an evidence-based treatment for this group. However, a considerable amount of patients still do not achieve satisfactory recovery following CBT. In order to improve outcomes, researchers have suggested targeting common, underlying factors in mental health problems, which self-concept could be an example of.

Objective: We aimed to explore the role of self-concept in child anxiety disorders, exploring associations between self-concept and gender, age, anxiety and depressive symptoms, and primary anxiety diagnosis, as well as self-concept change from pre-treatment until long-term follow-up 3.9 years after treatment completion.

Method: Our thesis is based on data from the ATACA study, a community-based randomized controlled trial (RCT) examining the effect of CBT on child anxiety disorders. The sample consists of children with generalized anxiety disorder (GAD), separation anxiety disorder (SAD), and social anxiety disorder (SOP). Data were analyzed using exploratory analyses, paired and unpaired samples t-tests, two bivariate correlation analyses, as well as a one-way analysis of variance

Results: Results showed overall insignificant gender differences in self-concept. However, self-concept was negatively correlated with age, meaning older participants had lower self-concept. Self-concept was correlated with depressive and anxiety symptoms, but self-concept variations based on primary diagnoses were small or insignificant. Self-concept significantly increased from pre-treatment to post-treatment. Self-concept decreased slightly from post-treatment to long-term follow-up, but the self-concept change between pre-treatment and long-term follow-up remained statistically significant.

Conclusion: Our thesis supports a connection between self-concept and mental health problems such as anxiety, suggesting that self-concept is a transdiagnostic factor in mental health problems. Moreover, age seems to be an important determinant of self-concept in clinical child samples. Our thesis also indicates that self-concept can be improved by CBT, and further that the improvement remains long-term.

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Katarina Bellika and Caroline Matre
Oslo, April 2021

List of abbreviations

ATACA = The Assessment and Treatment – Anxiety in Children and Adults Study

CBT = Cognitive behavioral therapy

GAD = Generalized anxiety disorder

SAD = Separation anxiety disorder

SOP = Social phobia

Clarification of terms

Our thesis is focused on the term self-concept. Most research on this subject has examined self-esteem, defined as an individual's set of thoughts and feelings about his or her own worth and acceptance (Rosenberg, 1965). Self-concept is a broader term, defined as the sum of an individual's beliefs of their personal attributes, including self-perceptions of competency, influence, and positive self-worth (Beck et al., 2005). Self-concept and self-esteem have been used interchangeably in research. For simplification purposes, we have chosen to use the term self-concept, as this corresponds with the measurement tool used in the study.

Throughout our thesis, we will be using the terms "mental health disorders" and "mental health problems". The term "mental health disorders" refers to mental health problems that meet the criteria for a clinical diagnosis. "Mental health problems" is used as a collective term for clinical disorders and mental health problems that do not necessarily qualify for a clinical diagnosis, for example elevated mental health symptoms.

For simplification purposes, the term "child" refers to both children and adolescents, unless otherwise specified. Exceptions include certain references to other research, discussion of age effects, and differentiation between the two versions of the treatment manual in the study.

Disclaimer

Our thesis was written based on data from the ATACA study. Several research papers and theses have been and are currently being written based on data from this study. However, this is the first publication on the self-concept data. In addition to reporting main outcomes from the ATACA trial, previous theses have examined the association between drop-out and the

therapeutic alliance, how to build a therapeutic alliance with children, the association between symptom reduction and participant treatment satisfaction, as well as how parental mental health and family stress relate to child anxiety symptoms. Another thesis from the same sample is currently in preparation, to be delivered in the fall of 2021, about anxiety treatment and depression.

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1 Introduction

Anxiety disorders are the most prevalent mental health disorders amongst children (Kessler et al., 2005; Polanczyk et al., 2015). Untreated anxiety disorders early in life have been associated with a number of adverse consequences, affecting later emotional, social, academic, and vocational functioning (Kodal et al., 2018). Hence, developing effective treatments for this group is an important priority. Through these efforts, cognitive behavioral therapy (CBT) has been established as an evidence-based treatment form (Wergeland et al., 2020). However, a considerable amount of children treated with CBT still meet the criteria for their primary diagnosis after treatment (Kendall & Peterman, 2015). Hence, researchers are trying to find ways in which to further improve treatment outcomes following CBT.

An important and unresolved issue is whether treatment programs should be generic, i.e., directed towards general phenomena across mental health disorders, or diagnosis-specific, based on a belief that different mental health problems are so different that they require separate approaches. The generic approach argues that the high comorbidity rate between different mental health disorders makes the efforts to develop many different specific treatments futile. Currently, there is evidence for both approaches where neither of them has consistently given better results than the other (Heiervang et al., 2018; Oldham-Cooper & Loades, 2017; Spence et al., 2017). In addition, it has been suggested that although different mental health disorders present differently, they may share common factors. Directing treatment efforts toward such underlying, transdiagnostic mechanisms might be an effective treatment for many different mental health disorders (Martinsen, 2018).

Researchers have proposed that self-concept might be such a transdiagnostic factor (van Tuijl et al., 2016). Self-concept can be defined as the sum of an individual's beliefs of their personal attributes, including self-perceptions of competency, influence, and positive self-worth (Beck et al., 2005). Cognitive models of self-concept have been proposed, suggesting that this might be an important level for cognitive interventions (Fennell, 1997; Harter, 1999).

Several studies have found a negative correlation between self-concept and mental health problems (In-Albon et al., 2017; Sowislo & Orth, 2013; Zeigler-Hill, 2011), including anxiety (Bos et al., 2010; Henriksen et al., 2017; Moksnes & Espnes, 2012). Studies have also tried to uncover the causal relations between self-concept and mental health problems. Whereas some

have found that low self-concept causes mental health problems (Acarturk et al., 2009; Greenberg et al., 1992; Henriksen et al., 2017), others suggest that mental health problems reduce self-concept (Maldonado et al., 2013; Stadelmann et al., 2017), and others again argue that these constructs are simply correlated and not causally linked (Baumeister et al., 2003; Boden et al., 2008). To date, most studies on the associations between self-concept and mental health problems have focused on depression, whilst the role of self-concept in anxiety has been less extensively researched.

Given the lack of research on self-concept and anxiety, our thesis aimed to expand on the existing knowledge of self-concept in anxiety disorders in a community sample of children, as well as the usefulness of addressing self-concept in CBT. In the introduction of our thesis, we will go into further detail in describing anxiety disorders in children, CBT, and self-concept, as well as relations between self-concept and mental health, anxiety, and CBT.

1.1 Anxiety disorders in children

Anxiety has its basis in the human fear response, which is adaptive when facing a threat (Pine & Klein, 2015). Fear and anxiety are often distinguished temporally, with fear as a typical response to imminent threat, whilst anxiety often involves anticipation of future threat (APA, 2013). As a general guideline for considering anxiety as a clinical disorder, the level or scope of fear the individual is experiencing is considerably excessive to the situation, affecting functioning across contexts over time (APA, 2013).

Anxiety disorders are the most prevalent mental health disorders amongst children, with a lifetime prevalence of 8-32% (Costello et al., 2005; Kessler et al., 2005; Merikangas et al., 2010). A meta-analysis found a prevalence of 6.5% for any anxiety disorder amongst children (Polanczyk et al., 2015). Most people who develop an anxiety disorder do so by late adolescence or early adulthood (Beesdo-Baum & Knappe, 2012; Kessler et al., 2005). In a survey of American adolescents, the median age of onset of mental health disorders was earliest for anxiety disorders, at 6 years of age (Merikangas et al., 2010), suggesting that early intervention might be particularly important for this group.

1.1.1 Anxiety diagnoses

The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; DSM-V) distinguishes between several different types of anxiety disorders (APA, 2000; APA, 2013). The present

study used the DSM-IV, and concerned three specific anxiety diagnoses: Generalized anxiety disorder (GAD), separation anxiety disorder (SAD), and social anxiety disorder (SOP) (Wergeland et al., 2014).

Generalized anxiety disorder includes a tendency towards excessive worrying and anxiety related to several different types of situations, leading to a generally heightened level of anxiety in everyday life, that should have been present for at least 6 months (APA, 2000). Separation anxiety disorder entails excessive discomfort upon separation from one's caregiver, or upon anticipation of such separation. This often manifests as excessive fear of leaving home, refusal to go to school, or fear of losing or harm befalling the caregiver (APA, 2000). Social anxiety disorder entails excessive fear in a few or various social situations, often characterized by a marked fear of being the center of attention and fear of embarrassment, leading to either avoidance of the feared situations or endurance under significant distress (APA, 2000). Since the data collection for the present study, the DSM has been revised, meaning that some of these diagnostic criteria have been slightly altered (APA, 2013). Though most of the differences are changes in wording, some content changes have been made. For example, adults can now be diagnosed with SAD. In addition, they eased the duration criterion for SOP from requiring 6 months duration to stating that it typically lasts more than 6 months, meaning that the disorder potentially can be diagnosed earlier (APA, 2000; APA, 2013).

From a developmental perspective, factors that typically induce fear and anxiety change during childhood and adolescence, resulting in a temporal variance in the prevalence of the different anxiety symptoms and disorders (Beesdo-Baum & Knappe, 2012; Carr, 2016). For example, children are often more afraid of separation from their caregivers in early childhood, when they are more dependent on their caregivers to have their needs met. As they grow older, children generally become more independent, and peer relations become increasingly important. Hence, fear of negative social evaluation becomes more common in adolescence (Carr, 2016). In line with this, SAD has been found to be more common in childhood, whilst SOP is more common in adolescence (Carr, 2016).

Furthermore, these disorders have been argued to share some common mechanisms and are therefore grouped together in many studies of anxiety disorders and their treatment. They are believed to be treatable with the same CBT protocol, although some studies have found that children with SOP achieve poorer treatment outcomes (Kodal et al., 2018) compared to children with GAD and SAD.

1.1.2 Consequences of anxiety disorders

An anxiety disorder diagnosis requires the presence of significant distress or functional impairment (APA, 2000). Often, both of these are present, which can negatively affect both the child and their surroundings. For example, school refusal is a common consequence of many anxiety disorders, which can delay or impair the child's educational and/or social-emotional development (Finning et al., 2019). Overall, early anxiety disorders have been found to predict later emotional, social, academic, and vocational problems, as well as being a considerable economic burden on society (Kodal et al., 2018; Nevo et al., 2014). Some studies have also found anxiety disorders to be precursors to other mental health disorders, for example depression, bipolar disorder, substance abuse, conduct disorder, and eating disorders (Beesdo-Baum & Knappe, 2012; Bittner et al., 2007; Douglas et al., 2010; Duffy et al., 2013; Lewinsohn et al., 2008; Schaumberg et al., 2019). Thus, a childhood anxiety disorder might be the beginning of an unfortunate developmental path, making it important to develop effective treatments for children with anxiety in order to prevent such a development. Treatment programs are often focused on the specific anxiety symptoms in question, but several factors in addition to the anxiety symptoms per se could also play an important part in the maintenance of such problems. For example, self-concept has been suggested as a potential level of intervention (Fennell, 1997; Harter, 1999).

1.2 Cognitive behavioral therapy

CBT is perhaps the most extensively studied psychological treatment form, establishing its status as an evidence-based treatment (Hjemdal & Ottesen Kennair, 2018; Hollon & Beck, 2013; Wergeland et al., 2020). Historically, CBT for children is based on behavioral therapy, Bandura's social learning theory (Bandura, 1978; Bandura & Walters, 1963) and Beck's clinical work with adults (Grova et al., 2011). Since its beginning, CBT has developed in different directions. Some general similarities can be summarized as follows:

In CBT, psychological functioning is considered in terms of associations between thoughts, emotions, physiological reactions, and behavior, and how these factors interact with the child's environment (Neumer et al., 2018). These factors are considered to be closely interconnected. CBT is based on the rationale that dysfunctional cognitions and behaviors are likely to cause emotional and physiological distress. Thus, manipulating these cognitions and behavior can ease this distress (Neumer et al., 2018). The role of cognitions is particularly emphasized, and clinicians often differentiate between three main types: 1) core beliefs, 2)

rules for living, and 3) automatic thoughts (Berge & Repål, 2018). Core beliefs can be defined as relatively stable beliefs about ourselves and our environment. An example of a negative core belief could be "I'm worthless". This can, in turn, cause the child to form rules for living that relates to this assumption, e.g. "If I fail, people will see that I'm worthless", often resulting in compensatory strategies, such as avoidance. Lastly, underlying cognitions can lead to negative automatic thoughts, often provoked by specific situations. For example, if the child found themselves in a performance-based situation, they could automatically think that they are going to fail, causing them anxiety.

