

Review Article

Bonding, Resilience and Their Promotion by the Pediatrician Taking into Account the Covid-19-Challenge

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Abstract: The history of childhood is also a history of endangerment and abuse of children. In addition to biological conditions, the experience of basic trust is essential. Based on her sociological field research for successful survival, the developmental psychologist Emmy Werner used the term resilience (elasticity), which originates from technology and considers this to be learnable. In developmental psychology emotional security, curiosity, recognition, boundaries, and community have been described as essential prerequisites that can be divided into child-related, family, and social resilience factors. Although stable mother-child attachment is undoubtedly an essential foundation for healthy development, there are fundamental discussions in the practical implementation, e.g. the beginning of the non-domestic occupation of the mother and nursery care. Today, the autonomy of the infant, its empathic observation, and its imitation of role models are recognized as the essential foundation of development. In the field of psychology and neurophysiology, above all impulse control and the training of empathy and self-will have been identified as important factors for successful personality development. Resilience is hampered by family conflicts, ambivalent, and psychologically abnormal behavior of close associates, as well as poverty and traumatic experiences after the first year of life. There is evidence that a child's spirituality encourages its resilience. Diverse social-political achievements and pediatric offers in the first years of life can promote resilience but they must be used as early as possible and developed further. In the actual worldwide Covid-19-pandemia the promotion of a resilient behavior is of very great importance.

Keywords: Mother-Child Relationship, Personality Development, Personal Autonomy, Psychological Trauma, Self-Regulation, Covid-19-Pandemia

1. Introduction - The miracle of Human Development

Without a doubt, the biological equipment of a person is an important factor for successful survival, which can become clear shortly after birth, e.g. for example, the "will to survive" of a very premature baby or the strong cry of a hungry infant. Many behavioral biology publications emphasize the "basic trust", the mother's bond with her child, as an essential explanation for the survival of young children. Besides, there are other reasons why children survived under stressful external circumstances and were able to make a successful life path [3, 26].

The French social historian P. Ariès (1914-1984) stated in 1960: "The story of childhood is a story of child abuse" [1].

Isn't it a miracle that with today's knowledge of the fragility of the child's psyche, humanity survived until the 21st century despite child murder, punishment, sexual abuse, love deprivation, and black pedagogy? How often did the birth take place in terrible agony for mother and child, how often did mothers die in the puerperium, how often even today hardly any relevant illnesses led to death or severe permanent disabilities. The nursing practice that has been common until modern times has had a particularly negative effect on both psychosocial and overall children's development. Besides, the never-ending physical and psychological traumatization of mothers and the whole family through war, flight and hunger was and is an enormous, often fatal, threat to the children. Only by the survival of a few of the unimaginably large number of children born today could the population be balanced until modern times and further development in

culture and civilization guaranteed [18].

2. Definition of Resilience

The term "resilience" originally comes from technology and describes the resistance or elasticity of a material. After preliminary work by several adult psychologists, the field research of German-American developmental psychologist Emmy Werner (1929-2017) on the island of Kauai in the Hawaiian archipelago made the term resilience known from 1977. In her monograph "Vulnerable but invincible, a longitudinal study of resilient children and youth", she describes a cohort of almost a third of her group of 698 children in a limited environment who were able to lead a relatively successful life despite biological and psychosocial stress. She believed that resilience can be learned [26]. Since then, the term has been used in many areas of education and sociology, e.g. gained increasing importance in the rehabilitation of criminals, in psychiatry, in the military, and sports. Several research directions, e.g. those of salutogenesis and coping strategies have dealt with it. In adult psychology, e.g. personality profiles worked out that determine the salutogenesis and thus the resilience of an adult person ("Big Five"):

- 1) openness,
- 2) cooperation,
- 3) conscientiousness,
- 4) sociability and
- 5) emotional resonance (www.wikipedia: resilience).

Children can learn resilience by meeting their emotional needs.

The American developmental pediatrician T. B. Brazelton (1918-2018) and S. Greenspan (1941–2010) derived the 5 most important mental needs of children from them:

- 1) emotional security,
- 2) curiosity,
- 3) recognition,
- 4) limits and
- 5) stable community [8]. (Table 1; [8, 13, 22]).

