



## WHY DO WE GOSSIP?

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### YOUNG REVIEWERS:



**ARAV**

AGE: 14



**ISAEHA**

AGE: 13



**LEILANI**

AGE: 11



**ZELYA**

AGE: 9

Talking about someone else's life is an interesting topic for a group conversation. Sometimes it can turn into gossip! We often think of gossip as something negative, and it certainly can be! Gossip can even be a part of bullying. But have you ever thought about whether gossip might also play a *positive* role in our lives? In this article, we will tell you about some research on why people gossip, and how it might help to build social bonds. We will also explain the complex network of actions that happen in the brain every time we participate in gossip. Hopefully you will learn that, while gossip can sometimes be negative, it is also a normal part of our social lives.

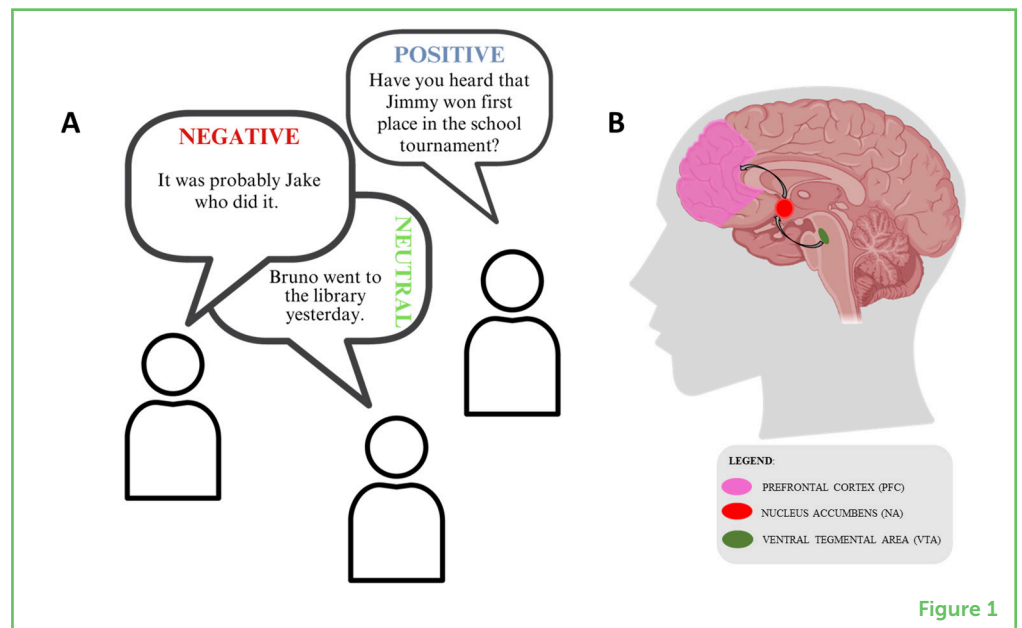
### GOSSIP: GOOD, BAD, OR NEUTRAL?

When we hear the word "gossip," we usually associate it with saying or hearing harmful and/or offensive things about another person.

Although gossip often happens when the person being talked about is not around, it is not necessarily bad (Figure 1A). Is this surprising? Yes, gossip can also be seen as a form of communication used to share information, learn, bring a group closer together, and strengthen personal bonds [1–3]. The basic difference between good and bad gossip is the way people use the information they get from gossiping—whether they use it in a responsible way or not. Here is an example of good gossip: Say you know that one of your classmates is getting bad grades in math. You tell this to your older sister, who is really good at math, so she can give your classmate some useful help on this subject. However, if you tell all the students from your class about the classmate’s bad grades, without the intention to help him in any way, this is bad gossip. Depending on the context, gossip can also be completely neutral—meaning not good or bad. Maybe someone tells you that a friend from your class is going to move to another neighborhood—there is nothing good or bad about this information.

**Figure 1**

(A) Gossip can be positive, when the content is something good about someone; negative, when the content is judgmental about someone’s behavior; or neutral, when the content is not good or bad. (B) The brain’s reward system is active during gossip, just like when we do something else that gives us feelings of pleasure. This starts in a brain area called the ventral tegmental area, moves along neurons through the nucleus accumbens, and then gets processed in the prefrontal cortex, which triggers the positive, negative, or neutral emotional associations.



**Figure 1**

## WHY DO WE GOSSIP?

According to researchers, there are good reasons for gossip—far beyond just spreading rumors [4]. Some of the reasons for gossiping include gathering and confirming information and protecting your group or yourself (from being the next gossip target). Gossip can also simply be a fun thing to do socially! Gossip that confirms or discusses information may also help people learn. Rumors have the power to generate great curiosity and change our behavior toward others based on the opinions we form about them [5]. We can gossip about people like celebrities, whom we will probably never meet, or people we see on a daily basis, like our classmates.

