

Chapter 6

General Discussion



The transition to parenthood can be a period of positive feelings and expectations, but not always, and not for all women. Several women suffer from elevated depressive or anxiety symptoms or are uncertain about their future parenting abilities at some point in pregnancy. For some women prenatal heightened depressive or anxiety symptoms or low parenting self-efficacy continue into actual parenthood. The general aim of this thesis was to gain a better understanding of the linkages among these problems associated with women's adaptation to parenthood and to examine predictors, based on a social cognitive perspective. Bandura's work on self-efficacy (1977, 1982, 1989, 1997) guided the examination of linkages between mood symptoms (both anxiety and depression) and parenting self-efficacy. These linkages are assumed to be negative and bidirectional, the latter especially with regard to depression (Bandura, 1989, 1997). In addition, the development of people's feelings and expectations about their own functioning can be influenced by prior relationship experiences as well as by feedback derived from actual successes and failures (Bandura, 1977, 1997; Bowlby, 1973; Coleman & Karraker, 1997; Gotlib & Hammen, 1992). However, considerable parts of the social cognitive perspective have been left untested in research on women's adjustment to parenthood. Filling some of these gaps, this thesis examined whether anxiety symptoms were predictive of the development of parenting self-efficacy during pregnancy – besides depressive symptoms. The study also tested bidirectional associations among parenting self-efficacy and mood symptoms in the context of changes in the transition to parenthood and the postpartum period. Finally, both prior relationship experiences as well as current successes and failures were studied as predictive of women's adaptation to parenthood. Specifically, both the individual and combined effects of women's own adverse childhood history and challenges in early parenthood (i.e., infant temperamental difficulty) were examined as possibly contributing to a more problematic development of parenting self-efficacy and mood symptoms in the transition to parenthood.

In this chapter, findings of the four studies included in this thesis are summarized and integrated in the social cognitive theory. Then strengths and limitations are discussed, as well as implications for practice.

The Longitudinal Association between Mood Symptoms and Parenting Self-Efficacy

According to Bandura (1997), mood states affect people's judgments of their self-efficacy. Depressed or anxious symptoms may cause people to see events through a more pessimistic filter, which lowers their self-efficacy (Bandura, 1989, 1997). In addition, anxiety arousal and repetitive anxious thoughts about impending stressful

situations may be evaluated by people as indicative of their incompetence (Bandura, 1977). With respect to parenting, most studies until now focused on the relation between depression and parenting self-efficacy (Jones & Prinz, 2005), but in accordance with Bandura's suggestions (1977, 1997), anxious thoughts and worries may be associated with women's more negative expectations with respect to parenting as well (Porter & Hsu, 2003). Whereas anxious people are uncertain about the occurrence of negative outcomes, and about their ability to handle them, depressed people are certain about their own ineffectiveness and feel that a negative outcome is inevitable (Alloy, Kelly, Mineka, & Clements, 1990; Mineka, Watson, & Clark, 1998). The first study (**Chapter 2**) focused on changes in parenting self-efficacy and mood symptoms during pregnancy and how depressive and anxiety symptoms uniquely contributed to changes in parenting self-efficacy among 533 women. Findings revealed that anxiety symptoms as well as depressive symptoms were linked to parenting self-efficacy, both concurrently and longitudinally. However, if both anxiety and depressive symptoms were considered simultaneously as determinants of parenting self-efficacy, only anxiety symptoms remained predictive. Especially anxiety symptoms, and to a lesser extent depressive symptoms at the start of pregnancy may therefore be associated with a less positive pathway of parenting self-efficacy over the course of pregnancy. The dominant role of anxiety over depression indicates that during pregnancy feelings of uncertainty (about parenthood), a characteristic of anxiety, may be more relevant for adaptation to impending parenthood than depressed-like feelings of hopelessness and certainty that mishaps will occur with respect to future parenthood (Alloy et al., 1990; Mineka et al., 1998). Anxiety symptoms seem therefore more important to consider with respect to parenting self-efficacy, at least during pregnancy.

