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Parenting clinically anxious versus healthy control children aged 4–12 years

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ABSTRACT

This study investigated whether parenting behaviors differed between parents of 68 clinically anxious children and 106 healthy control children aged 4–12 years. The effects of parent gender, child gender and child age on parenting were explored. Mothers and fathers completed a questionnaire to assess parenting behaviors in for children hypothetically anxious situations. Results showed that parents of clinically anxious children reported more anxiety-enhancing parenting (reinforcement of dependency and punishment) as well as more positive parenting (positive reinforcement). For the clinical sample, fathers reported using more modeling/reassurance than mothers, and parents reported using more force with their 4–7-year-olds than with their 8–12-year-olds. No interaction effects were found for child gender with child anxiety status on parenting. Results indicate that for intervention, it is important to measure parenting behaviors, and to take into account father and mother differences and the age of the child.

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1. Introduction

Parenting behaviors are assumed to be of significant value in the emergence or persistence of child anxiety (e.g. Bögels & Brechman-Toussaint, 2006; Creswell, Murray, Stacey, & Cooper, 2011; Murray, Creswell, & Cooper, 2009; Rapee, 2012). More specifically, parental overcontrol and rejection haven often been linked to child anxiety. Parents who control children's actions and emotions deprive them of opportunities to gain feelings of mastery, autonomy, control and independence, thereby maintaining or increasing child anxiety (e.g. for reviews see Bögels & Brechman-Toussaint, 2006; Creswell et al., 2011; Wood, McLeod, Sigman, Hwang, & Chu, 2003; for a meta-analysis see van der Bruggen, Stams, & Bögels, 2008; for an experiment see Thirlwall & Creswell, 2010; for a longitudinal study see Rubin, Burgess & Hastings, 2002; for empirical studies see Affrunti & Ginsburg, 2012; Wood, 2006). Rejecting and critical parents are assumed to maintain or increase their child's anxiety by reducing children's self-esteem, sense of mastery, and their confidence in a safe world and in positive outcomes (e.g. for a review see Bögels & Brechman-Toussaint, 2006; Creswell et al., 2011; Wood et al., 2003; for a meta-analyses see McLeod, Wood, & Weisz, 2007; for a longitudinal study see; McShane & Hastings, 2009; for empirical studies see Hudson, Dodd, & Bovopoulos, 2011; Verhoeven, Bögels, & van der Bruggen, 2012). It is important to note, however, that the link between child anxiety and parenting is probably bi-directional (Edwards, Rapee, & Kennedy, 2010).

Furthermore, it is hypothesized that anxious parents display more anxiety enhancing parenting behaviors, thereby further increasing the risk for the development or maintenance of the child's anxiety (see Murray et al., 2009; Creswell et al., 2011). However, most studies up to date have not been able to differentiate between the effects of child anxiety and parent anxiety in relation to parenting behaviors. There are only a few studies that included both anxious and non-anxious children *and* mothers, thereby being able to examine which factor (child anxiety or parent anxiety) is most important with regards to parenting. Gar and Hudson (2008) and Moore, Whaley, and Sigman (2004) created four mother-child dyads: non anxious mother and child; anxious mother and child; anxious mother but non-anxious child; and anxious child but non-anxious mother. Overall, both studies demonstrated that most parenting behaviors (overinvolvement, criticism, warmth and autonomy granting) were related to child anxiety, but not to maternal anxiety. Catastrophizing (measured dichotomous rather than continuous) was the only exception, as an interaction effect between maternal anxiety status and child anxiety status was found (Moore et al., 2004). These results are also in line with a meta-analysis (van der Bruggen et al., 2008) that reported a significant relationship between child anxiety and

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observed parental control, but not between parental anxiety and control. Thus, these results seem to indicate that parenting behaviors are related to child anxiety rather than parental anxiety.

