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Do fathers treat sons and daughters differently?

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Abstract

Have you ever wondered why little boys seem to like trucks and little girls seem to like dolls? It may have to do with the way they are at birth. However, it may also have to do with how their parents treat them. To see if fathers interact differently with their sons than with their daughters, we recorded and studied the way dads spoke to and played with their kids. We also looked at how fathers reacted to their child's different facial expressions by studying their brains in a scanner called a *functional magnetic resonance imaging (fMRI)* machine. We found that dads with daughters were more likely to sing to them, to respond to them if they cried out, and to talk with them about sad feelings and about the body. Dads with sons were more likely to do rough-and-tumble play and to talk about achievements. We also found that the brains of men with sons and the brains of men with daughters reacted differently when looking at pictures of their children making different emotional facial expressions. Our findings are important because the ways parents interact with their children can have lifelong effects.

Introduction

Parents talk and play with their children every day, and we know that these interactions can have effects that last a lifetime. Depending on the child's *gender*, these interactions can be very different: girls and boys are often treated differently from a very young age. Even though parents aren't always aware that they treat their sons and daughters differently, previous research has shown that many parents uphold gender *stereotypes* with their children (such as offering them different types of toys to play with). Children are often strongly aware of their gender and have clear ideas of different ways that girls and boys "should" look, act, and play.

Most of the past research on this topic has focused on how mothers treat their children. But what about fathers – do they treat and respond to their sons differently than to their daughters? This question is especially important because other research has revealed that children are heavily influenced by their dad's expectations and the examples he sets around gender.

Figure 1: Fathers' interactions with their children can influence them for a lifetime.
Photo credit:
(a) Petty Officer 3rd Class Mikayla Mondragon, U.S. Navy, www.defense.gov
(b) Peter Dlhy, Unsplash

Methods

We observed 52 fathers of one-year- and two-year-old children. 30 of the fathers had a daughter and 22 of them had a son. The fathers of both daughters and sons in our study all had a similar background and lifestyle. (This is important so that the fathers could be easily compared. If they were living very different lives, it would be hard to know for sure whether any differences in behaviour were due to the sex of the child.) We gave each of these fathers a mobile sound-recording device, which they agreed to clip onto their waistband and wear for two full days (a Sunday and a Monday). The recording device was programmed to record 50-second snippets of sound every nine minutes, and the fathers did not know when the device was recording or not.

In the recordings, we paid attention to how fathers interacted with their children, as well as how they spoke to other people at home and at work. All the recorded data was *transcribed* (written down) and analyzed.

We looked at how often these things happened:

- Fathers laughed, sang, and complained
- Fathers read to their children and played with them
- Fathers paid attention to their child's needs
- Fathers were affectionate or encouraging with their children
- Father used language about happy and sad emotions

Next, we invited the fathers into our *neuroimaging* facility to study their brain activity. We showed them pictures of their child making different facial expressions (happy, sad, and no expression or 'neutral expression') while using a functional magnetic resonance imaging (fMRI) machine to track their brain activity.

Figure 2: Scientists and doctors can monitor brain activity using a functional magnetic resonance imaging (fMRI) machine. The person in the fMRI is given a series of stimuli (for example, photographs, movie clips, sounds, or a mental task), and the parts of the brain with increased blood flow light up. That shows which areas of the brain are more active in response to the stimuli. These images of the brain's response to the stimuli can then be captured and analyzed.

Source: US Department of Health and Human Services: National Institute of Mental Health

Results

We found that fathers interacted differently with sons and daughters.

Fathers with daughters sang more, talked more about sadness and body parts (using words like "tummy", "cheek", "fat" and "foot"), and had more instances in which their daughter cried out and they responded to her. They also used more *analytical language* (complex language and ideas), for example, words like "all", "below", and "much", with their daughters.

Fathers with sons talked more about achievement (using words like "top", "win" and "best") and engaged in more rough-and-tumble play (like tickling and wrestling).

Fathers of daughters and sons also showed different brain activity when they looked at pictures of their child making different facial expressions. In parts of the brain that process emotions and rewards, fathers of daughters responded more to pictures of their little girl smiling, while fathers of sons responded more to neutral expressions on their little boy's face.

