

## Father-child attachment as central to the CENOF Research Study

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This research report describes the multi-site CENOF Research Study in which research of father-child attachments in infancy and throughout the preschool years is one of the key areas. Whereas in infancy the impact of father-child attachment on child emotional regulation might be central for stress management, in the case of preschool children, the emotional regulation should lead to self-motivation asking how the capacity for emotional regulation contributes to a self-determined personality before children enter school. The CENOF Research Study thus aims to identify mechanisms of emotional regulation helping to soften adverse consequences of poor stress management and self-motivation on mental health during early childhood, as a result of the contribution of fathers. We enquire about the ways in which emotional regulation in infants and preschoolers vary particularly in achievement situations and how paternal time investment as well as the quality of the father-child relationship is associated with it. Knowing which facet of the father-child relationship is most relevant for child emotional regulation will help to improve the efficiency of family counseling.

*Keywords:* father-child attachment, differential susceptibility and preterm birth, genes, self-motivation, self-determined personality.

*L'attaccamento padre-bambino come tema centrale nel progetto di ricerca del Central European Network on Fatherhood, CENOF*

La presente rassegna descrive il progetto di ricerca multilaterale del *Central European Network on Fatherhood* (CENOF), nel quale uno dei problemi chiave è il ruolo del legame di attaccamento padre-figlio/a nell'infanzia e negli anni prescolari. Mentre nell'infanzia l'influenza del legame di attaccamento tra padre e figlio/a sulla regolazione emotiva potrebbe essere centrale per la gestione dello stress, nel periodo prescolare la regolazione emotiva dovrebbe portare ad una motivazione intrinseca, ponendo, così, il quesito su come la capacità di regolazione emotiva contribuisca allo sviluppo di una personalità capace di autodeterminazione prima che il bambino inizi la scuola. Il progetto di ricerca CENOF quindi, punta ad identificare i meccanismi di regolazione emotiva come risultato del contributo del padre al fine di contribuire ad alleggerire gli effetti negativi di una scarsa gestione dello stress e di una bassa motivazione intrinseca sulla salute mentale durante l'infanzia. Ci chiediamo attraverso quali modi cambi la regolazione emotiva dei bambini nell'infanzia e negli anni prescolari, specialmente in situazioni in cui è necessario raggiungere un qualche traguardo, e come la quantità del tempo investito dal padre e la qualità del rapporto tra padre e figlio/a siano associate ad essa. La conoscenza di quale aspetto della relazione con il padre sia il più rilevante per la regolazione emotiva del bambino può aiutare a migliorare l'efficacia delle consulenze psicologiche per le famiglie.

*Parole chiave:* attaccamento padre-bambino, influenzabilità differenziata e nascita pretermine, geni, motivazione intrinseca, autodeterminazione.

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The present research report describes the efforts of a group of European researchers of The Central European Network on Fatherhood (CENOF) who wants to explore fatherhood from different psychological perspectives including attachment theory. The question of what fathers are, how they feel and get attached, and how they influence the children with whom they live has been examined rather poorly, in the past. On the other hand, today's fatherhood has become quite contradictory. Whereas the idea of the active father participating in the care of children is taken for granted, at the same time, fathers have been forced to the periphery of the care ecology of children due to increased demands on their flexibility within the labor market as well as changed marriage and family patterns. It is the aim of CENOF to examine and shed light on the potential of fathers for the life of children.

## 1. Father-child attachment as part of the CENOF Research Study

In 2013, CENOF launched an intense multi-site research study that has been supported by the Jacobs Foundation. The CENOF Research Study consists of six individual studies being carried out in Germany, Switzerland and Austria and is coordinated by University of Vienna. Some of the central aims are concerned with what fathers are able and willing to contribute to living together with their children and how they build relationships and attachments with them. To thoroughly delineate fatherhood, theoretical and empirical approaches of the bio-psychological and evolutionary research on men, research on work-life-balance, risk families, and personality development will be reflected, however, beside attachment theory (Bowlby, 1969).

The six individual studies of the CENOF Research Study are:

Project I "Constitutional Fatherhood: Reproductive parameters and motivational correlates" (principal investigator Ulrike Ehlert, Zurich, Switzerland).

