

Language and Emotion in eaJ's Among Us Gaming Livestreams: A Psycholinguistic Analysis of Spontaneous Speech

Ragil Putri Prasetyo¹, Rohmani Nur Indah²

^{1,2}Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia

Email: ¹putriragilprsty@gmail.com, ²indah@bsi.uin-malang.ac.id

Abstract

Article History:

Received: 09/06/2026

Accepted: 28/06/2026

Published: 10/07/2026

Keywords:

*emotional prosody,
gaming livestream,
livestream interaction,
psycholinguistics,
spontaneous speech*

Emotional prosody plays an important role in expressing emotions during spontaneous speech. However, studies on livestream communication have primarily focused on audience engagement and viewer interaction, while emotional prosody produced by streamers remains underexplored. Therefore, this study investigates emotional prosody manifested in eaJ's spontaneous speech during an Among Us livestream and examines how interactions with other players create variations in emotional expression. This study employed a descriptive qualitative approach within a psycholinguistic framework. The data were obtained from an Among Us livestream uploaded on the eaJ Stream Archive YouTube channel. Fourteen excerpts containing emotional reactions were selected and analyzed using Juslin and Laukka's (2003) emotional prosody framework. Fourteen excerpts were selected from all rounds of the livestream based on the salience of emotional expression and the absence of recurring prosodic patterns, as eaJ was frequently eliminated early in each round through being killed or voted out, resulting in limited interaction per round despite the overall duration of over four hours. The findings revealed five types of emotional prosody: anger, happiness, surprise, sadness, and fear. Anger emerged as the most dominant emotional category, while emotional variations appeared to be associated with interactional contexts such as accusations, voting discussions, humorous exchanges, and unexpected gameplay events. The findings also indicate that emotional meaning was conveyed through prosodic features, including pitch, loudness, stress, speech rate, and intonation, supported by visual cues such as facial expressions and body movements. This study concludes that emotional prosody functions as a dynamic communicative resource for expressing emotions during real-time interaction and contributes to psycholinguistic research on language and emotion in digital communication. Future research may examine emotional prosody across different gaming

genres, livestream platforms, and interactional settings to provide a broader understanding of emotional expression in digital communication.

Kata Kunci:

*prosodi emosional,
siaran langsung game,
interaksi siaran
langsung,
psikolinguistik, ujaran
spontan*

Abstrak

Prosodi emosional memiliki peran penting dalam mengekspresikan emosi pada ujaran spontan. Namun, penelitian mengenai komunikasi livestream selama ini lebih banyak berfokus pada keterlibatan audiens dan interaksi penonton, sementara prosodi emosional yang dihasilkan oleh streamer masih jarang diteliti. Oleh karena itu, penelitian ini bertujuan untuk menginvestigasi prosodi emosional yang termanifestasi dalam ujaran spontan eaJ selama livestream permainan Among Us serta mengkaji bagaimana interaksi dengan pemain lain menciptakan variasi ekspresi emosional. Penelitian ini menggunakan pendekatan kualitatif deskriptif dalam kerangka psikolinguistik. Data diperoleh dari livestream Among Us yang diunggah pada kanal YouTube eaJ Stream Archive. Sebanyak empat belas ekstrak yang mengandung reaksi emosional dipilih dan dianalisis menggunakan kerangka prosodi emosional dari Juslin dan Laukka (2003). Hasil penelitian menunjukkan lima jenis prosodi emosional, yaitu marah, bahagia, terkejut, sedih, dan takut. Marah muncul sebagai kategori emosional yang paling dominan, sementara variasi emosi dipengaruhi oleh konteks interaksi seperti tuduhan, diskusi voting, percakapan humoris, dan peristiwa permainan yang tidak terduga. Temuan juga menunjukkan bahwa makna emosional disampaikan melalui fitur prosodik, meliputi tinggi nada, kenyaringan, tekanan, kecepatan bicara, dan intonasi, yang didukung oleh ekspresi wajah serta gerakan tubuh. Penelitian ini menyimpulkan bahwa prosodi emosional berfungsi sebagai sumber daya komunikatif yang dinamis untuk mengekspresikan emosi dalam interaksi waktu nyata serta berkontribusi pada kajian psikolinguistik mengenai hubungan bahasa, emosi, dan komunikasi digital. Penelitian di masa mendatang dapat mengkaji prosodi emosional pada berbagai genre permainan, platform siaran langsung, dan konteks interaksi guna memberikan pemahaman yang lebih luas mengenai ekspresi emosional dalam komunikasi digital.