Despite the fact that many studies report a significant association between child anxiety and parenting behaviors, a meta-analysis incorporating 47 studies on children aged 2–18 years demonstrated only modest effects (4–6% explained variance) for parental rejection and control on child anxiety (McLeod et al., 2007). Three explanations can be offered. First, only nine studies in this meta-analysis focused on younger children (mean age <7 years), whereas parenting may be of greatest significance for these young children as they are developing rapidly and they are less likely to be influenced by others than their parents compared to relatively older children (Connell & Goodman, 2002). Second, maybe parental control and rejection are not as important as previously assumed and there should be a shift in research to examine other (more specific) parenting constructs in relation to child anxiety (McLeod et al., 2007). Third, in the meta-analysis (McLeod et al., 2007) larger effects were found for the relationship between parenting behaviors and child anxiety in cases were parenting was observed rather than self-reported on questionnaires. In observation studies, children perform tasks that are anxiety provoking, therefore, it could be important to measure parenting in for children anxious situations when using questionnaires. An epidemiological study including 4501 phone surveys with parents of preschool children confirms this. Results showed that parenting behaviors displayed when children experienced anxiety or stress (i.e. maternal physical contact to comfort the child and paternal encouragement of bravery) were independently related to less emotional problems in children, whereas more general parenting practices (i.e. parent management strategies for child (non)compliant/adaptive behaviors) demonstrated no (unique) effect (Dittman et al., 2011). To conclude, measuring parenting behaviors of parents with young children, thereby assessing different parenting behaviors than the usually measured constructs of parental control and rejection, in situations in which children display anxiety, could be of additional value to gain insight in the relationship between parenting and child anxiety.

The Child Development Questionnaire (CDQ; Zabin & Melamed, 1980) measures unique aspects of parenting, as it is based on operant learning theory and assess parenting behaviors that either increase or decrease child anxiety: positive reinforcement, punishment, force, reinforcement of dependency, and modeling/reassurance. Parental positive reinforcement encourages children to take part in the feared behavior by providing them a reward. Punishment entails negative parental responses if the child does not comply to participate in the feared behavior. By using force parents literally force their child to engage in the feared situation or behavior. Reinforcement of dependency illustrates situations in which parents admit to the anxiety of the child, leading to child avoidance. By using modeling/reassurance, parents promote children's participation in the feared behaviors by either (1) being a brave role model for the child, (2) reassuring the child; or (3) dividing the feared behaviors in smaller steps. In addition, the CDQ assesses parenting in situations that are often anxiety provoking for children, e.g. thunder and lightning or getting a filling (Zabin & Melamed, 1980). This is in contrast to other parenting questionnaires, that do not assess parenting in for children anxious situations (e.g. the Mother–Father–Peer Scale (Epstein, 1983): 'My mother encouraged me to make my own decisions').

Zabin and Melamed (1980) examined the CDQ in a sample of 66 parents of 60 4–12 year old children who were hospitalized or had surgery. They found that paternal punishment, maternal force and maternal and paternal reinforcement of dependency were related to more child anxiety, whereas maternal positive reinforcement and paternal modeling/reassurance were related to less child anxiety. The CDQ was used in four other studies concerning anxiety. Two studies examined the relationship between parental anxiety disorders and parenting. First, Teetsel, Ginsburg, and Drake (2014) compared parenting of anxiety disordered mothers ($n = 34$) with anxiety disordered fathers ($n = 21$) demonstrating that anxious mothers used more punishment and reinforcement of dependency than anxious fathers. However, internal consistencies were <.60 for some scales. Second, Challacombe and Salkovskis (2009) added four items to the CDQ related to obsessive-compulsive disorder (OCD), as they examined parenting differences between mothers with OCD ($n = 23$), panic disorder ($n = 18$) and without disorders ($n = 20$). Results showed, for example, that only mothers with OCD used similar levels of punishment for the OCD situations and the other CDQ anxiety situations, whereas the mothers from the other two groups used less punishment in the OCD situations compared to the general anxiety situations. Another study examined whether parenting behaviors changed after parents received treatment to assist their anxious young children ($n = 26$) to overcome their anxiety. Maternal positive reinforcement and modeling/reassurance increased and maternal reinforcement of dependency decreased after treatment (van der Sluis, van der Bruggen, Brechman-Toussaint, Thissen, & Bögels, 2012).