Social cognitive theory implies that mood states would not only predict lower self-efficacy, but low self-efficacy would also predict anxious or depressed feelings, by creating lower feelings of controllability over experiences, attributions of failures to personal deficiencies and less control over aversive thought processes (Bandura, 1982, 1997). A bidirectional association between depressive symptoms and self-efficacy can be expected (Bandura, 1989, 1997), but studies in the domain of parenthood have only examined the link from one direction (e.g., Olioiff & Aboud, 1991; Porter & Hsu, 2003), and have therefore not yet uncovered whether parenting self-efficacy indeed acts as both a consequence *and* a predictor of anxiety and depressive symptoms (for a review, see Jones & Prinz, 2005). The second study (**Chapter 3**) investigated the direction of effects between mood symptoms (both depression and (state and trait) anxiety) and parenting self-efficacy in the context of the changes taking place in the transition to parenthood among 822 women. Results indicated that lower prenatal parenting self-

efficacy indeed predicted less decrease in anxiety and depressive symptoms from 32 weeks of pregnancy until 3 months postpartum. In addition, higher prenatal depressive and anxiety symptoms predicted less increase in parenting self-efficacy from pregnancy until postpartum. As expected from social cognitive theory (Bandura, 1989, 1997), evidence was thus found for a bidirectional relationship between parenting self-efficacy and mood symptoms across the transition to parenthood. Provided that prenatal maternal functioning not always reflects postpartum functioning (e.g., Heron, O'Connor, Evans, Golding, & Glover, 2004), a further expectation in this study was that postpartum cross effects would be predictive of changes in parenting self-efficacy and mood symptoms until 1 year postpartum on top of prenatal cross effects. In the postpartum period, lower postpartum parenting self-efficacy at 3 months predicted more increase in trait anxiety symptoms from 3 to 12 months postpartum. A possible explanation for this effect is that changes in infants' autonomy over the course of the first year (e.g., crawling, standing) may especially bring about feelings of anxiety and low controllability for mothers who are less confident about their parenting abilities. An unexpected finding was that other cross effects were not significant in the postpartum period. It is possible that other determinants, such as infant temperament become more important in predicting postpartum changes in parenting self-efficacy or mood symptoms (Leerkes & Burney, 2007).

Childhood Abuse and Current Challenges as Predictive for the Adaptation to Parenthood

Another aim of the current thesis was to examine the role of women's own childhood abuse experiences and infant temperament on the development of parenting self-efficacy and mood symptoms across the transition to parenthood. Based on Bandura's theorizing that self-efficacy can be partly informed by vicarious or modeling experiences (1977, 1997), people may use observations and experiences with their parents to base on their self-efficacy. In addition, Bowlby (1973) theorized that people develop internal working models about relationships based on interactions with their parents in childhood, which can affect how competent and worthy they feel. The third and fourth studies of this thesis (Chapter 4 and 5) examined the role of these previous experiences from childhood as a framework on how new parents deal with challenges, such as infant temperamental difficulty, in two different ways. In **Chapter 4**, the Cry Response Task was used with 243 women during pregnancy to investigate whether women's reported childhood abuse experiences could predict differences in the adjustment of their parenting self-efficacy in response to infant temperamental difficulty. As part of the Cry Response Task, expectant women had to comfort an easy-to-soothe and

a difficult-to-soothe infant, and were asked to provide an assessment on how efficacious they would still feel in daily life to comfort a crying infant after listening to the easy-to-soothe infant, as well as after listening to the difficult-to-soothe infant. The use of an experimental task during pregnancy had several advantages, including that all women could be exposed to the same infant behaviors and that women's parenting perceptions and behaviors played no role yet, which facilitated the comparison between abused and non-abused women. The expectation was that women subjected to rejecting or abusive parenting in childhood would have less resources that bring about feelings of competence (Bowlby, 1973; Leerkes & Crockenberg, 2002, 2006), particularly if they are confirmed in their low self-efficacy by challenging infant behaviors. Consistent with this hypothesis, women who reported childhood abuse experiences decreased more in parenting self-efficacy than women who did not report childhood abuse in response to the difficult-to-soothe infant relative to the easy-to-soothe infant. In contrast, no differences between the groups were found on a baseline measure of parenting self-efficacy, or in changes of parenting self-efficacy in response to the easy-to-soothe infant (relative to baseline). Childhood abuse was thus particularly associated with an increased vulnerability for difficult infant behaviors, more specifically low soothability.

The study in Chapter 4 used an experimental setting, which could not show how abused women react to actual challenges associated with infant temperamental difficulty in the transition to parenthood. The fourth study (**Chapter 5**) therefore focused on changes in both women's parenting self-efficacy and mood symptoms from 32 weeks of pregnancy until 3 months postpartum and examined whether the unique and interactive effects of an accumulation of adverse childhood experiences and infant temperament were predictive of these changes ($N = 104$). In line with Bandura's suggestion (1977, 1997) that people may use success and failure experiences to judge upon their self-efficacy, infants' more negative reactivity as rated by mothers was associated with less increase in women's parenting self-efficacy across the transition to parenthood. In addition, the interaction between an accumulation of adverse childhood experiences and infant negative reactivity predicted change in parenting self-efficacy, in such a way that there was a negative association between infant temperamental difficulty and postpartum parenting self-efficacy (controlled for prenatal parenting self-efficacy) for women who reported a relative high number (+1 SD) of adverse childhood experiences, not for women who reported few (-1 SD) adverse childhood experiences. Consistent with findings of Chapter 4, women with a more adverse childhood history may thus develop lower postpartum parenting self-efficacy if their infants show more difficult behavior, which may indicate that women's feelings of low self-worth or incompetence associated with their own negative childhood experiences

