

Summary: “Neurobiological and evolutionary foundations of harm to parents and children through the intentional and unjustified severing of parent-child bond”

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June 2025

[Zusammenfassung: “Neurobiologische und evolutionäre Grundlagen der Schädigung von Eltern und Kindern durch das absichtliche und ungerechtfertigte Abschneiden von Eltern-Kind-Bindungen (AUA-EB)”]

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## Summary of the paper “Neurobiological and evolutionary foundations of harm to parents and children through the intentional and unjustified severing of parent-child bond”

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### Summary:

[The article examines the neurobiological and evolutionary foundations of the harm caused to parents and children by the intentional and unjustified severing of parent-child bonds (AUA-EB). A child’s rejection of one parent—often as a result of manipulation by the other parent—can have serious consequences for the child’s development. It is argued that AUA-EB is not merely a social construct, but a scientifically demonstrable disruption of fundamental attachment mechanisms. The article describes neurobiological changes in mothers and fathers that underscore the biological basis of parental caregiving. From an evolutionary, developmental psychological, and neuroscientific perspective, it is shown that stable bonds with both parents are essential for healthy child development. AUA-EB is understood as an unnatural disruption of the attachment system, causing measurable harm to both children and alienated parents. Finally, the article advocates for a multidisciplinary approach to acknowledge and appropriately address the threat posed by AUA-EB.]

**Key Words:** [Neurobiological adaptation in parents, parent-child alienation, impact of attachment disorders, child’s well-being]

### Zusammenfassung:

[Der Aufsatz untersucht neurobiologische und evolutionäre Grundlagen der Schädigung von Eltern und Kindern durch das absichtliche und ungerechtfertigte Abschneiden von Eltern-Kind-Bindungen (AUA-EB). Das Zurückweisen eines Elternteils durch ein Kind – meist infolge von Manipulation durch den anderen Elternteil – kann gravierende Auswirkungen auf die kindliche Entwicklung haben. Es wird argumentiert, dass AUA-EB keine bloße soziale Konstruktion, sondern eine wissenschaftlich belegbare Störung grundlegender Bindungsmechanismen ist. Der Beitrag beschreibt neurobiologische Veränderungen bei Müttern und Vätern, die die biologische Verankerung elterlicher Fürsorge belegen. Aus evolutionsbiologischer, entwicklungspsychologischer und neurowissenschaftlicher Perspektive wird dargelegt, dass stabile Bindungen zu beiden Elternteilen für die gesunde Entwicklung von Kindern essentiell sind. AUA-EB wird als unnatürlicher Eingriff in das Bindungssystem begriffen, der sowohl Kindern als auch entfremdeten Eltern messbaren Schaden zufügt. Abschließend wird ein multidisziplinärer Ansatz empfohlen, um die Gefahr, die von von AUA-EB ausgeht, anzuerkennen und die entsprechend zu adressieren.]

**Schlüsselwörter:** [Neurobiologische Anpassung bei Eltern, Eltern-Kind-Entfremdung, Auswirkung von Bindungsstörungen, Kindeswohl]

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## 2. Introduction: Understanding IUSPB (The IUSPB)

The intentional and unjustified severance of parent–child bonds (IUSPB) – more commonly known as the IUSPB – refers to situations where a child, typically during high-conflict divorces or custody battles, is manipulated into rejecting one parent without valid reason. In these cases, the child’s relationship with the targeted parent is deliberately undermined by the other parent. This phenomenon has been debated in legal and psychological circles, with some questioning its legitimacy. However, the article argues that IUSPB is not just a social idea or “made-up” concept, but a real disruption of fundamental human attachment mechanisms. Human beings – especially children – are biologically hardwired to bond with their caregivers. Breaking a loving parent–child bond goes against our biology and can cause serious harm to the child’s development and the parent’s well-being. Why is this important? Children depend on their parents for more than just food and shelter – they rely on them for emotional security, learning, and healthy brain development. According to the article, evolutionary biology, developmental psychology, and neuroscience all point to the same conclusion: children are biologically predisposed to form strong, lasting emotional bonds with both mother and father. These bonds are essential for a child’s healthy growth. Likewise, mothers and fathers have biological adaptations that drive them to love, protect, and nurture their children. When IUSPB (the IUSPB) occurs, it severs a natural, essential connection, which the article likens to an “artificial orphaning” of the child – the child is made to feel they’ve lost a parent even though that parent is alive and loves them. This summary will explain the core concepts from the article in clear terms, showing why maintaining both parent–child relationships is part of our human nature, what changes occur in mothers’ and fathers’ brains and bodies when they become parents, and what happens when these bonds are forcibly broken.