Only one study, conducted by Lawrence and Williams (2011), examined differences in parenting related to child anxiety status using the CDQ. They found no parenting differences between parents of adolescents with ($n = 16$) and without ($n = 16$) a history of OCD. However, some limitations of that study may have accounted for this lack of differences: data collection occurred retrospectively; the adolescents with OCD already received treatment and did not report higher levels of OCD than the adolescents with no history of OCD; and last, the items of the CDQ are related to situations that are commonly feared by children up to the age of 12 years, but the participants of this study were aged 14 to 21 years and it is not clear whether parenting reports concern this age period or a younger child age period. To the authors' knowledge, there are no studies that used the CDQ to examine differences in parenting behaviors between parents of clinically anxious versus healthy control in a large sample of children aged 4–12 years.

Therefore, the major aim of this study was to examine whether parenting behaviors in anxiety provoking situations are different between parents of clinically anxious children versus healthy control children. It was assumed that parents of referred anxiety disordered children deal differently with their child's anxiety than parents of normal children, possibly maintaining or exasperating their child's anxiety, resulting in clinical anxiety disorder(s) and referral to a mental health care institute. This was investigated in a large sample of clinically anxious and healthy control children aged 4–12 years. Furthermore, as research on the effect of child gender and child age on parenting is inconclusive, we explored the possible role of gender and age of the child. Next, as it is suggested that mothers and fathers have distinguishable roles in parenting (Bögels & Perotti, 2011; Bögels & Phares, 2008; Möller, Majdandžić, de Vente, & Bögels, 2013), self-reports about parenting were gathered from both fathers and mothers to assess possible parenting differences between them.

It was hypothesized that parents of clinically anxious children would use more reinforcement of dependency, force and punishment, and less positive reinforcement and modeling/reassurance than parents of healthy control children (Zabin & Melamed, 1980). In addition, we explored the role of child age (4–7 year olds versus 8–12 year olds), child gender (boys versus girls) and gender of the parent (mothers versus fathers), however, as previous research was inconclusive (or lacking) we did not formulate explicit hypotheses for these variables.

Table 1
Demographics of the samples.

	Clinically referred children with anxiety disorders ($n = 68$)	Healthy control children without anxiety disorders ($n = 106$)
Child gender		
Boys (n, %)	33 (48.5%)	59 (55.7%)
Child age group		
Younger (4–7 years) (n, %)	34 (50.0%)	65 (61.3%)
Birth order*		
First born/only child (n, %)	42 (61.8%)	46 (43.4%)
Biological parent		
Mother (n, %)	67 (98.5%)	100 (96.2%)
Father (n, %)	55 (94.8%)	81 (96.4%)
Parental age		
Mother (M, SD)	40.04 (4.69)	39.03 (4.85)
Father (M, SD)*	43.53 (5.14)	41.46 (5.69)
Parental educational level[a]		
Mother (M, SD)*	6.29 (2.17)	7.11 (1.74)
Father (M, SD)**	6.70 (1.95)	7.54 (1.63)

* $p < .05$.
** $p < .01$.
[a] Measured on a scale from 1 (none) to 9 (university).

2. Method

2.1. Participants

The current sample comprises a subsample of another study on 211 children aged 4–12 years (van der Sluis, van Steensel, & Bögels, accepted manuscript). Clinically referred anxious children were part of (ongoing) studies about the efficacy of CBT to treat anxiety (van der Sluis et al., 2012; van der Sluis, van Steensel, Cartwright-Hatton, & Bögels, submitted; van Steensel & Bögels, in press). Referred children who met criteria for at least one anxiety disorder as assessed with the Anxiety Disorders Interview Schedule–Parent version (ADIS-P; Silverman & Albano, 1996) were selected for this study ($n = 68$). Control children were collected through convenience sampling, that is, via schools, sport clubs, relatives, and personal contacts. Only healthy control children without any (anxiety) disorders as assessed with the ADIS-P ($n = 106$) were included. Of the 174 children, 172 mothers (97.7%) and 142 fathers (81.6%) participated. Demographics of the samples are displayed in Table 1.

