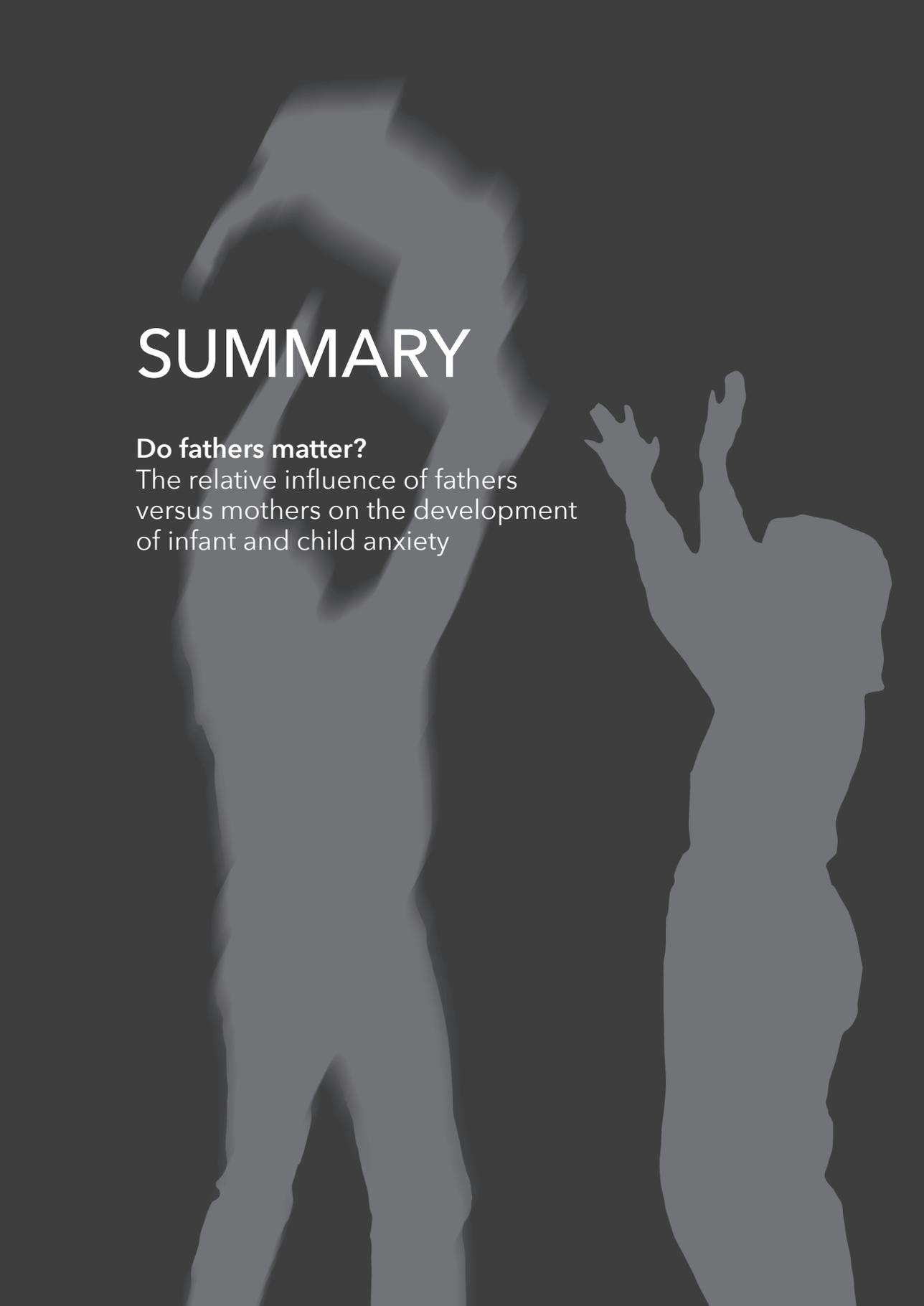




Do Fathers Matter? The Relative Influence of Fathers versus Mothers on the
Development of Infant and Child Anxiety

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The background of the page features two light gray silhouettes against a dark gray background. On the left, a man is shown in profile, leaning forward with his arms raised as if embracing or supporting someone. On the right, a woman is shown in profile, standing upright with her arms raised and hands open, as if reaching out or gesturing. The overall mood is one of care and support.

SUMMARY

Do fathers matter?

The relative influence of fathers versus mothers on the development of infant and child anxiety

The main aim of this thesis was to examine the different role of fathers and mothers in the development of anxiety in children, viewed from an evolutionary perspective. In this dissertation, the focus was on two parental factors that have been associated with anxiety in children: social referencing and parenting behavior. Different types of studies (literature review, experimental design, quasi-experimental design, cross-sectional design, and meta-analysis) and measures (questionnaires, scripts, observations) were used to assess the associations between child anxiety and maternal and paternal social referencing and parenting behavior in different age groups: infants between 10-15 months (Chapter 4 and 5), children aged 0-5 years (Chapter 6), and children aged 8-13 years (Chapter 3). In addition, we conducted a validation study of a newly developed questionnaire for the DSM-5 to measure symptoms of child anxiety in a dimensional way (Chapter 7).

