

A Double-Edged Sword:

How Digital Tools
Support—or Hinder—
Infant Mental Health



Dr. Arghavan Fariborzifar

Child & Adolescent Psychiatrist

Iran University of Medical Sciences

Advanced Training in Infant Mental Health (University of Melbourne)

Arghavanfariborzifar1@gmail.com



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Introduction: The Digital Infant

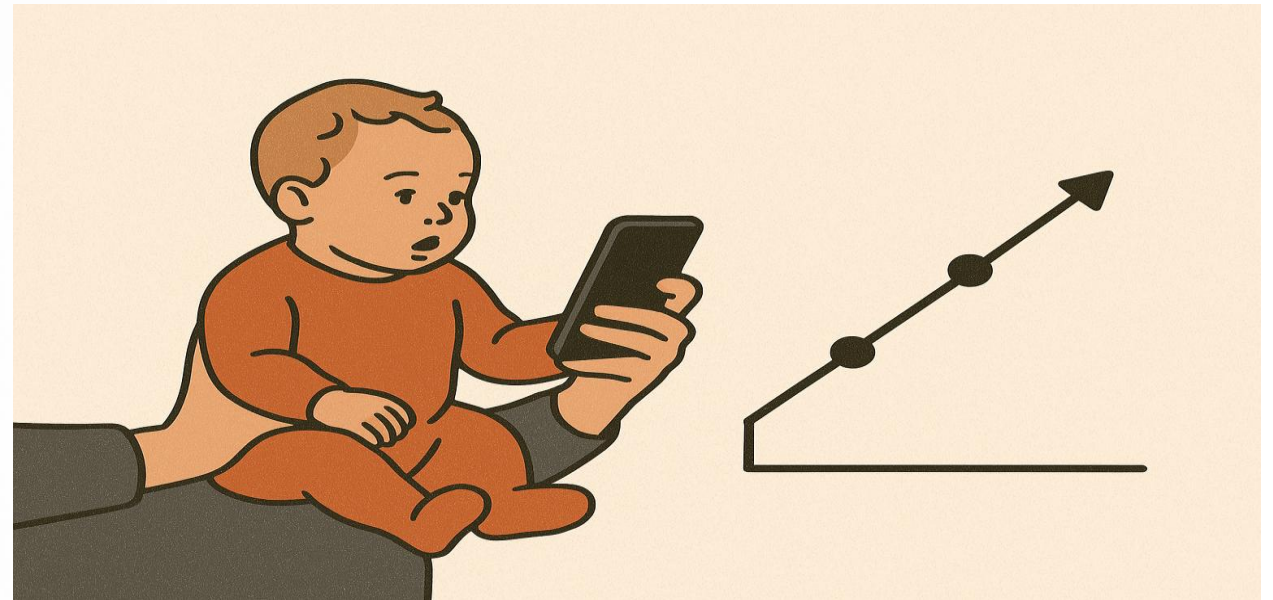
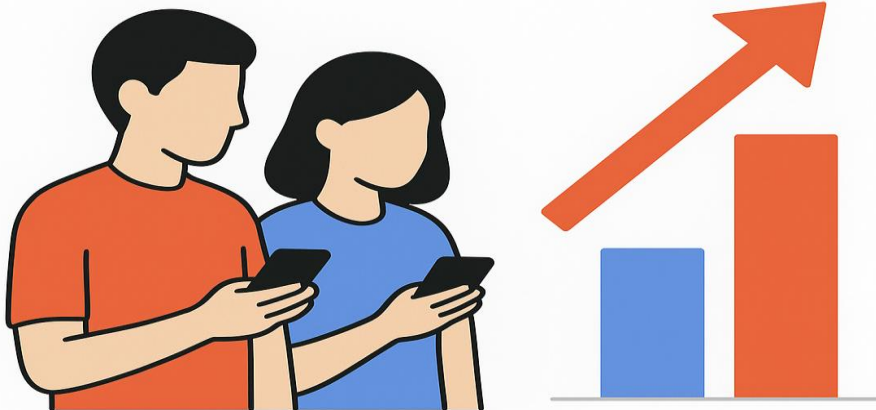
- Many infants now meet a smartphone **before they walk or talk.**
- Early relational experiences — which shape neural architecture — now occur **in the presence of digital devices.**
- **Key Question:**
Do digital tools support infant mental health, or do they disrupt it?
- A double-edged sword:
 - **Supportive edge:** connection, education, access
 - **Harmful edge:** distraction, rupture, emotional unavailability