Primary anxiety disorders for the clinical children were: specific phobia(s) ($n = 30$, 44.1%), separation anxiety disorder ($n = 14$, 20.6%), social anxiety disorder ($n = 12$, 17.6%), generalized anxiety disorder ($n = 7$, 10.3%), obsessive-compulsive disorder ($n = 3$, 4.4%), and panic disorder with agoraphobia ($n = 2$, 2.9%). There was a high comorbidity rate with other anxiety disorders, 73.5% of the children also met criteria for at least one other anxiety disorder (range 1–5, mean 1.86). There were no children with comorbid depressive disorders. Comorbid externalizing disorders (ADHD and/or ODD) were found for 16.2% of the referred children. (We rerun analyses excluding the children with comorbid externalizing disorders, however, excluding these children did not affect the outcomes of child group (anxious or not anxious) on parenting behaviors and therefore it was decided not to exclude these children).

2.2. Instruments

2.2.1. Child Development Questionnaire (CDQ; Zabin & Melamed, 1980)

Parents completed the CDQ to assess parenting behaviors. Parents were instructed to indicate (on a scale from 1 to 5) how frequently they would apply different parenting behaviors in each scenario that was hypothetically anxiety provoking to the child. These parenting behaviors represent the following scales: positive reinforcement, force, reinforcement of dependency, punishment, and modeling/reassurance. An item example: "If my child was afraid to go near a small harmless puppy, I would most likely (a) place my child's hand on the puppy against his will [force]; (b) permit my child to stay away from the puppy [reinforcement of dependency]; (c) tell him that if he/she did not touch the dog that I would be ashamed of him/her [punishment]; (d) pet the puppy to show the child it was harmless [modeling and reassurance]; (e) tell my child that if he touched the dog it would make me very happy [positive reinforcement]".

Zabin and Melamed (1980) choose situations that are often feared by children, as reported in previous studies. Originally, this questionnaire consisted of 14 items. Perrin (2005) adapted some of the items to increase ecological validity. Challacombe and Salkovskis (2009) added four items regarding OCD, which were also included in our study, e.g. touching and counting things. We modified one item originally related to summer camp to involving a sleep-over, as children in our country do not usually go to summer camp.

Zabin and Melamed (1980) found a split half reliability coefficient of .67. They also found correlations between different parenting behaviors and child anxiety (see introduction). Internal consistencies in our study were satisfactory, for mothers: positive reinforcement = .86; punishment = .69; force = .84; modeling/reassurance = .83; reinforcement of dependency = .77; and for fathers: positive reinforcement = .89; punishment = .77; force = .85; modeling/reassurance = .81; reinforcement of dependency = .77.

2.3. Procedure

The anxious children were referred by their general practitioners to secondary mental health institutions throughout the Netherlands. The children participated in different studies investigating the effects of CBT for young children aged 4 to 7 years (van der Sluis et al., 2012, Submitted) and for children aged 8–12 years (van Steensel & Bögels, in press), respectively. Inclusion criteria for these studies were: (1) meeting criteria of at least one anxiety disorder as established by DSM-IV-TR (American Psychiatric Association, 2000), preferably confirmed by an ADIS-P interview, and (2) at least one parent agreed to contribute to the research that was being conducted. Exclusion criteria were; (1) IQ rates below 70 or 80 for the studies concerning middle and early childhood, respectively, and (2) non-treated psychotic disorder, suicidal risk, current sexual or physical abuse. Additional inclusion criteria for this current study were that at least one parent had completed the parenting questionnaire and that the clinically anxious children had an anxiety disorder as assessed with the ADIS-P (Silverman & Albano, 1996). Information about the study was provided to parents and children, after which they (parents and children aged 12 years) signed informed consent. Assessments were carried out by the first and second author of the study, and diagnosticians/psychologists and graduate students trained and supervised by the first or second author of the study. These studies were approved by the ethical committee of the research institute of Child Development and Education of the University of Amsterdam. Graduate students collected data that formed the control sample through their network, schools and sport clubs.