Table 1. Factors promoting resilience (modified) [13, 22].

Child-related resilience factors
1) Female gender
2) Firstborn child
3) Positive, open, flexible temperament
4) Positive social behavior
5) Positive self-esteem
6) Active coping behavior
7) Good to above-average intelligence
Family and social resilience factors
1) Stable emotional relationship with a caregiver
2) Open, supportive educational climate
3) Family cohesion
4) Models of successful coping behavior
5) Social support experience
6) Positive friendship relationships
7) Positive kindergarten and school experiences
8) Positive spiritual experiences

3. Importance of Bonding

In the Rostock longitudinal study starting 1970 and supervised by the psychologist B. Meyer-Probst (* 1930) and many similar surveys could be repeatedly shown that the subjects who came from a pregnancy that was already undesired from the pre-conceptual stage had the most problems later in life [12].

Due to his physical endowment with the large brain and the relatively small female pelvis, humans are born with many risks as premature babies. In the first years of life they are dependent on full care and support from an adult, usually the mother. There are a variety of biological risk factors in pregnancy and childbirth that have an impact on both the development of the child and the interaction between mother and child, which cannot be dealt with separately here. Without a doubt, as with many animals, "bonding" - the first touch of the newborn by the mother and especially the first touch on the breast - is an important factor in the relationship between mother and child. Guidance and promotion of breastfeeding for at least 4 months are not questioned for the promotion of mother-child interaction. There are numerous studies on the positive influence of a close mother-child bond on the long-term development of the child, e.g. higher values of the intelligence quotient [IQ] in breastfed children and the kangaroo method in newborns and premature babies. It can also be shown that the parents of a breastfed child experience significantly less psychosocial stress and separation [15, 23].

4. Overemphasis on Attachment

However, these influences should not be seen in isolation: mothers who force a bond to the child or have an ambivalent attitude towards their child in psychological stress, in postpartum depression or with their physical problems and risk factors of the child, do not improve psychological development and thus the resilience of their child. The same applies to mothers who smoke, drink alcohol, or consume drugs during pregnancy and after childbirth, but also breastfeed their child [15, 23].

Several initiatives have emerged, especially after the reunification of Germany in 1990 and the start of the nativity scene discussion in the late 1990s partly polemically and unilaterally in public with the primacy of attachment in the first years of life for child development. Examples can be found in the publications of the Institute for Attachment Sciences (www.institut-bindung.de) or the association "Für Kinder" (www.fuerkinder.org), but also publications by the social pediatricians T. Hellbrügge and the children- and youth psychiatrist KH Brisch [4].

They vehemently demand that the mother and child up to the age of 3 be looked after by themselves and point out serious damage to the child's psyche through various forms of outside care. Drastic examples for them are children in the nurseries of the 1950s and 1960s in Germany, the severely deprived Romanian orphans of the Ceausescu era, and also daycare, especially early toilet training, in the GDR up to 1990.

The argument is made again and again that external care in the first 3 years of life is harmful to the child's psyche and thus also for the promotion of resilience. Even the tendency towards right-wing radicalism and other negative personality traits of people in the new federal states were explained in this way [19, 20].

The French philosopher E. Badinter (*1944) advocated the primacy of the principle that "only a happy mother is good for the child" in her book "The Conflict". She defended the early resumption of work outside the home and the care of infants in day nurseries [2]. Large field studies, for example, the National Study on Education, Care, and Upbringing in Early Childhood in Germany (NUBBEK) show that crèche care for infants should not be refused from the outset, but that it can only be recommended

- 1) if the mother is working outside the home expressly wishes
- 2) if the child is stable in his psychosocial development and
- 3) if the day nursery fulfills the quality criteria required by the German Society for Social Pediatrics and Adolescent Medicine (www.dgspj.de) [25].

5. Françoise Dolto and Emmi Pikler

The French pediatrician and psychoanalyst F. Dolto (1908–1988) has dealt in her book "Make Children Strong - The First Years of Life" with the various possibilities of uncertainty among mothers, especially in the first years of their children, and tries to provide practical advice for sensitive and safe handling of the children. She attaches particular importance to strengthening child autonomy and empathetic observation of his independent activities. Not least because of their influence, many French families take care of their child in the first few years of life, and many French women go back to work just a few months after the birth of their child [5].