Thus, CBT is largely focused on identifying cognitions and behaviors that are central in causing and maintaining a problem and have developed a range of different techniques in order to challenge these, such as e.g., exposure therapy, behavioral experiments, problem solving, and reinforcement (Neumer et al., 2018).

CBT was originally developed as a treatment form for adults and has later been adapted to children (Grova, 2019). In adapting this treatment form to children, there has been an increased focus on developmental psychology, as well as children's dependency on their parents and their overall context (Grova, 2019).

1.2.1 The evidence of CBT for children

Extensive effort has been put into examining the effect of CBT as a treatment of mental health problems such as anxiety disorders, both for children and adults. Reviews have estimated that approximately two thirds of children respond to CBT and will be free of their primary anxiety diagnosis after treatment (Kendall & Peterman, 2015; Seligman & Ollendick, 2011).

Reviews largely support CBT's efficacy as a treatment of anxiety in children as compared to waitlist controls (Cartwright-Hatton et al., 2004; Higa-McMillan et al., 2016; Ishikawa et al., 2007; Kendall & Peterman, 2015; Sigurvinsdottir et al., 2019). Several studies and reviews have also compared CBT to other treatment forms or active control conditions, where some have found CBT to be more effective (Crowe & Mckay, 2017; Ollendick & King, 1998; Reynolds et al., 2012; Seligman & Ollendick, 2011; Silverman et al., 2008), whilst others have found that CBT is not necessarily more effective than treatment as usual or other treatment forms (Hancock et al., 2018; Heiervang et al., 2018; James et al., 2015). Moreover, longitudinal studies have found that CBT can have positive effects on anxiety as long as 19

years after treatment (Benjamin et al., 2013; Saavedra et al., 2010). The long-term effect of CBT is also discussed in our thesis, building on data from 3.9 years post-treatment.

However, most studies examining the effect of CBT are efficacy studies conducted with high experimental control, often in university clinics, which could be far from the reality of community settings (Nilsen et al., 2013; Wergeland et al., 2016). Children treated in community clinics have been found to have higher impairment, higher levels of anxiety and externalizing problems, more frequent comorbid conduct disorders, more life stressors, and lower socioeconomic status (Southam-Gerow et al., 2003; Southam-Gerow et al., 2008; Wergeland et al., 2016). Moreover, children treated in university clinics might not meet the criteria for an anxiety disorder (Ollendick & King, 1998). Wergeland et al. (2020) found that community-based CBT appears to be equally effective as CBT delivered in university clinics, meaning community settings might not weaken the implementation of treatment programs. Most children treated for anxiety in Norway are treated in community clinics, underlining the importance of conducting effectiveness studies that are more generalizable to community settings. To the best of our knowledge, our thesis is the only one that examines the effect of manualized CBT on self-concept in anxiety disorders in a community setting.

1.3 Unresolved issues in CBT

Although studies show that approximately 60% of children no longer meet the criteria for their primary diagnosis after CBT, this leaves 40% that still have clinically significant levels of anxiety post-treatment (Kendall & Peterman, 2015; Seligman & Ollendick, 2011). This has sparked debate about what should be done in order to improve treatment outcomes.

A potential challenge in treating anxiety in children is the considerable comorbidity between different mental health problems. Comorbidity has been regarded as a possible complicating factor that can increase the risk for poorer outcomes (Hudson, Keers, et al., 2015; Kennard et al., 2005; Liber et al., 2010; Rapee et al., 2013; Walczak et al., 2018). Approximately 75% of children with an anxiety disorder meet the criteria for more than one anxiety disorder, and approximately 50-60% meet the criteria for a mood disorder (Seligman & Ollendick, 2011). An Australian study found relatively high comorbidity between the inclusion diagnoses our thesis is focused on (GAD, SAD, and SOP), but also between these diagnoses and major depressive disorder and ADHD (Spence et al., 2018). Kendall et al. (2010) examined a sample of children with GAD, SAD, and SOP and found that 55% had a comorbid DSM-IV disorder

separate from these three. Leyfer et al. (2013) found that GAD, SAD, and SOP are amongst the disorders with the highest comorbidity rate.

Due to high comorbidity, an important area of debate has been whether we should use generic or specific treatment programs in treating mental health disorders. Generic CBT is built around the general principles of CBT, targeting dysfunctional patterns of thoughts and behavior thought to be present in various mental health disorders (Spence et al., 2017). Therefore, generic CBT is thought to be effective in treating more than just the primary disorder. Diagnosis-specific CBT is built on a view that different mental health disorders may be so different that treatment must target what is essential in causing and maintaining specific conditions (Rector et al., 2014).

Efficacy studies have found that generic and diagnosis-specific CBT are more or less equally effective, and both are more effective than waitlist controls (Heiervang et al., 2018; Norton & Barrera, 2012; Spence et al., 2017). However, diagnosis-specific treatments could be more effective for children with SOP (Reynolds et al., 2012; Spence & Rapee, 2016), as they have been found to show poorer treatment outcomes compared to children with other anxiety disorders (Hudson, Rapee, et al., 2015; Wergeland et al., 2014). However, several studies have shown that comorbidity does not necessarily worsen treatment outcomes (Kendall et al., 2001; Olatunji et al., 2010; Rapee, 2003). Indeed, some studies show that treatment focused on the primary disorder may reduce symptoms of the comorbid disorder as well (Mahdi et al., 2019; Ollendick et al., 2010). If the impact of comorbidity on treatment outcomes is more limited than what has been presumed, this would weaken the argument that the high comorbidity would cause diagnosis-specific CBT to fail. However, the results on the effects of comorbidity are mixed.

Furthermore, it has been proposed that mental health disorders may have common underlying mechanisms (Caspi et al., 2014). Directing treatment efforts towards such common factors may be highly beneficial for many different mental health problems (Martinsen, Kendall, et al., 2016). One such underlying factor may be self-concept, which has been found to correlate with many different mental health problems (In-Albon et al., 2017; Sowislo & Orth, 2013; Zeigler-Hill, 2011). Researchers have proposed that self-concept is a transdiagnostic factor explaining the high comorbidity rate between different mental health disorders (van Tuijl et al., 2016). From a developmental perspective, it has been suggested that low self-concept interacts with other variables in producing specific mental health problems, suggesting that

specific factors such as life experiences might determine which symptoms the individual develops (de Jong et al., 2012). In the next part of our thesis, we will present the term self-concept and its relation to mental health problems, with a primary focus on anxiety.

1.4 Self-concept and self-esteem

To date, most of the research on this subject has been focused on self-esteem, defined as an individual's set of thoughts and feelings about his or her own worth and acceptance (Rosenberg, 1965). The present study (Wergeland et al., 2014) used the term self-concept (Beck et al., 2001), a multidimensional construct conceptualized as the sum of an individual's beliefs of their personal attributes, including self-perceptions of competency, influence, and positive self-worth (Beck et al., 2005). In the literature, self-concept and self-esteem have been used interchangeably (Marsh et al., 2004; Simons et al., 2012), but there are also notable differences. Self-concept is a broader term, measuring self-views in addition to evaluations of self-views (Beck et al., 2001). As self-esteem is a component of self-concept, and self-esteem is more widely researched, we have primarily referred to studies on self-esteem throughout our thesis. However, for simplification purposes, we have used the term self-concept.

Overall, the self-concept literature has largely been focused on global self-concept, but other ways of measuring this construct have also been explored. For example, some have argued for the importance of domain-specific self-concept, stating that we do not just view and evaluate ourselves globally, but also across various domains (Rosenberg et al., 1995). This can result in different levels of self-concept depending on the domain, for example academically or socially. Nevertheless, global self-concept has received the most research attention.

1.4.1 Self-concept development and gender differences

Several studies and reviews have examined self-concept development across the lifespan (Chung et al., 2017; Erol & Orth, 2011; Jacobs et al., 2002; Orth et al., 2012; Orth et al., 2018; Robins & Trzesniewski, 2005), reporting mixed results. In line with the leading beliefs in the research field, Robins and Trzesniewski (2005) stated that young children tend to have unrealistically high self-concept, which gradually declines in childhood and early adolescence, before it increases in late adolescence and young adulthood. These self-concept decreases have been linked to the development of cognitive abilities, leading to more realistic self-views, and negative influences related to e.g., body image, puberty, and increasingly

academically and socially challenging school settings (Robins & Trzesniewski, 2005). This view is challenged by a large systematic review reporting that self-concept increased from age 4 to 11, remained constant from age 11 to 15, before increasing beyond age 15 years (Orth et al., 2018). Thus, the normative trajectory of self-concept is still unresolved. Few studies have examined how mental health problems could affect self-concept development, but some studies indicate that mental health problems increase the risk for a negative self-concept development (Maldonado et al., 2013; Steiger et al., 2014).

Researchers have also sought to uncover gender differences in self-concept, where females overall have been found to have lower self-concept than males (Bleidorn et al., 2016; Kling et al., 1999). According to Robins and Trzesniewski (2005), boys and girls follow the same developmental trajectory and have equally high self-concept in childhood, but the self-concept decline in adolescence is steeper for girls. Studies have also investigated gender differences beyond the level of self-concept per se. A meta-analysis by Gentile et al. (2009) found gender differences in domain-specific self-concept, where boys scored higher on physical appearance and athletic self-concept, and girls scored higher on conduct and moral-ethical domains. Physical appearance self-concept has been found to be highly predictive of global self-concept, especially for girls (Allgood-Merten et al., 1990; Polce-Lynch et al., 1998; von Soest et al., 2016), and girls tend to have lower physical appearance self-concept than boys (Gentile et al., 2009; King et al., 1993; Smolak, 2004; Stadelmann et al., 2017). Stadelmann et al. (2017) propose that this might predispose girls to mental health problems. However, the authors also found that when mental health disorders were present, both genders were affected in most self-concept domains, perhaps reducing the importance of gender to self-concept in clinical settings.

Because the issues of age and gender differences in self-concept is still unresolved, the role of these factors for self-concept will be examined in our thesis.

1.4.2 Self-concept, mental health, and anxiety

Self-concept has been linked to DSM-IV-TR and ICD-10 diagnoses (APA, 2000; WHO, 1993), including mood disorders, eating disorders, avoidant personality disorder, learning disabilities, attention hyperactivity disorder, and several anxiety disorders, especially SOP. Low self-concept has been associated with higher levels of internalizing problems (In-Albon et al., 2017; Keane & Loades, 2017; Martinsen, Neumer, et al., 2016; Ngo et al., 2020), such as anxiety and depression (Henriksen et al., 2017; Orth et al., 2008; Orth et al., 2009; Sowislo

& Orth, 2013), as well as eating problems (Shea & Pritchard, 2007), obsessive compulsive disorder (Ehntholt et al., 1999), and schizophrenia (Barrowclough et al., 2003). Some of these studies are conducted with adult samples and may not be representative for children.

Most of the literature on self-concept and mental health problems has focused on depression, but several studies have found a correlation between self-concept and anxiety symptoms or disorders (Boden et al., 2008; Bos et al., 2010; Greenberg et al., 1992; Henriksen et al., 2017; Lee & Hankin, 2009; Maldonado et al., 2013; Moksnes & Espnes, 2012; Rawson, 1992; Sowislo & Orth, 2013; Stadelmann et al., 2017; van Tuijl et al., 2016).

Studies have also compared average self-concept levels in different mental health problems. A study on adult out-patients found reduced self-concept in all diagnostic groups, where patients with personality disorders had the lowest self-concept, followed by patients with depression, whilst patients with anxiety disorders had the highest self-concept of all diagnostic groups (Silverstone, 1991). Similarly, a review by Keane and Loades (2017) found that children with depression tended to have lower self-concept than those with anxiety disorders, whereas children with comorbid disorders had the lowest self-concept. In contrast, van Tuijl et al. (2016) found that individuals with anxiety disorders did not have higher self-concept than those with depression.

