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Harsh discipline makes aggressive children worse

Parents should avoid harsh, combative ways of disciplining their aggressive children. That's according to psychologists whose new research shows that harsh parenting makes children more aggressive in the long run.

Michael Sheehan and Malcolm Watson followed 440 children and their mothers for five years. On four occasions during that time, the mothers answered questions about their own style of parenting and their children's behaviour. At the start of the study, the children's average age was 10 years and by the final assessment their average age was 15.

The results revealed two-way influences between children's behaviour and their mothers' parenting style. On the one hand, children's aggressive behaviour at younger ages predicted more disciplining by mothers, including more use of combative discipline (both verbal and physical) and more use of reasoning techniques. On the other hand, a greater use of harsh, aggressive discipline by mothers predicted increased future aggressive behaviour by their children.

Crucially, unlike aggressive parenting, the greater use of calmer reasoning techniques for disciplining children was not associated with a subsequent increase in the children's aggression (although it didn't reduce aggression either).

"Educating parents about positive, less harmful forms of discipline could help keep children (even aggressive ones) from becoming ever more aggressive adolescents," the researchers said.

A weakness in the research, acknowledged by the authors, is that all their measures were from mothers' self-report. One implication of this is that the observed associations could simply come from the fact that mothers who use more aggressive discipline are more likely to report their children's future behaviour as aggressive.


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Sounds like the auditory cortex has a dual pathway too

For some time now we've known that in the brains of humans, monkeys and cats, visual information is processed by two separate streams - one for working out where things are and the other for processing what they are. Now Stephen Lomber and Shveta Malhotra have conducted an experiment on cats and provided perhaps the strongest evidence to date that, in the mammalian brain, sounds too are processed via two separate "what" and "where" streams.

Lomber and Malhotra used a new cooling method to reversibly knock-out specific areas of the cats' auditory cortex - the part of the brain used for processing sound. The new technique involves surgically implanting small tubes into the cat's brain, through which chilled menthol is passed. In mammals, communication between brain cells stops when temperatures drop below 20 degrees Celsius, so cooling of the implanted tubes can be used to inhibit activity in a chosen localised brain region.

Tests on three cats showed that cooling of the more frontal part of their auditory cortex impaired their ability to localise sounds (the "where" function), but didn't affect their ability to discriminate between sounds (the "what function"). By contrast, cooling of a rear part of the auditory cortex had the opposite effect: it impaired the cats' ability to discriminate sounds, but didn't affect their sound localisation skills.

This pattern of results is known as a double dissociation and is the gold standard test in classic cognitive neuropsychology for demonstrating that two separate brain regions are responsible for independent functions. Before now, the evidence for "what" and "where" pathways in the auditory cortex was far weaker, having been based largely on recordings of single cell activity in monkeys or brain imaging in humans.

In a commentary on this new research, Christian Sumner and colleagues agree that this is strong evidence, but they caution that the complete picture may turn out to be more complicated. "'What' and 'where' are appealing concepts," they wrote, "but it seems probable that cortical processing is more refined and more plastic."


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It's content first, style later, when it comes to art

When you look at a painting, what do you think you process first - the painting's content or its style? According to Dorothee Augustin and colleagues it is the content of a painting that we register first, with dazzling speed - within 10 ms (less than a hundredth of a second) - while processing of a painting's style comes later, from 50ms onwards.

Non-expert student participants were presented with pairs of paintings that differed in either their content, their style or both. Content included trees, flowers, a house or a man. Different styles were represented by one of four artists: Cezanne, Chagall, Kirchner or Van Gogh.

The pairs of paintings were presented for either 10ms, 50ms, 200ms, or 3000ms (3 seconds), and the participants' task was to say how similar the paintings in each pair were to each other.

After just 10 ms exposure, a pair of paintings were rated as more similar to each other if they had identical rather than contrasting content, but style had no bearing at this brief viewing time. This suggests content but not style was already being processed after 10ms exposure.

With 50ms exposure, content exerted an even larger influence on similarity judgments and style also began to play a part. Beyond 50ms, content exerted no more of an influence, suggesting all content information had been extracted by this stage. However, style continued to exert a growing influence beyond 50ms, with paintings matched for style being judged as progressively more similar with increasing viewing times, relative to paintings not matched for style.

The researchers said their results were "astonishing" if you consider that artistic style is presumably reflected in "visual or sensory features including colours, brushwork, and treatment of lines" - features which would appear to correspond to the most basic visual elements of a scene that perceptual theories say are processed first, long before whole object recognition kicks in.

