

*Research Article*

# Revealing Prosodic Patterns of Emotional Expression of Mike, a Character with Cerebral Palsy in Triumph Movie

Ni Putu Dian Angga Melani <sup>1\*</sup>, I Nyoman Suparwa <sup>2</sup>, Ni Ketut Widhiarcani Matradewi <sup>3</sup><sup>1</sup>Department of Linguistics, Faculty of Humanities, Universitas Udayana, Indonesia; email: [diananggamelani@gmail.com](mailto:diananggamelani@gmail.com)<sup>2</sup>Department of Linguistics, Faculty of Humanities, Universitas Udayana, Indonesia.<sup>3</sup>Department of Linguistics, Faculty of Humanities, Universitas Udayana, Indonesia.\* Corresponding Author: [diananggamelani@gmail.com](mailto:diananggamelani@gmail.com)

**Abstract:** Emotion is a natural aspect of human life, including that of individuals with Cerebral Palsy or CP. Generally, emotion can be triggered by situational factors and expressed through language, particularly through prosody. However, studies that explicitly link emotion, CP, and prosody remain limited. Therefore, this research aimed to identify the types of emotions experienced by Mike, a character with CP in the Triumph movie, as well as their prosodic performances. The research data consisted of Mike's utterances and facial expressions, which were analyzed qualitatively using observation and documentation methods, along with note-taking and triangulation technique. The theories used were psycholinguistic, affective priming, and prosodic, that was also supported by Praat software. The findings showed that the emotions expressed by Mike included happiness (the most dominant), sadness, anger, surprise (the least frequent), and fear, which were triggered by social support or rejection from people around him. From a prosodic perspective, intonation and loudness exhibited contrasting patterns, resulting in varying degrees of word stress. Happiness was characterized by a pitch of 155.31 Hz and an intensity of 58.78 dB, sadness by a lower pitch of 148.54 Hz and the lowest intensity at 53.89 dB, anger by the highest pitch at 280.7 Hz and the strongest intensity at 62.47 dB, surprise by a pitch of 196.3 Hz and an intensity of 56.38 dB, and fear by a pitch of 161.03 Hz with an intensity of 57.97 dB. In sum, the results indicated a strong interrelationship between emotion and prosody in Mike's speech.

**Keywords:** Cerebral Palsy; Emotion; Facial Expression; Intonation; Prosody.

## 1. Introduction

Social interaction in modern society does not rely solely on the transmission of information, but also on speakers' ability to adapt their manner of speaking to the situation, the interlocutor, and the emotional conditions involved. Language, therefore, functions not only as a medium for exchanging factual content, but also as a reflection of cognitive and affective processes that operate simultaneously. In actual communication, speakers do not merely select lexical items; they also modulate intonation, stress, and pronunciation patterns in ways that mirror their mental and emotional states. Each utterance thus emerges from a complex interaction between cognitive systems and emotional conditions (Osgood, 1980:1–5). This perspective aligns with Atkinson and Wells (2000:53), who argue that linguistic behavior encompasses both observable speech processes and underlying mental processes shaped by the speaker's psychological state. From this standpoint, language can be viewed as a window into the dynamic workings of the human mind, making it particularly relevant for examination from a psycholinguistic perspective.

Psycholinguistics is a field that investigates the relationship between psychological processes and language in order to provide a deeper understanding of how utterances are produced and comprehended (Harley, 2001:5). By integrating insights from psychology and linguistics, psycholinguistics explains the stages of language production, ranging from message conceptualization and linguistic formulation to the articulation of speech (Levelt,

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1989, as cited in Lenzing, 2021:9). These stages demonstrate that speech is not merely a linear sequence of sounds, but the outcome of structured, goal-oriented, and context-sensitive mental processing. Consequently, psycholinguistics offers a comprehensive framework for understanding how communicative intentions are transformed into meaningful speech and how such utterances are subsequently processed by listeners in actual language performance (Schmitt, 2010:124).

