

How do parents' brains react to feedback about their child?

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Parents appear to be extremely sensitive to feedback they receive about their child. Just how sensitive depends on the ('rose-tinted') glasses through which they look at their child. All this can be seen in the brain. Neuroscientist Lisanne van Houtum and her Leiden colleagues published on this issue in *Social Cognitive and Affective Neuroscience*.

Lisanne van Houtum: "It's quite normal for parents to receive [feedback](#) about their [child](#), for example from a teacher, sports coach or family member. But so far no studies have investigated how parents' brains react to this kind of vicarious feedback. Excessive reactions by parents when confronted with criticism about their child can have a large impact on contact with the teacher or sports coach, and indirectly also on dynamics of the parent-child relationship. This is what prompted us to examine how parents react to both compliments and criticism about their child. We also wanted to know whether parents react more emotionally when they feel that feedback about their child is inapplicable, or when they generally have a more rosy view of their child."

To carry out the study, both mothers and fathers were shown (fake) positive, neutral and negative social feedback about their child, in the form of words describing personality characteristics, such as 'intelligent,' 'chaotic' or 'unreliable,' during an MRI scan. The parents were under the assumption that this feedback came from members of the research team, based on observations of their child during an earlier research day. Before this, parents had already considered to what extent these personality characteristics were applicable to their child. From this, the researchers were able to deduce how rosy parents' view of their child was.

The researchers developed this [new paradigm](#) in the context of the RE-PAIR study, in which three other Ph.D. candidates are involved, and for which more than 100 adolescents and their parents came to Leiden from all over the Netherlands.

Van Houtum's research generated three interesting results: firstly, parents' mood increased after receiving [positive feedback](#) about their child, and decreased when the feedback was negative. This was especially the case when negative feedback did not match their own view of their child; so-called 'misplaced criticism.'" Second, the feedback

activated brain areas that are normally activated when people receive social feedback about themselves, including brain areas that are involved in processing pain and emotions and understanding the intentions and emotions of others. Thirdly, when parents generally had a more rosy view of their child, they reacted more strongly to both positive and negative feedback about their child. In these parents, certain [brain areas](#) were also activated more strongly when specifically receiving [negative feedback](#) about the child.

Do some parents maybe want to do too well?

Ph.D. candidate Van Houtum is very interested in the findings that are related to parents' "rose-tinted glasses." It raises the question whether you can also "overdo" it as a parent. "Some parents may express the strong emotions that arise when they receive criticism about their child by blaming the criticizer, or criticizing the child themselves, or by overpraising the child. This can possibly impact on the child's own self-views and [self-esteem](#). For adolescents who already have a negative self-image and low self-esteem, for example those suffering from depression, their [parents'](#) 'rose-tinted glasses' might also have a particularly negative impact. Parents' awareness of their own perceptions and reactions to feedback about the child may potentially be an important pillar in parenting interventions."

More information: Lisanne A E M van Houtum et al. Vicarious praise and pain: parental neural responses to social feedback about their adolescent child, *Social Cognitive and Affective Neuroscience* (2021).

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