Childhood social anxiety: What’s next?
Exploring the role of cognitions, depression, parents, and peers
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General discussion
The overall aim of this dissertation was to investigate treatment outcomes after Cognitive Behavioral Therapy (CBT) for childhood social anxiety, to investigate what predicts these treatment outcomes, and to investigate which factors are related to social anxiety and may be important to consider in optimizing treatment outcomes. More specifically, the first of this dissertation was to study the relations between child and parental anxiety symptoms at a symptom level. The second aim was to investigate outcomes after CBT for social anxiety disorder compared to other anxiety disorders in children and to study if comorbid depression and/or parental anxiety could explain differences in treatment outcomes. The third aim of the dissertation was to obtain a better understanding of relations between social anxiety symptoms, social relations according to peers, and perception accuracy of these social relations. In this discussion, the results of the studies will be summarized in order to answer the overall questions of this dissertation. These results are taken in consideration while discussing implications for clinical practice and future research. Next, a description of the overall strengths and weaknesses of the studies will be discussed, followed by concluding remarks.

Summary and conclusions of the studies

Part I: Parent-child relations in anxiety

Chapter 2 investigated relations between children’s and parents’ anxiety symptoms in a clinical sample using a network analysis approach. In this study, parents of 1452 children and adolescents referred to a community mental health center reported about their offspring’s and their own anxiety symptoms. We compared intra-and interpersonal relations between anxiety symptoms. Results demonstrated that relations between symptoms within family members were stronger than relations between family members. However, significant relations between different family members’ anxiety symptoms were also found. Those relations were found between mothers’ and children’s anxiety symptoms, between fathers’ and children’s anxiety symptoms, and also between fathers’ and mothers’ anxiety symptoms. These interpersonal relations were mainly found between similar symptoms. For instance, when mothers or fathers
experienced more nervousness or worries, they were also more likely to report more nervousness and worries in their children. There were no major differences in the relations between mothers’ and children’s anxiety symptoms and fathers’ and children’s anxiety symptoms. Notably, the general feeling of being fearful or anxious was found to be the most central symptom in all family members. Furthermore, we compared the parent-child relations in anxiety symptoms between a group of children who had a clinical diagnosis of an anxiety disorder and a group of children with other psychological disorders. Results showed that the relations between parents’ and children’s anxiety symptoms were more specific within the group of children with an anxiety disorder. That is, in the anxiety group the relations were mainly found between the same anxiety symptoms and the relations were all positive, while in the other group there were more relations, but these were not only between similar symptoms and there were also negative relations. These findings are in line with the notion that the intergenerational transmission of anxiety disorders is possibly more specific than the intergenerational transmission of other types of psychopathology (Leijdesdorff et al., 2017). Besides, these findings suggest that parents’ anxiety symptoms are indeed important in studying child anxiety in a clinical sample.

Part II: Treatment outcome studies

Chapters 3 investigated outcomes after CBT for children with a social anxiety disorder and compared these outcomes to children with other anxiety disorders and chapter 4 and 5 focused on investigating predictors of differences in outcomes between the groups. Chapter 3 (‘Treatment outcomes in youth with social anxiety disorder compared to other anxiety disorder – a replication study’) investigated whether, in line with previous research (e.g. Hudson et al, 2015), children with a primary social anxiety disorder would benefit less from the Dutch CBT Discussing + Doing = Daring (Bögels, 2008) than children with another primary anxiety disorder. In total, 152 children and their parents reported about children’s anxiety severity, anxiety symptoms, internalizing symptoms and quality of life. Both questionnaires and clinical interviews were used before, after,
three months after and one year after the treatment. In addition, treatment outcomes for children with a social anxiety disorder as a comorbid disorder were compared to children with another anxiety disorder. Children with a primary social anxiety disorder did indeed benefit less from CBT than children with other anxiety disorders (i.e., we found that children with a primary social anxiety disorder were less likely to be free of their primary anxiety disorder after treatment, decreased less in their anxiety severity and anxiety symptoms, decreased less in internalizing problems, and increased less in quality of life when compared to children with another primary anxiety disorder), which was in line with studies that used other treatment programs (Compton et al., 2014; Crawley et al., 2008; Ginsburg et al., 2011; Hudson, Keers, et al., 2015; Hudson, Rapee, et al., 2015; Kodal et al., 2018; Manassis et al., 2002; Scharfstein & Beidel, 2011; Water et al., 2018).