are particularly evoked by confrontations with challenging infant behaviors (see also Crockenberg & Leerkes, 2003). Although a similar interactive effect was expected for changes in mood symptoms across the transition to parenthood (Crockenberg & Leerkes, 2003), an attenuated decline in depressive symptoms was only predicted by an accumulation of adverse childhood experiences, and not by an interaction between infant temperamental difficulty and adverse childhood experiences. In addition, changes in state anxiety symptoms in the transition to parenthood could not be predicted from infant temperament, adverse childhood experiences or an interaction between the two predictors. Different underlying mechanisms may therefore contribute to the development of mood symptoms and parenting self-efficacy, although accumulated adverse childhood experiences could at least play a negative role for both parenting self-efficacy and depressive symptoms across the transition to parenthood.

Theoretical Integration of Findings in Social Cognitive Theory

The current thesis adds new findings that can be integrated in social cognitive theory in order to create a more complete model of stress and vulnerability in the transition to parenthood. In this thesis, three out of four sources of information that Bandura (1977, 1997) mentioned as influential in predicting people's expectations of self-efficacy were examined in relation to parenting self-efficacy: physiological arousal or mood states measured as depressive and anxiety symptoms, vicarious or modeling experiences measured as childhood abuse experiences, and performance accomplishments measured as infant temperament (please note that verbal persuasion was not taken into account as a predictor of parenting self-efficacy). In Figure 1, the findings of this study are integrated in Bandura's model of personal efficacy as influenced by the four major sources of information (1977).

With respect to emotional arousal or mood states, Bandura (1989, 1997) already stated the probability of a bidirectional association, particularly between depressed mood and self-efficacy. However, rather than mood symptoms, self-efficacy, and its effects on well-being and accomplishments, stands at the heart of his theory (in Bandura's basic model focused on the sources of self-efficacy, the association is described as unidirectional). Focusing on the importance of self-efficacy in the field of parenting, Teti and Gelfand (1991) proposed that parenting self-efficacy may be the "final common pathway" towards effective parenting, in particular because they found that parenting self-efficacy mediated the association between several psychosocial variables (i.e., maternal depression) and maternal competence. Other researchers looked at the link between mood and self-efficacy from the other direction and found that lower parenting self-efficacy predicted mood symptoms, such as postpartum depression

(Cutrona & Troutman, 1986; Olioiff & Aboud, 1991). The findings of Chapter 3 add to the parenting literature that both directions of effects between parenting self-efficacy and mood symptoms should be considered, at least in the context of changes from pregnancy to the postpartum period (see Figure 1). Also, Chapter 2 and 3 suggest that anxiety symptoms are at least as important as depressive symptoms. Lowered parenting self-efficacy as well as heightened depressive or anxiety symptoms relate to less positive changes in women's transition to parenthood and may be part of a reciprocal set of effects that could lead to more negative outcomes. Both cognitive and affective changes, as well as their interrelations, should therefore be taken into account in research focused on women's parental adjustment. Nevertheless, future longitudinal studies should still assess the unique and combined effects of parenting self-efficacy and mood symptoms as predictive of actual parenting competence.

This thesis also yielded new findings regarding the role of vicarious or modeling experiences and performance accomplishment in predicting self-efficacy. Consistent with Bandura's theoretical assumption (1977, 1997) that performance accomplishments (i.e., successes or failures) are predictive of self-efficacy, simulated failures in parenting or failures inferred from perceived infant temperamental difficulty were negatively related to the development of women's parenting self-efficacy (Chapter 4 and 5; see Figure 1). However, vicarious or modeling experiences, deduced from childhood abuse experiences in this thesis, were not directly associated with parenting self-efficacy, but only in interaction with infant temperament (see Figure 1). This does not support the assumption made in Bandura's model (1977) that both vicarious or modeling experiences and performance accomplishments play their own role in predicting self-efficacy. Specific to the parenting domain, findings of the current thesis rather suggest that people are more inclined to use early (modeled) experiences by parents to judge their parenting self-efficacy if they experience failures, such as failures associated with taking care of an infant with difficult temperament. Infant difficult temperamental characteristics and their implications may confirm the lower feelings of general self-worth and incompetence in women who experienced childhood abuse (Crockenberg & Leerkes, 2003), which may relate to stronger decreases in parenting self-efficacy. This finding helps to further elucidate the negative association between women's abuse experiences and postpartum parenting self-efficacy found in earlier studies (e.g., Cole, Woolger, Power, & Smith, 1992). Women who were abused in childhood may develop a lower postpartum parenting self-efficacy, particularly in confrontation with the challenges and difficulties associated with early parenthood.