These basic principles were also represented by the Hungarian pediatrician E. Pikler (1902–1984), who looked after children without parents in the first 3 years of life in the Lóczy infant home in Budapest according to clear concepts. Their basic principles are still relevant today, e.g.

- 1) the intensive contact with the child during food intake and care,
- 2) the independent movement development from the supine position,
- 3) the enabling of free movements, be it in a wide sleeping bag, be it in a sufficiently large, delimited area, but
- 4) the very precise documentation of the skills by thoroughly trained educators [17].

However, their principles were discredited by representatives of mother-only care and defamed as "socialist group care". A follow-up examination of the children cared for in the Lóczy Institute on behalf of the World Health Organization (WHO) showed that they had undergone the same development in adulthood as children in a comparison group who had grown up in their own family [4, 23].

Some of the suggestions made by the pioneers mentioned may no longer be up-to-date for today's parents, but their basic

principles are still relevant. Current ideas on how adults can live together with children, including in terms of promoting resilience, can be found in the books and blogs of the German pediatrician H. Renz-Polster [18, 19].

6. Psychological and Neurophysiological Aspects

One of the most famous psychological tests in connection with resilience is the "Marshmallow test" by W. Mischel (1930-2018): Children were presented with one marshmallow and instructed to eat it. But if you waited a certain amount of time before consuming it, you would get 2 of the sweets. What was special was that these children were examined in adulthood: children who could wait had a significantly better development in the academic, psychological, and social areas. Delayed reward and the associated self and impulse control are a stable personality trait that promotes resilience [14].

In 1996, G. Rizzolatti (*1937) discovered neuron groups in monkeys that are activated not only when they see the movements of another "person", but also in social interactions. These mirror neurons are now regarded as the biological basis of empathy, which is so important for social coexistence and which is an essential factor in building resilience. Disgust, joy, or a crying child activate the mirror neurons, promote both the social interaction that is so important for resilience and self-perception and are therefore a neural correlate for the learning processes. With this one can better explain the enormous importance of the role model function of adults and also of peers [10].

Another discussion on personality development arose from the question of whether all human actions are free will. The basis for doubt about this was the "readiness potential", slow negatives of cerebral cortex potential, which can be demonstrated 500–1000 ms before performing an activity. This would speak for the control of our actions by the unconscious, which is practically beyond our control.

In several publications, however, it has recently been shown that this negativity can be interrupted, and thus intended processes can also be changed at short notice. One of the first to describe the readiness potential, L. Deecke, described the child's "defiant phase" at the age of 2 to 3 years as an important opportunity for developing a will of his own, in which the individual learns to plan and carry out his actions independently. Here, too, the role model function of the close caregivers, but also the autonomy of one's own experience, is of great importance [10, 23].

7. Psychological Trauma and Resilience

Children are extremely "sensitive seismographs" for intra-family conflicts. Often, abnormal behavior on the part of children can only be understood if their psychosocial environment is better known. Children particularly suffer from alienation and conflicts between their parents. The vast majority of children who are treated as inpatients in child and

adolescent psychiatry facilities come from conflict families. These conflicts undoubtedly also influence the children's "resistance" or resilience to other external stresses. The famous Swiss developmental pediatrician R. Largo tries to explain in his book "Glückliche Trennungskinder" that children of divorce not only have these negative experiences [11].

Life-long psychological abnormalities and behavioral disorders due to physical and emotional traumatization in children, the post-traumatic psycho-syndrome, have been repeatedly discussed, e.g. in people who experienced flight and displacement after World War II. For events during pregnancy, childbirth, or in the first months of life, more the subsequent behavior of adults, e.g. the traumatized mother, or later narratives can be used as an explanation for effects on behavior; in this phase of life, no conscious lasting memory is possible. An open question is the meaning of "fetal programming" e.g. by malnourishment in the pregnancy. Only after the second half of the second year of life can stressful experiences have a direct effect on the child's psyche and remain as memories [6].