1.4.3 Self-concept and specific anxiety diagnoses

In addition to examining the general association between self-concept and anxiety symptoms or disorders, studies have also examined how self-concept relates to specific anxiety disorders or symptoms of these. Here, we will describe some of the studies on the anxiety diagnoses which are the focus of our thesis (GAD, SAD, and SOP).

Most of this research has focused on SOP, and the literature on the two other diagnoses is sparse. Two studies on adult populations (Barrera & Norton, 2009; Henning et al., 2007) found decreased quality of life in individuals with GAD, with self-concept being an indicator of quality of life. We were largely unable to find studies linking low self-concept and SAD. An exception is Maldonado et al. (2013), who found decreased self-concept in children with overanxious disorder (similar to GAD), SOP, OCD, and simple phobia as compared to non-anxious controls, but did not find significantly reduced self-concept in children with SAD. Furthermore, they examined the effects of these disorders on self-concept development. SOP

had the most adverse impact, there was an adverse effect also of GAD, whereas SAD did not have a significant impact on self-concept development.

Several studies have found reduced self-concept levels in individuals with diagnosed SOP or symptoms of this disorder, both for children (de Jong et al., 2012; Ginsburg et al., 1998; Gomez-Ortiz et al., 2018; Maldonado et al., 2013; Reijntjes et al., 2011; Schreiber et al., 2012; Stadelmann et al., 2017; Wu et al., 2016) and adults (Blanco et al., 2014; Hulme et al., 2012; Iancu et al., 2015; Izgic et al., 2004). Many of these studies measured symptom levels and did not necessarily address whether high scoring individuals would qualify for a diagnosis. Nevertheless, the studies on clinical samples found the same general effect (Blanco et al., 2014; Iancu et al., 2015; Maldonado et al., 2013; Schreiber et al., 2012; Stadelmann et al., 2017). In a study on adults, Blanco et al. (2014) found a stronger association between self-concept and SOP than any of the other anxiety disorders or major depressive disorder, contradicting studies that have found a stronger association between self-concept and depression as compared to anxiety.

Consistent with the relatively higher association between self-concept and SOP, cognitive behavioral models of social anxiety have highlighted the role of negative, exaggerated, and maladaptive self-views as important mechanisms of this mental health problem (Clark & Wells, 1995; Heimberg et al., 2010).

1.4.4 Theoretical models for the connection between self-concept and mental health

Most studies do not address the causal relationship between self-concept and mental health problems or anxiety. Does self-concept cause or protect from mental health problems, do mental health problems affect self-concept, or are they simply correlated? We will highlight three theoretical models addressing these questions: The vulnerability model, the scar model, and the sociometer hypothesis.

The vulnerability model (Orth & Robins, 2013) proposes that low self-concept is a risk factor for mental health problems. Most used in relation to depression, the model proposes that low self-concept leads to rumination, self-focused attention, excessive reassurance seeking, negative feedback seeking, and rejection sensitivity, which in turn makes people more vulnerable to depression (Mor & Winquist, 2002; Orth et al., 2008; Zeigler-Hill, 2011). It is also underlined that people with low self-concept have fewer coping resources (Moksnes & Espnes, 2012; Orth et al., 2009; Zeigler-Hill, 2011). The vulnerability model is also called the

stress-buffering hypothesis (Zeigler-Hill, 2011), which proposes that self-concept and stress interact in creating mental health problems. According to this hypothesis, high self-concept protects the individual from the consequences of stress, whereas low self-concept increases vulnerability to the effects of stress (Zeigler-Hill, 2011). Research on the vulnerability model has yielded inconsistent results (Orth et al. 2009), but several studies support the model for the relation between self-concept and depression (In-Albon et al., 2017; Isomaa et al., 2013; Sowislo & Orth, 2013), though its validity might be less established for children than adults (Keane & Loades, 2017). There are considerably less studies on the vulnerability model related to anxiety, but some studies show that self-concept might have a causal or stress-buffering effect (Acarturk et al., 2009; Greenberg et al., 1992; Henriksen et al., 2017; Hulme et al., 2012; Sowislo & Orth, 2013).

The scar model (Shahar & Davidson, 2003), on the other hand, suggests that low self-concept is a consequence of mental health problems. According to this model, mental health disorders erode psychological resources and leave "scars" that distort how individuals see themselves (Zeigler-Hill, 2011). For instance, the chronic negative mood in depression may lead the individual to selectively attend to, encode, and retrieve negative information about the self, resulting in a lower self-concept (Orth et al., 2008). Mental health problems might also impact how others perceive the individual, which in turn impacts how the person is treated even after the disorder has remitted, contributing to low self-worth (Joiner et al., 1992; Orth et al., 2008). The scar model has received less research attention than the vulnerability model, but has some support when it comes to depression (Shahar & Davidson, 2003; Shahar & Henrich, 2010). Some studies have also found reduced self-concept following onset or remission of anxiety disorders (Maldonado et al., 2013; Stadelmann et al., 2017). A review by Sowislo and Orth (2013) found support for both the vulnerability and scar models for anxiety.

Finally, the sociometer hypothesis, first proposed by Leary, Tambor, et al. (1995) suggests that self-concept serves as an internal measurement monitoring a person's perceived value in a group (Leary & Baumeister, 2000; Leary, Schreindorfer et al., 1995). This sociometer monitors, regulates, and maintains interpersonal attachments, and is designed to increase inclusion and prevent rejection. In other words, self-concept is an indication of the extent to which an individual feels they will be accepted by others. According to the hypothesis, self-concept does not cause negative outcomes in and of itself, but is associated with lack of social inclusion, which is what causes both low self-concept and negative outcomes such as anxiety (Leary, Schreindorfer, et al., 1995).

To date, there is some support for all models presented above. However, most studies on this topic were conducted with adult samples. Therefore, further research on children is needed in order to establish the applicability of these models to child populations.

1.4.5 Domain-specific self-concept

Some researchers emphasize the hierarchical nature of self-concept, where domain-specific self-concept determines global self-concept. From this perspective, the level of global self-concept is determined by the importance of each domain to the individual and/or society, as well as the level of self-concept in areas of importance (Rosenberg et al., 1995; von Soest et al., 2016). von Soest et al. (2016) examined which domains of self-concept overall were the best predictors of global self-concept. Their results revealed that physical appearance and social self-concept were most highly correlated with global self-concept, whereas domains of a more non-social nature had lower correlations to global self-concept. They further explain this by pointing out that these domains are highly valued in society. Rosenberg et al. (1995) underlined that global and domain-specific self-concept are different concepts, and as such, they also have different correlates. The article concludes that global self-concept is a better predictor of psychological well-being, whilst domain-specific self-concept may have a larger effect on behavior.

Studies have found that anxiety disorders are related to specific domains of self-concept, maybe even more so than global self-concept. Stadelmann et al. (2017) found that children with anxiety disorders did not have decreased global self-concept, but rated lower on the domains social acceptance, physical appearance, and athletic competence compared to controls. The authors conclude that anxiety disorders might better be understood through domain-specific self-concept than global self-concept. Similarly, a Norwegian study (with a different sample than the present study) found that children with anxiety disorders rated themselves as less competent in physical activities and less socially accepted than did their peers without mental health disorders (Ekornas et al., 2010). Chansky and Kendall (1997) found that children with anxiety disorders reported decreased social self-concept, whilst Newbegin and Owens (1996) found a negative correlation between academic self-concept and anxiety levels. The latter three studies did however not measure global self-concept in addition to the domain-specific types.

To date, domain-specific self-concept has not been extensively studied in the context of mental health problems in general or anxiety specifically. Thus, most studies that have looked into self-concept treatment, have done it from the perspective of global self-concept:

1.4.6 Self-concept and CBT

Few studies have examined the effect of CBT or cognitive processes on self-concept. Shirk et al. (2003) found in their meta-analysis that cognitive processes such as unrealistic self-standards, biased social information processing, selective recall of self-relevant information, and biased explanatory style can contribute to negatively distorted self-evaluations, and thus, low self-concept. The authors suggested that cognitive treatments that target self-evaluative processes show promise for improving self-concept (Shirk et al., 2003). Similarly, Haney and Durlak (1998) found a moderate effect size for treatments targeting self-concept in children, suggesting self-concept can be improved through treatment. Some articles bring up CBT and cognitive interventions as potential treatment opportunities (Hofmann et al., 2004; Rapee & Heimberg, 1997; Taylor & Montgomery, 2007).

Several studies have looked into self-focused attention and self-views, which are conceptually related to self-concept, and how cognitive interventions can change these factors. Goldin et al. (2013) found that CBT reduced negative self-views and enhanced positive self-views for children with social anxiety. Compared to controls, patients with social anxiety showed fewer positive and more negative self-views at baseline. Increased positive self-views, but not negative, mediated the effect of CBT on social anxiety symptom reduction, and predicted a reduction in social anxiety symptoms at post-treatment and at one-year post-CBT (Goldin et al., 2013). Hofmann et al. (2004), found that negative, but not positive, self-focused thoughts mediated changes in social anxiety, and there was a significantly greater reduction in negative self-focused thoughts in the treatment groups compared to waitlist controls. However, Hofmann et al. (2004) examined several types of treatment forms and concluded that changes in self-focused thoughts did not appear to be specific to CBT.

In a study on children with depression, Taylor and Montgomery (2007) found potential for a delayed effect of CBT on self-concept. The effect was not significant immediately after treatment, but had increased at follow-up five weeks later. The effect on academic self-concept had reached significance at five-weeks follow-up, while the effect on global self-concept had increased, but was not significant. They theorized the increase in effect to be

because CBT teaches children skills to challenge negative thoughts, and as these skills increase, so will the self-concept.

In conclusion, although some studies show promising effects, the effect of CBT on self-concept is still largely unknown.

1.5 The present study

The aim of our thesis was to examine the role of self-concept in child anxiety disorders.

Our first research question concerned self-concept and demographic variables: Is self-concept associated with gender and age in children with anxiety disorders? Most studies on gender effects show that girls are more at risk for low self-concept and anxiety than boys are. Our hypothesis was that girls would show lower self-concept scores. Furthermore, studies have shown mixed results on the effect of age on self-concept development. Most studies have suggested a decrease in self-concept in adolescence, which might especially affect children with mental health problems. In line with most existing research, we hypothesized that the older participants would show lower self-concept scores.

Our second set of research questions concerned self-concept and clinical variables. Our second research question was: Are there associations between self-concept and symptoms of anxiety and depression in our sample? We hypothesized a stronger correlation between self-concept and depression compared to anxiety, in line with most research on this topic. Our third research question was: Is there a difference in self-concept depending on primary anxiety diagnosis, also over time? Studies have shown that social anxiety is more clearly linked with low self-concept than generalized anxiety and separation anxiety. We therefore hypothesized that participants with a primary diagnosis of SOP would show lower self-concept than the other two diagnostic groups. Moreover, we examined self-concept trajectories for each primary anxiety diagnosis, as there is a lack of research on this subject.

Our final research question was: Can self-concept in children with anxiety be improved through manualized CBT in a community setting? Studies have shown that there is a potential effect of CBT on self-concept. We therefore hypothesized that there would be an increase in self-concept from pre- to post-treatment. In line with Taylor & Montgomery (2007), we also hypothesized that there would be an increase in effect towards one-year and 3.9-years follow-up. Because all effects at 3.9-years follow-up are likely to also be influenced by participants' increased age, we controlled this final research question for participant age.

2 Methods

2.1 The ATACA study

Our thesis is based on data from the ATACA study (Wergeland et al., 2014), an RCT examining the effect of manualized CBT for children with anxiety disorders. ATACA was conducted in a community setting across seven different out-patient clinics for children in Western Norway. The study started in 2008 and completed data collection in 2014. ATACA includes longitudinal data from 3.9 years after treatment completion. The study was approved by the Regional Committee for Medical and Health Research Ethics – West (#2011/1004).

2.2 Participants

The sample comprised 182 children aged 8-15 years (M = 11.5 years, SD = 2.1). Participants were informed about the study during routine intake procedures, and parents of children with anxiety symptoms were invited to enroll their children in the study. Inclusion criteria were primary diagnoses of GAD, SAD, or SOP. Exclusion criteria were pervasive developmental disorder, psychotic disorder, and/or intellectual disability. Children who used psychotropic medication (for ADHD, depression, or anxiety) were included if the dosage had been stable for at least three months prior and kept constant during treatment (n = 11, 6.0%). See Table 1 for descriptive statistics for the study sample.