## 3. Evolutionary Need for Two Parents and Secure Attachments

Human children are born extremely vulnerable and dependent. Unlike many animals, human babies cannot fend for themselves at all – they are born with only about a quarter of their adult brain size and need years of care to survive and develop. This state is called altriciality, meaning helplessness at birth. Over millions of years of evolution, this vulnerability led to a unique survival strategy for our species: cooperative parenting. In early human communities, raising a child wasn’t the job of just one person – it was a team effort. Mothers have always provided primary care (as in all mammals), but humans are among the only mammals where fathers and

other relatives (like grandparents) also consistently helped raise the young. In fact, only about 3–5% of mammal species have true biparental care (direct care from both mother and father), and humans are in that rare group. Scientists believe this evolved because having two parents (and possibly other helpers) dramatically improved a child’s chances of surviving and thriving, given how much attention and resources human babies require. In other words, human infants evolved to expect care from more than one caregiver. This evolutionary background explains why children form deep emotional attachments to their caregivers. From a child’s perspective, attachment (the emotional bond with a parent or caregiver) is not a luxury – it’s a biological necessity. Infants have inborn behaviors (crying, clinging, smiling) that serve to keep parents close and attentive. Psychologists like John Bowlby, who developed attachment theory, observed that a secure, loving bond with parents in early life is crucial for healthy mental and emotional development. Studies of children raised without stable caregiving – for example, in severely neglectful conditions – show serious long-term effects on the brain and psychological health. On the flip side, children who grow up with secure attachments (feeling loved and safe with their parents) tend to develop better stress management, empathy, and social skills later in life. All of this aligns with evolutionary logic: our brains expect nurturing care as we grow. Not only do children need care, they also naturally seek connection with both parents. Even when basic needs are met, children often have an innate curiosity about and longing for their biological mother and father. A striking example is how many adopted children or those separated from a parent will later search for their biological family – indicating a deep-rooted “need to belong.” This need is so fundamental that psychologists consider it a core human motive. Biologically, it’s supported by brain chemicals like oxytocin, often nicknamed the “bonding hormone,” which fosters trust and affection between people (it’s released during warm interactions like hugs or a baby’s feeding). Our species is ultra-social, meaning we thrive on strong relationships; a child’s brain is literally wired to bond with caregivers as a way to learn, feel secure, and eventually become a healthy independent adult. From this evolutionary vantage point, the IUSPB/IUSPB is profoundly unnatural. It is essentially the opposite of what nature intended for human child-rearing. Instead of the child maintaining multiple supportive relationships, they are manipulated into rejecting one loving parent. Historically, losing a parent would have been a devastating, often traumatic event for a child – something that jeopardized their survival. IUSPB creates a similar scenario of loss and trauma, only it is artificial and intentional: the child is made to feel one of their parents is “bad” or dangerous and must be avoided, even though in reality that parent is loving and protective. This is akin to telling a child to ignore their survival instincts. As the article explains, such an unnatural split places enormous stress on the child. They experience intense inner conflict because their biological drive is to love both parents, yet they are being conditioned to turn away from one. We can expect this scenario to cause serious emotional pain, confusion, and insecurity for the child. In short, human evolution has built children to need both mom and dad (and supportive relatives), so deliberately cutting a good parent out of a child’s life goes against our very nature and is likely to have harmful effects.

## 4. The Mother–Child Bond: How Motherhood Changes the Brain and Body

Becoming a mother triggers dramatic changes in a woman’s biology that all serve one purpose: to help her care for and bond with her baby. During pregnancy and childbirth, a mother undergoes a cascade of hormonal and neural transformations. For instance, estrogen and progesterone, two key hormones, skyrocket to very high levels during pregnancy (especially towards the end). These hormones help prepare the mother’s body and brain for motherhood. Right after birth, those hormone levels drop sharply, while others like oxytocin and prolactin