The New Reality

- *Infants Encounter Screens Before Words or Walking*

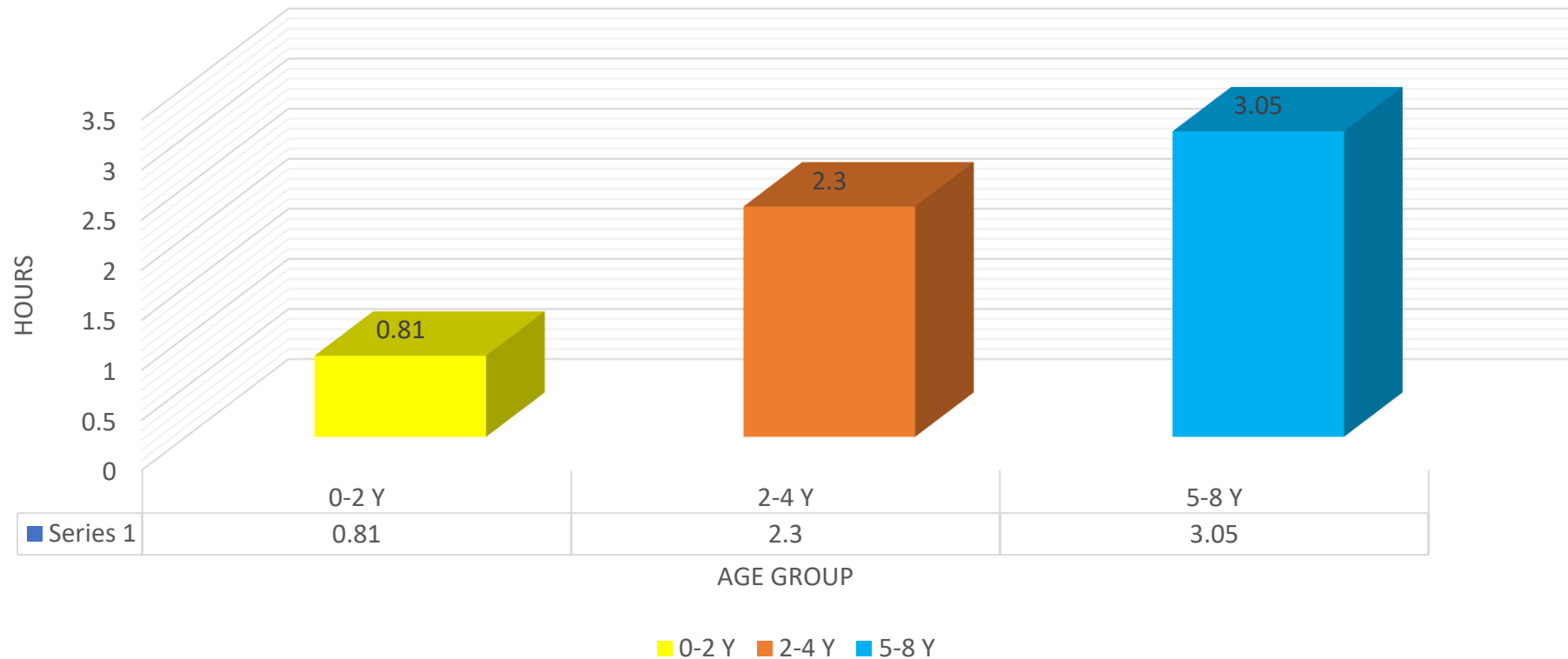
**INCREASE IN SMARTPHONE USAGE
AMONG PARENTS**



Average media usage time per day by different age groups of children (Panjeti-Madan VN & Ranganathan P. 2023)