Expanding on Bandura's model (1977), findings of this thesis (Chapter 5) add that changes in depressive symptoms were uniquely predicted by accumulated adverse

childhood experiences, not by infant temperament or the interaction between infant temperament and adverse childhood experiences (Figure 1). Accumulated adverse childhood experiences are thus not only associated with increased risks for depression in general, as was found in previous studies (e.g., Anda et al., 2002; Felitti et al., 1998), but may also affect women's psychological adaptation to a major life transition, in this case women's adjustment to parenthood. In addition, infant temperament (i.e., negative reactivity) was not found to be uniquely predictive of depressive symptoms or anxiety symptoms, whereas it was uniquely predictive of parenting self-efficacy. This suggests that parenting experiences (associated with perceived infant temperament) are more directly linked to changes in people's perceptions of their parenting competence than to changes in mood states. It is therefore possible that trajectories of mood symptoms and parenting self-efficacy become less connected over time in the postpartum period (Porter & Hsu, 2003), which might also explain the finding in Chapter 3 that few cross effects were found from 3 to 12 months postpartum between parenting self-efficacy and changes in mood states, as well as vice versa. However, it should be considered that Chapter 3 and 5 report results on different samples and therefore the linkages between changes in infant temperament, changes in parenting self-efficacy, and changes in mood symptoms should be further studied into the postpartum period in order to clarify this issue.

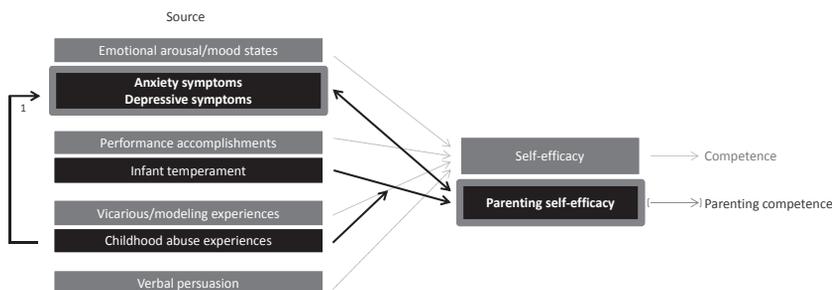


Figure 1. Integration of Thesis Findings on the Transition to Parenthood in Bandura's Model of Personal Efficacy as Influenced by the Four Major Sources of Information.

Note. The bold black arrows indicate the measured associations in the current study. 1 Childhood abuse experiences were only associated with depressive symptoms, not with anxiety symptoms.

Strengths and limitations

This thesis extended knowledge on the cognitive and affective processes that are part of women's adaptation to parenthood by using repeated measurements during pregnancy and the postpartum period. Earlier studies examining the link between parenting self-efficacy and mood symptoms in pregnancy were mainly cross-sectional (Leerkes & Burney, 2007; Porter & Hsu, 2003; Zayas, Jankowski, & McKee, 2005), whereas in this study (Chapter 2) women were followed-up over three assessments (at 12, 22, and 32 weeks of pregnancy), so that the development of parenting self-efficacy and mood symptoms could be considered. An additional advantage of longitudinally following up participants over more assessments was that changes in parenting self-efficacy and mood symptoms across the transition to parenthood could be compared to changes later in the postpartum period and that the direction of effects between parenting self-efficacy and mood symptoms could be studied, as was done in Chapter 3. The sample size was relatively large in both Chapter 2 ($N = 533$) and 3 ($N = 822$), which resulted in more statistical power to detect effects.

Another strength of this thesis was that both experimental and longitudinal methods were used to examine the effects of childhood abuse on women's adaptation of parenting self-efficacy to parenting challenges. In real life it is difficult to test whether parenting challenges affect parenting self-efficacy, because all women have different parenting experiences and perceptions, which influence their assessments of these challenges. Therefore the Cry Response Task was employed (Chapter 4). It is one of the first experiments using controlled child stimuli to assess the effects of parental challenges (i.e., comforting a crying infant) on parenting self-efficacy (see Verhage, Oosterman, & Schuengel, 2013). However, because an experiment does not necessarily reflect women's natural environment, the synergistic effects of accumulated childhood abuse experiences and parenting challenges in the form of infant temperamental difficulty on parenting self-efficacy were also tested in a prospective longitudinal design, in a partly overlapping sample (Chapter 5). A future study should use the same sample, as well as an identical measure of childhood abuse, to find out whether the reactions of at-risk women during the Cry Response Task are also predictive of postpartum differences in women's resilience of parenting self-efficacy to parenting challenges.