This study will reach out the furthest and recruit subjects (N=3000 men) by means of on online surveys. It is the aim of this survey to comprehensively describe the socio-psychological costs of fatherhood, alluding social and psychological variables that will later be taken up by all the projects of the CENOF Research Study. Of special interest in this project, however, will be the subsequent detailed research work on selected subsamples (overall n=500) which will be explored psycho-biologically, i.e., on reproductive parameters and motivational correlates. Thereby, we will look into the circumstances, motives and reproduction requisites of men who are convinced/not convinced fathers or childless men.

Project II "Fatherhood constraints: Consequences of work-family-balance decisions" (principal investigator Petra L. Klumb, Fribourg, Switzerland).

This study deals with the question of how much a father (convinced or not) is empowered to invest in fatherhood by the given possibilities and limitations on his engagement in the job market. More precisely, this project explores the question as to what extent the work-family balance of fathers is dependent on job positions, controlling for different social and psychological variables which portray the fathers individually. We will be exploring the environmental conditions for men who are motivated to fulfill fatherhood, but are limited to certain extent by work demands.

Project III “Fatherhood as stepfather: Parental investment in the service of mating” (principal investigator Harald A. Euler, Kassel, Germany).

This study sticks with men’s archaic investment strategies in the offspring and questions motives to be a father as seen from an evolutionary perspective. Human evolutionary legacy seems to point to the fact that fathers, unlike mothers, may, but don’t have to invest in the offspring. This project thus wants to approach this relative voluntariness, most effectively, in a sample of stepfathers. Alongside social and personal factors determining paternal investment, the project will explore in which ways stepfathers with and without a joint biological child differ in terms of amount and type of their investment, of their relationship qualities towards the children who live with them, as well as of their reproduction parameters such as sex orientation, mate value, and testosterone level.

Even more provocative the Project IV “Fatherhood between investment and desertion: Broken-home experience and paternal competence” (principal investigator Katja Nowacki, Dortmund, Germany).

This study will investigate the investment of fathers who have been socialized in broken homes and have experienced welfare support during their own childhood. We are questioning how these fathers function and how the quality of fatherhood looks like in such risk samples. The answer to these questions will contribute to an important but controversial theoretical issue which deals with the transmission of relationship experience from one’s own childhood onto the relationship with one’s own offspring.

Finally, children’s relationship qualities towards their fathers will be thoroughly explored in two further projects, focusing on the developmental consequences of fatherhood during two significant developmental windows of childhood, namely in infancy (Project V “Maximized Fatherhood: Its impact on emotional regulation and stress management in vulnerable children”; principal investigator Lieselotte Ahnert, Vienna, Austria) and during the preschool years (Project VI “Fatherhood as supporting power: Its impact on emotional regulation and self-motivation in preschool children”; principal investigator Julius Kuhl, Osnabrueck, Germany) qualifying fatherhood quality by its impact on social, emotional and motivational domains in infants and preschoolers.

## **2. Father-child attachment in infancy**

The fact that the extensive care for human offspring cannot be limited to the mother alone, as it would exceed her human resources (Lancaster & Lancaster, 1987), is specifically true for newborns and those babies who are born preterm. Project V of the CENOF Research Study therefore aims to identify the contribution of paternal care to early child development in preterm children of which the emotional regulation as related to stress management is central. It is the sensitive care that helps the infant brain to develop in a healthy manner. Infants who are not supported through an external regulation of environmental challenges are adversely affected in brain functioning (e.g., Zeanah, Smyke, Koga, & Carlson, 2005).

Indeed, recent research in neurobiology suggests that mental health as shaped by brain functioning is highly challenged by the stress system. In the first years of

life, emerging circuits which specifically connect areas in the prefrontal lobe with the limbic system (amygdala and other areas responsible for emotions) are essential for stress management throughout life (e.g. Siegel, 1999). It is assumed that the circuits develop in close interactions with infants' parents who are sensitive in receiving infants' needs and in responding promptly and adequately, specifically against negative emotions (Ainsworth, Bell, & Stayton, 1991). Consequently, the circuit-building-up process translates into a child's autonomic regulation of emotion which in turn is central for behavioral adjustment (e.g. Schore, 1996). In contrast, infants exposed to stress and not supported to cope with the situation may not build up the relevant brain circuits sufficiently and subsequently may experience trouble in developing own coping strategies against stress. Weak coping strategies inhibit the development of self-motivation, which in turn may hinder learning processes and cognitive achievement.