In slight contrast, we found that children who did not have a primary social anxiety disorder but did have a comorbid social anxiety disorder in addition to another primary anxiety disorder, had more severe anxiety before treatment, but also reduced more after treatment than children without a comorbid social anxiety disorder. Even though this finding was robust among outcome measures, it needs replication. Nevertheless, this study stresses the importance to distinguish children with a primary social anxiety disorder from children with a comorbid social anxiety disorder.

Since we concluded in chapter 3 that children with a primary social anxiety disorder have worse outcomes after treatment than children with another primary anxiety disorder, we aimed to obtain a better understanding of what predicts differences in treatment outcomes. Therefore, the next two studies investigated predictors of treatment outcomes in the same sample as was used in chapter 3. In chapter 4, we focused on comorbid depression. It is known that comorbidity rates between childhood anxiety disorders and mood disorders are high (Cumming et al., 2014; Last et al., 1987). Social anxiety disorder in particular has higher comorbidity with mood disorders (Brady & Kendall, 1992; Wright et al., 2010). Therefore, chapter 4 investigated if a comorbid mood disorder was related to treatment outcomes and if these comorbid
problems could explain differences in treatment effectiveness. Results showed that having a comorbid mood disorder was related to treatment outcomes and predicted – in contrast to our expectations – more improvement on anxiety severity, anxiety symptoms, internalizing symptoms and quality of life after treatment. Worse outcomes for the group of children with a primary social anxiety disorder remained when controlling for comorbid mood disorders. There were also no clear differences in the effect of having a comorbid mood disorder between the group of children with a primary social anxiety disorder and the group of children with a primary other anxiety disorder. An important note is that children with a social anxiety disorder more often had a comorbid mood disorder, and that children with a comorbid mood disorder had more severe anxiety problems before treatment, which is in line with others studies (Campbell-Sills et al., 2012; Erwin et al., 2002; Ledley et al., 2005). Therefore, we concluded that the greater improvements, for children with a comorbid mood disorder could be explained by the greater opportunities for improvement. Furthermore, the presence of mood disorders decreased significantly after treatment. This decrease in general negative affect could also possibly explain the stronger improvements in the group of children with a comorbid mood disorder after treatment (Bauer et al., 2012).

Chapter 5 also focused on exploring predictors of treatment outcomes. In chapter 2 we already highlighted the importance of studying the relation between child and parental anxiety. In chapter 5 we explored how parental anxiety relates to treatment outcomes and if parental anxiety could explain the worse outcomes for children with a primary social anxiety disorder. Research has stressed the importance of studying the bidirectional effect between children’s and parent’s anxiety (Silverman et al., 2009) and therefore we not only studied how parent’s anxiety before the treatment was related to treatment outcomes, but we also studied if parent’s own anxiety symptoms changed during the treatment and how this was related to outcomes. We found that parental anxiety symptoms decreased during the treatment phase, but only mothers’ anxiety decreased further during the follow up phase. Parental anxiety symptoms were not related to the presence or absence of the anxiety diagnoses after treatment; however,
some indications were found for greater improvements during the
treatment when parents had higher anxiety symptoms. Thus, parental
anxiety might have decreased during the treatment because of a decrease
in parental stress or from learning from the CBT-techniques that were
provided in the treatment (e.g. Costa et al., 2006), and is to some extent
related to children’s improvements. However, we did not find strong
evidence for parental anxiety explaining worse treatment outcomes for
childhood social anxiety disorder.