A limitation of this thesis is that most studies used questionnaires that were only filled out by expecting women and mothers themselves. A well-known disadvantage of self-report data is that people tend to give socially desirable answers, which we tried to reduce by stressing confidentiality of the questionnaires and by sending the questionnaires home (in the longitudinal Generations2 cohort study), so that participants could fill them out in private. An additional disadvantage of self-report data is that

associations between constructs may be inflated, because questionnaires administered at similar time points are filled out congruent with participants' current mood state. However, the impact created by this problem is probably limited in the current thesis due to our focus on predicting changes in parenting self-efficacy and mood symptoms over time.

Another limitation is that besides mothers' own childhood experiences and infant temperament, several other factors that were not addressed in the current thesis may have an impact on women's adaptation to parenthood. Research has for example focused on changes in the quality of the partner and the coparenting relationship across the transition to parenthood or the postpartum period (Belsky & Rovine, 1990; Solmeyer & Feinberg, 2011), which are probably linked to women's general well-being and also to mood symptoms and parenting self-efficacy (Elek, Hudson, & Bouffard, 2003; Solmeyer & Feinberg, 2011). In addition, factors such as parenting stress, health of the infant, difficult economic conditions, social support, life events and pre-existing mental health disorders may also be associated with women's cognitions and emotions during pregnancy or in the postpartum period (e.g., Cutrona & Troutman, 1986; Lancaster et al., 2010; Raver & Leadbeater, 1999). Future studies could therefore include more determinants to even better predict individual differences in women's adjustment to parenthood.

As a final limitation, several protective factors and mechanisms (Rutter, 1985), such as social support or the possibility that women may have come to terms with adverse childhood experiences (Cutrona & Troutman, 1986; Leon, Jacobvitz, & Hazen, 2004), were not taken into account in the current thesis. Future studies focused on the adaptation to parenthood in women who experienced childhood abuse should therefore consider both risk and protective mechanisms in the prediction of parenting self-efficacy and mood symptoms. This may provide us with possible explanations for the large individual differences between women as to whether childhood risks affect their personal functioning as well as the transmission of risks to the next generation.

Practical Implications

The findings of the current thesis provide several suggestions for early prevention or intervention efforts. Based on the finding that there is a bidirectional association between mood symptoms and parenting self-efficacy in the transition to parenthood, both a boost of women's prenatal feelings of parenting competence or a lowering of their depressed or anxious symptoms, may bring about positive changes with respect to the further development of parenting self-efficacy and mood symptoms to the postpartum period. Special attention should be paid to prenatal anxiety, which has

been underexposed as a predictor of parenting self-efficacy, relative to depression. As argued by Bandura (1977, 1997), success experiences may increase women's sense of control over situations, which may both enhance women's feelings of efficacy, as well as decrease their anxiety arousal. Based on self-efficacy theory, pregnant women with low parenting self-efficacy or high mood symptoms could therefore be stimulated to practice with childcare, so that they feel better prepared for the parenting role.

Other techniques that could be employed to increase women's well-being in the transition to parenthood are offering women effective modeling experiences and mastery experiences by guiding them through effective parenting techniques. Several interventions used these practices derived from self-efficacy theory (Bandura, 1977, 1997) and indeed found improvements in women's perceived parenting competence and decreased parenting stress (Gross, Fogg, & Tucker, 1995; Kohlhoff & Barnett, 2013). Other possibilities constitute of providing women with realistic expectations about infant development and teaching them several problem solving techniques, which helps parents to cope with future parenting problems independently. These techniques are used in Triple-P – Positive Parenting Program (Sanders, Markie-Dadds, & Turner, 2003), a parenting program which was found to show some effects for improving parenting self-efficacy (De Graaf, Speetjens, Smit, De Wolff, & Tavecchio, 2008). Because at-risk women (i.e., with an adverse childhood history) may be particularly vulnerable for a more negative adjustment to parenthood, it is important that these women are reached with prevention and intervention efforts. The Nurse-Family Partnership is a preventive intervention program specifically focused on reaching at-risk expecting women, which also uses self-efficacy theory as a framework (Mejdoubi et al., 2011; Olds, Henderson, Tatelbaum, & Chamberlin, 1986). This thesis suggests that it may be beneficial to integrate different techniques in order to increase women's parenting self-efficacy and at the same time decrease mood symptoms in the transition to parenthood.