After the 2nd half of the 2nd year of life, stressful experiences can have a direct effect on the psyche. Today, many refugee children from foreign cultures come to Europe without knowledge of the country's language after often bad experiences. Especially for children under 6 years of age, early admission to kindergarten, and group experience with their peers are the best opportunities to overcome past horrors and to integrate into the new society. Especially for boys who grow up at home with a different gender understanding, obeying rules, and treating girls equally is difficult to accept. With sensitive educational support and a supportive attitude of the other parents, kindergarten-specific psychotherapy only rarely needs to be initiated [25].

8. Limits of the Attachment Concept

Without a doubt, methods that were practiced until the 1980s are no longer acceptable:

- 1) uncommented removal of the child after birth,
- 2) the transfer of the newborn to a children's hospital without sufficient information for the mother,
- 3) the inpatient treatment of an infant or toddler in a clinic without the presence of a close caregiver,
- 4) placing the baby or toddler in external care without a phase of separation for mother and child.

The emphasis on the importance of child fragility and mother-child bond does not infrequently lead to several incorrect assessments when dealing with children: however important the basic attitude towards the child is, the processes during childbirth are ultimately only of limited importance for the quality of the long-term mother or parent-child relationship. Tendencies to ignore the biological risk factors and to regard the primal experience of birth and the infant phase as the only decisive factor for the development of the child can lead to considerable dangers for mother and child, e.g. by unqualified birth monitoring in one's own home or a

separate birthing center without modern technical equipment, by a rejection of the recommended vaccinations or by over-involved attachment of the child to the mother after the first birthday and only selective contact with peers. Even with different causes of developmental and behavioral problems in the child, the disruption of the bond between mother and child is repeatedly put forward as an essential explanation and a "psychological trauma" is placed in the foreground. Examples of this are the so-called regulatory disorders such as excessive crying, feeding and sleeping disorders, and elimination disorders (wetting and defecating). These symptoms often lead to increased frustration, feelings of guilt, and blame without actually helping the child. An ambivalent or over-involved bond between the mother and her child can reveal a family relationship problem between mother and father, which can only be improved with a psychotherapeutic approach combined with a realistic assessment of the child's biological development [23].

9. Meaning of Spirituality

Every person, especially every child, needs to hold supernatural forces responsible for processes that he/she cannot explain. Statements tied to a religion, be it Christian, Jewish, Muslim, or Buddhist, are increasingly being questioned by adults. However, children need the opportunity to exchange ideas with replacement objects, to absorb strength in certain places, or to communicate with a "higher being".

Children with access to spiritual practices that do not necessarily have to be tied to a certain religion have higher self-esteem, are more empathetic towards their fellow human beings, and can structure their everyday life better. Childish spirituality, but not religious practices such as going to church or mandatory prayer, is associated with happiness. If religious practices are strictly prescribed for the children and violations are punished or threatened, the influence is reversed into the opposite. According to a Dutch study, the prescriptive religiosity of the parents usually has a negative influence on the psychological well-being of the children [7, 9, 21].

10. Practical Promotion of Resilience

In Germany, thanks to the achievements of modern social policy, not least due to the commitment of educators, psychologists, lawyers, and pediatricians, there are a multitude of possibilities to promote the development of children in terms of strong resilience, even if the evidence of individual measures is not secured can be. These include:

- 1) a good education for everyone, especially for girls,
- 2) public funding of the desire to have children,
- 3) extensive counseling concepts in the event of primarily unwanted pregnancy,
- 4) standardized prenatal examinations,
- 5) qualified maternity clinics with competent pediatric care,
- 6) maternity protection,
- 7) parental allowance,
- 8) the preventive care program for children according to

the 2017 guidelines,

- 9) concepts for the early aid of mother and child,
- 10) voluntary mother-child groups,
- 11) childcare allowance for children cared for at home after the 13th month,
- 12) daycare from the age of one,
- 13) a right to a kindergarten place from the age of three,
- 14) interdisciplinary early intervention centers,
- 15) psychotherapeutic counseling for parents a.s.o.

Nevertheless, over 10% of children under 6 years of age in Germany have abnormal psychological development, and every fifth child grows up in poverty according to the official definition, especially the children of single women. The study on the health of children and adolescents in Germany (KiGGS) showed that especially the children whose mothers do not have a regular job are at risk [25].