In sum, the clinical studies in this dissertation showed that although
treatment outcomes in general were good, children with a primary social
anxiety disorder improved less after treatment with a generic CBT-program.
Comorbidity with mood disorders is relatively high and even higher in the
social anxiety group. There were indications that this comorbidity was
related to better treatment outcome, and did not explain why children with
a social anxiety disorder had worse outcomes. There are clear and specific
relations between children’s and parents’ anxiety symptoms in clinical
samples and parent’s anxiety symptoms decrease slightly when their
children receive an anxiety treatment. Parent’s anxiety symptoms were
associated with treatment outcome, but did not explain why children with a
social anxiety disorder were worse off. A graphical summary of the
conclusions is presented in Figure 9.1.
Graphical summary of the findings of the clinical studies (part I and II; chapter 2-5).

Part III: Social relations studies

The aim of the studies focusing on (perceptions of) social relations was to obtain a better understanding of how social anxiety symptoms relate to perception accuracy as an underlying mechanism of social anxiety problems. Chapter 5 was the first study investigating how social anxiety symptoms in children relate to likeability by peers and the ability to accurately estimate this likeability by peers. In this study, 586 children between 7 and 13 years reported on their social anxiety symptoms and depressive symptoms, and they were asked to estimate how much they
were liked by their peers. In addition, all children were asked to name the children in their class which they liked the least and the most, resulting in received likeability scores of all children. Results showed that higher levels of social anxiety and depression were related to lower self-estimates of likeability by peers. Children with high levels of social anxiety were less often named and less liked, and higher levels of depression were related to lower likeability by peers. The self-estimated and peer-rated scores were compared as a measure of perception accuracy of likeability by peers. It was concluded that children with higher levels of social anxiety were more likely to underestimate their likeability by peers, while depressive symptoms were not related to perception accuracy (i.e. children with high levels of depression estimated their likeability lower and were actually less liked, resulting in a more accurate perception). The finding that social anxiety symptoms were related to underestimation of likeability by peers is in line with theories that state that anxiety is related to negative cognitive biases (e.g. Hofmann et al., 2013).

Next, to obtain a better understanding of the results in chapter 5, we used improved peer rating measures in chapter 6 and investigating if social support by a best friend is a protective factor against the negative biases related to the social anxiety. In this study, 532 children rated the likeability of their classmates on a scale (instead of using nominations) and children were asked to estimate their likeability for each child separately. Results were comparable to the previous chapter except for the relation between social anxiety symptoms and peer ratings; if socially anxious children were rated on a scale, they were in fact less liked than children with lower levels of social anxiety. However, higher levels of social anxiety were still related to underestimations of likeability, and perceived social support was not found to be protective in this relation. More research is needed to understand better how peer-ratings on likeability in relation to social anxiety symptoms differ when they are reported by nomination or on a scale, but a possible explanation could be that socially anxious children are easier overseen or neglected and therefore not named in nominations. In addition, these children seem to be rated lower on likeability when children are forced to rate them on a scale.
Finally, in chapter 8, we again investigated the relation between social anxiety symptoms and perception accuracy of likeability by peers, but this time in a group of 263 adolescents between 12 and 15 years old. In addition, we studied how friendship quantity and the corresponding perception accuracy was related to social anxiety symptoms. In addition, the aim was to differentiate between sub symptoms of social anxiety (i.e. worrying about social situations and the tendency to avoid social situations) and to investigate how actual withdrawn behavior was related to social anxiety symptoms. Social avoidance was related to lower self-estimates of likeability by peers, being less liked by peers, and having fewer best- and good friends in the class. Worrying about negative evaluation by peers was related to greater underestimations of likeability by peers and underestimating the total number of friends. The tendency to avoid or behaving withdrawn had a central role in likeability and friendship quantity. The finding that adolescents prefer peers with lower avoidance tendencies is in line with other research, since the innate need to belong is important in this development phase (Baumeister & Leary, 1995; Schoch et al., 2015). The finding that worrying mainly plays a role in the mind and is not necessarily related to lower likeability by peers without avoidance is in line with theoretical models on social anxiety that stress the central role of anxiety related cognitive biases (Clark & Wells, 1995). The finding that adolescents with high levels of social anxiety symptoms have less friendships was also in line with previous research (la Greca & Lopez, 1998; van Zalk et al., 2011). However, we did expect that adolescents with high levels of social anxiety would have less accurate perceptions of the quantity of their friendships within the class, which is not wat our results showed. The finding that social anxiety symptoms were not related to perception accuracy of friendship quantity can possibly be explained by the fact that friendship is a social construct that requires reciprocal liking and, for instance, engaging in joint activities (Bukowski & Hoza, 1989; Demir & Urberg, 2004). This could make it clearer for adolescents with biased perceptions of less clear social contracts – like likeability – to accurately estimate this.
Taken together, the findings of these three studies show that social anxiety symptoms in children and young adolescents are related to negative perceptions of one’s likeability by peers. On average, children with higher levels of social anxiety have greater chances of underestimating their likeability by peers (cognitive bias), but avoiding or scoring high on depressive symptoms is related to actual disliking and thus having a more accurate perception. Furthermore, the tendency to avoid is related to having less friendships in adolescents. The findings of these studies show that social anxiety, perception biases and less peer relations are a circular process (see Figure 9.2).