surge – especially with labor and breastfeeding. Oxytocin helps with physical processes (like contractions and milk release) and acts in the brain to stimulate nurturing, affectionate behaviors. Prolactin, known for producing breast milk, also seems to encourage protective, caregiving instincts. In simple terms, around the time a baby is born, a mother’s body becomes biochemically primed to focus on nurturing her infant. Alongside hormonal changes, motherhood brings remarkable brain changes. Pioneering brain imaging studies have shown that first-time mothers actually experience a reshaping of certain brain regions after having a baby. Some areas of the brain slightly decrease in volume – which might sound worrying, but research suggests this is a beneficial “pruning” process. By trimming unused neural connections, the brain becomes more efficient, honing the circuits that matter most for taking care of a child. One study found that after pregnancy, women had consistent reductions in gray matter (brain tissue) in areas involved in social understanding and empathy (for example, regions that help a person read others’ emotions). Far from being negative, mothers who showed more of this targeted brain remodeling also reported stronger attachment to their babies – as if the brain is streamlining itself to be more in tune with the child. In fact, these brain changes in mothers are so characteristic that scientists could distinguish a woman who had given birth from one who hadn’t just by looking at their brain scans. Some of these changes can last for years, suggesting that motherhood can lead to a lasting reorganization of the brain. Functionally, new mothers become highly responsive to baby cues. Brain studies show that a mother’s brain lights up more than a non-mother’s when she sees her own baby’s face or hears her baby cry. For example, areas of the brain involved in emotion and reward show greater activity, meaning that a baby’s smile or cry becomes an extremely important signal to the mother’s brain. Many mothers can attest that they become attuned to the tiniest whimper from their newborn. This heightened sensitivity ensures that Mom quickly notices and responds to her infant’s needs. Oxytocin likely helps here too, making the baby’s signals feel extra rewarding and impossible to ignore. All these changes – hormonal surges, brain restructuring, intense responsiveness – work together to push the mother toward deeply caring for her infant. Evolutionarily, this makes perfect sense: a human infant is helpless and needs a devoted caregiver. The mother’s whole physiology shifts to motivate her to protect, nurture, and love her baby, thereby boosting the child’s chances of survival and healthy development. Understanding the maternal brain makes it clear why severing a mother–child bond is so harmful. A mother isn’t just emotionally attached to her child – her brain and body have been literally re-wired for that connection. If the IUSPB leads a child to reject a loving mother, it inflicts deep pain on both sides. The mother may experience something akin to grief, as if she lost a part of herself, because those powerful caregiving urges are being thwarted. The child, meanwhile, loses out on the unique comfort and care that a mother is naturally primed to provide. In short, breaking a healthy mother–child attachment goes against everything biology has set up, and the article asserts that doing so is profoundly detrimental to both mother and child.

## 5. The Father–Child Bond: How Fatherhood Changes the Brain and Body

For a long time, people assumed that mothers were the “natural” caregivers and fathers were secondary. But emerging science on the paternal brain reveals that fatherhood also brings biological changes that help men become devoted dads. Men don’t carry the baby or give birth, but when they become fathers, their bodies and brains also adapt in noteworthy ways to support parenting. This makes sense from an evolutionary view: in a species like humans that depends on two parents, natural selection favored traits in fathers that help them care for their children. In fact, modern neuroscience confirms that “dad brains” are real – meaning that a man’s brain

