



## 1 INTRODUCTION

Compared to the mother-child relationship, the role of fathers for child development, but also the consequences of fatherhood for a man's life, have only recently become a focus of researchers and society. Nevertheless, today active involvement of the father in child rearing is taken for granted in many societies (Knoester & Eggebeen, 2006; Skevik, 2006). The "new father" is much more involved in active childcare than fathers used to be some decades ago (Parker & Wang, 2013; Yeung, Sandberg, Davis-Kean, & Hofferth, 2001). As father involvement increased, questions about the consequences for a father and his children gained more importance. During the last few decades, fathers more and more became a focus of attention by family researchers, especially in the US, but also increasingly in other Western, or non-Western countries. As a consequence, it is nowadays beyond controversy that fathers and paternal care essentially contribute to healthy child development (Sarkadi, Kristiansson, Oberklaid, & Bremberg, 2008). But also for the father, the assumption of the paternal role is considered to be a developmental milestone, which is accompanied by positive and negative psychosocial consequences. Evidence shows that, depending on the circumstances children are being raised in, fatherhood can be more or less rewarding or distressful for the father (Nelson, Kushlev, & Lyubomirsky, 2014; Nomaguchi & Milkie, 2003). At the same time, paternal well-being and role satisfaction are associated with fathers' participation and quality in child rearing (Bronte-Tinkew, Moore, Matthews, & Carrano, 2007; Minton & Pasley, 1996), the co-parental relationship quality (Boyce, Condon, Barton, & Corkindale, 2007; Elek, Hudson, & Bouffard, 2003; Rogers & White, 1998), and healthy child development (Essex et al., 2013; Giallo, Cooklin, Wade, D'Esposito, & Nicholson, 2014; Harper & Fine, 2006; Ramchandani et al., 2008). Thus, it is of great interest for the whole family system to investigate under which circumstances fathers are able and willing to invest in their children. Therefore, the mediating role of social, psychological, and biological factors which might determine whether fatherhood is perceived as beneficial or costly needs to be further established.

There are many different factors interrelating with the acquisition of the paternal role, which thus might influence mental and physical health status and role satisfaction of the father. Those include psychosocial aspects (e.g. socio-economic status [SES], relationship satisfaction, family structure), as well as biological correlates, such as male sexual hormones. However, there is a lack of broad studies on the psychobiological well-being, role satisfaction, and hormonal constitution in different forms of contemporary fatherhood across the overall



## 1 Introduction

period of child development. Thus, predictors of a fulfilling fatherhood apart from sociodemographic or partnership aspects are still relatively unknown.

The main goal of the present thesis is to increase knowledge about the predictors for a fulfilling fatherhood across the different forms of contemporary fatherhood. To this end, two main predictors for paternal mental well-being and role satisfaction are investigated in two empirical studies. Both studies are part of a larger, twofold project on the psychobiological correlates of fatherhood across lifespan, which was implemented within the frame of the international CENOF (Central European Network on Fatherhood) research cooperation, supported by the Jacobs Foundation. In the first study (study I), based on a broad online survey on 3615 fathers with various family constellations, the consequences of contemporary family forms for paternal psychological well-being are examined. In the second study (study II), based on a subsample of 182 involved biological fathers with intact families, the role of hormonal correlates of fatherhood are highlighted by focusing on paternal testosterone (T) and its relation to paternal role satisfaction.

The present thesis consists of three main parts. The first part includes information about the theoretical background and previous empirical research around the characteristics of contemporary fatherhood, paternal psychological well-being and role satisfaction, family structure, and hormonal correlates, providing the basis for research questions examined within the two empirical studies. The second and core part of this work consists of the description and results of the two implemented empirical studies. In the third part of this thesis, the main results of the empirical studies are summarized, integrated, and discussed, and conclusions are drawn for future research and practice.