Tips for a bonding and resilience-promoting behavior of the parents are given in many flyers, courses and parent training courses such as Safe Education For Parents (SAFE) [4], the Positive Parenting Program (TRIPLE-P) or "Strong through attachment - tips on parental sensitivity in the first years of life" conveyed by the Federal Center for Health Education [www.bzga.de] and family brochures of the federal states [e.g. www.familien-wegweiser.de]).

However, attachment and thus resilience of the child cannot be "forced"; families today have different life plans, and every child has different requirements that the pediatrician should address [23].

11. Special Recommendations in the Covid-19-Time

In this sense, some preventive opportunities are presented below, which are published by representatives of positive psychology, e.g. in the newsletters of the APA (American Psychological Association, www.apa.org) and the SRCDD (Society for Research in Child Development, www.srcd.org). It emphasizes that the current restrictions mean that parents and children can learn a lot together, e.g.

- 1) develop more compassion for one another
- 2) more solidarity with others, e.g. through neighborhood help
- 3) to be active, but not by physical contact with relatives and friends
- 4) to promote mindfulness in children - both for others and for yourself.

Examples are

- 1) Jointly agreeing daily plans with specific goals, e.g. when working and at school, when doing housework, cooking together, at bedtime ceremonies in the evening, etc.
- 2) common regular physical exercises
- 3) mental stimuli, e.g. reading and playing together
- 4) clear regulation of the use of digital media, etc.

To combat negative feelings the following aspects are mentioned:

- 1) ask yourself in the evening what beautiful and not so

beautiful experiences the day brought,

- 2) ask yourself what you are grateful for
- 3) how I can reduce my expectations
- 4) how I can be more outdoors
- 5) how I can create something beautiful for myself or others
- 6) how I can avoid and deal with stress
- 7) how to reduce the feeling of helplessness, etc.

The well-being of the soul during the Corona period is also taken into account on the constantly updated homepage of the Federal Center for Health Education (www.bzga.de) in Germany. This recommends

- 1) to structure the day
- 2) take care of yourself
- 3) maintain contacts despite keeping your distance
- 4) use reliable information [16]

Conclusions for practice

Practical examples of the pediatrician's options for improving the resilience of the children entrusted to him are:

- 1) To listen. Recording of a precise psychosocial anamnesis especially in children with behavioral problems,
- 2) Avoiding insecurity among parents and a guilty conscience with the mother,
- 3) The consistent communication of the prevention concepts recognized today with preventive examinations and vaccinations,
- 4) Promote breastfeeding,
- 5) Individual informations and recommendations for daycare and kindergarten visits,
- 6) Teaching sensitivity, possibly with the help of learning programs,
- 7) Promote children's self-confidence, e.g. according to the motto "strengthen strengths, weaken weaknesses",
- 8) Mediation of inter- and multidisciplinary offers of help,
- 9) Cooperation with psychological and educational institutions as well as the health and youth welfare office in a network,
- 10) Advocate a child-friendly society in the public and
- 11) Acceptance and passing of the UN- Children's Rights [24].

Conflict of Interest Statement

The author declare that he has no competing interests.

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References

- [1] Ariès, P. (1962) Centuries of Childhood. A Social History of Family Life. Alfred A. Knopf.