Whereas Siegel (1999)'s and Schore (1996)'s theoretical models reasonably describe how brain functioning, stress management and quality care are related, empirical research has just begun to provide evidences. One of the most exciting current research topics has been the identification of a child's differential sensitivity to the rearing environment, based on gene mounting (e.g., Knafo, Israel, & Epstein, 2011; Pluess & Belsky, 2010). Over the last decade, gene polymorphisms for DRD4-Dopamin receptors and 5-HTTLPR-Serotonin transporters have shown how these genes remarkably affect the set-up of the infant stress system, which mediate child sensitivity to stress signals (e.g., de Kloet, Joels, & Holsboer, 2005). Because the association between genes, stress management and brain functioning might be even more accentuated in preterm than in full-term infants, Project V will comparatively explore these processes in vulnerable children.

In general, research that combines molecular genetics strategies, based on genotyping of common polymorphisms, with a classic behavior approach, provides a rich description of how rearing environments interact to shape children's behavior (e.g., Gotlib, Joormann, Minor, & Hallmayer, 2008). The proposed design for Project V will thus allow for sufficient evaluation of child stress management. While impaired stress management has been demonstrated by deviant diurnal cortisol profiles in older children (e.g., Ahnert, Harwardt-Heinecke, Kappler, Eckstein-Madry, & Milatz 2012; Gunnar & Quevedo, 2007), we have been exploring the stress system of preterm infants who are known as being highly vulnerable to stress (e.g., Buske-Kirschbaum et al., 2007) and whose capacities to interact with the environment are rather limited. Thus preterm, as opposed to full-term infants are even more dependent on sensitive individualized care in order to develop in a healthy manner (e.g., Poehlmann et al., 2011). Specifically, we want to delineate the contribution of paternal care and attachment to the development of emotional regulation and stress management.

Although fathers have never served the purpose of lessening the burden or substituting mothers in their functions, they seem to have developed their own way of contributing to the care of their offspring during historical times (e.g., Parke, 1981; Lamb, 2004). In an early work, Schaffer and Emerson (1964) already reported that the infants/toddlers displayed attachment behaviors and separation anxiety even though fathers were absent most of the day. This points to possible encounters during sleepless

nights when a father's presence might have helped the children to cope with sickness, teeth pain, nightmares (Ahnert, Supper, & Richter-Schmidt, 2011), or on weekends when fathers support child exploration and sensational play behaviors (Grossmann et al., 2002). However, much of the fathers' activities with their children remained undiscovered due to the fact that paternal care might be dependent on how mothers allow fathers to take part in the care (considering this mechanism as "gate keeping" by Parke, 1981). Thus, not only parental care as part of the shared care with infants' mothers, but also maternal care needs to be explored. Moreover, types of couple constellations, as well as marital satisfaction and parental stress also have to be taken into account.

Finally, since past research has linked paternal care to child sensation and risk behaviors (Grossmann et al., 2002) fathers might be especially able to mediate children's ability to cope with stress. Paternal care, however, seems to depend on both contextual factors such as a mother's trust in the father's competence (Parke, 1981), as well as psychobiological factors like a father's reproductive requisites. Thus, fathers' testosterone levels, sex orientations and their marital satisfaction will be additionally assessed, regarding how the fathers share the care with their partners and handle challenges beyond the family such as careers and individual leisure times.

### **3. Father-child attachment during the preschool years**

Emotional regulation is also central in theories of the personality specifically if the development of self-motivation and personality throughout the life span is in the spotlight (e.g., Kuhl, 2000). There is a growing body of research describing the self as a functional system whereby the regulation of emotions belongs to important process components of self-motivation in both adults and children. In childhood, both self-motivation and emotional regulation, however, depend on how intensively children's caregivers guide the development of these regulative and motivational skills (e.g. Kochanska, Aksan, Penney, & Doobay, 2007). A few studies suggest that fathers, in contrast to mothers, are prone to behave differently in many ways towards children, especially throughout the preschool years (e.g., Shulman & Seiffge-Krenke, 1997). Because fathers have been particularly observed while encouraging children's exploration and autonomy (Attili, Vermigli, & Roazzi, 2010; Grossmann et al., 2002), they might be important agents in the development of self-motivation and emotional regulation in children.