# Part I: Theoretical Background



## 2 THE ROLE OF FATHERS WITHIN THE CONTEXT OF FAMILY AND SOCIETY

When investigating determinants of fathers' well-being and role satisfaction, it is inevitable to pay attention to the features and tasks which define the term fatherhood, the roles fathers occupy within contemporary contexts of family and society, and the factors influencing the extent of paternal role investment and child development. In the following section, definitions and descriptions of contemporary fatherhood and paternal care are elucidated. Further, empirical evidence about determinants for paternal involvement and its consequences for child development is briefly illustrated.

### 2.1 Definition and Features of Human Paternal Care at the Beginning of the 21<sup>st</sup> Century

The meaning of the term fatherhood generally goes beyond its most narrow definition as a parental status, in the sense of a biological and/or legal relationship between male individuals and their offspring. More often, fathers are defined as male individuals displaying parental care (i.e., *fathering*) towards biological or non-biological children (Pleck, 2010). The role of fathers within families has passed through dramatic changes during the past centuries and decades in response to various social, economic, and political developments. The picture of the ideal father has shifted from the father as authoritarian patriarch and moral leader, over to family breadwinner, sex role model, educator, or playmate, right up to the androgynous, egalitarian "new father" who is actively involved in direct caregiving (Lamb, 2000; Walbinder, 2006b). While direct paternal involvement is believed to have positive social-emotional outcomes for offspring in Western industrialized societies, a single, normative role definition for the ideal father still does not exist. Cross-culturally, fathers hold broadly divergent roles within families, strongly depending on sociocultural, contextual factors, such as free access to birth control, women's rights and position in society, or cultural norms and values (Walbinder, 2006b). Thus, sociocultural context always has to be taken into account when discussing paternal investment and its consequences for fathers and children. Having said that, role perceptions also vary across groups and families within cultures (Peitz, 2006). And individual fathers generally describe occupying multiple roles within family, including provision of financial support, involvement in caregiving, playing with children, teaching and disciplining children, providing love and affection, or acting as protectors for children (Bronte-Tinkew, Carrano, & Guzman, 2006; Summers et al., 1999). Nonetheless, the overall consensus of



## 2 The Role of Fathers Within the Context of Family and Society

social expectations nowadays generally includes fathers' active participation in caregiving in Western, industrialized countries. In line with this, fathers are increasingly involved in direct childcare in Western cultures (Parker & Wang, 2013; Yeung et al., 2001), even if still being identified as the main breadwinners in a substantial proportion of families (Lamb, 2000).

Concomitant with the predominant concept of the new family-involved father, a considerable extent of research on the impact of paternal care focused on positive influences of direct paternal care, termed paternal involvement, for child development (Lamb, 2000). The term of paternal involvement is often understood as consisting of three main aspects: fathers' direct, observable *interaction* with offspring (i.e., direct quantitative and qualitative engagement, time investment), their physical and psychological *accessibility* for children or child-specific household tasks outside of direct engagement, and their *responsibility* for indirect childrearing tasks such as planning or scheduling (Lamb, 2000). In the course of this, the majority of research studies focused on variations in direct paternal involvement, such as the amount of time spent with children, or the frequency of participation in specific childrearing tasks (Gaertner, Spinrad, Eisenberg, & Greving, 2007). In addition, measures such as financial investment, responsibility for specific tasks, quality of childrearing, or closeness of the father-child relationship are commonly used in studies.