As humans, we are social animals, learning by example and acting as a group. So, gossip is important for building social bonds. Whether it is at school, at a party, or with a new group of friends, talking about someone else's life brings people closer. Often, gossip has to do with shared interests (like playing soccer or liking the same band). When people gossip, they create an environment of trust that makes the relationship stronger. Gossip can influence group members to follow the group's "rules" regarding which behaviors are (or are not) accepted by that group—just to avoid becoming the next target of gossip.

## GOSSIP CAN BE FUN

One study examined the brain regions activated during positive or negative gossip. Participants were instructed to rate their emotional state after hearing gossip about a celebrity. Although they did not feel happy when they heard negative gossip about celebrities, the activity of the brain's **reward system** was still increased, indicating that participants were interested in and enjoyed the information [2]. It is interesting that these same brain areas are activated when we do other things that give us feelings of pleasure, such as eating a treat like a candy bar or playing a game with our friends (Figure 1B).

### REWARD SYSTEM

A brain system that triggers feelings of pleasure when a person experiences something they enjoy.

## WHO LIKES TO GOSSIP THE MOST?

Who do you think likes to gossip the most? Research has shown that the answer to this question depends on several things, including what the gossip is about, the age of the people participating in the gossip, and some individual differences like being a boy or a girl. Adolescent girls and women appear to use negative gossip as a way of "fighting back" against a potential threat, for example, when they hear that someone is telling untrue stories about them behind their backs. Boys and men, on the other hand, generally choose to fight in such situations rather than spreading gossip [6]. In general, women tend to gossip about relationships and how other people look, while men are more interested in gossiping about their achievements and their influence on a group, such as being the school football team captain [3].

Among adolescents, factors like popularity have also been shown to influence gossip behavior. For example, popular adolescents tend to gossip more than less popular adolescents do, which could be a way to establish intimacy with others or to be the focus of attention. Regardless of what the gossip is about, the age of the gossipers, or whether they are male or female, researchers tell us that, in general, all people gossip!

## AUDITORY CORTEX

The brain region responsible for processing sound information.

## WERNICKE'S AREA

The brain region that contains neurons involved in understanding language.

## BROCA'S AREA

The brain region that contains neurons involved in speaking/language production.

## NEURONS

Cells of the nervous system specialized to carry electrical messages. The human brain has ~86 billion neurons.

## Figure 2

Several brain areas are activated when we gossip. **(A)** The auditory cortex is activated by sound. **(B)** Wernicke's area helps us understand language. **(C)** Broca's area is responsible for speech production and works together with the motor cortex—an area involved with face and mouth movements. **(D)** Other data we know about the target of gossip are joined to the gossip information by the anterior temporal lobe. **(E)** The arcuate fasciculus which connects **(B, C)**, facilitating the information flow between these areas.

## BRAIN AREAS ACTIVATED BY GOSSIP

When we hear gossip about someone, there are several brain processes involved. First, we must search our memories to remember who the person is and what feeling that person evokes in us. Do we feel like the person is boring, amazing, or arrogant, for example? Next, we need to judge whether the topic of the gossip is “good” or not. Finally, we form an opinion about the issue. Overall, this is a lot of information for the brain to process, and several brain areas are involved.

During a conversation, voices produce sounds that are captured by the ears. These sounds are converted into electrical signals that can activate the brain's **auditory cortex** (Figure 2A). Then, **Wernicke's area** is activated, which allows the listener to recognize and interpret what was heard (Figure 2B). This is the brain region that helps people begin to understand the actual content of words—including gossip! **Broca's area** is the brain region that controls the movement of body parts that produce the voice, including the mouth (Figure 2C). These movements are initiated by cells called **neurons** in the motor cortex. Another brain area on the right side of the brain helps us to understand the rhythm and tone of conversation, so that we can feel the emotion behind it.