Project VI of the CENOF Research Study thus aims to investigate the impact of fathers on children's emotional regulation and self-motivation. The development of emotion regulation can be described as an internalization of external regulation mechanisms experienced in early childhood, which might mean that the developmental pathway of emotion regulation changes from external into internal mechanisms. However, external regulation (e.g., through encouragement or soothing) does not necessarily lead to internalization unless it is embedded in positive personal relationships in which the child feels understood and supported (Kuhl & Beckmann, 1994). In this respect, good father-child attachment relationships should have a considerable impact on the devel-

opment of child emotion regulation. Although paternal competencies in interacting with children are, in principle, similar to those of the mothers (especially when mothers are absent) fathers focus more extensively on the individuation and autonomy of their children than mothers do (e.g., Lamb, 2004). However, support in autonomy as observed in play and achievement-related settings facilitates father-child relationships which in turn promote a child's ability to cope with negative emotions. Furthermore, it has been shown that in addition to good caregiver-child relationships, the caregivers' ability to mirror the child's internal states helps the child in coping with negative emotions (e.g., Meins et al., 2002). For that reason, fathers' ability to reflect on child mental states and functioning is of specific importance for child emotional regulation and self-motivation (Slade, 2005) as well as the fathers' behavioral impact on how children face challenges. Some research findings also suggest that fathers display distinct behaviors toward boys and girls (e.g., Russell & Saebel, 1997). It is still unclear whether these gender-specific paternal behaviors impact child emotional regulation and self-motivation commensurably according to the gender needs, or whether these paternal influences lead to advantages for the boys' self-motivation and emotional regulation only.

#### 4. Implications for practice

The CENOF Research Study has particular advantage as it aims to answer various questions around modern paternal love in order to advise professionals in clinical practice, in parent counseling centers and in child welfare institutions. For example, questions about societal expectations on masculinity, fatherhood and paternal role models will point to the gap between men's initial intention to invest in children and its later realization (e.g., S.E. Rhoads & C.H. Rhoads, 2012). Does it mean that fathers need more societal pressure than mothers in order to provide child care? Seligman (1970) assumed that men are not *contra-prepared* for raising children, though they are also not really *prepared* for it. Consequently, active engagements of fathers for child care might be difficult to encourage, even though fatherhood must be maximized in preterm babies who demand high levels of sensitive care.

Unfortunately, paternal role models and fathers as attachment figures are considered not to be as influential as maternal role models and mothers as attachment figures. That is because caring for children might be automatically rated according to female behaviors. Typical male behaviors such as risky encounters, tests of courage, and physical competition for example, are seen as having less value. Communicative turns with children including rude hoax, and fading out true problems and feelings are dismissed (e.g., Pope-Edwards & Liu, 2002). On the other hand, men's affectionate contact with children in public can be seen as problematic. Because sexual abuse of children is committed mostly by men, men have a greater risk to be wrongfully suspected. Men are thus forced to avoid affectionate contact with children. In contrast stand campaigns such as "More men in public child care", which stress the need for detailed research regarding male behaviors towards children in public.

Thus, existing knowledge on the differences in behaviors of fathers and mothers need to be extended, specifically serving to enlighten the field of pedagogy. In the

recent practice of institutions of welfare and education, fathers are hardly addressed. Fathers' involvement in children's lives is ignored or subordinated under the term "parental involvement". Trainings and programs to improve parenting are focused on mothers and not specified for fathers. Even in disadvantaged families that live on welfare and receive support in child care, fathers are not considered important. This is surprising as social workers debate that fathers, especially in disadvantaged families, might be a significant source of influencing a child's socialization process, and that harmful influences can be controlled if not changed for the better, by involving these fathers (e.g., O'Donnell, Johnson, D'Aunno, & Thornton, 2005).