Besides behavioral aspects of paternal care, subjective dimensions of fathering, such as psychological or emotional aspects of the paternal role, are of great interest when investigating paternal investment. According to identity theory, a father's attitudes towards adequate behavior as a parent, his appraisal of these conceptions, and the extent of identity with these duties might form a father's subjective commitment towards the paternal role, directing his behavior within this role (Walbinder, 2006a). Therefore, paternal role identity, which signifies the meaning and importance fathers perceive for their father role in comparison to other social roles they occupy, is an important source for inter-individual variation in the dimensions and extent of paternal involvement (Bronte-Tinkew et al., 2006). Differences in role identity may result from objective societal expectations, as well as subjective perceptions, beliefs, and expectations a father attributes to his paternal role (Bronte-Tinkew et al., 2006). Studies on role identity have stressed the importance of components such as role commitment, competence, satisfaction, and salience for paternal role experience (Coley & Hernandez, 2006). As an example, measures of subjective salience and centrality of the paternal role were found to prospectively predict quantitative behavioral involvement over time in divorced fathers, especially if they were not living in the same household as their children (Degarmo, 2010). Further, a father's satisfaction with the father role was found to positively correlate with the extent of childcare (Minton & Pasley, 1996). Thus, when investigating



## 2 The Role of Fathers Within the Context of Family and Society

paternal investment, objective as well as subjective aspects of the paternal role should be considered.

Besides paternal role identity determining behavioral involvement, and vice versa, the extent of paternal investment is determined by multiple, reciprocally interacting factors. These factors include child characteristics (e.g., age, temperament), father and mother characteristics (e.g., personality, attitudes, psychological functioning, hormonal constitution), aspects of the co-parental relationship (e.g., relationship quality), and contextual factors (e.g., sociocultural background, SES, work patterns, family constellation, living arrangements) (Gaertner et al., 2007). Further examining these determinants for paternal behavioral involvement and subjective role identity is of great interest for understanding why some fathers choose to highly invest in their children while others will not.

### 2.2 Fathers' Impact on Child Development

A broad range of studies examined fathers' impacts on children via direct and indirect effects of fathering on child development. One early line of research examined whether fathers have unique, distinctive influences on their children due to their gender, by acting as male role models for their children (Pleck, 2010). As this research revealed, fathers' masculine characteristics seemed to be of no significance for child outcomes. Instead, a warm and intimate father-child relationship came out to be much more important for child adjustment, suggesting that fathers and mothers influence their children in quite similar, rather than distinctive ways. Thus, characteristic gender-related influences on child development are far less important than general characteristics of supportive and nurturing parent-child relationships (Lamb & Tamis-LeMonda, 2004).

Another group of research investigated the influence of father absence on child development, as children raised in homes with absent fathers were found to have more problems in educational attainment, psychosocial adjustment, or sex-role development and identity when compared to their counterparts with both parents present (Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000; McLanahan, Tach, & Schneider, 2013). Consistent with the findings on gender influences summarized above, the presence of a male parent, as opposed to a second parent/caregiver, was demonstrated to be negligible in studies on father absence (Pleck, 2007; Silverstein & Auerbach, 1999). Instead, factors such as the loss of a meaningful relationship to both parents, the subjective feeling of abandonment, pre- and post-divorce parental conflicts, economic stresses associated with single parenthood, or psychosocial stress in isolated single mothers seemed to account for disadvantages in



## 2 The Role of Fathers Within the Context of Family and Society

children raised in father-absent households (Amato & Gilbreth, 1999; Cabrera et al., 2000). And generally speaking, father cohabitation can provide the basis for more involved fathering (Sarkadi et al., 2008).

A third line of research focused on influences of direct paternal involvement on child development. These studies consistently revealed positive outcomes in different areas of cognitive, emotional, or social development in children with highly engaged fathers (Sarkadi et al., 2008). These children might benefit from having two highly involved parents, providing them with diverse stimulation through interacting with people with different behavioral styles (Cabrera et al., 2000). Further, the increased paternal involvement in these families might result in both parents feeling more fulfilled and satisfied with their marriages and child care arrangements, overall resulting in a more warm and rich family context (Lamb, 2010).

In sum, it is assumed that paternal care affects children through multiple direct and indirect pathways. Fathers' direct effects of involvement are thought to be salient as fathers' and mothers' interaction generally differ, challenging children's interactive abilities (Lamb, 2010). In addition, fathers affect children indirectly through their impact on other people, for example by supporting the children's mother, or through influences on social circumstances, such as the SES of the family (Lamb, 2000).