Table 1

Demographic Variables for the Sample

	M	SD	n	%
Child Age	11.5	2.09		
Child Gender				
Female			95	52.2
Male			87	47.8
Ethnicity				
Caucasian			165	90.7
Asian			3	1.6
Not Reported			14	7.7
Principal Diagnosis				
SOP			84	46.4
SAD			59	32.6
GAD			38	21.0
Comorbid SAD, SOP and/or GAD			125	69.1
Other Comorbidity				
Other specified anxiety disorders			25	13.8
ODD and/or ADHD			16	8.8
Tic disorder			12	6.6
Depression			21	11.6
Familiy Composition				
Two-parent household			104	57.5
Single-parent household			36	19.9
Biological parent and step-parent			24	13.3
Foster family			3	1.6
Not reported			14	7.7
Family Social Class				
High			55	30.4
Medium			93	51.4
Low			14	7.7
Not reported			19	10.5

Note. GAD = Generalized anxiety disorder. SAD = Separation anxiety. SOP = Social phobia. Other specified anxiety disorders = mainly specific phobia. ODD = Oppositional defiant disorder. ADHD = Attention Deficit Hyperactivity Disorder.

2.3 Measures

2.3.1 The Anxiety Disorders Interview Schedule

The GAD, SAD, and SOP modules of the Anxiety Disorders Interview Schedule (ADIS-C/P, Silverman & Albano, 1996) were used to assess the inclusion diagnoses at pre-treatment, post-treatment, one-year follow-up, and long-term follow-up. At long-term follow-up, the adult version of the interview (ADIS-IV-L) (Brown et al., 1994) was used with participants who had reached age 18. Participants and parents were interviewed separately, and diagnoses

and clinical severity ratings (CSR) were assigned based on combined report. The CSR scale ranges from 0 to 8, with a minimum score of 4 by at least one of the informants resulting in a diagnosis being assigned (Silverman & Albano, 1996). In cases of multiple anxiety diagnoses (CSR above 4 for more than one diagnosis), the diagnosis with the highest CSR score was considered the primary diagnosis. The ADIS-C/P has demonstrated excellent inter-rater reliability, retest reliability, and concurrent validity (Lyneham et al., 2007; Silverman et al., 2001; Wood et al., 2002). The ADIS-IV-L has also demonstrated good to excellent reliability (Brown et al., 1994; Brown et al., 2001). In this study, the inter-rater agreement estimated by kappa (κ) for the presence of an inclusion anxiety diagnosis was 0.84 for the child version and 0.86 for the parent version. For the specific anxiety diagnoses, the kappas were: GAD = 0.86, SAD = 0.86, and SOP = 0.83, using the combined child and parent report.

2.3.2 The Beck Self-Concept Scale

To measure participants' self-concept, the Self-Concept Scale of the Beck Youth Inventories of Emotional and Social Impairment (Beck et al., 2001) was used. The scale measures self-esteem and competency (Steer et al., 2005), and consists of 20 items related to competence and self-esteem, such as e.g., "I feel good about myself", "I feel smart", and "I am proud of what I do". These items are rated on a 4-point scale (0 = never, 1 = sometimes, 2 = often, 3 = always), where lower values indicate lower self-concept. The scale shows high internal consistency (Beck et al., 2001; Kornør & Johansen, 2016) and good test-retest reliability (Beck et al., 2001; Steer et al., 2005; Thastum et al., 2009). In the current sample, internal consistency was excellent (α = .93).

2.3.3 The Spence Children's Anxiety Scale

To measure participants' anxiety symptoms, the Spence Children's Anxiety Scale (SCAS, Spence, 1998), child (SCAS-C) and parent (SCAS-P) versions were used. SCAS is a self-report scale that measures social anxiety, generalized anxiety, separation anxiety, fear of physical injury, panic/agoraphobia, and obsessive-compulsive symptoms. The scale consists of 38 items, such as "I am afraid of the dark", "When I have a problem, I get a funny feeling in my stomach", and "I have to do some things in just the right way to stop bad things from happening". The items are rated on a 4-point scale (0 = never, 1 = sometimes, 2 = often, 3 = always) with a maximum score of 114. The child report includes six filler items that are positively worded, to reduce negative response bias, but these scores are not included in the

child's total score. SCAS has a six-month test-retest reliability of .60 (Spence, 1998; Spence et al., 2003). The internal consistency in the current sample was good to excellent with α =.91 for child ratings and α =.85 for parent ratings.

2.3.4 The Short Mood and Feelings Questionnaire

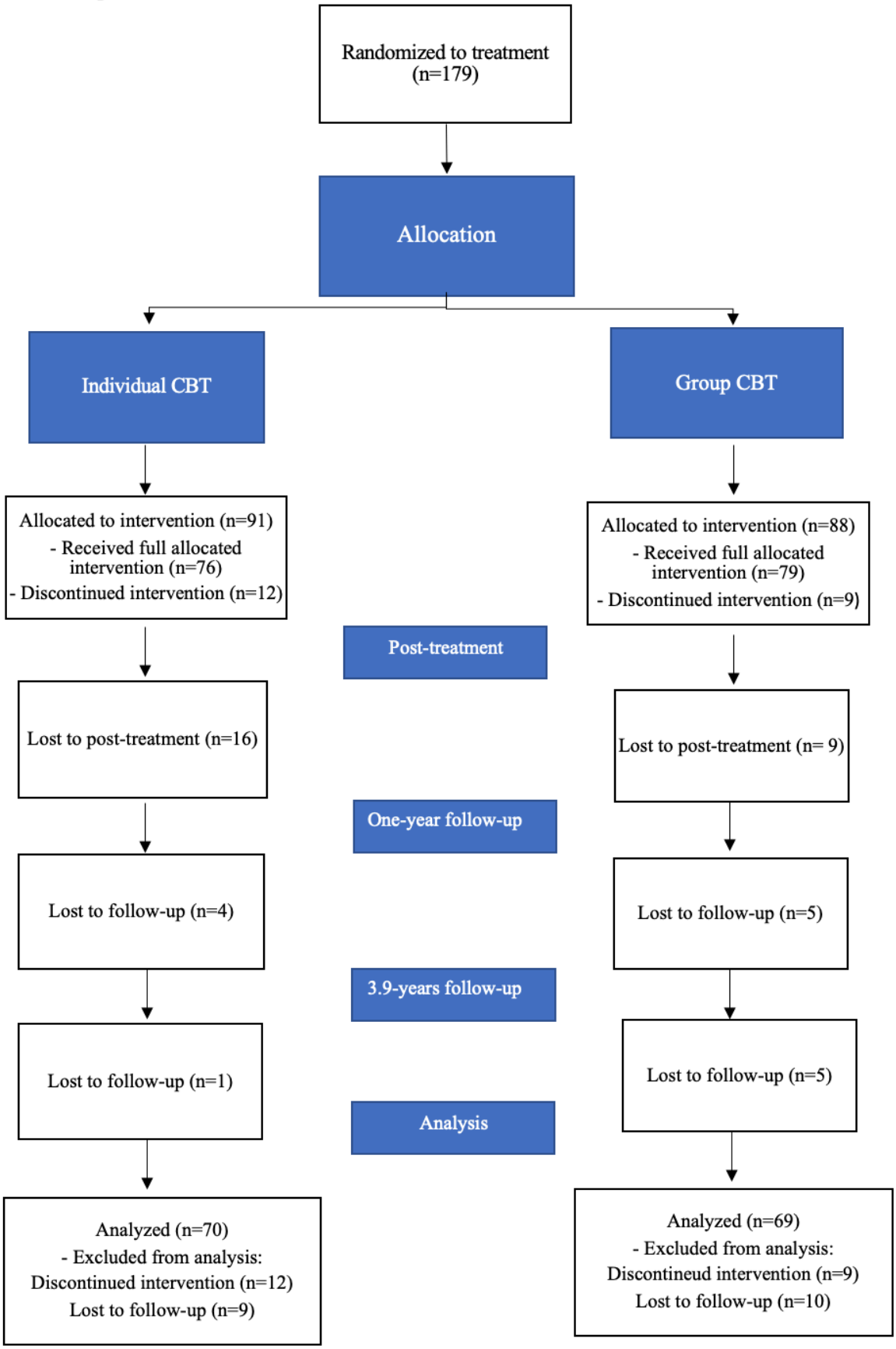
To measure participants' depressive symptoms the Short Mood and Feelings questionnaire (Angold & Costello, 1995) was used. The SMFQ is a self-report questionnaire with a child and a parent version. The questionnaire has 13 items such as "I felt miserable or unhappy", "I found it hard to think properly or concentrate", and "I did everything wrong". The items are rated on a 3-point scale (0 = not true, 1 = sometimes true, 2 = true), giving a maximum score of 26. Two-week test-retest reliability was .66 for child ratings and .88 for parent ratings (Kuo et al., 2005). Good internal consistency was found in the current sample, with α = .88 for child ratings and α = .86 for parent ratings.

2.4 Procedure

Of 258 children and parents invited for the initial evaluation, 221 accepted. Informed written consent from all parents and assent from participants 12 years or older were obtained. Finally, 182 children met inclusion criteria and were enrolled in the study. Participants were assigned randomly in blocks of six from the younger (age 8-12 years) or the older (age 12-15) group to either ICBT (n = 77), GCBT (n = 67), or a 10-week waitlist (n = 38). No mental health services were used during the waitlist period. Participants in the waitlist condition were subsequently randomized to either ICBT or GCBT. Finally, a total of 179 participants were randomized to treatment. Assessments with the Beck Self-Concept Scale were completed at pre-treatment, post-treatment, one-year follow-up, and long-term follow-up by participants only. Assessments with the ADIS-C/P or ADIS-IV-L and symptom measures were completed at pre-treatment, post-waitlist, post-treatment, one-year follow-up, and long-term follow-up by both participants and parents (one parent per child, 92.0% mothers). See Figure 1 for further details about the study procedure.

Figure 1

Participant Flowchart



2.5 Treatment

The treatment followed a Norwegian version of the Friends for Life program, 4th edition (Barrett & Ryan, 2004), a manualized CBT program targeting cognitive, physiological, and behavioral factors that have been found to affect development and maintenance of anxiety problems in children (Wergeland et al., 2014). The manual was translated and adapted to Norwegian conditions by a team of researchers in cooperation with the author (P. Barrett).

The manual comes in two versions, one for children (age 8-12) and one for youth (age 12-16), where the twelve-year-olds can receive either version. The program can be conducted both in school and treatment settings. In the present study, the program was applied in a treatment setting, consisting of 10 weekly sessions. The sessions are offered in two different formats; as individual appointments (60 minutes per session) or group therapy (90 minutes per session). The treatment consists of steps with corresponding assignments. The program is skills-based, focusing on identifying and challenging negative thoughts, building problem solving skills, and teaching relaxation techniques. From session 5, exposure techniques are also introduced. If participants missed sessions, they were offered catch-up sessions. Participants absent from more than three consecutive sessions were considered dropouts. Parents attended two of the 10 sessions, as well as the last 15 minutes of the other eight sessions. They also attended two separate parent-only sessions, prior to sessions one and six. Parents in ICBT had individual sessions, whereas parent sessions in GCBT were held with all parents in the treatment group present. Two booster sessions were conducted 4 and 12 weeks after the treatment ended. Mean treatment period was 12.0 (SD 3.0) weeks, with group treatment lasting significantly shorter than individual therapy (GCBT: 10.7 (SD 1.1), ICBT: 13.5 (SD 3.7)).

The Friends for Life program contains a self-concept component. The emphasis on self-concept is particularly evident in the youth version of the manual, where the 2nd session is completely devoted to self-concept. Although it is not in primary focus, self-concept is both directly and indirectly a part of the treatment. For example, most assignments in both versions are positively oriented and focused on building a sense of achievement and belief in one's ability to overcome difficulties. Moreover, throughout both manuals there is an extensive focus on turning negativity into positivity, for example in relation to how participants interpret their experiences, but also when it comes to self-talk. According to the manual, children with anxiety often talk negatively to and about themselves, including negative self-evaluations (Barrett & Ryan, 2004). The program aims to help patients change these non-helpful thoughts into more helpful ones.