**Figure 9.2**
Graphical representation of the circular process between social anxiety symptoms and social functioning (based on chapter 6-8)

Clinical implications and future research
In our studies (chapter 3, 4, and 5) we concluded that children with a primary social anxiety disorder improve less during treatment than children with another primary anxiety disorder. Nevertheless, it should be
mentioned that the children with a primary social anxiety disorder did improve during the treatment and CBT can be seen as an effective treatment option for childhood social anxiety (e.g. Hudson, Keers, et al., 2015). It could be speculated that social anxiety plays a role in an individual’s motivation to adapt to others in order to fulfill the need to belong (Gilbert, 2001). Therefore, a certain degree of social anxiety might be adaptive. However, our results also showed that children with primary social anxiety disorder did not only improve less on the continuous anxiety measures, but were also less often free of their disorder after treatment. This emphasizes that the children with a social anxiety disorder still experience interference with their daily functioning because of their anxiety disorder after treatment.

The well-established model by Clark and Wells (1995) who described the vicious cyclic process in which social situations activate assumptions about the social situations that are associated with danger (i.e. not behaving as socially expected and as a result being judged negatively), which in turns elicits somatic, cognitive, and behavioral symptoms. These symptoms increase again the stress for the feared social situations. The model of Hofmann (2007) adds to this by stating that individuals have an innate need to belong to a social group (Baumeister & Leary, 1995; Gilbert, 2001), but at the same time socially anxious individuals see the world as a dangerous social place and assume that others will only value them when extremely high and often unattainable social standards are met (e.g. Fang et al., 2013). Regardless of whether or not socially anxious individuals have actual social skills deficits, studies have shown that individuals show a discrepancy between the perception of their own social functioning and the perceived expectations of the social environment of their social functioning (Alden et al., 1994; Alden & Wallace, 1991, 1995). The research described in this dissertation (chapter 6, 7, and 8) add up to these results by demonstrating that social anxiety is related to an underestimation of likeability in both adolescents and children. Hofmann (2007) describes that socially anxious individuals evaluate their own social functioning and compare it to the high perceived standards, which activates the self-focused attention, negative self-perceptions (e.g. Beck et al., 1985), high estimated
costs of failing (Clark & Wells, 1995), low perceived emotional control (Barlow, 2002; Hofmann et al., 1995), and perceived poor social skills (Newman et al., 2015). These negative self-evaluations in turn lead to avoidance behaviors and post-event rumination which increases the negative social apprehensions. Our findings from chapter 8 also confirms the (central) role of avoidance in adolescents, suggesting that this may be an important treatment target.