Media Usage time per day by different age group of Children



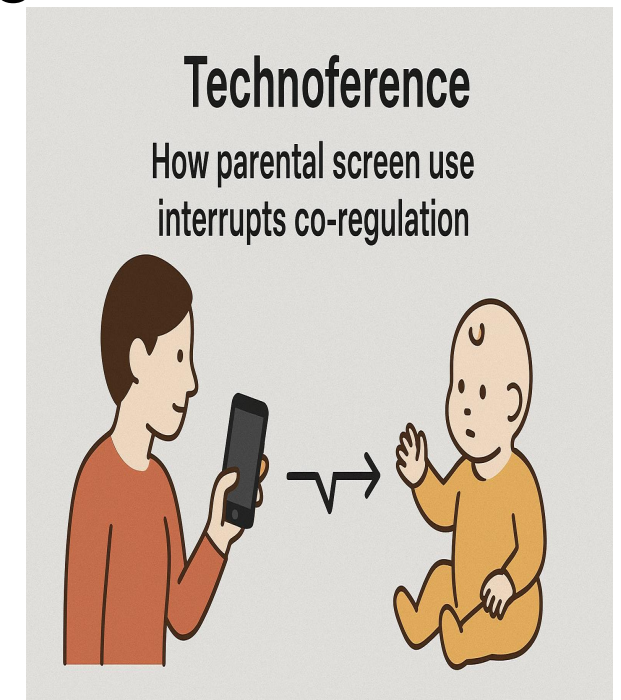
Is digital media supportive or disruptive for early mental health?



Why Are Infants So Sensitive to Digital Environments?



- First two years = **rapid synaptogenesis** & emotional wiring (*Schore, 2001*)
- Development depends on **contingent human interactions**
- Harvard Center on the Developing Child:
Serve-and-return → foundation for:
 - Emotion regulation
 - Social development
 - Sense of safety
- **Technoference** (*McDaniel & Radesky, 2018*):
Parental screen use interrupts serve-and-return cycles
- Modern Still-Face:
Caregiver looks at phone → **infant confusion, anxiety, dysregulation**

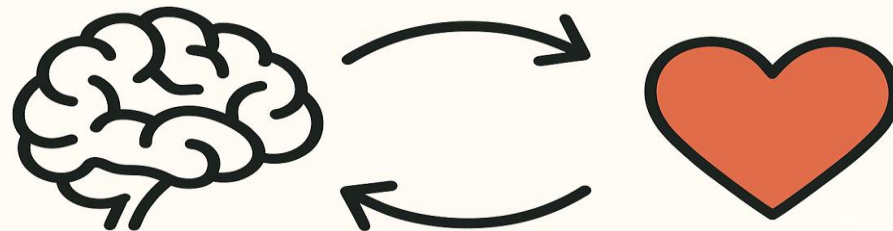




Why Infants Are So Sensitive?

- *Rapid brain development + need for contingent care*
- Serve-and-return = architecture of emotional brain

