

Extensive use of smartphones by parents might damage toddler's development and have far-reaching consequences

December 15 2021



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A new study from Tel Aviv University found that interaction between mothers and their toddlers is reduced by a factor of four when the

mothers use their smartphones, which might damage the toddler's development and have even greater and far-reaching consequences. The results of the new study, which was led by Dr. Katy Borodkin of the Department of Communication Disorders at the Stanley Steyer School of Health Professions, Sackler Faculty of Medicine of Tel Aviv University, were published in the journal *Child Development*.

The experiment involved dozens of [mothers](#) of toddlers (aged two to three years). The mothers were ostensibly invited to participate in a study examining the link between the mother's and the [child](#)'s interests, and so they were asked to perform three tasks: Browse a designated Facebook page and like videos and articles that interest them; read printed magazines and mark articles that interest them; and finally, play with the child while the smartphone and magazines were outside the room (uninterrupted free play).

"Our goal was to simulate situations in real life where the mother has to take care of her child, while at the same time devoting some of her attention to her smartphone," Dr. Katy Borodkin explains. "The mothers were unaware of the purpose of the experiment, so they behaved naturally by splitting their interest between the toddlers and the smartphone and magazines. We videotaped all the interactions between the mothers and the toddlers and later scanned the recordings frame by frame in an attempt to quantify the mother-child interaction."

Researchers from Tel Aviv University have defined three components of mother-child interaction. The maternal linguistic input was examined first, which is the linguistic content that the mother conveys to the child. According to previous research, this is an important predictor of a child's language development. It has been found in the past that reduced linguistic input leads to reduced vocabulary in a child, even as an adult. Next, conversational turns were examined, i.e. how interactive the discourse was. This is a predictor of language and social development, as

the child learns that he or she has something to contribute to the interaction as well as the basic social norms of social interactions. Finally, maternal responsiveness was examined, i.e. to what extent the mother responds to child bids. This is a measure of the immediacy of the response and its contingency on the child bid's content. For example, when the child says "look, a truck", there is no comparison between a response such as "yes, that's great" and a response such as "correct, this is a red truck, like the one we saw yesterday". This measure is the basis for almost every aspect of child development: linguistic, social, emotional, and cognitive.

"We found that the three components of mother-child interaction were reduced by a factor of two to four relative to uninterrupted free play, both when the mother was reading printed magazines and browsing on her smartphone," Dr. Borodkin says. "In other words, the mothers talked up to four times less with their children while they were on their smartphone. Moreover, they exchanged fewer conversational turns with the toddler, provided less immediate and content-tailored responses, and more often ignored explicit child bids. Even when they were able to respond while browsing Facebook, the quality of the response was reduced—the mothers kept their responsiveness to a bare minimum to avoid a complete breakdown in communication with the [toddler](#)."

Equally interesting is the fact that no difference was found between browsing a smartphone and reading magazines. "We did not find that one media distracted more than the other. However, it is clear that we use smartphones much more than any other media, so they pose a significant developmental threat. It should be noted that we currently have no research evidence suggesting an actual effect on child developmental related to the parental use of smartphones, as this is a relatively new phenomenon. However, our findings indicate an adverse impact on the foundation of child development. The consequences of inadequate mother-child interaction can be far-reaching."

To conclude, Dr. Borodkin adds that "in our current research we focused on the mothers, but we believe that our findings characterize communication interferences between fathers and their toddlers as well, since the [smartphone](#) usage patterns are similar between men and women, thus allowing us to estimate with high probability that the research findings are applicable to fathers and to mothers".

More information: Yael Lederer et al, The effects of maternal smartphone use on mother–child interaction, *Child Development* (2021). DOI: [10.1111/cdev.13715](https://doi.org/10.1111/cdev.13715)

Provided by Tel-Aviv University

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