From a linguistic perspective, language performance represents the concrete manifestation of linguistic competence in actual communicative situations (Schmitt, 2010:124). Such performance is determined not only by the speaker's mastery of phonemes, words, or morphological structures, but also by suprasegmental or prosodic aspects of speech. Prosody encompasses intonation, duration, stress, and loudness (intensity), and plays a crucial role in regulating speech fluency, marking semantic focus, and conveying the speaker's attitudes and emotions (Ladd, 2008). Through prosodic variation, listeners are able to distinguish sentence types and perceive subtle emotional nuances expressed by the speaker. Empirical studies have demonstrated that affective states directly influence prosodic patterns as well as lexical processing, as discussed in research on affective priming (Patel et al., 2018; Zhang et al., 2024). For instance, words or phrases with emotional value may accelerate or inhibit lexical activation processes in both speakers and listeners. Thus, although prosody and vocal parameters are motoric in nature, affective conditions make a significant contribution to the way utterances are produced and processed. This phenomenon is observed not only in typically developing individuals, but also in individuals with disabilities, particularly those with Cerebral Palsy (CP).

Cerebral Palsy is a permanent neuromotor disorder whose terminology remains relatively unfamiliar in broader society, despite its considerable global prevalence, affecting approximately 17 million individuals worldwide (Andromeda et al., 2023). CP primarily affects muscle control, including the musculature involved in speech production. As a result, individuals with CP often experience difficulties in regulating suprasegmental features such as intonation, speech tempo, and stress, which may lead to less optimal vocal expression of emotion. From a psycholinguistic perspective, these limitations are not purely motoric, but are also related to how the communicative system of individuals with CP expresses underlying cognitive and emotional states. This issue is particularly salient because prosody serves as a primary channel for conveying vocal emotion.

This research is grounded in a number of previous works that examine the relationship between emotion, language, and Cerebral Palsy (CP). Out (2021) found that emotional states influence word choice, while Zhang et al. (2024) provided empirical evidence of the connection between emotion and lexical processing through affective priming. Other studies, such as Mulyani et al. (2025), focused on verbal and nonverbal expressions of emotion, although the range of emotions examined remained limited. Research related to CP has generally concentrated on phonological disorders (Irfan et al., 2022) or has discussed neuromotor and emotional aspects in a broad sense without explicitly linking them to speech production (Laube & Mathilde, 2025). Taken together, these studies reveal a clear research gap, particularly the lack of investigations that specifically examine emotional expression through prosodic features in individuals with Cerebral Palsy within a psycholinguistic framework.

Recognizing the central role of emotion and prosody in human language use, as well as the limited public awareness of Cerebral Palsy, this research sought to integrate these three aspects. The analysis focused on the types of emotions experienced by a character with CP, Mike, in the film *Triumph*, and on the prosodic features manifested in his speech. The research was conducted from a psycholinguistic perspective, primarily drawing on Fazio's (2001) theory of affective priming, and was further supported by Ekman's (2003) theory of emotional expression and Crystal's (1969) theory of prosody. Accordingly, this research was expected to contribute to the field of psycholinguistics by deepening the understanding of the interaction between emotion and prosody in speakers with special communication needs.

## 2. Literature Review

There are five relevant previous studies that served as reference points for this research, and three theories that form the theoretical framework of this research.

### Previous Relevant Studies

There are five studies served as references for this research, comprising studies on emotion and language as well as studies on Cerebral Palsy (CP).

Regarding emotion and language, Out (2021) examined the influence of emotions on spoken language production in conversation based on the Barrett's emotion theory, Scherer's psychological theory, and Levelt's model of language production. The findings revealed that emotions greatly affected language production. When individuals experienced negative emotions, their utterances tended to contain negative diction, and vice versa. The research was considered interesting, however, the research data were very broad, encompassing both neurotypical normal individuals and autism sufferers, which may have introduced bias.

Moreover, Mulyani et al. (2025) aimed to explore verbal dan nonverbal expressions of joyful emotion in the animated character Rarra. The research was based on psycholinguistic theories of human language (Tervoort), psychological aspects of language (Gleitman), and Ekman's theory of facial expressions. The results showed that Rarra expressed joy through smiling and laughter, both nonverbally and verbally which conveyed happiness meanings. This research was noteworthy; however, it was limited to a single episode, resulting in less varied data and a consequently less optimal analysis.

Zhang et al. (2024) fundamentally examined the relationship between emotion and language. Specifically determining whether emotional word types influenced the processing of emotional target words, both explicitly and implicitly. The research was grounded in affective priming theory and employed an experimental ERP (Event-Related Potentials) method. This integration of linguistic analysis with advanced ERP techniques made the research particularly compelling. But, some of the technical terminology may have been difficult for general readers to understand.