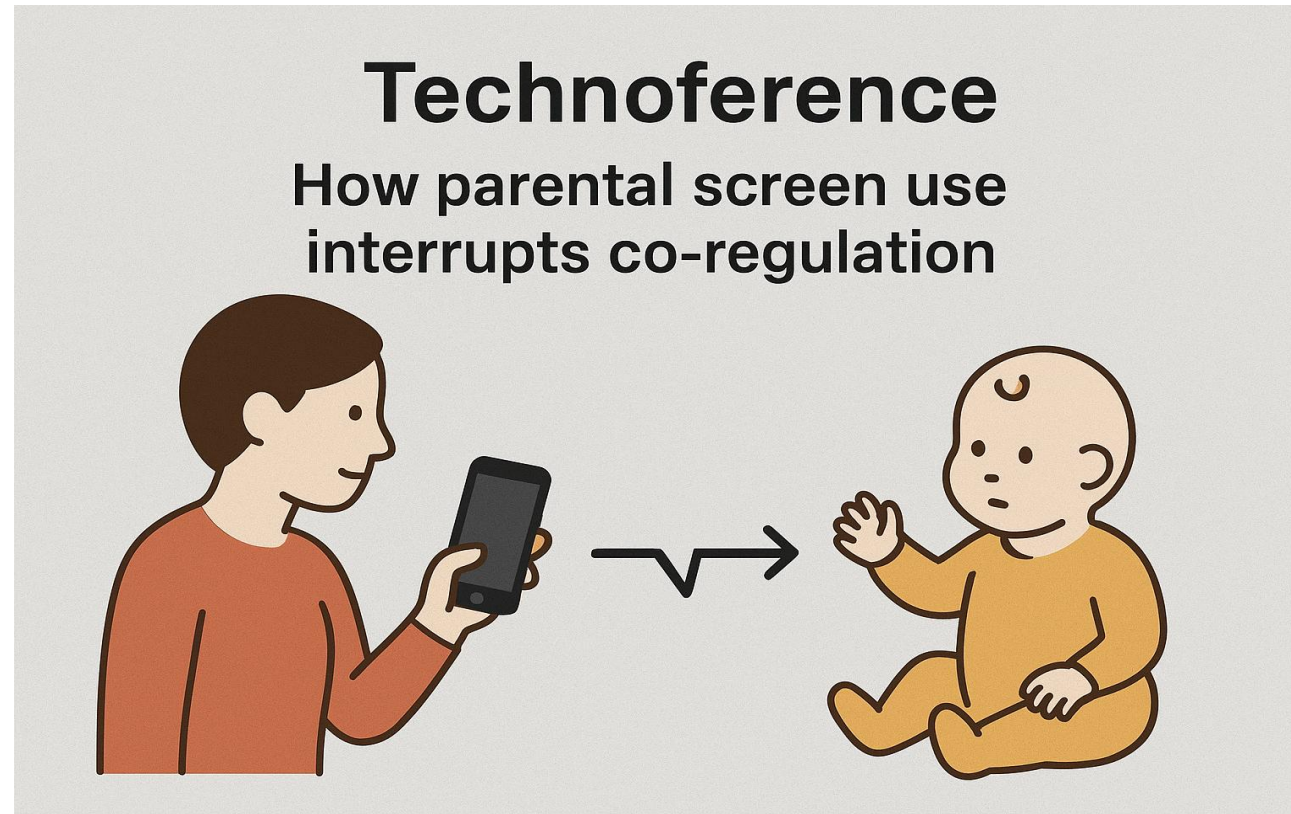
SERVE-AND-RETURN
=
ARCHITECTURE OF EMOTIONAL BRAIN





Technoference

- *How parental screen use interrupts co-regulation* (McDaniel & Radesky, 2018)





The Harmful Edge: When Technology Disrupts Connection

➤ **Reduced Eye Contact & Mutual Engagement**

- Persistent digital presence reduces:
 - Eye contact
 - Vocal reciprocity
 - Emotional tuning
- WHO (2019) & AAP (2023):
Zero screen exposure for infants under 2 years
- **Trauma pathway:**
Chronic micro-ruptures → sense of unpredictability → stress arousal



Modern Still-Face

- *Still-Face Paradigm in the digital age*





Reduced Eye Contact

- *The first trauma pathway: loss of mutual gaze*
- WHO & AAP: Zero screen for under 2