2.4. Data analysis

Multi-level analyses were used to investigate if parenting behaviors differed between (a) clinically anxious children versus healthy controls, (b) younger (4–7 years) versus older (8–12 years)

Table 2
Parameter estimates of the effects of child anxiety, parent gender, child gender and child age on parenting behaviors in anxiety provoking situations while controlling for birth order, parental education and parental age[1].

Parameters	Positive reinforcement	Punishment	Force	Modeling/reassurance	Reinforcement of dependency
Clinical child anxiety[a]	.63***	.37**	.13	.35*	.37**
Parent gender[b]	−.09	−.20#	.08	.09	.04
Child age[c]	−.42**	.12	−.17	−.07	−.14
Child gender[d]	.03	.14	.28	.08	−.09
Birth order[e]	−.12	−.07	−.14	.09	−.30*
Parental education[f]	.06	−.03	−.03	.14*	.05
Parental age	−.07	−.01	−.15*	−.00	.07
Clinical child anxiety × parent gender	NS	NS	NS	−.34*	NS
Clinical child anxiety × child age	NS	NS	−.51*	NS	NS
Parent gender × child gender	NS	NS	−.45*	NS	NS

NS = non-significant interaction effect and therefore not included in the model.
# $p < .10$.
* $p \leq .05$.
** $p < .01$.
*** $p < .001$.
[a] 0 = Control; 1 = clinically anxious.
[b] 0 = Fathers; 1 = mothers.
[c] 0 = 4–7 Years; 1 = 8–12 years.
[d] 0 = Girls; 1 = boys.
[e] 0 = Other than first child; 1 = first or only child.
[f] Parental education was measured on a scale from 1 (no education) to 9 (university level).
[1] We rerun analyses excluding the children with comorbid externalizing disorders, however, excluding these children did not affect the outcomes of child group on parenting behaviors and therefore it was decided not to exclude these children.

children, (c) boys versus girls, and (d) fathers versus mothers. Multi-level analyses were used because this analysis controls for dependencies among family members (in this study mothers and fathers were nested in the same family). Continuous variables were transformed into *Z*-scores. In this way, the parameter estimates can be interpreted as a measure of effect: i.e. as Cohen's *d* for dichotomous predictors and as *r* for continuous predictors. Several outliers (Z < (−) 3.29) were identified. Analyses were run twice: once in which all original scores were included and once in which outliers were changed to *Z*-scores of (−) 3.29. Results were highly similar and therefore we report on the analyses with the original scores. Each of the five CDQ scales (i.e. positive reinforcement, punishment, force, modeling/reassurance, and reinforcement of dependency) were used as dependent variables. The following variables were used as predictors: clinical child anxiety (clinically anxious children versus healthy control children), parent gender (fathers versus mothers), child gender (boys versus girls) and child age (younger children aged 4–7 years versus older children aged 8–12 years). Interaction effects between the predictors were inspected and those that yielded significance were included in the final models, while those that did not yield significance were excluded from the final models presented in the results section. In addition, significant differences between the clinically anxious group and the control group were found for birth order, parental education and parental age, and these variables were therefore included in the models as covariates.

3. Results

3.1. Differences in parenting between parents of clinically anxious and healthy control children

The influence of child anxiety, child age, child gender and parent gender on parenting behaviors were examined, while controlling for child birth order, parent educational level, and parent age. Results of the multi-level analyses are displayed in Table 2.