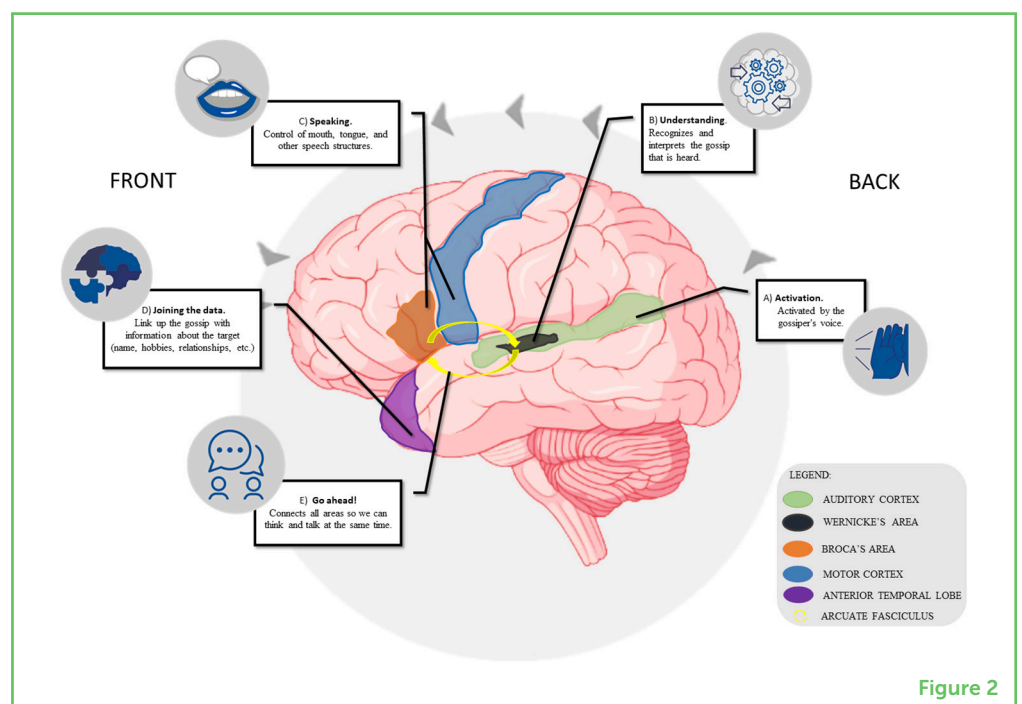


Figure 2

It is important to point out that there are other brain regions involved in gossip, such as the anterior temporal lobe (Figure 2D), which coordinates information about the person being gossiped about, such as name, occupation, and personality traits [7]. The arcuate fasciculus connects the Wernick and Broca's areas, so we can understand what is being heard and tell to others our opinion (Figure 2E). Finally, the



amygdala (not shown in the figure) helps us to make a judgment about whether the piece of gossip is true or not, and controls our emotions and our motivation to spread the gossip! As you can see, what looks like simple gossip is actually a complex form of communication.

## SPREAD THE “GOSSIP!”

Gossip is a type of informal communication that is a normal part of our social behavior, helping to fill the need to belong to a group. It is not necessarily something negative or positive—it can also be neutral depending on its purpose. Researchers have shown that boys and girls gossip about the same amount, but they typically differ in what they gossip about. The brain’s reward system is usually activated during gossip, suggesting that gossiping can trigger a feeling of pleasure. We hope you enjoyed this article and the scientific “gossip” it contains! Feel free to spread it to everyone you know!

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## YOUNG REVIEWERS



### ARAV, AGE: 14

An 8th grade student at Synapse School, Arav has been exploring neuroscience with the Brainwave Learning Center for 2 years and continues to learn and have fun.



### ISAEHA, AGE: 13

I like collecting Yu-Gi-Oh! cards. And I set a new record with my Rubik's cube. I am good at math and science, that stuff is easy. This is the first paper I read, it was cool. I did not know guys gossip, that was interesting.



### LEILANI, AGE: 11

I have a BTS (K-pop band) addicted friend named Jazmyn. I love my puppy Oreo and her sister Winter. I like to play Soccer because it helps me build leg muscle. I like reading science and seeing how many kids like our papers.



### ZELYA, AGE: 9

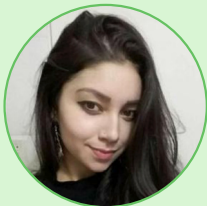
I like to play with my friends. I like soccer. I also like my dogs. This is the 3rd paper I read and I love to see how many kids look at papers we read together. Science is cool.

## AUTHORS



### THALITA MÁZALA-DE-OLIVEIRA

I am a university professor with a passion for neuroscience. Over the years, I have been working with Nucleus for Research, Education, Dissemination, and Extension in Neuroscience, to popularize neurosciences so that everyone can understand how simple things in our daily lives are interpreted by our brains.



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I am a psychology undergraduate student, passionate about neuroscience and behavior analysis.



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I am an Assistant Professor of Neurophysiology at the State University of Rio de Janeiro, investigating how emotions affect our behaviors and our brains. I am also a member of Nucleus for Research, Education, Dissemination, and Extension in Neuroscience and I am particularly interested in helping the general public to understand neuroscience.



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I am an Associate Professor at Fluminense Federal University and the head of Nucleus for Research, Education, Dissemination, and Extension in Neuroscience. Our group is concerned with neuroscience research and communicating it to the public. We develop new ways to interact with society, to show that science can and should be accessible to everyone. \*[priscillaos@id.uff.br](mailto:priscillaos@id.uff.br)