can be reshaped by the experience of caring for his baby, albeit not as dramatically as a mother's. One clear change is in hormones. When a man becomes a father (especially if he's actively involved in caring for the baby), his hormonal balance tends to shift to support parenting. For example, studies have found that testosterone levels often drop in new fathers. Lower testosterone might sound bad, but it actually can make a man less aggressive and less focused on competing or seeking new mates, thereby more focused on his family. At the same time, hormones linked to bonding – like oxytocin, prolactin, and even estrogen (in a form called estradiol) – increase in new fathers. Oxytocin in dads goes up when they play with or cuddle their babies, similar to how it rises in moms during breastfeeding. Higher oxytocin makes fathers more affectionate and attuned to their infant's needs. Prolactin, though much lower in men than in breastfeeding women, also rises in fathers and is thought to heighten alertness to a baby's cries and perhaps even produce sympathetic responses (some dads of newborns have reported experiencing things like phantom baby cries or even slight breast changes, which shows how deeply biology can mimic motherhood!). The big picture is that men's bodies adapt for caregiving: slightly less macho chemistry, more "tenderness" chemistry. How much these hormones change can vary by culture and how involved the dad is, but overall it supports the idea that human fathers are biologically primed to nurture. Fatherhood also leads to brain changes in men. Though not as pronounced as in mothers, recent brain imaging research shows that first-time dads have measurable changes in brain structure after their baby arrives. For example, studies using MRI scans found modest reductions in gray matter volume in certain parts of new fathers' brains – particularly in regions involved in social thinking and empathy, as well as areas that process visual information. This might reflect the brain fine-tuning itself: perhaps fathers are getting better at reading social cues (like a baby's facial expressions) and focusing their attention on the baby. Interestingly, some of the same brain networks that change in mothers also change in fathers (like those related to understanding others' emotions), though usually to a lesser degree. In one study, the changes in dads were about half as strong as those in moms – which aligns with the idea that moms undergo major overhaul due to pregnancy, while dads experience a milder adaptation by being closely involved. On the functional side, fathers' brains become more responsive to infant stimuli too. Brain scans show that when fathers see pictures of babies or hear their own baby cry, regions related to reward, empathy, and alertness activate more strongly than in non-fathers. In essence, the dad's brain recalibrates: his baby becomes a top priority, and he gets a neural reward from attending to the child, whereas other interests (like responses to unrelated adults or sexual cues) may dial down a bit. Remarkably, studies of primary caregiving fathers (for instance, stay-at-home dads or gay fathers who are the main caregivers) show that their brains can exhibit patterns very similar to mothers'. This means that the human male brain is flexible – when circumstances require a father to take on the full nurturing role, his brain's activity can adapt to look a lot like a maternal brain responding to a child. The implications are clear: fathers are not optional for children – they are a biologically important part of the parenting team. If a child is alienated from a loving father, the child is being denied a relationship with someone who is biologically wired to invest in them. Research has linked involved fathers to many positive outcomes for kids, including better academic performance, healthier social development, and lower risk of mental health issues. So when alienation removes a father from the child's life, the child loses an entire set of emotional and developmental benefits that evolution intended them to have. Meanwhile, the alienated father undergoes a kind of emotional agony: his drive to love and care for his child is blocked. Many separated or alienated dads report depression, intense anger, or a profound sense of loss – feelings very much like grief. In fact, brain studies of parents who have lost a child (for example, through death) show activation in grief-related brain areas and signs of stress-related health risks. An alienated parent endures a similar "living loss": the child is still out there, but the relationship has been forcibly severed. This ongoing grief without closure can be extremely damaging to a parent's mental health and well-being.

## 6. Why Breaking Parent–Child Bonds Is So Harmful

When we put it all together, IUSPB/PA is essentially a form of attachment destruction, and it can wreak havoc on a child’s emotional and neurological development. Normally, a child looks to both parents for love and security. In an alienation scenario, the child is placed in a loyalty conflict: the alienating parent (the one influencing the child) often rewards the child for rejecting the other parent and makes the child feel guilty or afraid of showing any positive feelings toward the targeted parent. This creates a psychological split in the child – to please one parent, they must deny their natural love for the other. Such a situation is chronically stressful. Children in high-conflict, alienating situations often have elevated stress hormones (like cortisol) and overactive “fight or flight” responses because they are constantly dealing with tension and fear of doing the “wrong” thing. Over time, high stress can harm a child’s brain development, especially in areas like the hippocampus and prefrontal cortex (which are crucial for learning, memory, and regulating emotions). This may help explain why severely alienated children can show symptoms like anxiety, depression, anger issues, or difficulty concentrating. They are essentially in a state of prolonged emotional turmoil. Additionally, these children might internalize false beliefs – for instance, being led to believe that one parent doesn’t love them or is dangerous. Believing that a once-loved parent has “abandoned” or rejected them (even if untrue) can damage the child’s basic trust and self-worth. According to attachment theory, if a child feels abandoned or betrayed by a parent, the child might conclude, “If my own parent doesn’t love me, there must be something wrong with me.” These kinds of deep-seated feelings can carry forward into adulthood, making it harder for that person to trust others or form healthy relationships later on.