INTRODUCTION

Language and emotion are closely interconnected in human communication, particularly in spontaneous speech where speakers express their feelings in real time. From a psycholinguistic perspective, emotions influence language production and are reflected not only through lexical choices but also through vocal characteristics such as pitch, intonation, loudness, and speech rate. These vocal features, commonly known as emotional prosody, enable listeners to recognize a speaker's emotional state even when emotions are not explicitly stated in words. (Juslin & Laukka, 2003) proposed that emotional meaning can be communicated through prosodic cues such as pitch, loudness, stress, tempo, and intonation, making vocal expression an important channel for conveying emotions in spoken communication. (Scherer, 2003) further emphasized that vocal communication serves as one of the primary channels through which emotions are expressed and perceived in social interaction. (Ferré et al., 2025) emphasized that language plays a central role in conveying emotional content and shaping emotional interpretation during communication. (Hoemann et al., 2025) further argued that emotional experiences and language are closely interconnected in everyday communication. In contemporary digital communication, emotional expression has become increasingly visible through livestream platforms, where speakers interact directly with audiences and other participants in real time.

The growing popularity of gaming livestreams has created a unique environment for examining spontaneous emotional expression. During livestream interactions, streamers frequently react to unexpected gameplay events, accusations, disagreements, and humorous situations, producing spontaneous speech that reflects immediate emotional responses. Hamilton et al. (2014) described livestream platforms as highly interactive environments where communication occurs in real time among multiple participants. Wulf et al. (2021) further explained that livestream interactions create unique communicative experiences that differ from traditional media consumption. Previous studies have investigated livestream communication primarily from the perspectives of audience engagement, viewer participation, and online interaction. (Cabeza-Ramírez et al.,

2021) identified gaming livestreams as an emerging area of research in digital communication. (Chae et al., 2022) also examined emotional sharing among audiences during gameplay spectating. Other studies have highlighted the importance of spontaneous speech in revealing authentic emotional expression because speakers respond naturally to ongoing situations rather than following scripted conversations. (Bänziger & Scherer, 2010) emphasized the value of spontaneous emotional expression in communication. Similarly, (Nunes & Teixeira, 2021) argued that spontaneous speech provides valuable emotional information because speakers react directly to unfolding situations. (Gabler et al., 2023) further suggested that spontaneous speech provides a more natural representation of communicative behaviour than read speech.

Collectively, the above studies suggest that gaming livestreams constitute a rich environment for spontaneous emotional expression, shaped by real-time social interaction and dynamic communicative demands (Hamilton et al., 2014; Wulf et al., 2021). While audience engagement and viewer responses have received considerable attention (Cabeza-Ramírez et al., 2021; Chae et al., 2022), and the authenticity of spontaneous speech has been well established (Bänziger & Scherer, 2010; Nunes & Teixeira, 2021; Gabler et al., 2023), the prosodic dimensions of streamers' own emotional expression during live gameplay interactions remain largely unexplored. This gap highlights the need for research that specifically examines how streamers express emotions through prosodic features in real-time gaming communication.

Despite the increasing number of studies on livestream communication and emotional speech, limited attention has been given to how streamers express emotions through emotional prosody during gaming livestreams. Most existing research focuses on viewers' responses or platform-related features rather than examining the prosodic characteristics of streamers' spontaneous speech. (Filippa et al., 2022) demonstrated that emotional prosody plays an important role in emotional recognition across different communicative contexts. (Ross, 2023) also highlighted the contribution of affective prosody to emotional processing and language-related neurological functions. (van Rijn & Larrouy-Maestri, 2023) also