Reduced Eye Contact

The first trauma pathway: loss of mutual gaze

- WHO & AAP: Zero screen for under 2



**Interaction builds language;
screens only broadcast sound.**



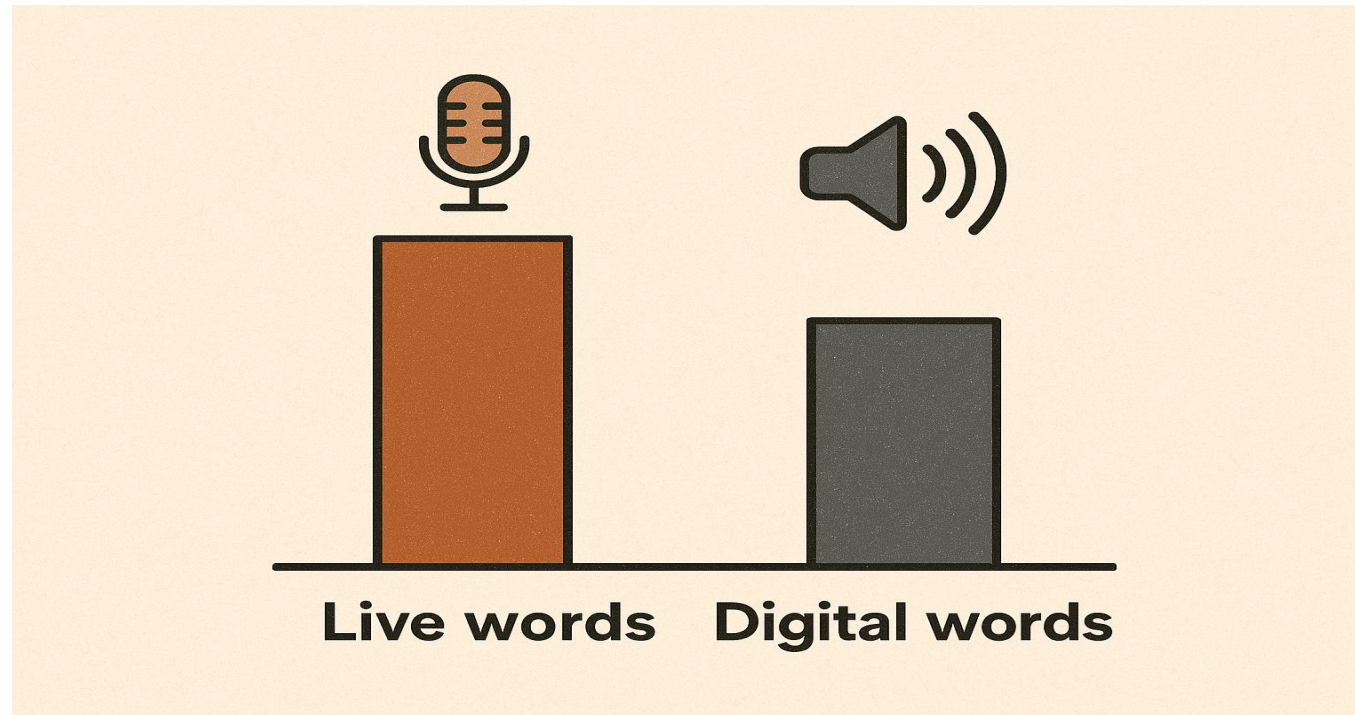
Impact on Language & Cognitive Development

- Language develops through **live conversational turns**
- Screens provide *sound*, not *dialogue*
- Evidence: higher infant screen time → **fewer expressive words**
- **Trauma pathway:**
Reduced contingent responses → impaired meaning-making → early relational deprivation



Language Disruption

- *Screens produce sound, not relationship*
- Fewer conversational turns → fewer expressive words