Besides that, related to Cerebral Palsy, Irfan et al. (2022) focused on individuals with CP and aimed to observe the types of phonological disorders they experienced. The research was conducted using a qualitative approach through interviews. However, the phonological theory applied was not clearly elaborated, making it difficult to determine the boundaries of the phonological analysis. The findings revealed that phonological disorders in children with CP included substitution sound /g/ with /c/, the addition of /h/ sound in certain words, and deletion, such as /k/ and /b/ in certain words.

Furthermore, Laube and Mathilde (2025) were analyzing of how chronic motor and sensory dysfunction triggered cognitive changes, emotional burden, and prolonged pain in CP sufferers. The research employed the neuromatrix concept as its theoretical framework. The findings indicated that CP not only disrupted motor function but also triggered emotional conditions and chronic pain rooted in impaired neurosensory functioning. Although the emotional conditions were not described in detail, the research remained significant for its ability to explore the interdisciplinary between motor neurology and emotional psychology.

Overall, these studies demonstrated that no prior research has integrated emotion within the context of CP and prosodic aspects. Therefore, this research is expected to contribute in spreading new insights about emotion and prosodic in CP using affective priming, and prosodic theories

### Theories

This research was conducted from a psycholinguistic perspective and mainly used affective priming and prosodic theories. According to Harley (2001: 1-13), psycholinguistics is a field that examines deeply on how mental processes operate when humans produce and comprehend language. It emphasizes that language is a result of interactions among cognitive systems, memory, perception, and attention. Specifically, the psycholinguistic theory employed here was affective priming. Fazio (2001) explains the affective priming as the relationship between priming and response, in which priming refers to any stimulus that activates cognitive processes and simultaneously triggers emotional, and influence the responses produced through stimulus → emotion → response mechanism. This framework is supported by Ekman's theory of emotional expression (2003: 67), which proposes universal emotions such as happiness, sadness, anger, fear, surprise, disgust, and contempt. These emotions are strongly influenced by situational contexts and occur rapidly. In addition, prosodic theory was also applied in this research. According to Crystal (1969: 5), prosody comprises three main aspects: intonation (pitch) is about the rise and fall of sound; loudness

(intensity), about the strength of sound; and duration means the length of an utterance. Acoustically, pitch values of  $\leq 100$  Hz are classified as low, 100–125 Hz as medium, and  $>140$  Hz as high, while intensity values of  $<60$  dB are considered low, 60–75 dB normal, and  $>75$  dB strong (Benninger et al., 2016; George, 2016). These three prosodic parameters function to mark word stress and expressing emotions (Santosa, 2025).

### 3. Materials and Method

This research was conducted using a qualitative research approach. This approach allows for in-depth observation of spoken and written language (Jaya, 2020: 6). The data source of this research was *Triumph* movie and the data were Mike's facial expressions and utterances across various emotional. Furthermore, Praat software was also applied since it has multiple features for prosodic measurement, which subsequently serve as data for analyzing intonation, loudness, and duration.

According to Creswell and Creswell (2018:332), qualitative data collection can be carried out through observation and documentation methods. Moreover, the techniques employed in this study included note-taking and audio-visual recording, complemented by a data transcription process. The note-taking technique is used to document all data obtained during the observation, while the recording technique refers to the use of tools to capture speech or utterances and facial expressions. In this research, data collection started with observing the *Triumph* movie, then followed by transcription process to obtain Mike's utterances in written form. Subsequently, screenshots were taken to capture facial expressions, and finally, initial notes were made regarding the situational context experienced by Mike in each scene.

After that, the data were analyzed using qualitative method and a note-taking technique through several steps based on Creswell and Creswell (2018: 268-270). First, organizing and preparing the data. Second, reading and examining all data. Third, coding the data. Fourth, developing descriptions for each data. Fifth, representing the data, in which verification was conducted through triangulation technique to ensure data validity. All analyses were carried out based on the affective priming and prosodic theories. Lastly, all the research findings were presented descriptively along with visual data, including images of facial expressions and Praat results

### 4. Results and Discussion

Based on the analysis, there were several noteworthy findings were found. In general, the priming or stimuli that triggered Mike's emotions were associated with topics of conversation, situational contexts, and the reactions of others toward him, including his friends, teachers, and father during interactions at school and at home. The conversational topics and situations predominantly involved responses to Mike's aspirations, both positive and negative. Among the seven emotions, Mike experienced only five, namely sadness, anger, surprise, fear, and happiness, with happiness emerging as the dominant emotion.