highlighted the relationship between emotional expression and prosodic variation across speakers and communicative contexts. However, these studies were conducted outside livestream communication settings. Consequently, the relationship between emotional prosody and real-time interaction in gaming livestreams remains underexplored. Furthermore, it is worth clarifying that emotional prosody differs from ordinary prosody in its function and origin. Ordinary prosody refers to suprasegmental features such as intonation, stress, and rhythm that serve grammatical or discourse purposes, for instance signalling questions, emphasis, or turn-taking (Scherer, 2003). Emotional prosody, by contrast, encodes the speaker's affective state and arises from physiological and psychological changes associated with emotional arousal, manifesting through variations in pitch, loudness, speech rate, voice quality, and pauses (Juslin & Laukka, 2003). This distinction is fundamental to the present study, as the analysis focuses specifically on prosodic features that reflect emotional states rather than grammatical or structural functions.

To address this gap, the present study investigates emotional prosody manifested in eaJ's spontaneous speech during Among Us gaming livestreams. Using (Juslin & Laukka, 2003) framework of emotional prosody, this study aims to identify the types of emotional prosody that appear in eaJ's speech and examine how interactions with other players create variations in emotional expression. By focusing on spontaneous speech in a real-time gaming environment, this study contributes to psycholinguistic research on language and emotion in contemporary digital communication.

METHOD

This study employed a descriptive qualitative approach to investigate emotional prosody in spontaneous speech during gaming livestream interactions (Creswell & Creswell, 2023). A qualitative design was selected because the study focused on interpreting emotional expressions and prosodic patterns in naturally occurring communication rather than measuring numerical data. The study was

conducted within a psycholinguistic framework to examine how emotions were reflected through vocal features in spontaneous speech.

The data consisted of utterances produced by eaJ during an Among Us gaming livestream uploaded on the eaJ Stream Archive YouTube channel. The selected livestream had a duration of 4 hours and 40 minutes and contained extensive spontaneous interactions among players during gameplay. The utterances were chosen because they represented naturally occurring emotional reactions in real-time communication. The analysis focused exclusively on eaJ's speech, while interactions with other players were considered as contextual factors influencing emotional expression.

Data were collected through observation and transcription. First, the researcher repeatedly watched the livestream recording to identify moments containing emotional reactions during gameplay, such as accusations, disagreements, voting discussions, humorous exchanges, and unexpected game events. Second, relevant utterances were transcribed and documented together with their timestamps and interactional contexts. To ensure data validity, the researcher employed triangulation by cross-referencing the prosodic features identified in eaJ's speech with observable visual cues available in the video recording, including facial expressions and body movements. The recording was watched repeatedly until consistent interpretations were reached, thereby minimizing subjective bias in the analysis. Following the data reduction process, fourteen excerpts were selected for further analysis based on the researchers' judgment that each excerpt displayed salient and clearly observable emotional expression through prosodic features as defined by Juslin and Laukka (2003). Excerpts in which the emotional prosody was ambiguous or repeated patterns already represented in the data were excluded.

The data were analyzed using the emotional prosody framework proposed by (Juslin & Laukka, 2003). The analysis focused on prosodic features, including pitch, intonation, speech rate, loudness, stress, and pauses. Each excerpt was examined to identify the emotional prosody manifested in eaJ's spontaneous speech. The identified prosodic patterns were subsequently classified into emotional categories based on the characteristics proposed by Juslin and Laukka.

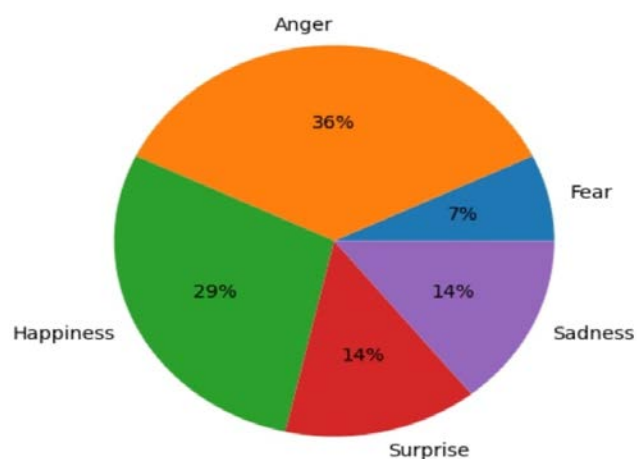
Furthermore, the interactional context surrounding each utterance was analyzed to determine how communication with other players contributed to variations in emotional prosody. To strengthen the interpretation, visual cues such as facial expressions and body movements were used as supporting evidence during the analysis process.