With regards to our main research question – whether parenting behaviors in anxiety provoking situations are different between parents of clinically anxious children versus healthy control children – group differences were found for positive reinforcement, punishment and reinforcement of dependency (see Table 2). Parents of clinically anxious children used more positive reinforcement (parameter estimate = .63), punishment (parameter estimate = .37) and reinforcement of dependency (parameter estimate = .37) compared to parents of control children in situations in which the child is hypothetically anxious.

In addition, two significant interaction effects with clinical child anxiety status were found (see Table 2). Further analyses exploring these interaction effects demonstrated that (1) mothers of children in the clinically anxious sample reported to use less modeling/reassurance than fathers (parameter estimate = −.32, $p = .043$), while for the control children no difference between mothers and fathers was found (parameter estimate = .07, $p = .514$), and (2) parents of clinically anxious children used less force with their 8–12 year old children compared to with their 4–7 year old children (parameter estimate = −.66, $p = .002$), while no such difference was found for parents of control children (parameter estimate = −.16, $p = .396$).

With regards to child age, it was further found that parents used less positive reinforcement when their children are older compared to when their children are younger (parameter estimate = −.42). With respect to parent gender, it was found that mothers tend to use less punishment compared to fathers (parameter estimate = −.20). Further, the interaction between parent gender and child gender was found to be significant for the use of force. Additional analyses indicated that mothers used less force with boys compared to fathers (parameter estimate = −.37, $p = .011$), while for girls mothers and fathers did not differ in their use of force (parameter estimate = .07, $p = .630$).

Finally, covariates (parental educational level, birth order, parental age) were found to be associated with parenting behaviors (Table 2). That is, higher parental educational level was associated with the use of more modeling/reassurance (parameter estimate = .14), parents reported to use less reinforcement of dependency if their child was an only or firstborn child compared to parents of children who were later born (parameter estimate = −.30), and a higher parental age was related to the use of less force (parameter estimate = −.15).

4. Discussion

The objective of this study was to investigate whether parenting behaviors differed between children with and without anxiety

disorders, using a parenting questionnaire that contained different parenting behaviors than the usually measured behaviors of parental control and rejection. In addition, the questionnaire used in this study assessed parenting behaviors in situations that are often anxiety provoking for children. Furthermore, because young children are understudied, as are fathers, we also examined whether parenting behaviors in anxiety provoking situations differed between younger (4–7 years) versus older (8–12 years) children, and between fathers and mothers. We also included child gender as predictor, as the relationship between child gender and parenting is not often investigated.

In line with expectations, parents of clinically anxious children used more reinforcement of dependency (e.g. 'let him or her sleep with me') and punishment (e.g. 'tell my child that if he/she did not sit down he/she would get a mild spanking' or 'tell my child that if he/she did not come back he/she would not be permitted to watch TV') than parents of controls. Parents who reinforce children's avoidance, actually intensify their avoidant behaviors (Barrett, Rapee, Dadds, & Ryan, 1996; Dadds, Barrett, Rapee, & Ryan, 1996) and could also increase children's dependency on their parents (Wood, 2006). Parental punishment is also related to child anxiety (e.g. Gershoff et al., 2010; McLeod et al., 2007), perhaps via lower levels of self-confidence in the child and by evoking an understanding in the child of the world as unsafe, hostile and out of personal control (e.g. Bögels & Brechman-Toussaint, 2006; Creswell et al., 2011). Thus, the parents of our clinical sample may further increase their child's anxiety by their use of reinforcement of dependency and punishment.

Opposite to expectations, parents of clinically anxious children also used more positive reinforcement of brave behaviors (e.g. 'tell my child that if he sat in the chair and behaved he'd get a lollipop') than parents of control children, which is assumed to be associated with less child anxiety (Zabin & Melamed, 1980). However, it is possible that anxious children need more positive reinforcement from their parents than non-anxious children, before they take part in the anxiety provoking situation. This would indicate that these parents are sensitive and responsive to the needs of their anxious child. Altogether, parents of clinically anxious children seem to be more involved in parenting than parents of healthy control children, both positively and negatively.