Another important focus for early prevention or intervention is based on our finding that perceived infants' difficult temperamental characteristics were found to be negatively associated with parenting self-efficacy. During pregnancy and the postpartum period, it would be valuable to inform women about the potential difficulties they might experience with their babies in the first months postpartum and teaching them techniques how to deal with possible problems. Given that women who were abused in childhood were especially vulnerable for caregiving challenges in the postpartum period and had no lower level of *prenatal* parenting self-efficacy, it is important as well to monitor the *goodness-of-fit* between mother and child characteristics after birth (Belsky, 1984; Thomas & Chess, 1977). Our findings suggest that mothers with an adverse background

may be more in need of additional support when confronted with the first difficulties of parenting than during pregnancy. Existing interventions for at-risk samples, such as the Nurse-Family Partnership and Triple-P (Mejdoubi et al., 2011; Olds et al., 1986; Sanders et al., 2003), already intend to reach and help women with the possible parenting challenges they encounter. Results of this thesis emphasize that it is important to explicitly consider how at-risk mothers cope with difficult infant behaviors or other parenting challenges, so that the negative effects of low parenting self-efficacy can be prevented.

Finally, the results of this thesis provide implications for first-time parents with respect to negative feelings or thoughts during the transition to parenthood. A considerable group of women reported that they had anxious or depressed feelings at certain moments during pregnancy and the postpartum period. It is important that these less positive feelings and thoughts are socially accepted, so that women are not ashamed to admit their problems or to seek support.

In addition, findings revealed that anxious or depressed feelings in pregnancy can be associated with doubts about (impending) parenthood, and vice versa. Knowledge on the link between emotions and parenting cognitions may stimulate first-time mothers (and their networks) to further think about how their own thoughts and emotions work and how to regulate them, as well as how to support each other to lessen the impact of negative thoughts and emotions. Bandura (1977) argued that anxiety arousal can partly result from feeling incompetent to perform stressful activities, which may be resolved if people feel they can control these potential threats. Modeled effective behaviors that can be imitated by the new mothers (“*participant modeling*”) may be potential means by which they gain successful performances and an increased sense of control as a result. More experienced family members or friends may therefore be able to support women who feel insecure about their parenting abilities.

It may also be helpful for women to realize that some infants show more challenging behaviors than others. Based on self-efficacy theory, perseverance in the face of challenges mostly pays off with successful performances (Bandura, 1977). However, challenges and setbacks are a normal part of (early) parenthood and may still occur despite women’s attempts to persist in their efforts to deal with them. Therefore, expecting women and new mothers should be aware of the possible setbacks or difficulties of early parenthood and know that parenting difficulties may be part of getting to know their baby. Setbacks may then come less unexpectedly and exert less influence on women’s sense of parenting competence.

General Conclusion

Anxious or depressed feelings and a low sense of parenting competence are potential problems associated with women's adaptation to parenthood that should not be underestimated. Although a social expectation is often created of women being "over the moon" with regard to their new role as a parent, a substantial group of women have negative feelings and perceptions during pregnancy and/or early parenthood. This thesis examined the linkages among problems associated with women's adaptation to parenthood, and predictors of these problems. By doing so, the study attempted to provide a model on stress and vulnerability in the transition to parenthood, based on a social cognitive perspective. First, problems associated with women's mood and low expectations of parenting competence do not stand alone, but appeared to affect each other reciprocally, which could lead to a more negative adaptation to parenthood. Intervention and prevention efforts should be done with awareness of the interrelations among problems and could focus on creating success experiences so that women's sense of competence increases and mood symptoms decrease. Second, infant temperamental difficulty was negatively associated with the development of parenting self-efficacy (from pregnancy to postpartum). This was even more so for women who were abused during childhood, who seem to have less resources to deal with parenting challenges. Third, accumulated abuse experiences also related to less decline in depressive symptoms across the transition to parenthood. Together, these last two findings showed that experiences of childhood abuse already constitute a vulnerability factor for women's well-being during the transition to parenthood, although different mechanisms lie behind the development of depressive symptoms and parenting self-efficacy.

By focusing on pathways of parenting self-efficacy and mood symptoms from pregnancy onwards, this thesis provided more information on how changing situational demands may affect women's adaptation to parenthood over time. An important finding is that abused women developed lower parenting self-efficacy when confronted with difficult infant behaviors, but had no lower parenting self-efficacy during pregnancy. Furthermore, while prenatal mood symptoms were associated with less positive changes in parenting self-efficacy during the transition to parenthood, and vice versa, additional bidirectional effects between mood symptoms and parenting self-efficacy were not found in the postpartum period. Concentrating on personal changes in the context of situational changes, the findings of this thesis provide further stepping stones for prevention and intervention focused on women at risk for a more negative adaptation to parenthood and accentuate the importance of the social cognitive theory in research on the transition to parenthood.