- [2] Badinter, E. (2012) *The Conflict: How Modern Motherhood Undermines the Status of Women*. Kindle Edition.
- [3] Bowlby, J. (1988) *A Secure Base: Parent-Child Attachment and Healthy Human Development*. Tavistock professional book. London: Routledge.
- [4] Brisch, K. H. (2008) *Der Säugling – Bindung, Neurobiologie und Gene – Grundlagen für Prävention, Beratung und Therapie*. Klett-Cotta, Stuttgart
- [5] Dolto, F. (1995) *La Difficulté de Vivre*, Ed. Gallimard, Paris.
- [6] von Gontard, A. (2010) *Säuglings- und Kleinkindpsychiatrie*. Kohlhammer, Stuttgart.
- [7] von Gontard, A. (2013) *Spiritualität von Kindern und Jugendlichen. Allgemeine und psychotherapeutische Aspekte*. Kohlhammer, Stuttgart.
- [8] Greenspan, S. and N. Greenspan (1995) *First feelings. Milestones in the emotional development of your baby and child. From birth to age 4*. Viking, New York.
- [9] Holder, M. D., B. Coleman and J. M. Wallace (2010) *Spirituality, religiousness, and happiness in children aged 8–12 years*. *Journal of Happiness Studies* 11: 131–150.
- [10] Keyser, C. (2011) *The Empathic Brain. How the Discovery of Mirror Neurons Changes Our Understanding of Human Nature*, Lexington, Ky. Social Brain Press.
- [11] Largo, R. and M. Czernin (2015) *Glückliche Scheidungskinder: Was Kinder nach der Trennung brauchen*. Piper, München.
- [12] Meyer-Probst, B. and O. Reis (1999) *Von der Geburt bis 25 – Rostocker Längsschnittstudie*. *Kindheit und Entwicklung* 8: 59–68.
- [13] Michaelis, R. and G. Niemann (2017) *Entwicklungsneurologie und Neuropädiatrie. Grundlagen, diagnostische Strategien, Entwicklungstherapien und Entwicklungsförderungen*. Thieme, Stuttgart.
- [14] Mischel, W. (2014) *The Marshmallow Test: Mastering Self-Control*. Little Brown, New York.
- [15] Montgomery, S. M., A. Ehlin and A. Sacker (2006) *Breast feeding and resilience against psychosocial stress*. *Archive of Diseases in Childhood* 91: 990–994.
- [16] Perry, P. (2019) *The Book You Wish Your Parents Had Read (and Your Children Will Be Glad That You Did)* Pinguin.
- [17] Pikler-Loczy Association (2007) *Bringing up and providing care for infants and toddlers in an institution*. <https://shop.pikler.hu>.
- [18] Renz-Polster, H. (2009) *Kinder verstehen – Born to be wild: wie die Evolution unsere Kinder prägt*. Kösel, München.
- [19] Renz-Polster, H. (2016) *Menschenkinder – artgerechte Erziehung – was unser Nachwuchs wirklich braucht*. Kösel, München.
- [20] Rösler, F. and B. Röder (Ed.) (2014) *Frühkindliche Sozialisation – Biologische, psychologische, linguistische, soziologische und ökonomische Perspektiven*. Deutsche Akademie der Naturforscher Leopoldina e. V. – Nationale Akademie der Wissenschaften, Halle (Saale), 62–73.
- [21] Straßburg, H. M. (2016) *Kind und Glaube – ein Plädoyer für ein neues Kinderbewusstsein*. *Spiritual Care* 5: 311–316.
- [22] Straßburg, H. M. (2018) *Bindung und Resilienz und ihre Förderung durch den Kinderarzt*. *Monatsschrift für Kinderheilkunde* 166: 700-707.
- [23] Straßburg, H. M., W. Dacheneder and W. Kress (2018) *Entwicklungsstörungen bei Kindern – Praxisleitfaden für die interdisziplinäre Betreuung*. 6th edition. Urban & Fischer, München.
- [24] Straßburg, H. M. and K. P. Zimmer (2018) *Warum die Kinderrechte in das Grundgesetz gehören*. *Deutsches Ärzteblatt DÄB* 115: 45-47.
- [25] Tietze, W., F. Becker-Stoll, J. Bense et al (Ed.) (2015) *NUBBEK – Nationale Untersuchung zur Bildung, Betreuung und Erziehung in der frühen Kindheit. Fragestellungen und Ergebnisse im Überblick*. www.nubbek.de.
- [26] Werner, E. (1989) *Vulnerable, but invincible, a longitudinal study of resilient children and youth*. Adams, Bannister and Cox, New York.

Biography



Hans Michael Strassburg, born 1948. 1966-1972 study of human medicine. 1976-1991 further education in the University Children's Hospital Freiburg/Germany. 1991 - 2011 Professor of Pediatric and Adolescent Medicine with a focus on Neuropediatrics at the University Children's Clinic in Würzburg/Germany. Member of various national and international scientific societies, co-editor of several journals, author of more than 300 scientific articles, several monographs and textbook chapters. Since 2001 board member of the German Society for Social Pediatrics and Adolescent Medicine, 2009 - 2012 as its President. Honorary member of the Neuropediatric Society. Married since 1974, 2 children, 6 grandchildren.