In keeping with this finding, other studies also report a positive relationship between parent involvement and child anxiety (Hudson, Doyle & Gar, 2009; Hudson & Rapee, 2001). A closer examination of the literature shows that this involvement does not only include negative aspects (e.g. unsolicited help) but also more positive or neutral aspects (e.g. degree of help) (Hudson & Rapee, 2001). Hudson et al. (2009) proposed that anxious children may evoke more involvement of their parents. In turn, parental responses and assistance to the anxious child's needs may contribute to child's anxiety, by reducing children's autonomy, coping skills and sense of mastery and increasing child avoidance. As children do not develop these necessary skills, they can also become increasingly dependent on their parents to manage future anxiety issues (McLeod, Wood, & Avny, 2011; Wood, 2006). For treatment of childhood anxiety, this could imply that rather than to increase positive parenting behaviors associated with less child anxiety, one may aim at reducing parental involvement in general, although this clearly needs to be investigated. An alternative explanation would be that positive reinforcement is the result rather than the cause of child anxiety disorder, and parental use of positive reinforcement (and paternal use of modeling/reassurance, see below) actually keeps the anxiety disorder from becoming more severe, or, in other words, children with anxiety disorders need more positive reinforcement than control children.

With regards to father/mother distinctions, parenting differences between mothers and fathers in general and between mothers and fathers of clinically anxious children were found. Bögels and Phares (2008) and Bögels and Perotti (2011) argue that fathers introduce and familiarize children with the broader world outside the family and this role of fathers may be particularly important for clinically anxious children. That is, it may be the father's role to help his child with overcoming his or her fears. In line with their hypothesized role, fathers of clinically anxious children may do this by displaying more modeling and reassurance than mothers as a reaction to their child's anxiety. In partial support, paternal modeling/reassurance has previously been associated with less child anxiety (Zabin & Melamed, 1980), and recent studies show that positive non-anxious modeling by parents (mothers) (Dunne & Askew, 2013) as well as parental (maternal) encouragement and support to approach feared situations (Silk et al., 2013) are related to reduced levels of child anxiety. Silk et al. (2013) postulate that parents who encourage brave behaviors in their child increase children's self-esteem and feelings of competency that they can overcome their own fears, as parents are able to support children in making their own choices, mistakes and achievements. Results from this study seem to indicate that fathers may have a more courageous attitude and may be more physically involved in parenting and in helping their child to approach situations that they fear than mothers.

However, fathers also tend to use more punishment than mothers with both clinically anxious and healthy control children. As mentioned above, parental use of punishment is related to increased levels of child anxiety. Fathers may tend to use more punishment than mothers, as it is their role to prepare their children to the outside world. As this outside world is not always a kind world, fathers may try to toughen their children up by the use of punishment. Taken together, it seems that fathers may get more involved and use both more positive and possibly negative parenting behaviors with their (anxious) children than mothers because it is their role to equip their children for the world outside their family. In treatment of clinically anxious children, it therefore seems important to include both mothers and fathers because they display different parenting behaviors (either positive or negative) and they may have different roles in assisting their children to overcome anxiety.

Next, it was found that parents of clinically anxious children used more force with their younger compared to their older children. On the one hand, it could be that parents of older clinically anxious children are overruled by their children, who insist on not engaging in any anxiety provoking situation. On the other hand, parents could experience less self-efficacy (Hill & Bush, 2001; Jones & Prinz, 2005) or feel helpless (learned helplessness; Abramson, Seligman, & Teasdale, 1978; Bögels & Brechman-Toussaint, 2006; Maier & Seligman, 1976), and eventually no longer have hope that they are able to reduce their child's anxiety. Therefore, they no longer exert force on their clinically anxious older children.