FINDINGS AND DISCUSSION

Findings

This study identified five types of emotional prosody manifested in eaJ's spontaneous speech during the Among Us livestream, namely anger, happiness, surprise, sadness, and fear. These emotional categories were identified through prosodic features such as pitch variation, loudness, stress, speech rate, tempo, and intonation. A total of fourteen excerpts were analyzed using the emotional prosody framework proposed by Juslin and Laukka (2003).

Graph 1: Distribution of Emotional Prosody in eaJ's Spontaneous Speech



As shown in Figure 1, anger was the most dominant emotional prosody, accounting for 36% ($n = 5$) of the total data. Happiness followed with 29% ($n = 4$), while surprise and sadness each represented 14% ($n = 2$). Fear appeared least frequently, accounting for only 7% ($n = 1$). The predominance of anger indicates that emotionally intense interactions frequently occurred during gameplay

discussions, particularly in situations involving accusations, disagreements, and voting decisions.

Anger-related prosody was commonly characterized by increased pitch, louder vocal intensity, emphatic stress, repetition, and faster speech rate. These features frequently emerged when eaJ was accused by other players or attempted to defend himself during discussions. For instance, emotional reactions such as irritation, outburst, and defensive responses were observed when voting outcomes or accusations challenged his position in the game. This is exemplified in Excerpt 3 (00:23:02), in which eaJ had provided an alibi but was still voted out by Edison. Following the vote, eaJ exclaimed: “EDISON!!!” (sudden high pitch, loud, abrupt tempo), followed by “freaking Edison always” (slightly lower pitch, faster tempo, strong stress on “Edison”). The sharp pitch jump on his name and the emphatic stress throughout reflect outburst anger, triggered by the interactional context of being eliminated despite having defended himself.

Happiness was the second most frequent emotional category. This emotional prosody typically appeared during humorous interactions and playful exchanges among players. It was reflected through laughter, energetic speech delivery, wider pitch variation, and rising intonation. Positive emotional responses often emerged when players engaged in jokes, lighthearted conversations, or entertaining gameplay situations. The example of happiness is as illustrated in Excerpt 5 (02:17:20), BamBam struggled to explain his task in English and asked to switch to Korean. After his confusing description, eaJ responded: “oh you are the killer?” (slight pitch rise, faster tempo, lighter vocal quality, laughter). The playful pitch rise and laughter indicate amusement triggered by BamBam’s unintentionally suspicious explanation, demonstrating how humorous interactional moments elicited happiness prosody.

Surprise appeared in response to unexpected accusations, unforeseen voting outcomes, and sudden gameplay developments. This category was characterized by abrupt pitch increases, questioning intonation, and expressive vocal onset. In contrast, sadness was reflected through softer vocal intensity, slower speech rate, and reduced pitch variation, particularly when eaJ gradually lost support from other

players during discussions. Fear appeared only once and was associated with uncertainty during the initial stage of gameplay adaptation.

As an example of this case is in Excerpt 6 (02:29:35), Rachel suggested voting eaJ out despite his alibi, prompting eaJ to respond: “eee uh... EXCUSE ME? I was with someone when people died before I was valid for this game?” (hesitation, slower tempo, slight pitch rise on “excuse me”, controlled delivery). The pitch rise and questioning intonation on “EXCUSE ME” reflect disbelief and shock at the unexpected accusation. Sadness is illustrated in Excerpt 7 (02:32:18), in which eaJ, after being voted out despite his protests, said: “You guys are— I hate it here I hate it here” (slower tempo, reduced pitch, lower vocal energy), reflecting resignation and emotional deflation following the failed defense. Fear is exemplified in Excerpt 1 (00:02:18), where eaJ responded to the unfamiliar game rules with: “I’m VERY confused but let’s do it” (slowly, hesitation before “confused”, slight rise at end), reflecting uncertainty and apprehension at the initial stage of gameplay.