Several studies and meta-analyses have concluded that the Friends for Life program shows promise as a prevention program (Ahlen, et al., 2012; Barrett et al., 2003; Briesch et al., 2010; Essau et al., 2012; Maggin & Johnson, 2014; Zwaanswijk & Kosters, 2015) and treatment program (Barrett et al., 2001; Farrell et al., 2005; Shortt et al., 2001). The present study supports the effectiveness of the program in the treatment of anxiety disorders in a community setting (Wergeland et al., 2014). The Friends for Life program is considered an evidence-based program in the prevention of anxiety by the World Health Organization (WHO, 2004).

2.6 Therapists and assessors

The study included 17 therapists who were regular employees of the participating clinics, and who delivered the treatments as a part of their ordinary workload. On average, the therapists had 10.8 (SD 6.3) years of clinical experience. Five therapists had formal two-year post-graduation CBT training, while the others had little or no formal training in CBT beforehand. Every therapist participated in a two-day workshop on CBT and childhood anxiety disorders, a two-day workshop on the Friends for Life manual, and treated two pilot cases that were approved by supervisors before the study. During the study, all therapists participated in four additional two-day workshops on topics related to anxiety disorders. Every therapist delivered both ICBT and GCBT, and supervision was done every 2-4 weeks by experienced CBT therapists licensed in the Friends for Life treatment manual.

Assessors were experienced clinicians employed at the clinics. Assessors participated in workshops on CBT and anxiety disorders, and training in ADIS-C/P in a two-day workshop with licensed ADIS-C/P-raters. The assessors were supervised 2-4 times per year and had biweekly phone contact with a supervisor to discuss administration and scoring during the study period. Masking of assessors was not possible as the assessors worked at the clinic where the treatment was administered.

Every treatment session was videotaped, and 20% were randomly selected for adherence and competence rating. This was done by two experiences CBT and Friends for Life therapists and two psychology graduate students using an 11-item scale developed for the study (Bjaastad et al., 2016), measuring CBT structure (agenda, setting, homework task, progress, structure, and parental involvement), process and relational skills (cooperation, positive reinforcement, and flexibility), and specific goals of each session. Adherence and competence were rated on a 7-point scale (0 = none to 6 = thorough for adherence and 0 = poor skills to 6 = excellent skills for competence). Inter-rater reliability was good to excellent, with an ICC =

.80 for adherence and .68 for competence. All 17 therapists met the criterion of a minimum mean score above 3.0 for adherence and competence.

2.7 Statistical analyses

Statistical analyses were conducted using SPSS 26 (IBM Statistics, Chicago, USA). In our preliminary analyses, missing value analyses were run for all variables to assess the extent and patterns of missing data. Additionally, descriptive analyses were run to assess violation of the normality assumption for the continuous variables included in our main analyses, as several of these analyses assume a normal distribution.

For our main analyses, independent samples t-tests were conducted in order to assess self-concept variations at all measurement points as related to participant gender. Furthermore, two two-tailed bivariate correlation analyses were performed to assess correlations between self-concept and participant age at all measurement points, as well as pre-treatment correlations between self-concept and symptoms of anxiety and depression. Self-concept variations related to primary anxiety diagnosis (GAD, SAD, or SOP) were investigated in exploratory analyses and a one-way analysis of variance, including a Bonferroni correction in order to assess individual associations between specific diagnoses and measurement points. Lastly, paired samples t-tests were conducted to investigate the trajectories of participants' self-concept scores between the different measurement points.

As supplementary analyses, interaction effects between age and primary anxiety diagnosis were controlled for using a two-way analysis of variance. A bivariate linear regression was performed to assess the effect of self-concept and age at pre-treatment on self-concept at long-term follow-up. Finally, an independent samples t-test was performed to investigate whether the different treatment manuals for children and youth resulted in different treatment effects.

Effect sizes for the correlation analyses, regression analysis, and two-way ANOVA were computed using Pearson's product-moment correlation coefficient (Pearson's r). r = >.50 is commonly considered a strong correlation, a correlation between .30 and .49 is considered moderate, whereas r = <.29 is considered small (Cohen, 1992). For the remaining analyses, effect sizes were computed using the following equation: Cohen's $d = (M_1 - M_2) - SD$. $d = .8$ is commonly considered a large effect size, $d = .5$ is considered moderate, and $d = .2$ is considered small (Cohen, 1992).

3 Results

3.1 Preliminary analyses

Missing value analyses were run at the measure level for all variables included in our main analyses. Missing data for self-concept was 8.8% at pre-treatment and between 22.1% and 26.5% at post-treatment, one-year, and long-term follow-up. Missing data for the remaining variables age, age group, gender, primary anxiety diagnosis, and child- and parent-rated anxiety and depressive symptoms (all measured at pre-treatment) did not exceed 7.7%. Little's Missing Completely at Random (MCAR) test was run to assess patterns of missing data. The test was not significant, indicating no systematic pattern in the missing data. For the t-tests, one-way analysis of variance, regression analysis, and correlation analyses, missing data were handled by excluding cases pairwise, in order to retain as much variance as possible. Exploratory analyses were conducted using listwise exclusion.

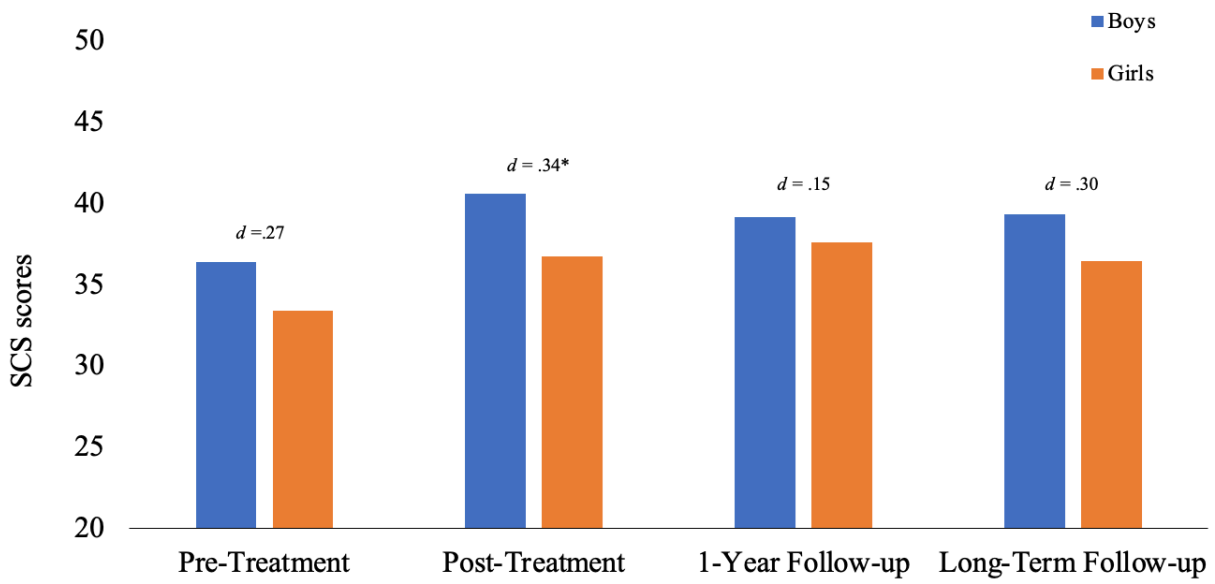
Descriptive analyses were conducted in order to evaluate the normality of variables included in our main analyses. Skewness and kurtosis values were well within the recommended range of +/-3.29 (Kim, 2013) for all variables. The effect of outliers was assessed using 5% trimmed means. Means did not meaningfully differ when outliers were excluded, and they were thus kept in the further analyses. In conclusion, the normality assumption does not appear to be violated in our data.

3.2 Self-concept, gender, and age

Boys reported slightly higher mean levels of self-concept than girls at all measurement points. However, the gender difference was only significant at post-treatment (See Figure 2, and Table A.1 in Appendix for details), giving a small effect size of $d = 0.34$.

Figure 2

Self-Concept Change by Gender



Note. SCS = Beck's Self-Concept Scale. *d* = Cohen's *d*.

The correlation analysis for self-concept and participant age showed small to moderate negative correlations, meaning that the older participants had significantly lower self-concept at all measurement points (see Table 2).

Table 2

Correlations with Age

	Age	SCS-T1	SCS-T2	SCS-T3	SCS-T4
Age	1	-.33**	-.34**	-.23**	-.24**
SCS-T1		1	.58**	.43**	.48**
SCS-T2			1	.58**	.44**
SCS-T3				1	.55**
SCS-T4					1

Note . SCS = Beck's Self-Concept Scale. T1 = Pre-treatment. T2 = Post-treatment. T3 = 1-year follow-up. T4 = Long-term follow-up.

** = significant at the 0.01 level (2-tailed).

3.3 Self-concept and symptoms of anxiety and depression

The correlation analysis for self-concept and symptom variables at pre-treatment showed significant associations (see Table 3). A strong negative correlation was found between self-

concept and child-rated depressive symptoms. A small negative correlation was also found between self-concept and child depressive symptoms as reported by the parent. A small negative correlation was found between self-concept and child-reported anxiety symptoms.

Table 3

Correlations with Symptoms of Anxiety and Depression

	SCS	MFQ-C	MFQ-P	SCAS-C	SCAS-P
SCS	1	-.50**	-.20**	-.25**	.07
MFQ-C		1	.34**	.48**	.09
MFQ-P			1	.06	.38**
SCAS-C				1	.26**
SCAS-P					1

Note . SCS = Beck's Self-Concept Scale. MFQ = The Short Mood and Feelings Questionnaire. SCAS = The Spence Children Anxiety scale. C = Child P = Parent.

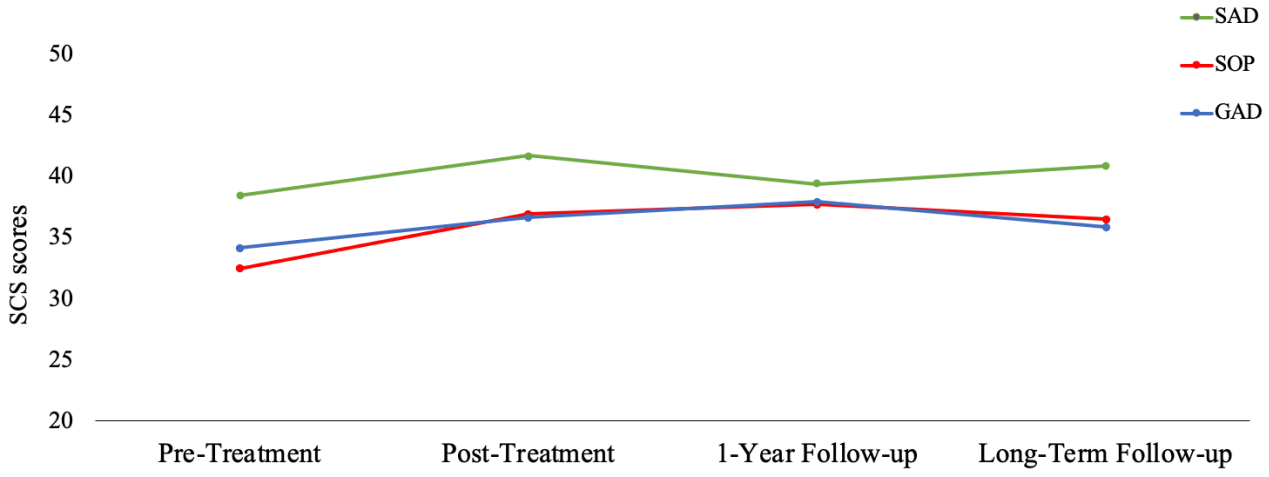
** = Significant at the p<.001 level (2-tailed).

3.4 Self-concept and primary anxiety diagnosis

Exploratory analyses showed differences in self-concept scores across measurement points related to primary anxiety diagnosis (see Figure 3):

Figure 3

Self-Concept Trajectories by Primary Diagnosis



Note. SCS = Beck's Self-Concept Scale. GAD = Generalized anxiety disorder. SAD = Separation anxiety disorder. SOP = social anxiety disorder.