Last, some other findings are also worth mentioning. First, irrespective of the child's anxiety status, parents used more positive reinforcement with their 4–7 year olds than with their 8–12 year olds. One explanation is that as children grow older they become more autonomous (Hudson, Kendall, Coles, Robin, & Webb, 2002) and parents alter their parenting behaviors accordingly, therefore certain parenting behaviors (i.e. force (see above) and positive reinforcement) may be more suited or effective with younger compared to relatively older children in anxiety provoking situations. Second, differences in parenting related to parent and child gender were found. That is, mothers used less force with their sons than fathers, whereas for their daughters mothers and fathers did not differ in their use of force. Perhaps fathers expect their sons to be more courageous than mothers. Or, alternatively, mothers could have more fear in forcing their sons as they have less physical strength than fathers and they may have less natural ascendency

than fathers. Post hoc analyses revealed that same sex pairs (i.e. father–son and mother–daughter) used more force than opposite sex pairs (i.e. father–daughter and mother–son), indicating that it may be fathers' role to parent their sons and mothers' role to parent their daughters in handling the fears of their child. However, more research is clearly necessary to determine how this interaction effect can be explained best.

To summarize, parents of clinically anxious children used more anxiety-enhancing parenting strategies, thereby possibly maintaining and reinforcing the anxiety of their child. On the other hand, these parents also used more positive parenting behaviors, which are assumed to be related to less child anxiety, indicating that these parents are thus responding to their child's needs. Overall, however, parents of clinically anxious children were more involved in parenting than the parents of the healthy control children. One possibility is that, because of their higher involvement in parenting, these parents are granting less autonomy to their children and may under stimulate the problem-solving and coping skills of children. It could be that healthy control children are more trained, perhaps indirectly because their parents are less involved, to solve problems on their own and thereby also develop more anxiety management and coping skills, whereas clinically anxious children may stay more dependent on their parents. Related to child treatment, next to giving specific attention to differences between fathers and mothers in parenting anxious children, and to the effect of the age of the child on parenting, it may be important not to change the undesired anxiety enhancing parenting strategies, but to try to focus on less involvement of parents in general, so children can experiment with different coping skills to overcome their anxiety rather than to depend on their parent either for the good or the bad. However, that parents of anxiety disordered children were found to use more, rather than less, positive parenting behaviors (e.g. 'pet the puppy to show the child it was harmless' and 'tell my child how proud I'd be is she/he tried again'), may also indicate that clinically anxious children need more positive parenting in anxious situations and their parents respond sensitive to their needs. Furthermore, these positive (anxiety-decreasing) parenting behaviors could have prevented the child's anxiety disorder(s) from becoming worse.

4.1. Strengths, limitations and future research

This study has several strengths, that is, the inclusion of (1) relatively large samples of both clinically referred anxious children and healthy control children; (2) young children to assess age differences; (3) both mothers and fathers to assess possible parenting differences between them, and (4) a unique parenting questionnaire to assess (a) other parenting constructs that the ones usually measured and (b) parenting behaviors in hypothetically anxiety provoking situations. However, some study limitations should also be noted. Most importantly, our data was cross-sectional, therefore, no cause-and-effect relationship could be established. Longitudinal and experimental research is necessary to investigate how parents and children may influence each other over time. Second, parenting was assessed with a self-report measure, and it is unclear to what extent parent-report reflects true parenting differences, as observation and questionnaire studies of the same parenting behaviors yield different results (e.g. McLeod et al., 2007; Siqueland, Kendall, & Steinberg, 1996). Future research should investigate the relationship between this parenting questionnaire and more objective measures of parenting (i.e. observation). Last, parental psychopathology was not assessed. Although no clear relationship has been found between parental anxiety and parenting (e.g. the meta-analysis by van der Bruggen et al., 2008), parental psychopathology (e.g. depression) could affect parenting behaviors and parent report. For future research, it could therefore be of additional value to include a measure of parental psychopathology.

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