As it is found that CBT is effective, also for the treatment of social anxiety disorder (although somewhat less favorable outcomes were found), it is questionable whether the content of the treatment should change for social anxiety disorder specifically. For example, one option to explore could be to just extend the treatment for the non-responders (i.e. the children that are not free of their anxiety disorder after treatment). To illustrate, in children and adolescents with obsessive-compulsive disorder it was found that prolonging the treatment was related to better outcomes (de Haan et al., 2007) and a substantial proportion of the children did improve further after additional sessions. To our awareness, no studies have examined this option for childhood social anxiety disorder and future research could therefore focus on the effects of prolonging the generic treatment programs for childhood social anxiety disorder.

In addition to prolonging treatment, some CBT components may need to be more fully implemented in clinical practice. For example, exposure has recently been indicated as the most important working mechanisms of CBT and should be maximized in order to improve treatment efficacy (Craske et al., 2014). At the same time therapists frequently show therapy drift away from exposure exercises in childhood anxiety (de Jong et al., 2020). Therefore, including more exposure exercises in the treatment might be an option for optimizing treatment for social anxiety disorder. Furthermore, in social anxiety disorder targeting the social avoidance by exposure, and conducting the exposure correctly is seen as more complicated because of the complexity of human’s social functioning (Hofmann et al., 2013; Moscovitch, 2009). That is, it is more difficult to actually target the anxious cognitions in social contexts than for instance with specific phobia. The use of ‘social mishap exposure’ or ‘shame
experiments’ have been described as a type of exposure which directly targets exaggerated social costs and unattainable social standards by experiencing the results of actual social mishaps (Fang et al., 2013). And even though research on this type on exposure is limited, research with adults has shown that revealing flaws – particularly about being socially incompetent – and overestimating consequences of one’s own blunders in the past and imagined blunders is related social anxiety (Moscovitch et al., 2012, 2015). Including these types of exposure sessions and behavioral experiments and thus optimize the exposure exercises that are already provided by the therapist could therefore be seen as an important factor to consider in future research on how to improve CBT for social anxiety disorder in youth. One other way to maximize treatment outcomes without changing the content of the current CBT programs might be to individualize treatment. For example, Telman and colleagues (2020) described in a case study series a modular version of a CBT program which demonstrated relatively good outcomes for children with childhood social anxiety.

Thus, there seem multiple ways that can be explored which have the potential to further improve treatment outcomes without the necessity of changing the content of treatment. On the other hand, initiatives have also been taken to add components to CBT in order to improve treatment outcomes. A first example is the inclusion of mindfulness exercises which may be further explored as an element for improvement of the treatment of childhood social anxiety. Mindfulness could be used to target the self-focused attention in social anxiety, improve the emotion regulation in social anxiety, and decrease the anxiety (Goldin & Gross, 2010; Rasmussen & Pidgeon, 2011; Telman et al., 2020).

Second, some authors (e.g. Waters et al., 2018) have suggested adding a social skills component. This suggestion is based on a model for childhood social anxiety disorder developed by Rapee and Spence (2004) who describes an evidence-based model for the etiology and maintenance of childhood social anxiety disorder (for an updated version, see also Spence & Rapee, 2016). Whereas other models on social anxiety mainly focus on the maintenance, this model sheds light on both individual and environmental factors in the development of social anxiety disorder. Spence
and Rapee (2016) describe that socially anxious youth tend to experience adverse social outcomes with peers, which is in line with our findings (chapter 6, 7 and 8, which demonstrated that children and adolescents with high levels of social anxiety think they are less liked by peers than less anxious children and adolescents). In addition, they propose that adverse social outcomes (e.g. being actually less liked by peers or having less friends) increase the risk of developing social anxiety, since avoidance behaviors and negative beliefs and thoughts relating to peer interactions are confirmed. Furthermore, Spence and Rapee (2016) conclude that treatment could possibly be improved by targeting components that are involved in the development and maintenance of social anxiety disorder, like poor social performance and maladaptive schema (a pattern of persistent thoughts and behaviors that an individual develops based on experiences) about themselves and their social relationships. For instance, interventions could be aimed at teaching social skills to improve social functioning on the behavioral level. Even though there are no randomized controlled trials in youth that directly compare the effect of a specific treatment program for social anxiety disorder with a social skills component to a generic anxiety treatment, adding a social skills component looks promising (Beidel et al., 2000; Spence et al., 2000; Waters et al., 2018).

