

As our world becomes gradually more interactive (e.g., smartphones), emotional (e.g., TikTok), and multilingual (e.g., Duolingo), there is an urgent need to better understand relationships between instant communication, emotional content, and the language we use to communicate.

The project goal

In this project, we aim to better understand links between language use and emotional content communication in relation to proficiency in a second language when individuals who master two languages communicate with one another. For the first time, we will test bilingual individuals simultaneously as they engage in the act of sending words and pictures from one testing booth to the other, whilst we take measures of bodily emotional responses and brain activity.

Description of the research

First, we aim to verify the theory that emotional content has reduced power when we encounter it in the second language. Importantly, we will measure such sensitivity at an unconscious level, that is directly from changes in brain activity elicited by emotional words. Once we have validated this theory, we will test whether sensitivity to emotional content presented in the second language depends upon fluency and exposure: On the one hand, it could be that the more fluent we are in the second language, the more sensitive to emotional content we become. But it could also be that no matter how much experience we have with the second language, our emotional disconnection remains, because emotion and language are primarily linked in childhood. **Second**, we plan to test how individuals perceive emotional content (words and pictures) sent by others, which is a very common occurrence with today's communication technology such as texting and posting. For the first time, we will test two bilingual individuals simultaneously to measure responses from their body (skin conductance response) and their brain (electroencephalography) as they receive emotional words in real time. Once we have tested expected differences between languages, we will test individuals who are in an intimate relationship, to see if the relationship amplifies or dampens the response. **Third**, we seek to measure the impact of emotional content and second language on retention of information in memory. In psychology, it is known for a long time that emotional contents are better remembered than non-emotional ones. Here, we would like to know if the language in which this content is experienced makes a difference to memorization. And here also, we want to find out if a relationship between two individuals exchanging contents makes a difference, this time in terms of their ability to remember.

Reasons for attempting this research

Because the human brain does not process information in the native and second language in the same way, we need to understand how language and emotion interact. If we better understand the advantages and the difficulties associated with emotional content processing in the native and the second language, we can develop strategic approaches to language use and improve the conditions in which citizens of the world communicate with one another.

Substantial results expected

We anticipate ground-breaking new insights from this research for other academic researchers in our field who want to better understand language-emotion interactions in bilinguals. But our research should also have substantial concrete impact for practitioners in fields as varied as education, mental health, the judiciary, or diplomacy, all of which are now directly impacted by bi- and multilingualism and often require the communication of sensitive concepts. Understanding how emotional words affect someone, for instance, could help fostering motivation for learning in students who master English. If emotional sensitivity is dampened in the second language, perhaps a patient undergoing psychotherapy could better communicate about their trauma in the second language, until they feel confident enough to communicate in the native language. Can we trust a witness testimony in the second language as much as one in the native language? Is a bilingual jury or a bilingual lawyer in a better position to make a judgement in the second or the native language? Can a diplomat do justice to both the country they represent and the country they negotiate with when they operate only in the native language? Whilst the fundamental research described here cannot readily answer all these questions, it can provide a strong foundation for future recommendations in such applied domains.