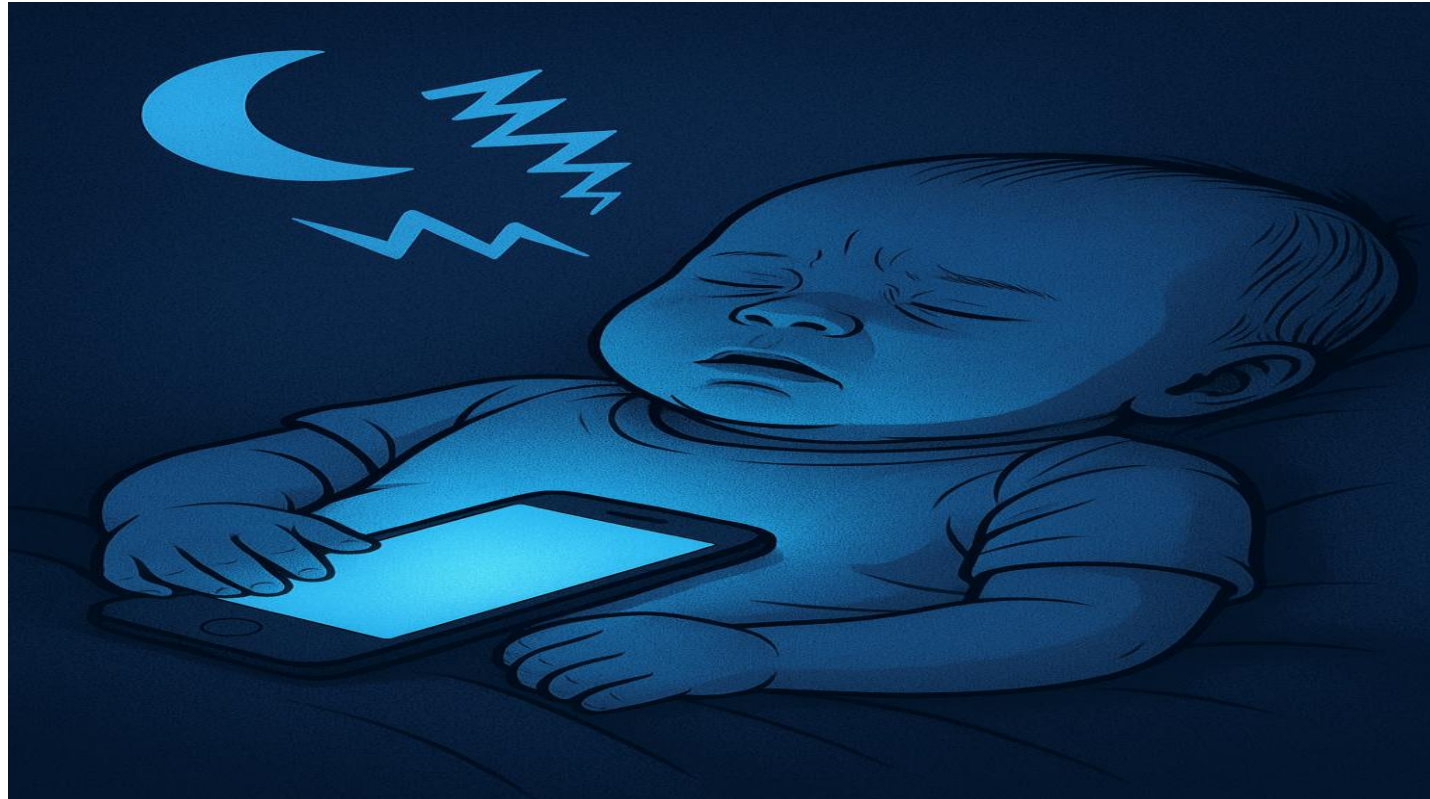
Overstimulation & Sleep Disruption

- Fast-paced digital stimuli + blue light →
 - Physiological hyperarousal
 - Fragmented sleep
- Poor sleep = vulnerability for **emotional dysregulation**
- **Trauma pathway:** chronic hyperarousal mimics early stress exposure patterns



Overstimulation & Sleep Disruption

- Blue light → hyperarousal → dysregulated infant





Attachment & the “Imperfect Mirror”

- Winnicott: *“The mother’s face is the first mirror.”*
- Smartphone becomes a **barrier** between infant and reflective gaze
- Infant loses access to:
 - Mirroring
 - Affective attunement
 - Co-regulation
- **Trauma pathway:**
Digital distraction → inconsistent availability → insecure or disorganized attachment



Impact on Attachment

- *The mother's face is the first mirror — Winnicott*
- Smartphone as the "imperfect mirror"

IMPACT ON ATTACHMENT

"The mother's face is the first mirror — Winnicott"





Clinical Vignette: Early Disruption

- *A 26-year-old mother feeds her infant while constantly scrolling...*
- Infant: irritability, crying, difficulty settling
- When mother put the phone down and made eye contact → infant calmed, smiled
- Mother: “This is the first time I feel connected to him.”