The analysis of variance of self-concept related to primary anxiety diagnosis showed that there were significant differences in participant self-concept associated with primary anxiety diagnosis at pre-treatment and long-term follow-up (see Table 4). However, with Bonferroni correction only the difference between SAD and SOP at pre-treatment was considered significant (p = .008).

Table 4

ANOVA for Self-Concept by Primary Diagnosis

		SS	df	MS	F	*p*
SCS T1	Between Groups	1154.70	2	577.35	4.71	.01
	Within Groups	19874.98	162	122.69		
	Total	21029.69	164			
SCS T2	Between Groups	780.00	2	390.00	3.04	.05
	Within Groups	17679.51	138	128.11		
	Total	18459.52	140			
SCS T3	Between Groups	78.63	2	39.31	0.34	.71
	Within Groups	15072.10	130	115.94		
	Total	15150.73	132			
SCS T4	Between Groups	652.40	2	326.20	3.48	.03
	Within Groups	12933.22	138	93.72		
	Total	13585.62	140			

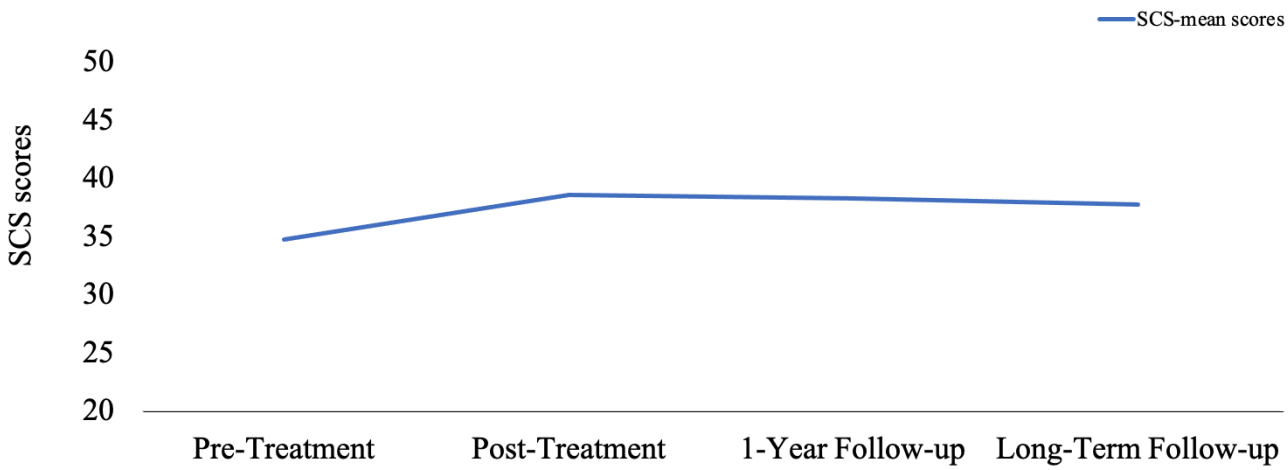
Note. SCS = Beck's Self-Concept Scale. SS = Sums of squares. df = degrees of freedom. MS = Mean Square. p = significance. T1 = Pre-treatment. T2 = Post-treatment. T3 = 1-year follow-up. T4 = Long-term follow-up.

3.5 Self-concept change following CBT

The results from the paired samples t-test showed a significant change in self-concept from pre-treatment to post-treatment, and from pre-treatment to long-term follow-up (see Figure 3, and Table A.2 in Appendix for details). No significant change was found between post-treatment and one-year follow up, or one-year follow-up and long-term follow up. The effect size differences in self-concept change between pre-treatment and post-treatment and pre-treatment and long-term follow-up were small (see Table A.2 in Appendix). Thus, our data suggest a significant, albeit small, increasing participant self-concept following CBT that remained 3.9 years after treatment.

Figure 4

Self-concept at Various Measurement Times



Note. SCS = Beck's Self-Concept Scale.

3.6 Supplementary analyses

The results from the supplementary regression analyses revealed that self-concept at pre-treatment was a significant predictor for self-concept at long-term follow-up, but age was not a significant predictor (see Table 5). The model explained 23.0% of the total variance in self-concept at long-term follow-up.

Table 5

Regression Analysis for Age and Self-Concept at T1 as Predictors for Self-Concept at T4

SCS T4		B	SE	Beta	t	*p*
1	(Constant)	29.06	5.84		4.97	.00
	Age at T1	-.43	.39	-.09	-1.12	.27
	SCS T1	.39	.07	.45	5.51	.00

Note. Dependent Variable: Beck's Self-Concept Scale T4. SE = Standard error. *p* = significance.

T1 = Pre-treatment. T4 = Long-term follow-up.

r = .49. r^2 = .24. Adjusted r^2 = .23.

4 Discussion

The aims of our thesis were to examine the relationship between self-concept and child anxiety disorders by exploring associations with gender, age, symptoms of anxiety and depression, and primary anxiety diagnosis, as well as trajectories of self-concept following CBT. In the current part of our thesis, our findings will be discussed in light of relevant theoretical perspectives and empirical findings. We will then discuss methodological and conceptual considerations, before discussing strengths and limitations. Lastly, implications for clinical practice and future research will be presented.

4.1 Discussion of main findings

4.1.1 Self-concept, gender, and age

We hypothesized that girls would have lower self-concept than boys, which was partly confirmed. Girls had lower self-concept than boys at all measurement points, but the difference was only significant at post-treatment, with a small effect size. Overall, studies have found small to moderate gender differences in self-concept (Bleidorn et al., 2016; Kling et al., 1999). However, our findings might have been affected by the presence of mental health disorders in our sample. Few studies have examined the relation between self-concept and gender in clinical samples. However, mental health problems, especially internalizing problems, are more common amongst girls (Moksnes & Espnes, 2012), as is low self-concept (Derdikman-Eiron et al., 2011). Low self-concept is also more common with mental health problems (Keane & Loades, 2017). Maldonado et al. (2013) found a gender difference in that girls had lower self-concept than boys, but this finding was not significant when controlling for the effect of anxiety or comorbidity. Thus, gender did not appear to be an important predictor of self-concept in their clinical sample, which could also be the case in our sample.

We further hypothesized that increased age would be associated with lower self-concept, which was confirmed. Results showed that the correlations at pre- and post-treatment were moderate, and decreased slightly toward one-year and long-term follow-up. Our findings are consistent with studies on normative self-concept development which have found a decline in self-concept in early adolescence (Robins & Trzesniewski, 2005). In contrast, a large meta-analysis by Orth et al. (2018) found that self-concept largely increased in childhood and remained constant in early adolescence. Our findings appear to support that self-concept decreases in adolescence. At pre- and post-treatment, participants ranged between 8 and 15

years of age, and the older participants had significantly lower self-concept, perhaps reflecting that they had entered the developmental period where self-concept decreases.

However, again, the clinical nature of our sample should be taken into account. For example, the finding could be seen in light of the scar model (Shahar & Davidson, 2003). Older participants might have struggled with anxiety longer than the younger ones, which could have had a negative effect on their self-concept (Sowislo & Orth, 2013; Stadelmann et al., 2017). In addition, anxiety disorders have been found to be associated with higher functional impairment with increasing age (Langley et al., 2014), which might result in lower self-concept in adolescents. The current sample might also be especially vulnerable to a decline in self-concept, seeing as mental health problems have been found to correlate with lower and more fragile self-concept (Zeigler-Hill, 2011). For example, Maldonado et al. (2013) found adolescent anxiety disorders to have a negative effect on self-concept development. Moreover, Steiger et al. (2014) found that adolescents with low self-concept were at an increased risk of depressive symptoms and low self-concept two decades later.

4.1.2 Self-concept and symptoms of anxiety and depression

Our second hypothesis was that self-concept would be correlated with both anxiety and depressive symptoms, which was largely supported. We found small correlations between self-concept and child-reported anxiety symptoms. For depressive symptoms we found a small correlation between self-concept and parent-reported depressive symptoms, and a strong correlation between self-concept and child-reported depressive symptoms. We expected the correlation with depression to be stronger than the correlation with anxiety, which was confirmed for child-report only.

Previous studies have showed lower self-concept in participants with depression compared to anxiety, supporting our results (Keane & Loades, 2017). Populations with anxiety disorders have been found to have higher self-concept than other diagnostic groups, though lower than non-clinical populations (Keane & Loades, 2017; Silverstone, 1991; Sowislo & Orth, 2013). Regarding depression showing a stronger association with self-concept, it should be noted that low self-concept is listed as a typical symptom of depression in the DSM-IV (APA, 2000) and can be counted as a symptom for the diagnosis. For the inclusion anxiety disorders, low self-concept is not listed as a common symptom or criterion in the DSM-IV. Reduced self-concept is therefore, to a larger extent, expected in depression (van Tuijl et al., 2016).

Notably, everyone in our sample who had high depressive symptoms also had an anxiety disorder, in accordance with the main inclusion criteria for the trial. Hence, there could have been an additive effect on self-concept. If a child has both depression and anxiety, the stronger correlation between depression and self-concept may be inflated compared to if the child had anxiety or depression only (Martinsen, Neumer et al. 2016). This is in accordance with studies which have found particularly reduced self-concept in comorbid mental health problems (Keane & Loades, 2017).

4.1.3 Self-concept and primary anxiety diagnosis

Our third hypothesis was that participants with a primary diagnosis of SOP would have lower self-concept than participants with GAD or SAD. This was partially confirmed, as participants with GAD and SOP overall had lower self-concept than participants with SAD. There were significant differences in self-concept depending on primary diagnosis at pre-treatment and long-term follow-up. However, with the Bonferroni correction, only the difference between SAD and SOP at pre-treatment was significant. Importantly, using the Bonferroni correction increases likelihood of false negatives (Armstrong, 2014; Perneger, 1998). This means that there could potentially be a significant difference between the different anxiety diagnoses that we missed because of the Bonferroni correction.

Our findings of lower self-concept at pre-treatment in participants with SOP compared to other anxiety disorders are in line with previous studies (de Jong et al., 2012; Maldonado et al., 2013). This could be viewed in light of the theoretical models presented in the introduction of our thesis (Leary, Tambor et al., 1995; Orth & Robins, 2013; Shahar & Davidson, 2003). Based on the scar model (Shahar & Davidson, 2003), the anxiety might for example cause others to see and treat the child differently because of the disorder. The anxiety might then cause the child to retrieve more negative information about themselves, which could have a detrimental effect on their self-concept. This would perhaps especially affect children with SOP, as they already are more inclined to worry about and be affected by how they are perceived by others. In accordance with the sociometer hypothesis (Leary, Tambor, et al., 1995), one would expect children with SOP to be more prone to low self-concept due to low social inclusion and perceived value in a group. This hypothesis is supported by findings that social self-concept is amongst the domains with the highest correlation to global self-concept (von Soest et al, 2016). Furthermore, reduced self-concept in SOP is consistent with

cognitive behavioral models of social anxiety that propose negative self-views as important mechanisms of this mental health problem (Clark & Wells, 1995; Heimberg et al., 2010).

Few studies have examined the association between self-concept and GAD or SAD. In our study, children with a primary diagnosis of SAD had the highest self-concept. This is in line with Maldonado et al. (2013), who found significantly reduced self-concept in children with overanxious disorder (similar to GAD) and SOP, but not SAD. Nevertheless, based on studies that have examined self-concept levels in clinical versus non-clinical samples, all three diagnostic groups to some extent appear to have had reduced self-concept relative to the normal population (Thastum et al., 2009). In a study on Danish children, the clinical sample scored around 32-35 on the Beck Self-Concept Scale, whilst the normal population scored around 41 (Thastum et al., 2009). In our sample, children with GAD and SOP scored between 31-34, and those with SAD had a mean score around 38.

A possible explanation for the lack of significant difference between diagnoses beyond SOP is the high comorbidity between GAD, SAD, and SOP (Leyfer et al., 2013). In our sample, 69.1% of participants had a comorbid diagnosis of GAD, SAD, or SOP, and 13.8% had a different comorbid anxiety diagnosis. This can make it harder to find a clear connection with specific diagnoses.