To provide a more detailed representation of emotional expression, the analysis further identified several emotional prosody subtypes that emerged throughout the livestream interaction.

Graph 2: Distribution of Emotional Prosody in eaJ’s Spontaneous Speech



Figure 2 presents twelve emotional prosody subtypes identified in the data, namely uncertainty, irritation, outburst, defensive reaction, amusement, confidence, excitement, resignation, playful amusement, frustration, disbelief, and shock. These subtypes demonstrate that emotional expression during livestream interaction extended beyond broad emotional categories and involved more specific emotional reactions shaped by different interactional situations.

Among the identified subtypes, disbelief and frustration were the most frequent, each accounting for 14% of the data. Disbelief commonly occurred when eaJ received unexpected accusations or voting decisions despite having an alibi or supporting evidence. Frustration emerged when his explanations failed to influence the outcome of discussions or when he was eliminated despite repeatedly defending himself.

The remaining subtypes each accounted for 7% of the total data. Anger-related subtypes included irritation, outburst, and defensive reaction, while happiness-related subtypes consisted of amusement, confidence, excitement, and playful amusement. Meanwhile, uncertainty represented fear, resignation represented sadness, and shock represented surprise. The distribution of these subtypes illustrates the diverse emotional responses that emerged during spontaneous interaction among players.

Overall, the findings reveal that emotional prosody in livestream communication is highly dynamic and closely associated with real-time interaction. The identified emotional categories and subtypes demonstrate how spontaneous speech functions as a medium for expressing immediate emotional reactions during digital communication, particularly in competitive and socially interactive gaming environments.

Discussion

The Emotional Prosody in Spontaneous Speech During Livestream Interaction

The findings demonstrate that emotional prosody plays a significant role in expressing emotions during spontaneous livestream communication. The identification of anger, happiness, surprise, sadness, and fear indicates that

emotional states were continuously reflected through vocal delivery while the speaker interacted with other players. This finding supports the psycholinguistic perspective that language production is closely associated with cognitive and emotional processes occurring during communication. In livestream interaction, speakers are required to respond immediately to ongoing situations, making emotional reactions more observable through prosodic features such as pitch, loudness, stress, tempo, and intonation (Erwina, 2024).

Among the identified emotional categories, anger emerged as the most prominent emotional prosody. This finding may be explained by the communicative demands of *Among Us* as a social deduction game. Throughout the gameplay, players are required to accuse, defend, persuade, and evaluate one another within a limited period of time. Such interactional conditions create social pressure and encourage emotionally intense responses. As a result, emotional expression is conveyed not only through lexical choices but also through vocal features that signal frustration, disagreement, and defensive reactions. This finding supports (Juslin & Laukka, 2003) argument that emotions are frequently communicated through prosodic cues rather than through words alone.

The occurrence of happiness further demonstrates that emotional prosody is not limited to negative emotional states. Positive emotions were expressed during humorous interactions (Liaou et al., 2023), playful exchanges, and entertaining gameplay situations. These findings suggest that livestream communication provides opportunities for both positive and negative emotional expression to emerge naturally within spontaneous interaction. The appearance of amusement, confidence, excitement, and playful reactions indicates that emotional expression in gaming livestreams is highly dynamic and influenced by the social atmosphere created among participants.

The presence of surprise, sadness, and fear also provides insight into how emotional responses develop during real-time interaction. These emotions tended to emerge when unexpected events disrupted players' expectations or when interactional situations changed rapidly. Such findings support previous studies suggesting that spontaneous speech reflects authentic emotional reactions because

speakers respond directly to unfolding situations rather than producing carefully planned utterances (Bänziger & Scherer, 2010; Nunes & Teixeira, 2021). Therefore, emotional prosody becomes an important indicator of how speakers process and express emotions in real-time communication.

Another important contribution of this study is the identification of emotional prosody subtypes such as disbelief, frustration, shock, confidence, and amusement. These subtypes demonstrate that emotional expression during livestream interaction extends beyond broad emotional categories and involves more specific emotional states (Wang & Mao, 2022). This finding highlights the complexity of emotional prosody in spontaneous speech and suggests that emotional expression in digital communication environments is more nuanced than conventional emotional classifications may imply.