➤ **Key lesson:**

Even brief digital intrusions can function as **micro-traumas of non-recognition.**



Clinical Vignette

- *Micro-trauma of non-recognition*





The Supportive Edge: Technology as a Tool for Connection

- When intentionally used, digital tools can strengthen relational health:
 - 1. Telehealth & Video-Feedback Interventions**
 - Circle of Security Online
 - Minding the Baby telehealth
 - Improve parent sensitivity and reflective functioning
 - 2. Access for Remote & Underserved Families**
 - Zero to Three (2022): online interventions **enhance parent–infant interaction**
 - 3. Early Monitoring of High-Risk Dyads**
 - Sleep trackers, distress monitoring, postpartum screening



The Supportive Edge

➤ *Technology as a relational ally*

- Telehealth
- Video-feedback
- Parent coaching

THE SUPPORTIVE EDGE

Technology as a relational ally



The Supportive Edge

Technology as a relational ally

- Telehealth
- Video-feedback
- Parent coaching





Digital Support in Crisis & Trauma Contexts

- War, displacement, pandemics → disrupted caregiving
- Digital platforms can provide:
 - Continuity of therapeutic support
 - Video contact between caregiver and infant
 - A virtual **holding environment**
- For traumatized families, even a **short video call** can restore co-regulation



Digital Tools in Crisis & Trauma

- *Video contact as a temporary holding environment*





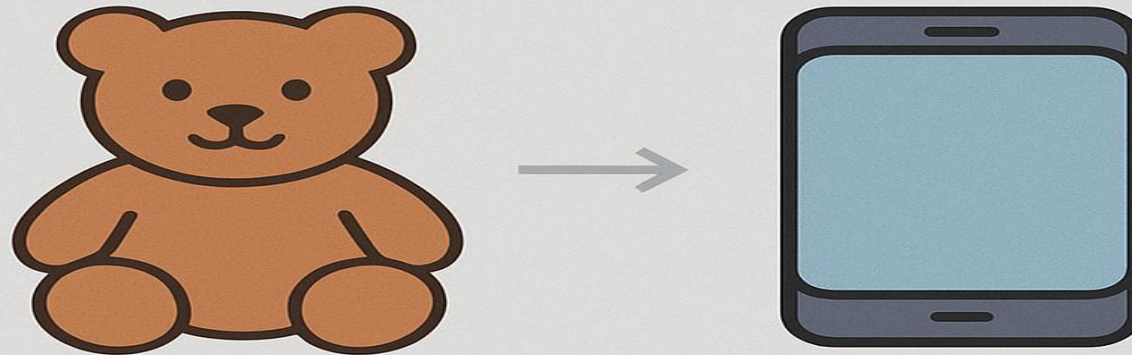
Psychoanalytic Lens: From Dependence to Co-Regulation

- Smartphones may function as **new transitional objects** (Winnicott)
- But risk arises when:
 - Devices replace emotional presence
 - Parents use screens to avoid anxiety or emotional contact
- Digital avoidance →
 - Disrupted co-regulation
 - Infant internalizing caregiver's *absence*
 - Avoidant/dissociative relational patterns
- Technology becomes a **defensive barrier**, not a relational bridge



Psychoanalytic View

Psychoanalytic View Smartphones as New Transitional Objects



But risky when used as
emotional avoidance



Trauma-Informed Warning Signs

- **Infants at higher risk include those with:**
 - Emotionally unavailable or depressed caregivers
 - Caregivers with high digital dependence
 - NICU graduates
 - Infants in high-stress homes (poverty, migration, conflict)
 - Caregivers using screens for self-soothing or escape
- **Red flags:**
 - Flat affect
 - Decreased gaze-seeking
 - Sleep disruption
 - Excessive crying or irritability
 - Delayed vocalization



Warning Signs (Trauma-Informed)

➤ *Infants at risk when...*

- Caregiver depressed / distracted
- Excessive crying
- Flat affect
- Gaze avoidance



Recommendations

1. Screen-Free First Two Years

- Avoid direct exposure to screens for infants
- Protect relational moments from digital intrusion

2. Mindful Parental Media Use

- Educate parents about technoference
- Promote emotional presence & responsive caregiving