REFERENCES

- Alloy, L., Kelly, K., Mineka, S., & Clements, C. (1990). Comorbidity in anxiety and depressive disorders: A helplessness/hopelessness perspective. In J. D. Maser & C. R. Cloninger (Eds.), *Comorbidity of mood and anxiety disorders* (pp. 499-543). Washington: American Psychiatric Press.
- Anda, R. F., Whitfield, C. L., Felitti, V. J., Chapman, D., Edwards, V. J., Dube, S. R., & Williamson, D. F. (2002). Adverse childhood experiences, alcoholic parents, an later risk of alcoholism and depression. *Psychiatric Services, 53*, 1001-1009. doi: 10.1176/appi.ps.53.8.1001
- Bandura, A. (1977). Self-Efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215. doi: 10.1037/0033-295X.84.2.191
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist, 37*, 122-147. doi: 10.1037//0003-066x.37.2.122
- Bandura, A. (1989). Regulation of cognitive-processes through perceived self-efficacy. *Developmental Psychology, 25*, 729-735. doi: 10.1037//0012-1649.25.5.729
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman and Company.
- Belsky, J. (1984). The determinants of parenting: A process model. *Child Development, 55*, 83-96. doi: 10.1111/j.1467-8624.1984.tb00275.x
- Belsky, J., & Rovine, M. (1990). Patterns of marital change across the transition to parenthood: Pregnancy to 3 years postpartum. *Journal of Marriage and the Family, 52*, 5-19. doi: 10.2307/352833
- Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation*. New York: Basic Books.
- Cole, P. M., Woolger, C., Power, T. G., & Smith, K. D. (1992). Parenting difficulties among adult survivors of father daughter incest. *Child Abuse & Neglect, 16*, 239-249. doi: 10.1016/0145-2134(92)90031-1
- Coleman, P. K., & Karraker, K. H. (1997). Self-efficacy and parenting quality: Findings and future applications. *Developmental Review, 18*, 47-85. doi: 10.1006/drev.1997.0448
- Crockenberg, S. C., & Leerkes, E. M. (2003). Parental acceptance, postpartum depression, and maternal sensitivity: Mediating and moderating processes. *Journal of Family Psychology, 17*, 80-93. doi: 10.1037/0893-3200.17.1.80
- Cutrona, C. E., & Troutman, B. R. (1986). Social support, infant temperament, and parenting self-efficacy: A mediational model of postpartum depression. *Child Development, 57*, 1507-1518. doi: 10.2307/1130428
- De Graaf, I., Speetjens, P., Smit, F., De Wolff, M., & Tavecchio, L. (2008). Effectiveness of the Triple P Positive Parenting Program on Parenting: A Meta-Analysis. *Family Relations, 57*, 553-566. doi: 10.1111/j.1741-3729.2008.00522.x
- Elek, S. M., Hudson, D. B., & Bouffard, C. (2003). Marital and parenting satisfaction and infant care self-efficacy during the transition to parenthood: The effect of infant sex. *Issues in comprehensive pediatric nursing, 26*, 45-57. doi: 10.1080/01460860390183065
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., . . . Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) study. *American Journal of Preventive Medicine, 14*, 245-258. doi: 10.1016/S0749-3797(98)00017-8
- Gotlib, I. H., & Hammen, C. (1992). *Psychological aspects of depression: Toward cognitive and interpersonal integration*. London: Wiley.