### 2.3 Summary

The picture of the ideal father has switched from patriarch and family breadwinner to actively involved, nurturing caregiver. Father roles are broadly varying between cultures, groups, families, and within individuals. Active paternal care, termed paternal involvement, is assumed to benefit children for multiple reasons by allowing for direct positive father-child relationships as well as indirect support of the whole family system. Variables determining the extent of paternal involvement are manifold and include characteristics of the father, mother, children, family relationships, as well as sociocultural contextual factors. As children profit from positive relationships with both of their parents, increasing evidence about the conditional circumstances which facilitate paternal involvement is of great interest.



### **3 CONSEQUENCES OF FATHERHOOD FOR PATERNAL PSYCHOLOGICAL WELL-BEING**

Just as fathers affect children's outcomes, it can be assumed that the acquisition of the paternal role may also affect men in multiple ways. The following chapter gives an overview of the consequences of the paternal role for men's psychological well-being. First, definitions and measurements of paternal psychological well-being, including satisfaction with the paternal role, are elucidated. Next, the meaning of fatherhood for a man's well-being is outlined by exposing empirical evidence on well-being in men during and after making the transition to fatherhood. Further, research on factors which moderate different outcomes in well-being and role satisfaction in fathers is summarized, and explanatory approaches for the rewards and costs of fatherhood are outlined. Lastly, impacts of paternal mental well-being on paternal involvement and child development are highlighted.

#### **3.1 Definition and Measurement of Psychological Well-being**

Although psychological well-being represents a central aspect of good health, there is no universal agreement on the conceptualization of psychological well-being by theorists or researchers (Huppert & So, 2013). Overall, it is seen as a multi-dimensional construct, including different components of positive feelings (e.g., happiness, satisfaction) and positive functioning (e.g., mental health, absence of psychopathology) (Huppert & So, 2013). Reflecting its multiple facets and understandings, paternal psychological well-being has been defined and operationalized in multiple ways by family researchers. Studies focusing on paternal well-being frequently included components of emotional experience, subjective happiness, or life satisfaction, or constructs such as stress, depression, anxiety or psychological distress (Nelson et al., 2014). Further, substance use or the presence or absence of any mental illness were considered occasionally. In addition to measurements of general well-being, well-being in specific domains, such as work, relationship, or parenting (dis)satisfaction is sometimes taken into account as outcome, but also as predictor for more general well-being (Nelson et al., 2014).

For assessing well-being in family research, self-report is the most common measurement strategy made use of. For that purpose, numerous standardized, commonly-used questionnaires assessing the degree of well-being or distress on different facets, such as for anxiety or depressive symptoms, are usually applied. Besides standardized





### 3 Consequences of Fatherhood for Paternal Psychological Well-being

measurement instruments, single item measurements are frequently used to describe individual aspects of general or specific well-being (Nelson et al., 2014). These measurement methods can be very useful as an overall evaluation, while approaches including more than one facet of well-being may reveal more detailed information about specific mechanisms leading to adverse outcomes (Huppert & So, 2013). As parenthood is assumed to be both rewarding and burdensome at the same time, using multiple methods and broad well-being measures, containing both positive and negative facets of well-being, seems to be promising (Nelson, Kushlev, English, Dunn, & Lyubomirsky, 2013; Pollmann-Schult, 2014). In line with this, specific well-being in the role as a parent is also assumed to contain facets of positive, rewarding, as well as negative, burdening impacts of parenthood for a parents' life, which represent associated, but distinct facets of paternal role satisfaction (Wenger-Schittenhelm & Walter, 2002).