3. Use Digital Tools to Strengthen Connection

- Tele-psychotherapy
- Video-feedback coaching
- Parental education platforms

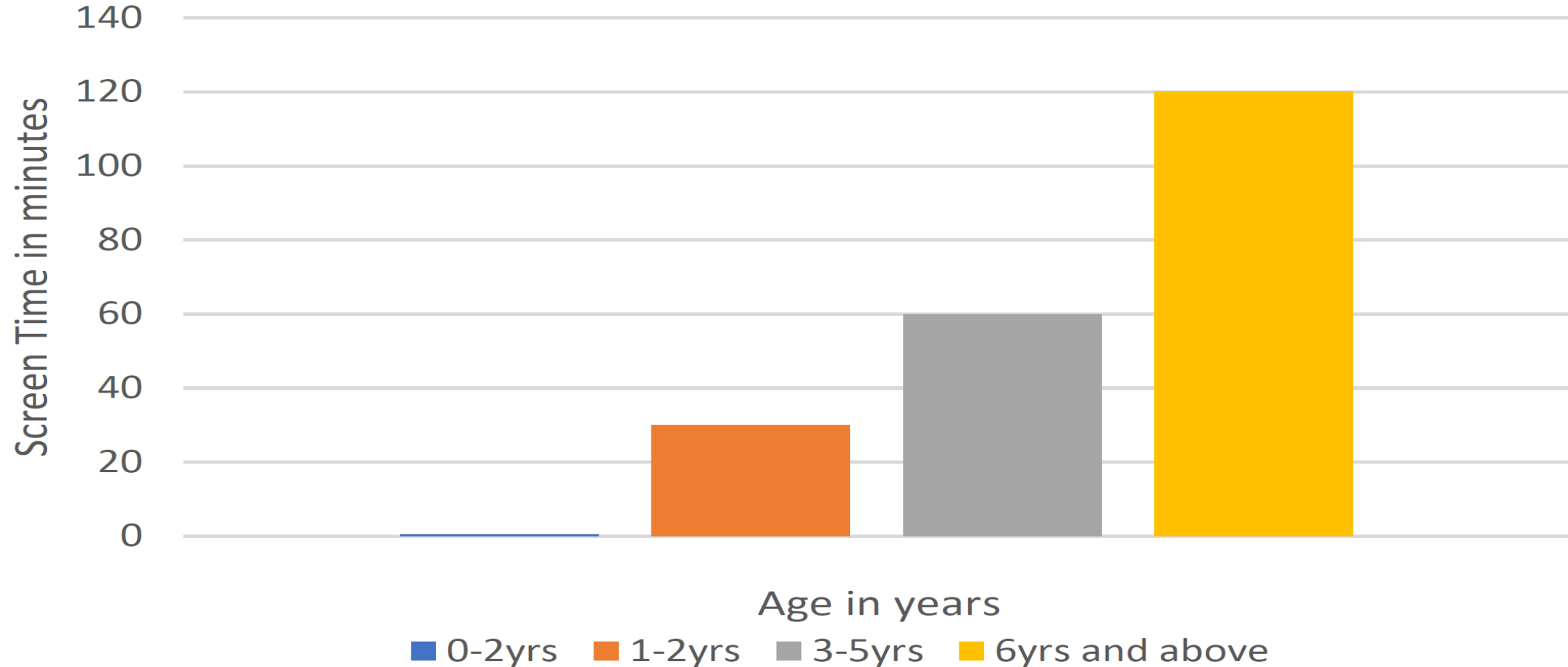


Final Message

- **Digital tools are neither the enemy nor the solution. What matters is the human presence behind them.**
- If we teach parents this simple principle:
- **“Look into your baby’s eyes before you look at a screen,”**
- we can transform the digital world from a risk to a source of connection and resilience.



Recommended screen time for children of different age groups in minutes (Panjeti-Madan VN & Ranganathan P. 2023)



The American Academy of Pediatrics (AAP) guidelines for children's media usage



(Panjeti-Madan VN & Ranganathan P. 2023)

Age	Recommendations
Babies below 18 months	No screen media except video chats
Children between 18–24 months	High-quality programming content and co-viewing with a parent
Children between 2–5 years	One hour per day and high-quality programming content
Children 6 years and above	Limited media screen time and limitations on viewing different media types



Recommendations & Final Message

1. Screen-Free First Two Years
2. Mindful Parental Media Use
3. Digital Tools for Connection, Not Escape

**LOOK AT YOUR
BABY
BEFORE YOU
LOOK AT A SCREEN**





Key References

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*Thank you for your
attention*