Furthermore, the findings extend previous research on livestream communication. While Chae et al., (2022) primarily focused on audience engagement and viewer responses, the present study specifically examines emotional prosody produced by the streamer during direct interaction with other players. This perspective contributes to a broader understanding of how emotions are expressed through vocal delivery in contemporary digital communication.

Interactional Factors Creating Variations of Emotional Prosody

The findings indicate that emotional prosody appeared to be associated with interactional context. Emotional expression did not occur independently but emerged as a response to social actions performed by other players throughout the livestream. Different interactional situations generated different emotional reactions, resulting in noticeable variations in prosodic features.

Accusation and voting discussions were particularly influential in generating emotionally intense responses. During these situations, players were required to defend themselves, evaluate evidence, and convince others within a limited timeframe. Such communicative demands created pressure that encouraged stronger emotional expression. Consequently, emotional prosody became more prominent as speakers reacted to disagreement, suspicion, and social confrontation. This finding suggests that emotional prosody functions as an adaptive

communicative resource (Erwina, 2024) that helps speakers respond to interactional challenges in real time.

In contrast, humorous interactions created a different interactional environment. Jokes, playful exchanges, and entertaining gameplay moments encouraged positive emotional expression and reduced interactional tension. As a result, emotional prosody shifted from emotionally intense patterns to more relaxed and playful forms of vocal delivery. This demonstrates that emotional expression is highly sensitive to changes in social context and interactional atmosphere (Wang & Mao, 2022).

Unexpected gameplay events also played an important role in creating emotional variation. Sudden accusations, unexpected voting outcomes, and impostor revelations frequently triggered immediate emotional reactions. These findings reinforce the idea that spontaneous speech reflects authentic emotional processing (Wang & Mao, 2022) because speakers must react instantly to unpredictable situations. Emotional prosody therefore serves as evidence of how emotional states continuously change in response to interactional developments.

Another important insight from this study concerns the multimodal nature of emotional expression. Emotional meaning was not conveyed solely through vocal delivery but was also supported by facial expressions, gestures, posture, and body movements. In many instances, emotional interpretation became stronger when prosodic changes occurred simultaneously with visible reactions such as laughing, widening the eyes, covering the face, or changing body position (Erwina, 2024). This finding suggests that emotional expression during livestream interaction operates through multiple communicative channels simultaneously.

Overall, the findings demonstrate that interaction plays a central role in shaping emotional prosody during livestream communication. Emotional variations emerged because speakers continuously negotiated changing social situations throughout gameplay. This study therefore contributes to psycholinguistic research by showing that emotional prosody in digital communication is dynamic, interaction-dependent, and closely connected to the real-time demands of social interaction.

CONCLUSION

This study investigated emotional prosody manifested in eaJ's spontaneous speech during an Among Us livestream. The findings revealed that emotional prosody in livestream communication is manifested through multiple emotional categories and subtypes that reflect speakers' immediate emotional reactions during spontaneous interaction. These findings demonstrate that emotional expression in livestream communication is highly dynamic and can be observed through various prosodic features, including pitch, loudness, stress, speech rate, and intonation.

The study further revealed that emotional prosody appeared to be associated with interactional context. Accusations, voting discussions, humorous exchanges, and unexpected gameplay events contributed to variations in emotional expression throughout the livestream. This suggests that emotional prosody functions as a dynamic communicative resource through which speakers negotiate emotions during real-time social interaction.

This study contributes to psycholinguistic research by extending the investigation of emotional prosody into the context of gaming livestreams. The findings highlight the importance of prosodic features in conveying emotional meaning and demonstrate how spontaneous speech can provide valuable insight into the relationship between language, emotion, and interaction in contemporary digital communication environments.

Despite these contributions, this study was limited to one gaming livestream and one streamer. Future research may examine emotional prosody across different gaming genres, livestream platforms, and interactional settings to provide a broader understanding of emotional expression in digital communication.