## 5. Concluding summary

Because research on father-child relationships has not reached the level of scientific attention both nationally and worldwide in the past, the CENOF Research Study decided that this topic deserves elaborated investigations within two of the six individual studies of the CENOF group. The management strategies of the CENOF Research Study hark back to a well-designed organizational structure of the study, which reflects a two-level organization, i.e., at the network level and at the project level. We are committed to promote young scientists in their careers, and supervise them through the CENOF Research Study. A few of them will delineate the contribution of father-child attachments on the development of emotional regulation, stress management and self-motivation in infancy and throughout the preschool years. Because these domains of child development are important milestones of children's behavioral adjustment and personality development, these young scholars will fill gaps, significantly enrich our knowledge on these issues, and inform a practice which has underestimated or even faded out fathers in the past.

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## LONG ABSTRACT

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La presente rassegna descrive il progetto di ricerca multilaterale del *Central European Network on Fatherhood* (CENOF), nel quale uno dei problemi chiave è il ruolo del legame di attaccamento padre-figlio/a nell'infanzia e negli anni prescolari. Mentre nell'infanzia l'influenza del legame di attaccamento tra padre e figlio/a sulla regolazione emotiva potrebbe essere centrale per la gestione dello stress, nel periodo prescolare la regolazione emotiva dovrebbe portare ad una motivazione intrinseca, ponendo, così, il quesito su come la capacità di regolazione emotiva contribuisca allo sviluppo di una personalità capace di autodeterminazione prima che il bambino inizi la scuola.

Chiaramente sono le cure di tipo "sensibile" che aiutano il cervello di un bambino a svilupparsi in maniera sana. Le ricerche recenti nell'ambito della neurobiologia suggeriscono che la salute mentale, che è plasmata dal funzionamento del cervello, viene fortemente sfidata dal sistema dello stress. Nei primi anni di vita, i circuiti emergenti che connettono in maniera specifica le aree del lobo frontale con il sistema limbico (l'amigdala e le altre aree responsabili delle emozioni) sono essenziali per la gestione dello stress per tutto l'arco vitale. Viene assunto che i circuiti di un neonato si sviluppano all'interno di interazioni strette con genitori che siano sensibili nella ricezione dei bisogni del piccolo e che rispondano con prontezza e in maniera adeguata, in modo particolare quando emergono emozioni negative. Di conseguenza, il processo che porta alla costruzione del circuito si tramuta in una capacità autonoma da parte del bambino di regolare le emozioni, la quale a sua volta diventa centrale nell'adattamento del comportamento. Il progetto CENOF punta ad identificare i meccanismi di regolazione emotiva, come risultato del contributo del padre, al fine di contribuire ad alleggerire gli effetti negativi di una scarsa gestione dello stress e di una bassa motivazione intrinseca sulla salute mentale durante l'infanzia. In questo lavoro si assume che i padri offrono supporto ai loro figli mentre allo stesso tempo pongono loro continue sfide.

La regolazione delle emozioni è, inoltre, centrale nello sviluppo della personalità, in particolar modo nell'acquisizione di una motivazione intrinseca e della auto-determinazione, in tutto l'arco vitale. Un crescente numero di ricerche descrive il self come un sistema funzionale all'interno del quale la regolazione delle emozioni fa parte di quelle componenti che portano alla capacità di avere una motivazione intrinseca sia in età adulta che infantile. Comunque, nell'infanzia sia la motivazione intrinseca che la regolazione delle emozioni dipendono dalla capacità dei caregiver di guidare lo sviluppo di queste abilità regolative e motivazionali. Alcuni studi suggeriscono che i padri sono inclini a comportarsi in maniera diversa dalle madri, specialmente in età prescolare e che riescono ad incoraggiare l'autonomia e l'esplorazione dei loro figli; pertanto possono essere considerati importanti agenti nello sviluppo di queste dimensioni. Il progetto CENOF ha, pertanto, lo scopo di investigare i modi attraverso i quali la regolazione emotiva dei bambini nell'infanzia e negli anni prescolari si modifichi nel tempo, specialmente in situazioni in cui è necessario raggiungere un qualche traguardo, e come la quantità del tempo investito dal padre e la qualità del rapporto padre-figlio/a siano associate ad essa. La conoscenza di quale aspetto della relazione di attaccamento con il padre è il più rilevante per la regolazione emotiva del bambino può aiutare a migliorare l'efficacia delle consulenze psicologiche per le famiglie.

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