Moreover, a possible explanation for the higher self-concept amongst participants with SAD is their age. SAD is more common in younger children, whilst GAD and SOP often develop later (Beesdo-Baum & Knappe, 2012; Carr, 2016). SAD typically develops at an age where children spend more time with their parents, often leading to less functional impairment, whereas older children are expected to be more social with peers and participate on more arenas. This could, in line with the sociometer hypothesis (Leary, Tambor, et al., 1995), lead to a weaker impact on self-concept in SAD, as their avoidance behavior is more age appropriate and less impacted by the social environment. In our sample, older participants had significantly lower self-concept, but we found no interaction effects between age and primary anxiety diagnosis.

Another explanation for this discrepancy in self-concept levels could be the nature of the anxiety in the different anxiety disorders. Thoughts and feelings of personal inadequacy can be viewed as more congruent with GAD and SOP, whereas the separation anxiety in SAD could be more linked to external events.

Another way of interpreting our findings is that specific diagnoses are not so important for self-concept. Variations in participant self-concept might be related to other factors than the primary diagnosis, in line with the view of self-concept as a transdiagnostic factor in mental health problems. Our finding that self-concept was related to both anxiety and depressive symptoms, including the high comorbidity in mental health problems, supports this notion.

4.1.4 Self-concept change following CBT

Our final hypothesis was that there would be an increase in participant self-concept following CBT. This was confirmed, reflected in increased self-concept from pre- to post-treatment, with a small effect size. This is in line with studies which have found increases in self-concept following CBT (Goldin et al., 2013; Shirk et al., 2003) and the Friends for Life program specifically (Barrett et al., 2003; Essau et al., 2012; Stallard et al., 2008).

Self-concept was not measured post-waitlist. This means we cannot know for certain what led to the self-concept increase. Nevertheless, it is worth to consider what might have brought on the self-concept change. The change could be a result of the program's positive orientation and focus on strengths and building resilience. Another possibility is the explicit focus on self-concept in the youth version of the manual. Differential self-concept change depending on manual version was controlled for, however, with non-significant findings. The self-concept increase could also be a secondary result of the treatment effect on anxiety and other mental health symptoms.

We further hypothesized that self-concept would continue to increase from post-treatment until one-year and long-term follow-up, as participants' master skills learned during CBT (Taylor & Montgomery, 2007). This was not supported, and in fact self-concept decreased slightly from post-treatment to long-term follow-up. Nevertheless, the self-concept change from pre-treatment to long-term follow-up was still significant.

Our findings should be considered in light of normative self-concept development, as this presumably would affect participants' self-concept. The leading belief has been that self-concept tends to decrease in adolescence (Robins & Trzesniewski, 2005). If we presume that this applies to our sample, many participants should have experienced decreasing self-concept towards long-term follow-up. However, this is not the case. At long-term follow-up, their self-concept scores have stayed more or less constant since treatment completion. This could mean that CBT prevented a decrease in self-concept that normally occurs in adolescence. However,

Orth et al. (2018) found that self-concept usually does not decrease in adolescence, but stays constant. This affects the interpretation of our findings. If self-concept normally stays constant, participants' self-concept trajectories may have less to do with CBT. In that case, their self-concept scores would increase during treatment, but afterwards, they keep following the normative developmental trend for their age group and the post-treatment effect of CBT is virtually non-existent.

However, mental health problems could have affected participants' self-concept trajectories, making them more vulnerable to decreasing self-concept (Maldonado et al., 2013; Steiger et al., 2014). At long-term follow-up, 47% of participants still met the criteria for one of the inclusion diagnoses, and 37% still met the criteria for their primary diagnosis (Kodal et al., 2018). Their maintained self-concept scores in spite of their continuing struggles with anxiety could be a very promising finding. From this perspective, CBT might have had a protective effect on self-concept.

Due to the possibly conflicting effects of CBT and age, we examined whether participant age affected self-concept change. Results showed that self-concept at pre-treatment predicted self-concept at long-term follow-up, but age was not a significant predictor. Thus, participants' initial self-concept score was a better predictor of their self-concept 3.9 years later than their age, underlining the long-term stability in self-concept.

To summarize, our results strongly indicate that CBT had an immediate effect on self-concept. However, interpreting the long-term self-concept trajectories of our sample is complicated by the differing results on the typical developmental trend in this age group. Nevertheless, we have reason to believe that mental health problems can have a detrimental effect on self-concept development. Therefore, a maintained long-term self-concept increase in a clinical sample should be considered a promising finding. Still, the self-concept increase was small, meaning we should explore how the effect could be enlarged.

4.2 Methodological considerations

The following part of our thesis will discuss methodological considerations which may have affected our findings.

4.2.1 Self-concept in the Friends for Life program

Our findings on the effect of CBT on self-concept should be considered in light of how the Friends for Life program targets self-concept. Although the program addresses self-concept, it is nonetheless not designed to treat self-concept. This could result in a weaker change than with a program where treating self-concept is a primary goal.

It should be considered whether treatment manuals should focus on self-concept, and if so, how much focus should be on self-concept compared to other domains. Our results indicate an immediate and possibly a long-term effect of CBT on self-concept. Considering the treatment was not directed at self-concept, our results could give a conservative estimate of the potential for self-concept treatment. Other studies have also found self-concept interventions effective (Haney & Durlak, 1998; Trzesniewski et al., 2006), and that treatment effect on self-concept predicted treatment effect on anxiety (Goldin et al., 2013; Hofman et al., 2004). Shirk et al. (2003) highlight self-concept as a transdiagnostic phenomenon, suggesting that self-concept may be modified through cognitive interventions. Interventions directly focused on self-concept have been found to be more effective than those focused on factors such as behavior and social skills, not just in terms of self-concept change, but also other areas of functioning, such as academic performance (Haney & Durlak, 1998). These findings appear to support that CBT manuals could be improved by explicitly emphasizing self-concept to a larger extent. Similarly, the effect of the Friends for Life program could perhaps be enlarged by a more pronounced focus on self-concept in the treatment.

4.2.2 Separating the effects of CBT and age

Separating the effects of CBT and age represents a challenge in interpreting what caused the self-concept changes in our sample. It is still unresolved how self-concept typically develops in childhood and adolescence. How this development is affected by mental health problems is also uncertain. Moreover, there was considerable variation in participant age, meaning that participants were at different stages of self-concept development at the time of treatment. In addition, the effect of CBT is harder to pinpoint as it is uncertain how participants' self-concept would be expected to develop had they not received treatment.

Interpreting our longitudinal findings is particularly challenging, especially due to the lack of information about what occurred in participants' lives between post-treatment and long-term follow-up. In this time period of 3.9 years, participants were at various stages of adolescence, a period of time associated with vast development where many factors could impact self-

concept (Martinsen, Neumer, et al., 2016; Moksnes & Espnes, 2012), including participants' ongoing mental health problems (Kodal et al., 2018). In conclusion, we cannot know for certain how CBT affected participant self-concept in the long-term. However, interpreting the self-concept change from pre- to post-treatment is less problematic, as we see a considerable increase in self-concept in a short time period where there are less factors that could have caused such an increase.

4.2.3 Measuring self-concept

How self-concept was measured in the present study could have impacted our findings. Previous studies have mostly used the Rosenberg Scale (1965), which might measure self-esteem more in depth than the Beck Scale (2001) does. The Beck Scale, however, gives a broader measure of how children view themselves in terms of what they can do and what they are like in addition to their self-evaluation. Self-esteem and self-concept have been used interchangeably in research. This could be justified. For example, children might not differentiate between facts about themselves and their evaluations of themselves, meaning the difference between these terms in reality could be small. In line with this, studies on self-concept and studies on self-esteem appear to be comparable. Nevertheless, using a broader term like self-concept could be a strength, as it gives more information. To date, it is uncertain whether there is a meaningful difference between these constructs, and if so, whether one is preferrable to the other.

Furthermore, using domain-specific measures could have showed associations that a global measure, such as the Beck scale, did not register. Studies have found stronger associations between self-concept and depression compared to anxiety. Based on diagnostic criteria, depression can be understood more as a non-specific, global condition, whereas anxiety disorders typically are understood and characterized based on what the anxiety is centered around (APA, 2000). It has been suggested that depression is best understood through global self-concept, whereas anxiety is best understood through domain-specific self-concept (von Soest et al., 2016; Stadelmann et al., 2017). This means that the Beck Scale, though it showed an association between self-concept and anxiety, could have underestimated the strength of the association. This could also explain the stronger association between self-concept and depressive symptoms in our results. Possibly, the use of a global measure could also explain why we found similar self-concept levels in participants with primary diagnoses of GAD and SOP. In generalized anxiety, a global measure might measure self-concept quite accurately.

However, we expect that participants with SOP were particularly affected in their social self-concept, meaning their global self-concept might have been somewhat higher than their social self-concept.

Furthermore, self-concept can be more than just high or low. For example, if a child's self-concept is contingent upon achievement or external validation in order to be high, this could also be harmful (Bos et al., 2010; Zeigler-Hill, 2011). Moreover, this could lead to moment-to-moment fluctuations in self-concept levels depending on the situation (Zeigler-Hill, 2011). Studies have shown lower self-concept stability in adults with anxiety disorders compared to controls (Farmer & Kashdan, 2014; van Tuijl et al., 2018). In anxiety, self-concept would perhaps be lower in situations that are directly related to what the anxiety is centered around, and higher in situations that do not trigger anxiety.

Thus, using only a global measure of self-concept could have limited our ability to explore associations between self-concept and anxiety or CBT. Nevertheless, global self-concept seems to be a valuable construct, meaning it should not be replaced, but supplemented, with more specific measures. However, if too many specific measures are introduced, it might complicate findings and the research process unnecessarily. Therefore, types of specific measures should be chosen carefully, for example based on findings from previous research.

4.3 Conceptual considerations

To date, knowledge about the causal paths between self-concept and mental health problems is limited. Some researchers have argued against the importance of self-concept for outcomes such as mental health (Baumeister et al., 2003). However, self-concept has been causally linked to depression (Orth et al., 2008; Shahar & Henrich, 2010). Moreover, anxiety has been found to have a scar effect on self-concept (Maldonado et al., 2013; Sowislo & Orth, 2013), and self-concept has also been associated with vulnerability to anxiety (Sowislo & Orth, 2013). Our results could be consistent with a scar effect of anxiety on self-concept, as the lower self-concept of older participants could be a result of them struggling with anxiety longer. However, as we have no knowledge of participants' self-concept before onset of anxiety, our ability to assess vulnerability effects of self-concept is limited.

The role of self-concept in mental health is probably too intricate to be grasped by a single theoretical model. For example, the vulnerability and scar models can be portrayed in a manner that makes them seem mutually exclusive, but low self-concept could be both a cause

and a consequence of anxiety. Moreover, the developmental effect of self-concept on mental health is probably complex, meaning we cannot necessarily easily apply these models to real-life conditions (Keane & Loades, 2017). Researchers have also argued against the importance of self-concept for mental health due to small effect sizes (Baumeister et al., 2003), but given the multi-determined nature of mental health, small effect sizes are to be expected. Many factors can impact mental health, meaning self-concept could be one of many variables of importance (Trzesniweski et al., 2006). Hence, we believe it is likely that there are individual differences in the possible causality of self-concept, which could be an explanation for the inconsistent results and small effect sizes in research.

Moreover, Baumeister et al. (2003) predicted behavioral outcomes using global self-concept. This could have led to an underestimation of the importance of self-concept, as domain-specific measures have been found to be better predictors of behavior, whereas global measures are better predictors of psychological well-being (Rosenberg et al., 1995). Furthermore, in spite of the higher correlation between global self-concept and well-being, it might be easier and more efficient to increase well-being by targeting specific domains of self-concept. This could be especially relevant in CBT, where behavior is considered an important mechanism of change in treatment of mental health problems.

Finally, most studies on self-concept have investigated associations with global, overarching outcomes, such as mental health. However, if we just focus on such broad outcomes, we might forget the individual's day-to-day experience of living with low self-concept, which could be essential to keep in mind in a treatment context. Self-concept is something the child carries with them in all situations and at all times, which could affect a range of outcomes in more or less subtle ways. This could lead to mental health problems, such as anxiety, but a good self-concept should also be considered valuable in itself.