The research also shows that even people without any expertise in art are impacted early on by the artistic style of a painting. "If we consider style the characteristic of art," the researchers concluded, "this characteristic needs some time to unfold - but still, it unfolds quicker than you may think."

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How to interview children

Children are often called on to give evidence in court and it's crucial that we identify the most appropriate ways of questioning them. According to new research by Jehanne Almerigogna and colleagues, whether or not the interviewer is smiling and fidgeting can have a profound impact on children's answers.

Eighty-six children, aged 8 to 10, took part in a ten minute lesson on how the vocal chords work, before being interviewed about the session a week later. Some of the children were interviewed by a woman who smiled and did not fidget. The others were interviewed by the same woman, but in their case she was not smiling and she fidgeted by tapping her hand or foot.

One of the questions asked the children whether or not they had been touched by the teacher during the lesson. Only eight children said falsely that they had - all of them had been interviewed by the woman when she was unsmiling and fidgeting. Moreover, significantly more of the children interviewed by the woman when she was unsmiling and fidgeting answered misleading questions incorrectly. "Children may be less prone to oppose an adult who they view as distant and strict," the researchers said.

The children interviewed by the fidgeting, unsmiling woman also said they didn't know the answer to questions far less frequently than did the children interviewed by the same woman smiling and not fidgeting. Perhaps the former group of children felt "more vulnerable and anxious" and therefore "more compelled to give an answer even when they did not know it," the researchers said.

"Better understanding of the effects of interviewers' behaviours should allow professionals to control and manipulate them in interviews so as to increase the reliability of eye witness reports," Almerigogna and colleagues concluded.


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Women's memories are more speech-filled than men's

To gasps of surprise from some quarters, a spate of recent studies have shown that women don't talk any more than men do. But now Richard Ely and Elizabeth Ryan have looked at people's autobiographical memories and found that while women may not talk more than men, their recollections do tend to be more speech-filled.

Sixty female students and 48 male students were asked to write about their earliest memory, an early childhood memory, a learning experience, a recent low point, a recent high point and a self-defining memory.

Their answers showed what an important part speech plays in our memories, with an instance of speech recalled once in every 100 words on average, reflecting about 8 per cent of the participants' text.

The amount of speech recalled in participants' memories varied with gender and personality. People who scored highly on measures of openness, agreeableness and/or expressivity all tended to include more examples of speech in their memories. And women were found to recall more speech than men even after controlling for gender differences in personality and other factors.

The researchers surmised that women may recall more speech than men because of differences in the way boys and girls are spoken to by their parents. "Parents are more elaborative and more emotional when conversing with daughters than with sons," they said.

Another finding to emerge from the study was the tight association between emotion and speech-related memories. The more negative a participant said a memory was, the more likely this memory was to contain speech.

This was consistent with the number of speech-related memories that had obviously had a momentous effect on participants' lives. Take this example, in which a participant recounted the time he accidentally injured a team-mate in baseball, and went to see if he was okay: "The coach just turns to me and says 'Get out of here you little bastard, you have done enough.' I didn't play baseball for five years after that."


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**We're more likely to listen to expensive advice**

Whether its political spin doctors or orange-skinned health gurus, there seems no shortage of people seeking to charge others good money for the benefit of their wisdom. Regardless of the quality of this advice, one thing is for sure: The fact that someone has paid for it, means it is more likely to be heeded.

That's according to Francesca Gino at Carnegie Mellon University, whose new study shows that we're more likely to use advice we've paid for than advice that's free, even if there's no difference in quality between the two sources.

Dozens of students were asked questions about American history and received small cash prizes for correct answers. The students were either given the option of receiving advice on the correct answers, or advice was imposed on them. Sometimes this advice was free; other times it was paid for out of the students' winnings. Crucially, the advice always came from the same source - in the form of the answer that a student from a pilot session had given to the same question - so the quality of advice was held constant regardless of whether it was free or paid for.

Throughout the study, the participants took more account of advice they had paid for than advice they were given free, even though it was made clear to them that the advice was of the same quality. A final study showed the students took even more account of advice if it was made more expensive.

Gino said her findings could be explained by a phenomenon in decision-making theory known as the sunk cost fallacy. This is our desire to justify our past investments through our present and future behaviour - it's why that expensive pair of shoes that you never wear is still cluttering up your cupboard. In the case of advice, it seems we feel compelled to use guidance we've paid for, so as to justify the expense. And perhaps it explains why expensive frauds can sometimes be so influential.

GINO, F. (2008). Do we listen to advice just because we paid for it? The impact of advice cost on its use. Organizational Behavior and Human Decision Processes
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