Third, there is recently more focus on cognitive biases – like attentional biases and interpretation biases - related to the social anxiety and directly targeting these in treatment. In support, studies show that directly training the negative interpretations towards more benign interpretations using Cognitive Bias Modification (CBM) training might be an option for further investigation in improving treatment (Klein et al., 2015; Lester et al., 2011; Nuijs, 2020; Orchard et al., 2017; Vassilopoulos et al., 2009, 2015).

Finally, two other factors are to be considered in studying and treating social anxiety disorder in children. First, the relation between childhood social anxiety and parental factors and parental anxiety has been described as complex and research so far on the inclusion on parents in treatment has shown mixed results (Spence & Rapee, 2016). Future research should therefore focus on obtaining a better understanding of the
role of parental factors in the treatment of childhood social anxiety. More specifically, the results of our studies suggest that bidirectional processes between child and parental anxiety during treatment should be further investigated and also studying longitudinal aspects have been mentioned as important implications for future research (Rapee & Spence, 2004; Silverman et al., 2009).

Second, social media and internet use become more and more important in current society and almost every child in Western society uses these options. Social networking online might in some cases replace real life social interactions. Recent studies show that there is a relation between social anxiety and more social media use or problematic internet use (Dobrean & Păsărelu, 2016). Online communicating can either be used as an enhancement or a compensation for face-to-face social functioning (Bonetti et al., 2010). Or the internet can even be used to cope with social fears, since social anxiety was found to be related to the perception of more control online and the decreased risk of negative evaluations in communication (Caplan, 2007; Lee & Stapinski, 2012; Shepherd & Edelmann, 2005). In investigating how to improve treatment for childhood social anxiety social media use and its function could be taken into consideration or seen as an option for exposure exercises, since the importance of online social media use in relation to social anxiety might be underestimated given the time that youth spend using these types of social interactions.

All in all, there are multiple options for optimizing the current treatments for childhood social anxiety or for adding components in order to improve treatment outcomes. Future research should focus on testing which of these elements could help to improve outcomes after CBT for childhood social anxiety. Options for optimizing treatment can be prolonging the treatment for non-responders or personalizing the treatments. Extra components like mindfulness modules, social skills training, CBM, or additional/optimized exposure exercises with ‘social mishap exposures. Finally, future research on underlying mechanisms like the role of parental anxiety and the influences of social media use could
help with providing more information on where to go next with improving the treatment.

**Limitations**

The main strengths of the studies in this dissertation were the inclusion of both clinical-sample and community-sample studies to obtain a further understanding of treatment outcomes and predictors of these outcomes in childhood social anxiety, and in the underlying mechanisms than maintain social anxiety. Furthermore, the clinical studies used multiple outcome measures and a one-year follow-up after CBT, and the community sample studies replicated each other’s findings which provides confidence in the study findings. Despite the strengths of this dissertation, some limitations must be addressed.

First of all, the results of the clinical studies were all based on individually provided CBT. Even though previous research found similar outcomes after individual and group CBT for childhood social anxiety disorder (Hudson et al., 2015), it might be good to focus on both individual and group CBT in future research. Especially for children with social anxiety disorder participating in a group might have an anxiety provoking function (which could either have a positive – exposure - or negative effect (Hope & Heimberg, 1993).

Second, the studies on treatment outcomes (chapter 3, 4, and 5) were all based on the same clinical sample. This sample size could have been underpowered to find significant interactions effects. Future research with larger samples should replicate these studies to draw stronger conclusions on the role of mood disorders and parental anxiety in treatment outcomes.