In effect, the IUSPB can plant the seeds for long-term emotional and interpersonal difficulties. From an evolutionary perspective, IUSPB is clearly maladaptive – meaning it works against the natural adaptive strategy that helped human children thrive. By intentionally removing one parent’s care, the child is getting far less support than they were built to receive. Evolutionary biologists talk about “parental investment,” which is the time, energy, love, and resources parents pour into their offspring to help them succeed. Human children typically do best with the combined investment of two parents. If one parent is cut off, the child’s environment is essentially missing a key piece. Real-world data back this up: on average, children who grow up without one of their biological parents (whether due to alienation, loss, or absence) have higher rates of various negative outcomes, even when you account for economic factors. These can include worse performance in school, more behavioral and emotional problems, and difficulties in forming social connections. In cases of extreme alienation, the outcomes can be even more severe because the child’s mind is not just missing a parent, it’s been turned against a part of itself. (Children see themselves as partly their mom and partly their dad – so if they are taught to hate or fear one parent, it’s as if they are taught to hate a part of their own identity.) Alienated kids often irrationally believe the targeted parent is “all bad,” which can lead to constant anxiety and a very split, confused self-image. It’s also critical to consider the alienated parent’s suffering. As noted earlier, a parent cut off from their child undergoes a kind of psychological trauma. Their brain, primed for parenting, is denied its most important relationship. This can lead to depression, chronic stress, and even physical health issues (since persistent stress can affect the body). The article draws parallels between an alienated parent and a grieving parent: in both cases, the brain’s grief circuits are activated, and the person experiences a deep loss. Unlike a death, however, alienation is an ambiguous loss – the child is still alive but the relationship is unjustly severed, often without closure. Alienated parents report significantly lower life satisfaction and high levels of emotional pain. If there is any limited contact remaining, the parent’s depression and trauma may also affect their ability to be present with the child, creating

a vicious cycle. In a broader sense, the entire family system suffers: extended family like grandparents, aunts, or uncles might also lose their relationship with the child due to the alienation, compounding the loss and sadness across the family.

## 7. Conclusions and Policy Implications

The key takeaway from “Neurobiological and Evolutionary Foundations of IUSPB” is that the IUSPB is real, harmful, and fundamentally at odds with human biology and evolution. It’s not an unfathomable or mysterious concept – it can be understood by recognizing how human attachment works. Children need the love and support of both their parents, a need forged by millions of years of evolution. Likewise, both mothers and fathers have innate drives and even measurable brain and hormonal changes that push them to care for their children. Therefore, to deny that IUSPB exists or to minimize it is to deny scientific reality: breaking a loving parent-child bond is deeply damaging. The parent-child relationship, as the article puts it, is “biologically sacred” – it’s a foundational element of human life that our brains, bodies, and cultures have all been built around. In terms of policy and practice, this scientific insight has powerful implications. Recognizing IUSPB as a genuine phenomenon means that family courts, policymakers, and mental health professionals must take it seriously. The article calls for a multidisciplinary approach that brings together neuroscience, psychology, and family law. For example, judges and lawyers who understand the neurobiological harm caused by alienation might handle custody disputes differently – they may act faster to stop a parent from poisoning a child’s relationship with the other parent, knowing that a child’s well-being is at stake. In custody decisions, the guiding principle is the “best interests of the child,” and this research strongly suggests that, barring cases of actual abuse, a child’s best interest is to have both a mother and a father actively involved in their life. Ensuring a child keeps a loving parent in their life is as crucial to their development as providing proper nutrition or healthcare – it’s part of what helps them grow up healthy and secure. Therapeutic interventions can also be informed by this knowledge. Therapists working with alienated families might focus on restoring the damaged parent-child bond as a form of healing a developmental injury. Strategies could include creating positive shared experiences that naturally rebuild trust and trigger bonding (for instance, encouraging affection, or reminiscing about good times with the estranged parent to remind the child of that love). Since we know oxytocin and positive interactions can help repair attachment, therapy can leverage these natural pathways. Likewise, mental health support for alienated parents is important – doctors and counselors should be aware that an alienated parent may exhibit signs of chronic stress or depression, and they might need support to cope with what is essentially a form of grieving. Broader public awareness is also a policy goal. The article suggests that educating society about the importance of both parents can help prevent IUSPB. For instance, cultural attitudes that dismiss the role of fathers can contribute to alienation; understanding that fathers and mothers are both crucial is not just a slogan but a scientific fact. Public health organizations might even view severe the IUSPB as an adverse childhood experience worth preventing, similar to how we treat child abuse or neglect, because of its long-term impact on mental health. In conclusion, the research presented in the article paints a clear picture: deliberately severing a loving parent-child relationship is profoundly harmful to children, goes against our evolutionary history, and inflicts trauma on both the child and the parent. By grounding this issue in hard science, the authors hope to foster greater appreciation among professionals and the public for why it’s so important to prevent and address the IUSPB. Protecting the parent-child bond – when both parents are loving and fit – is not only a matter of family justice, but indeed a matter of public health and societal well-being. The science affirms what many intuitively know: children have a right to the love and care of both parents, and

honoring that right is essential for their development and for the strength of our future generations.

## Paper series: The social dimension of Sustainability

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