REFERENCES

- Bänziger, T., & Scherer, K. R. (2010). *Introducing the Geneva Multimodal Emotion Portrayals (GEMEP) Corpus* (pp. 271–294).
- Cabeza-Ramírez, L. J., Muñoz-Fernández, G. A., & Santos-Pavón, E. (2021). Exploring the Emerging Domain of Research on Video Game Live Streaming in Web of Science: Structural Features and Conceptual Structure. *International Journal of Environmental Research and Public Health*, 18(6). <https://doi.org/10.3390/ijerph18062917>

- Chae, Y.-G., Lee, H., & Jeong, E. J. (2022). Sharing Emotion While Spectating Video Game Play. *Human-Computer Interaction*, 37(5-6), 466-497. <https://doi.org/10.1080/07370024.2020.1860912>
- Creswell, J. W., & Creswell, J. D. (2023). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (6th ed.). Sage Publications.
- Erwina, E. (2024). A prosodic analysis of emotional expressions in Langkat Malay speech. *Indonesian Journal of Applied Linguistics*, 14(1), 184-194. <https://doi.org/10.17509/ijal.v14i1.70392>
- Ferré, P., Sánchez-Carmona, A. J., Haro, J., Calvillo-Torres, R., & Hinojosa, J. A. (2025). The interplay between language and emotion: A narrative review of language's role in conveying emotional content and its effects on processing. *Cognition and Emotion*. <https://doi.org/10.1080/02699931.2025.2549965>
- Filippa, M., Lima, C. F., & Grandjean, D. (2022). Emotional Prosody Recognition Enhances and Progressively Complexifies From Childhood to Adolescence. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.836075>
- Gabler, V., Geiger, J., Schuppler, B., & Kern, F. (2023). Reconsidering Read and Spontaneous Speech: Causal Perspectives on the Generation of Training Data for Automatic Speech Recognition. *Information*, 14(2).
- Hamilton, W. A., Garretson, O., & Kerne, A. (2014). *Streaming on Twitch: Fostering Participatory Communities of Play Within Live Mixed Media. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems.*, 1315-1324. <https://doi.org/10.1145/2556288.2557048>
- Hoemann, K., Xu, F., & Barrett, L. F. (2025). Emotion and language: How affect shapes communication. *Annual Review of Psychology*, 76, 215-239.
- Juslin, P. N., & Laukka, P. (2003). Communication of emotions in vocal expression and music performance: Different channels, same code? *Psychological Bulletin*, 129(5), 770-814. <https://doi.org/10.1037/0033-2909.129.5.770>
- Liao, Y. H., Lee, M. F., Sung, Y. T., & Chen, H. C. (2023). The effects of humor intervention on teenagers' sense of humor, positive emotions, and learning ability: A positive psychological perspective. *Journal of Happiness Studies*, 24(4), 1463-1481. <https://doi.org/10.1007/s10902-023-00654-2>
- Nunes, A., & Teixeira, A. (2021). Spontaneous Emotional Speech in European Portuguese Using Feeltrace System. *Journal of Speech Sciences*, 10(2), 75-97.
- Ross, E. D. (2023). Affective Prosody and Its Impact on the Neurology of Language, Depression, Memory and Emotions. *Brain Sciences*, 13(11). <https://doi.org/10.3390/brainsci13111572>
- Scherer, K. R. (2003). Vocal communication of emotion: A review of research paradigms. *Speech Communication*, 40(1-2), 227-256. [https://doi.org/10.1016/S0167-6393\(02\)00084-5](https://doi.org/10.1016/S0167-6393(02)00084-5)
- van Rijn, P., & Larrouy-Maestri, P. (2023). Modelling Individual and Cross-Cultural Variation in the Mapping of Emotions to Speech Prosody. *Nature Human Behaviour*, 7(3), 386-396. <https://doi.org/10.1038/s41562-022-01505-5>

- Wang, Z., & Mao, Y. (2022). No prosody, no emotion: Affective prosody by Chinese EFL learners. *Journal of Asia TEFL*, 19(1), 125. <http://dx.doi.org/10.18823/asiatefl.2022.19.1.8.125>
- Wulf, T., Schneider, F. M., & Queck, T. (2021). Exploring Viewers' Experiences of Interaction in Game Livestreams. *Computers in Human Behavior*, 119. <https://doi.org/10.1016/j.chb.2021.106721>