Third, the social relations studies (chapter 6, 7, and 8) were cross-sectional and therefore no conclusion can be drawn about the direction of the relations between children’s and parent’s anxiety symptoms and about the causality of the effects of comorbid mood disorders or depressive symptoms. We can only speculate about the direction of the relations between social anxiety, social functioning, avoidance, and perception biases.
of the social functioning. Longitudinal research and experimental research is needed to draw conclusion about causality.

Fourth, our conclusions about the relations between social anxiety symptoms and (perceptions of) social functioning were based on community samples. It would be useful to investigate these relations not only in larger community samples, but also in clinical samples to obtain a further understanding of how these cognitions and avoidance behaviors possibly relate to treatment outcomes.

Fifth, the results of the clinical studies were based on self-report and parent-report measures. Even though we did also include clinical interviews, we did not include reports of for instance teachers about the children’s symptoms or other reports of the parents’ symptoms or a behavioral assessment of the anxiety (e.g. Klein et al., 2015). The findings of the social functioning studies stress the importance of using a multiple informant approach, but also in these studies information from more informants than only the children and their peers could have been used.

Sixth, we investigated the role of depressive symptoms in relation to (perceptions of) social functioning and the role of a comorbid mood disorder in addition to an anxiety disorder, but we did not investigate the role of other types of comorbidity. For example, in the treatment studies children with Autism Spectrum Disorder (ASD) were excluded. The exclusion of this group might have had a negative effect on the generalizability of these studies as we know that children with ASD are at increased risk for a (social) anxiety disorder (van Steensel et al., 2011) and parents may play a more important role in treatment (Puleo & Kendall, 2011; van Steensel et al., 2017). Furthermore, anxiety disorders also have relatively high comorbidity rates and might interact with Attention Deficit and Hyperactivity Disorders (ADHD)-symptoms (Angold et al., 1999; Jarrett & Ollendick, 2008; Maric et al., 2018). Future studies could focus on the role of these comorbid disorders in investigating predictors of treatment outcomes in childhood (social) anxiety disorders.

Finally, in the studies investigating relations between social anxiety symptoms and (perceptions of) social functioning, we only looked at certain aspects of social functioning (i.e. likeability and friendships quantity). Social
functioning is a complex construct and it is important in future research to also look at other aspects of this social functioning in relation to social anxiety. Especially perception accuracy of friendship quality in relation to social anxiety might be of importance, since it has been reported that social anxiety is linked to less intimacy, companionship, and experienced support in friendships by girls (La Greca & Lopez, 1998) and since we found that perceived social support by a best friend did not serve as a protective factor in the relation between social anxiety and perception accuracy. It might be of interest to further investigate to what extent socially anxious children are able to accurately estimate the quality and support by friends.

**Concluding remarks**

The studies in this dissertation showed that also with the use of a generic Dutch treatment program (‘Discussing + Doing = Daring’) children with a social anxiety disorder have worse outcomes after treatment than children with other anxiety disorders. Comorbidity with mood disorders did not explain these differences. We found multiple and specific relations between similar anxiety symptoms in children and parents. We also found preliminary evidence for a bidirectional relation between children’s and parents’ anxiety symptoms during treatment, but parental anxiety did not explain why children have worse outcomes after treatment. When we put these results and the results of the studies that focused on the relation between social anxiety symptoms and (perceptions of) social functioning in the broader context of established models for social anxiety disorder, and suggested options for improving the treatment for social anxiety disorder that should be further explored. Especially being aware of avoidance behavior in relation to social anxiety and how it might relate to worse social functioning with all its consequences and targeting this with specific exposure exercises (for instance ‘social mishap exposures’) could be an option to explore, next exploring the effects of prolonging treatment and using a more individualized (e.g., modulair) approach. Furthermore, the negative cognitive bias that is associated with social anxiety symptoms – which could possibly be due to the overestimation of others’ expectations – could also be more specifically targeted in future treatment and
investigated in further research. Thus, even though we should keep in mind that CBT for childhood social anxiety disorder is effective, we recommend future research to focus on further disentangling how treatment ingredients of CBT can be optimized.