In Chapter 2, a literature review was presented on evolutionary based differences in paternal and maternal parenting behavior in Western societies and this was applied to the intergenerational transmission of anxiety. The review discussed how the different specializations that men and women developed during the course of human evolution evolved (i.e., social competition and risk taking for men, and care, nurturing, and intimate bonding for women), and argued how these specializations are still reflected in their parenting behavior. To summarize, fathers encourage taking chances and social competition in their children more than mothers, and mothers are more protective and stimulate caring for others and intimate bonding more than fathers. It was also shown that both maternal and paternal parenting behavior play a role in the development of child anxiety, with sometimes effects only found for mothers, and not for fathers, or the other way around.

The different role of maternal and paternal social referencing signals in child anxiety was examined in Chapter 3 and 4. In Chapter 3, two experimental studies were described in which the relative influence of paternal and maternal social referencing signals on child anxiety was assessed. Children aged 8-13 years were presented with scripts (stories) of novel and ambiguous situations (non-social situations in Experiment 1 and social situations in Experiment 2) in which either the mother or the father reacted anxiously or confidently. Children had to indicate how anxious they would feel in these imagined situations. Results of this study showed that both maternal and paternal social referencing signals were important for children's anxious responses to ambiguous situations, and that the social reference process did not depend on the maternal and paternal evolutionary based expertise with the situations. In Chapter 4, the visual cliff paradigm, in which infants between 10-15 months were encouraged by their

mother or father to cross an apparent drop-off covered with plexiglass, was used to examine whether social referencing processes between fathers and their infants differed from those between mothers and their infants. The main finding of this study was that more paternal, but not maternal, expressed anxiety was associated with more infant expressed anxiety and avoidance towards the visual cliff. This suggests that either fathers play a more important role in the transmission of anxiety in exploring ambiguous situations, or that infants' behavior elicits more anxiety in their fathers than in their mothers in ambiguous situations.

The differential associations between maternal and paternal parenting behavior and child anxiety were investigated in Chapter 5 and 6. In Chapter 5, a cross-sectional questionnaire study, it was investigated (1) how symptoms of specific anxiety disorders (agoraphobia, generalized anxiety disorder, panic disorder, separation anxiety disorder, social anxiety disorder, and specific phobia) were related to maternal and paternal self-rated parenting behavior towards 10-to-15-month-old infants; and (2) whether maternal and paternal parenting behaviors were differentially associated with infant anxiety. Regarding the first question, it was found that for mothers only symptoms of *generalized anxiety disorder* were associated with less challenging parenting behavior and more overinvolvement, while for fathers only symptoms of *social anxiety disorder* were related to less challenging parenting and more overinvolvement. Pertaining to the second question, results of this study showed that paternal, but not maternal, challenging parenting behavior was associated with less infant anxiety, and paternal, but not maternal, overinvolvement with more infant anxiety. In Chapter 6, a meta-analysis on the differential effects of maternal and paternal parenting behavior on anxiety in children aged 0-5 years was presented. Separate meta-analyses were conducted for mothers and fathers. Five types of parenting behavior that have been linked to child anxiety were assessed: overcontrol, overprotection, overinvolvement, autonomy granting, and challenging parenting behavior. Associations between parenting and child anxiety in this age group were generally small. Concerning differential associations between maternal and paternal parenting behavior and child anxiety, results of this study indicated that paternal challenging parenting behavior was associated with less anxiety in children, whereas maternal challenging parenting behavior was not related to child anxiety. Associations between overcontrolling, overprotective, and overinvolved parenting and child anxiety did not differ for mothers and fathers. No studies were found that assessed autonomy granting in fathers. In sum, these meta-analyses showed that parenting behavior of fathers is as important as parenting behavior of mothers in young children's anxiety.

Lastly, Chapter 7 described a validation study of a newly developed questionnaire for the DSM-5 to measure children's anxiety symptoms, the Dimensional Anxiety Scales, in a community sample of children aged 8-13 years and their parents. These dimensional scales assess six anxiety disorders: agoraphobia, generalized anxiety disorder, panic disorder, separation anxiety disorder, social anxiety disorder, and specific phobia. The scales for each disorder are consistent in content and structure and assess core features of fear and anxiety that are shared across the anxiety disorders, within the specific context of each disorder. Results of this study showed that the Dimensional Anxiety Scales are a valid and reliable tool for the assessment of anxiety in a community sample, and that these scales can be used to screen for child anxiety disorders.

In conclusion (Chapter 8), results of this thesis clearly showed that fathers are as important social referencing figures as mothers, and that fathers' parenting behavior is as important as mothers' parenting behavior in childhood anxiety. This dissertation even provided some evidence for the hypothesis that fathers' anxious social referencing signals are more strongly related to children's anxiety than mothers' anxious signals (Chapter 4) and that fathers' challenging parenting behavior plays a larger role in children's anxiety than mothers' challenging parenting behavior (Chapter 6). These findings may have important implications for the prevention and treatment of child anxiety. Fathers may act as a buffer against the anxiety of their children if they refrain from signaling anxiety to the child in situations that are not dangerous, and in addition if they do stimulate and challenge their children to push their limit.