4.4 Strengths and limitations

The association between self-concept and anxiety has not yet been extensively studied. Our thesis is, to our knowledge, the first to examine self-concept in child anxiety disorders in a community setting, including the effect of CBT. Moreover, the study sample was large for a community setting, and longitudinal data from 3.9 years post-treatment is a strength that many studies lack, especially in community settings. Most previous studies on self-concept and anxiety are efficacy studies conducted with high experimental control in university settings.

Therefore, our results may be more generalizable to the majority of psychological treatment that is offered. Another strength includes thorough assessments throughout the study, such as assessing symptoms and diagnoses at several measurement points. Information was largely gathered through both child and parent report, reducing the potential bias caused by differing perspectives, as studies have found small to moderate agreement between child and parent ratings (De Los Reyes et al., 2009; Fjermestad et al., 2017).

Comorbidity was common in the present study, but mostly limited to the anxiety disorders spectrum (see Table 1). This could be considered a strength, as our results to a limited degree are confounded by other types of mental health disorders, easing our ability to examine associations between self-concept and anxiety. However, this limits generalizability to other mental health problems. Moreover, our results cannot necessarily be generalized to other anxiety disorders than the inclusion diagnoses, other age groups, or other treatment programs than CBT or the Friends for Life program specifically. Another potential limitation is the use of a different self-concept measure compared to most other studies. Others have primarily used the Rosenberg Self-Esteem Scale (1965), whilst the present study used the Beck Self-Concept Scale (2001). The most notable difference is the fact that they measure slightly different constructs, where the Beck Scale measures self-concept, whereas the Rosenberg Scale measures self-esteem. This could reduce comparability to other studies. Furthermore, the present study was originally not focused on self-concept, which could limit the scope of information about the topic. Furthermore, missing data on self-concept increased substantially after pre-treatment (from 8.8% to 22.1-26.5%), but this is expected in longitudinal research, especially considering drop-out cases. Moreover, the treatment program was not designed to be a self-concept treatment, which limits our ability to assess the potential of self-concept treatment. Another limitation of the study is a consequence of its high ecological validity, namely that the experimental control is low. Due to this, we are unable to conclude on the causal relation between self-concept and anxiety, or the causal effect of CBT on self-concept.

4.5 Implications and future directions

Our investigation of self-concept in a clinical sample of children with anxiety disorders provides some pointers as to which factors should be taken into account regarding these issues. For example, our results indicate that gender is not an important predictor of self-concept levels in children with anxiety disorders. Though this finding requires replication, it could have implications for treatment. For example, treatment manuals might not need to be

adapted to gender. Boys and girls could receive the same treatment, and in group treatment settings, boys and girls could be treated effectively in the same groups.

Furthermore, the role of age to self-concept in clinical samples is largely unknown, and our results indicate that this factor could be important. Self-concept decreasing with increasing age could mean that self-concept treatment is most effective as early intervention, before this decrease has taken place. It has also been suggested that self-concept is more malleable and easier to change through treatment in childhood and early adolescence, due to the relatively low stability of self-concept in this time period (Robins & Trzesniewski, 2005). This could mean that self-concept interventions for at-risk children should be implemented to a larger extent, and that early detection of low self-concept in children could be important to prevent further negative development.

Moreover, our findings could indicate that self-concept is a transdiagnostic factor in mental health, meaning that many different mental health disorders could benefit from a common, transdiagnostic treatment program for self-concept. In the case of anxiety, such treatment could be particularly beneficial to children with SOP and perhaps reduce discrepancy in treatment outcomes compared to other anxiety disorders (Reynolds et al., 2012).

The increased self-concept following the Friends for Life program indicates that there is something to learn from the treatment delivered in the present study. Though it is uncertain why it works, some possibilities are its positive, resilience building orientation, trained therapists, or licensed supervisors, which perhaps should be implemented to a larger extent in community clinics. However, the small effect sizes and a somewhat decreasing effect after treatment completion indicate that the treatment could be more effective. The treatment could perhaps be improved by explicitly emphasizing self-concept to a larger extent, increasing number of sessions or adding more follow-up booster sessions in order to maintain and consolidate positive changes.

Our thesis has investigated the role of self-concept in child anxiety disorders with quite a broad focus on many factors of potential meaning. Future studies should take a deeper dive into these subjects. For example, there could be gender differences in self-concept that we have not assessed. Our results show quantitatively similar self-concepts for boys and girls, but there still may be qualitative differences. For example, associations between self-concept and mental health may be different for boys and girls (Derdikman-Eiron et al., 2011; Moksnes & Espnes, 2012), perhaps resulting in different treatment needs. Furthermore, population-based

studies should measure self-concept and mental health outcomes, in order to ascertain the causal relations between these factors, for example how mental health problems affect self-concept development. Furthermore, studies on mixed clinical samples with different mental health problems could reveal more about the transdiagnostic nature of self-concept. In addition, we argue that a self-concept focus could be beneficial to CBT, but more specific treatment studies are needed to explore its potential. For example, studies could compare treatments that contain a self-concept component to treatments that do not, or examine whether intervening on self-concept could benefit other areas of mental health, for example anxiety. To investigate the potential for increased self-concept as its own treatment goal, studies could examine associations between self-concept change and treatment satisfaction or psychological well-being.

4.5.1 Self-concept as a transdiagnostic factor

An important question pertains to how self-concept should be focused on in CBT. Many treatment approaches focus on symptoms and diagnoses, but this might not be the most appropriate level of intervention. Another approach could be targeting underlying factors, such as self-concept. Self-concept goes beyond diagnoses, having been shown to correlate with many mental health problems (In-Albon et al., 2017; Shea & Pritchard, 2007; Sowislo & Orth, 2013). Still, CBT in its more symptom-focused forms has been found to be effective (Kendall & Peterman, 2015; Wergeland et al., 2020). A solution might therefore be to add a focus on underlying mechanisms in addition to components that already appear to work.

The multifaceted nature of mental health problems should be taken into account when dealing with self-concept in treatment settings. For example, there are many ways of ending up with certain symptoms or disorders, meaning that there likely are individual variations in which underlying mechanisms are important in determining mental health problems. For example, though low self-concept is common in depression, every depressed individual does not have low self-concept, illustrating the importance of screening for vulnerabilities in self-concept and tailoring treatment accordingly. In addition, the likely individual differences in the causal role of self-concept imply that everyone with low self-concept might not need self-concept treatment. However, when low self-concept is a core component of the child's mental health problems, treating self-concept could be very important.

Additionally, the lack of primary focus on self-concept in treatment studies might be an explanation behind conservative estimates on the potential for self-concept treatment. To our knowledge, no treatment studies as of yet have both recruited a sample based primarily on low self-concept and intervened to increase it. Thus, the potential of CBT for self-concept is still largely unknown, and this should be a priority in future research.

4.5.2 Generic, diagnosis-specific, and transdiagnostic CBT

A treatment focus on self-concept as a transdiagnostic phenomenon may also be a solution to the debate between generic and diagnosis-specific CBT. Though generic and diagnosis-specific CBT have different treatment rationales, neither approach appears to be superior to the other (Heiervang et al., 2018; Norton & Barrera, 2012). Since many children do not achieve satisfactory recovery from these treatments, they might both be missing the mark to some extent. Whilst generic CBT might not be tailored enough, diagnosis-specific treatments are perhaps tailoring to the wrong issue. Their effects could possibly be improved by directing treatment efforts at an underlying, transdiagnostic phenomenon.

Furthermore, the focus on symptoms and diagnoses is complicated by the common occurrence of comorbidity, which might be a problem especially for diagnosis-specific CBT. Focusing on an underlying and unifying phenomenon, such as self-concept, could reduce the complicating nature of different kinds of symptoms. In addition, this could make treatment easier and more effective, as treatments will not have to be adapted to many specific conditions.

Studies have found that treating a primary disorder with generic CBT can affect the comorbid disorder as well, although there was no explicit focus on this in treatment (Mahdi et al., 2019). Mahdi et al. (2019) argue that developing transdiagnostic treatments therefore might not be necessary. However, their finding could also indicate that different disorders share common mechanisms that could be treated simultaneously with a transdiagnostic approach (Martinsen, 2018). Moreover, comorbid mental health problems may be interconnected in complex ways, meaning there will not always be a disorder that can rightfully be considered primary. In such cases, transdiagnostic treatment could be the most appropriate.

Although comorbidity in children with anxiety disorders is not necessarily associated with outcome (Kendall et al., 2001), it appears to be associated with more severe symptoms and impairment both before and after treatment (Rapee et al., 2013). Therefore, these children might need more or different treatment in order to achieve the same endpoint (Rapee et al.,

2013). Children with comorbid disorders have been found to have particularly low self-concept compared to non-comorbid cases (Keane & Loades, 2017), and it has been suggested that low self-concept could be a cause of comorbidity (de Jong et al., 2012; van Tuijl et al., 2016). Hence, adding a self-concept component in treatment could be beneficial to children with comorbid disorders.

4.6 Conclusions

Our thesis has sought to expand on the existing knowledge of self-concept in a community sample of children with anxiety disorders, as well as the usefulness of addressing self-concept in CBT. Our results indicate small to insignificant gender differences in self-concept. Self-concept was negatively correlated with age, where older participants scored significantly lower. We also found reduced self-concept related to anxiety and depressive symptoms, but differences depending on primary anxiety diagnoses were small to insignificant, suggesting self-concept as a transdiagnostic factor in mental health problems. Participants' self-concept significantly increased from pre- to post-treatment, and remains until long-term follow-up, with only a slight decrease. Notably, our sample could have been vulnerable to self-concept decreases due to their anxiety, meaning their maintained self-concept scores 3.9 years post-treatment could be a promising finding. It is unclear what caused the changes in self-concept between post-treatment and long-term follow-up, though possibilities are CBT and participant age. An important question for further research is how self-concept should be focused on in CBT as a transdiagnostic phenomenon.

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6 Appendix

Table A.1

Independent Samples T-Test for Self-Concept Variations by Gender

	M diff	df	t	*p*	*d*
SCS T1	3.03	163	1.73	.09	.27
SCS T2	3.86	139	2.02	.05	.34
SCS T3	1.55	131	.84	.41	.15
SCS T4	2.88	139	1.74	.08	.30

Note. SCS = Beck's Self-Concept Scale. *p* = significance. df = degrees of freedom. M diff = Mean difference between girls and boys. *d* = Cohen's *d*. T1 = Pre-treatment. T2 = Post-treatment. T3 = 1-year follow-up. T4 = Long-term follow-up.

Table A.2

Paired Samples T-Test for Self-Concept Change

	Mean	SD	t	*p*	*d*
SCS T1 - SCS T2	−3.56	10.47	-3.87	.00	.34
SCS T2 - SCS T3	0.78	10.12	.86	.39	.08
SCS T3 - SCS T4	−0.71	9.86	-.75	.46	.07
SCS T1 - SCS T4	−2.65	10.76	−2.79	.01	.25

Note. SCS = Beck's Self-Concept Scale. *p* = significance. *d* = Cohen's *d*. T1 = Pre-treatment. T2 = Post-treatment. T3 = 1-year follow-up. T4 = Long-term follow-up.

Table A.3

ANOVA for Self-Concept at T1 by Treatment Manual and Primary Diagnosis

	Type III SS	df	MS	F	*p*
Corrected Model	1806.44a	5	361.29	2.99	.02
Intercept	128615.24	1	128615.24	1063.81	.00
Treatment group	451.73	1	451.73	3.74	.06
Diagnosis	534.87	2	267.43	2.21	.11
Treatment group * diagnosis	11.01	2	5.51	.05	.96
Error	19223.25	159	120.90		

Note. SS = Sum of Squares. df = degrees of freedom. MS = Mean Square, *p* = significance. T1 = Pre-treatment. T4 = Long-term follow-up.

a: r^2 = .086. Adjusted r^2 = .057.

Table A.4

Independent Samples T-Test for Self-Concept Change by Treatment Manual

	M Diff	df	t	*p*	*d*
SCS T1-T2	.09	128	.05	.96	.01
SCS T2-T3	.89	121	.46	.64	.09
SCS T3-T4	-3.31	105	-1.60	.11	-.34
SCS T1-T4	.59	127	.29	.77	.05

Note. SCS = Beck's Self-Concept Scale. df = degrees of freedom. *p* = Significance. *M diff* = Mean Difference between treatment manuals. d = Cohen's d. T1 = Pre-treatment. T2 = Post-treatment.