#### **3.2 Transition to Fatherhood and Well-being**

The transition to fatherhood is seen as a developmental milestone in a man's life, affecting all aspects of psychosocial functioning and thus requiring extensive resources and adaptive performance by fathers. Challenges in this phase include developing an attachment to fetus and infant, adjusting to the couple dyad becoming a triad, conceptualizing the self as father, and developing one's own identity and expectations about appropriate behavior in the new social role (Condon, 2006). Thus, the transition to fatherhood is expected to influence men's psychological well-being, and succeeding in the different psychological tasks has significant long term benefit for the man, his couple relationship, and his child or children.

As a consequence, one branch of fatherhood research has focused on longitudinal changes in paternal psychological well-being in response to this major life event, which is often assumed to be a phase of heightened risk for psychopathology. In one of the first studies exploring postnatal depression in fathers, where postnatal depression was measured six weeks and six months postpartum in British men, new fathers were not at higher risk for depression than fathers with older children (Ballard, Davis, Cullen, Mohan, & Dean, 1994). In line with this, findings from a nationally representative study on US adults with a childless comparison group revealed no differences between new parents and nonparents in depression after controlling for earlier depression, except for a group of unmarried men becoming new fathers (Nomaguchi & Milkie, 2003). In another report on the same survey data, the birth of a new resident child was not associated with changes in depression or life satisfaction in men (Knoester & Eggebeen, 2006). In line with this, later studies on expectant



### 3 Consequences of Fatherhood for Paternal Psychological Well-being

fathers from Australia revealed no significant changes in symptom levels of psychological distress, such as depression, anxiety, anger, or alcohol consumption during the postnatal period (Buist, Morse, & Durkin, 2003; Condon, Boyce, & Corkindale, 2004; Matthey, Barnett, Ungerer, Waters, & Brent, 2000). Instead, peak psychological distress was revealed in mid-pregnancy with steady improvements from pregnancy to the postnatal period (Buist et al., 2003; Condon et al., 2004). By contrast, measurements of specific well-being in the partnership domain revealed substantial declines in sexual function with pregnancy, followed by a significant deterioration of couple relationship and sexual satisfaction from pregnancy to 6 to 12 months postnatally. Further, physical activity, passive recreation, and sleep, as well as the overall quality of life decreased within the first year post-pregnancy (Condon et al., 2004). However, the mentioned Australian studies did not include measurements of pre-pregnancy levels of well-being. Thus, two other studies on nationally representative samples from Australia and New Zealand included measurements of general mental health and distress before pregnancy, during pregnancy, and during the first year of fatherhood (Leach, Olesen, Butterworth, & Poyser, 2014; Mckenzie & Carter, 2013). In these samples, no significant increase in psychological distress was found within subjects as a function of expectant or new fatherhood. On the contrary, expectant and new fathers showed increased mental health or decreased psychological distress compared to pre-pregnancy levels, suggesting that expectant and new fathers are not at greater risk for poor mental health due to transitioning to fatherhood.

Yet, in contrast to the previously mentioned findings one large population-based longitudinal study on young men from the US revealed a significant, steady increase of depressive symptoms in young fathers during early fatherhood years, beginning at the transition to fatherhood, when compared with their childless counterparts (Garfield et al., 2014). Notably, as the study followed male subjects from adolescence until early adulthood, fathers in this study were relatively young in age in comparison to other studies.

Concerning moderating aspects, factors such as depression of the partner, antenatal levels of distress, poor social support, neuroticism, or an excess number of additional life events were found to be risk factors for higher distress in expectant fathers (Ballard et al., 1994; Boyce et al., 2007; Matthey et al., 2000). Overall, men's perception of the transition to fatherhood is considered to be reliant on the stage of transition (e.g., prenatal, labor and birth, postnatal), as well as individual contextual factors including psychological (e.g., personality characteristics, role identity), relational (e.g., couple relationship satisfaction), and social aspects (e.g., SES, family constellation, living arrangements) (Genesoni & Tallandini, 2009). All these factors can co-determine whether the transition to fatherhood results in successful role assumption or maladjustment of the father to the new situation.