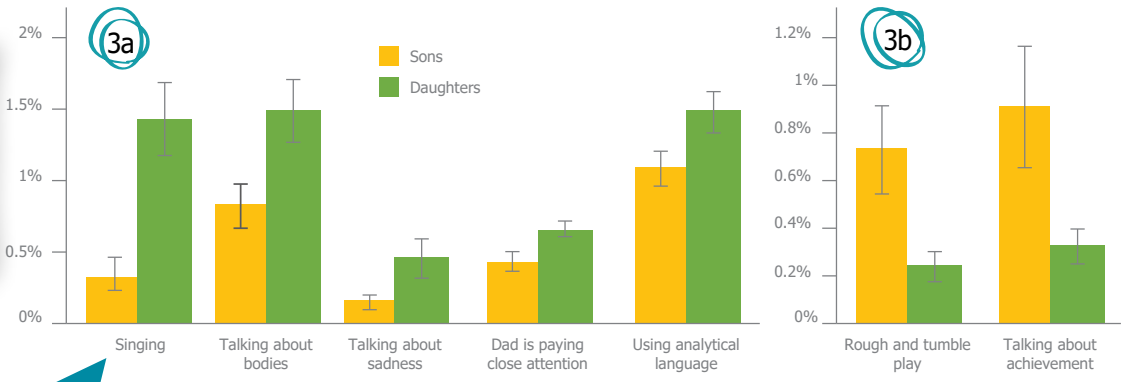

Figure 3: (a) Fathers of daughters sang more, talked more about the body and about sadness, were more attentively engaged, and used more analytical language. (b) Fathers of sons engaged in more rough-and-tumble play (RTP) and used more words about achievement.

Which interactions did fathers have more often with their daughters? Which interactions were more frequent with their sons?

Discussion

Both rough-and-tumble play and paying close attention to a child's needs can help children develop *empathy* and learn how to regulate their emotions (by being able to calm themselves down after being angry, for example). Fathers of sons do more rough-and-tumble play, and fathers of daughters are more attentive to their needs. We still do not know how these different types of interactions affect the ways boys and girls develop socially and emotionally – that's a topic we would like to research in the future.

Dads' use of analytical language with their daughters might help explain why girls tend to do better than boys in school (in places where male and female children have equal access to educational opportunities). Another research study showed that high schoolers who use more analytical language in their writing are more likely to be successful in college.

Dads talking more about body parts with little girls may lay the groundwork for negative *body image* issues. Dads talking less with their sons about sadness could affect boys' ability to identify and express their emotions. Getting a better understanding of the long-term effects of fathers' differing interactions with sons and daughters are important topics for future research.

We don't know whether the differences in the way fathers interact with their sons and daughters has more to do with the parent or the child. Little boys and girls may seek out different types of interaction with their dad (little boys may ask for rough-and-tumble play more often, for example), or dads may be treating their children differently depending on their ideas and stereotypes of how boys or girls should act, or it could be some combination of the two.

Conclusion

This research helps us understand the role fathers have in creating and continuing our society's expectations of what is normal for males and females (*gender norms*). Differences we observe in the ways boys and girls act are not necessarily because of biological differences between males and females; many of these differences may come from the different ways boys and girls interact with their fathers and other people in their lives. Although it may seem like boys like playing with trucks because they're boys and girls like playing with dolls because they're girls, it's likely that these preferences are somewhat influenced by the ways that they are treated.

Do you find that you treat young boys and girls differently? Do you tend to say different things to boys and different things to girls, or play different types of games with each of them? As individuals, being aware of how we tend to treat little boys and girls differently may help us overcome our gender stereotypes and give all children equal opportunities.

Glossary of Key Terms

Analytical language - Words that refer to more complex ideas or things in relation to one another. For example, describing one item as being "below" another.

Body image - The mental picture of and feelings about one's own body.

Empathy - The ability to sense, understand, and share another person's feelings.

Functional magnetic resonance imaging (fMRI) - A technology for measuring brain activity by tracking blood flow to different regions of the brain. Increased blood flow to certain parts of the brain signifies that those areas are in use.

Gender - Social and cultural understandings of what is 'male' and what is 'female'. This is different from what makes someone biologically male or female. Gender has more to do with the ideas and images that we use to understand men and boys, or women and girls.

Gender norms - The roles, behaviors, activities and qualities that a society considers appropriate and most likely for men and women. For example, a society might expect women to wear dresses and men to wear trousers.

Neuroimaging - The use of technology to study the structure and function of the brain and nervous system.

Stereotype - A widely held, oversimplified preconceived idea about a person, group or thing. For example, it is often assumed that only boys play video games, this is in fact untrue!

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Check your understanding

1. How did the researchers monitor the words and behaviors fathers used with their sons and daughters? What do you think are some of the strengths and limitations of these methods?

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2. In what ways did fathers interact differently with their sons and daughters?

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3. Why did fathers treat their sons and daughters differently?

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4. This study focused on children aged one and two years old. Why do you think the researchers chose to study data about paternal interactions with such young children?

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5. Do you think adults in your life treat you differently because of your gender? If so, how?