- Gross, D., Fogg, L., & Tucker, S. (1995). The efficacy of parent training for promoting positive parent toddler relationships. *Research in Nursing & Health*, *18*, 489-499. doi: 10.1002/nur.4770180605
- Heron, J., O'Connor, T. G., Evans, J., Golding, J., & Glover, V. (2004). The course of anxiety and depression through pregnancy and the postpartum in a community sample. *Journal of Affective Disorders*, *80*, 65-73. doi: 10.1016/j.jad.2003.08.004
- Jones, T. L., & Prinz, R. J. (2005). Potential roles of parental self-efficacy in parent and child adjustment: A review. *Clinical Psychology Review*, *25*, 341-363. doi: 10.1016/j.cpr.2004.12.004
- Kohlhoff, J., & Barnett, B. (2013). Parenting self-efficacy: Links with maternal depression, infant behaviour and adult attachment. *Early Human Development*, *89*, 249-256. doi: 10.1016/j.earlhumdev.2013.01.008
- Lancaster, C. A., Gold, K. J., Flynn, H. A., Yoo, H., Marcus, S. M., & Davis, M. M. (2010). Risk factors for depressive symptoms during pregnancy: A systematic review. *American Journal of Obstetrics and Gynecology*, *202*, 5-14. doi: 10.1016/j.ajog.2009.09.007
- Leerkes, E. M., & Burney, R. V. (2007). The development of parenting efficacy among new mothers and fathers. *Infancy*, *12*, 45-67. doi: 10.1111/j.1532-7078.2007.tb00233.x
- Leerkes, E. M., & Crockenberg, S. C. (2002). The development of maternal self-efficacy and its impact on maternal behavior. *Infancy*, *3*, 227-247. doi: 10.1207/s15327078in0302_7
- Leerkes, E. M., & Crockenberg, S. C. (2006). Antecedents of mothers' emotional and cognitive responses to infant distress: The role of family, mother, and infant characteristics. *Infant Mental Health Journal*, *27*, 405-428. doi: 10.1002/imhj.20099
- Leon, K., Jacobvitz, D. B., & Hazen, N. L. (2004). Maternal resolution of loss and abuse: Associations with adjustment to the transition to parenthood. *Infant Mental Health Journal*, *25*, 130-148. doi: 10.1002/imhj.10091
- Mejdoubi, J., van den Heijkant, S., Struijf, E., van Leerdam, F., HiraSing, R., & Crijnen, A. (2011). Addressing risk factors for child abuse among high risk pregnant women: Design of a randomised controlled trial of the nurse family partnership in Dutch preventive health care. *BioMed Central Public Health*, *11*, 823. doi: 10.1186/1471-2458-11-823
- Mineka, S., Watson, D., & Clark, L. A. (1998). Comorbidity of anxiety and unipolar mood disorders. *Annual Review of Psychology*, *49*, 377-412. doi: 10.1146/annurev.psych.49.1.377
- Olds, D. L., Henderson, C. R., Tatelbaum, R., & Chamberlin, R. (1986). Improving the delivery of prenatal care and outcomes of pregnancy: A randomized trial of nurse home visitation. *Pediatrics*, *77*(1), 16-28.
- Olioff, M., & Aboud, F. E. (1991). Predicting postpartum dysphoria in primiparous mothers: Roles of perceived self-efficacy and self-esteem. *Journal of Cognitive Psychotherapy: An International Quarterly*, *5*, 3-14.
- Porter, C. L., & Hsu, H. C. (2003). First-time mothers' perceptions of efficacy during the transition to motherhood: Links to infant temperament. *Journal of Family Psychology*, *17*, 54-64. doi: 10.1037/0893-3200.17.1.54
- Raver, C. C., & Leadbeater, B. J. (1999). Mothering under pressure: Environmental, child, and dyadic correlates of maternal self-efficacy among low-income women. *Journal of Family Psychology*, *13*, 523-534. doi: 10.1037/0893-3200.13.4.523
- Rutter, M. (1985). Resilience in the face of adversity. Protective factors and resistance to psychiatric disorder. *British Journal of Psychiatry*, *147*, 598-611. doi: 10.1192/bjp.147.6.598

- Sanders, M. R., Markie-Dadds, C., & Turner, K. M. T. (2003). *Theoretical, scientific and clinical foundations of the Triple P- Positive Parenting Program: A population approach to the promotion of parenting competence*. Parenting Research and Practice Monograph No. 1, Brisbane: Parenting and Family Support Centre, The University of Queensland.
- Solmeyer, A. R., & Feinberg, M. E. (2011). Mother and father adjustment during early parenthood: The roles of infant temperament and coparenting relationship quality. *Infant Behavior & Development, 34*, 504-514. doi: 10.1016/j.infbeh.2011.07.006
- Teti, D. M., & Gelfand, D. M. (1991). Behavioral competence among mothers of infants in the 1st year: The mediational role of maternal self-efficacy. *Child Development, 62*, 918-929. doi: 10.1111/j.1467-8624.1991.tb01580.x
- Thomas, A., & Chess, S. (1977). *Temperament and development*. New York: Brunner/Mazel.
- Verhage, M. L., Oosterman, M., & Schuengel, C. (2013). Parenting self-efficacy is associated with cry perception, not autonomic responses, during a cry response task. *Parenting: Science and Practice, 13*, 253-265. doi: 10.1080/15295192.2013.832570
- Zayas, L. H., Jankowski, K. R. B., & McKee, M. D. (2005). Parenting competency across pregnancy and postpartum among urban minority women. *Journal of Adult Development, 12*, 53-62. doi: 10.1007/s10804-005-1285-2