The most interesting findings were observed in the prosodic results. Commonly, intonation and intensity tend to co-occur, such that a higher pitch is typically accompanied by higher intensity. However, the Praat analysis in this research revealed an opposing pattern, in which some pitch and intensity frequently diverged. Within a single word, a high pitch could occur alongside a low intensity. This finding indicated that the vibration of Mike's vocal folds was not consistently aligned with the loudness during speech across different emotional states. Consequently, the word stress in Mike's utterances was analyzed separately based on intonation and intensity. The prosodic results for each emotion can be observed in Table 1.

**Table 1.** Prosodic Features of Emotional Speech Produced by Mike.

Emotion types	Number of utterances	Average speech duration	Average pitch	Average loudness
Happy	60	1.61 second	155.31 Hz	58.78 dB
Sad	18	3.35 second	148.54 Hz	53.89 dB
Fear	18	2.36 second	161.03 Hz	57.97 dB
Angry	13	1.11 second	280.7 Hz	62.47 dB
Surprise	4	1.77 second	196.3 Hz	56.38 dB
Contempt	-			
Disgust	-			

The table shows that Mike produced 60 utterances expressing happiness, 18 expressing sadness, 18 expressing fear, 13 expressing anger, and 4 expressing surprise emotion. The highest pitch and loudness were observed in utterances associated with anger, whereas

utterances expressing sadness tended to exhibit lower pitch and lower loudness. Furthermore, the analysis of each emotion was represented by one prominent and representative data sample that best illustrated the observed patterns.

### Happy

Mike : *I get a laugh every now and then.*

#### **Emotion Analysis**

This data was found in the dialogue between Mike and his friend, Jeff.

Mike : “You know, you can wrestle under?”

Jeff : under what?

Mike : under ground

Jeff : wow! You should try stand up.

Mike : *I get a laugh every now and then.*

The conversation took place in a humorous context initiated by Mike and responded to by Jeff with the utterance “Wow! You should try stand up,” which referred to a suggestion that Mike consider becoming a comedian. This exchange indicated a positive and joyful emotional context associated with humor. Jeff’s utterance functioned as a stimulus that influenced Mike’s cognition and subsequently elicited the response “I get a laugh every now and then.” The lexical choice of the word “laugh” served as a strong indicator that the response was congruent with the positive emotion embedded in the stimulus. Accordingly, this interaction reflected the mechanism of affective priming, following the pattern: prime → cognitive and emotional processing → response. In this case, the process can be illustrated as follows: “Wow! You should try stand up” → activation of positive emotion → “I get a laugh every now and then.” The utterance “I get a laugh every now and then” was expressed with the facial expression shown below.

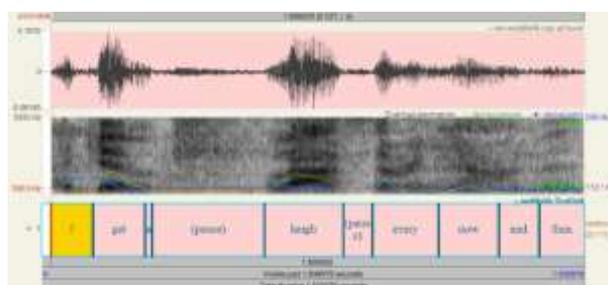


**Figure 1.** Happy facial expression.

As illustrated in the figure above, Mike displayed a smiling expression, characterized by relaxed eyebrows, lips drawn sideways toward both ears, and visible teeth, accompanied by a relaxed body posture. These features are consistent with the characteristics of a happy emotional expression as described in Ekman’s (2003) theory.

#### **Prosodic Analysis**

The Praat output of the utterance “I get a laugh every now and then” is presented in the figure below.



**Figure 2.** Praat: Happy.

Based on the Praat results, the prosodic analysis of the utterance “I get a laugh every now and then” is described as follows.

**Table 2.** Prosodic Features of Mike's Happy Emotion

Word	Pitch		Intensity		Duration
I	160.8 Hz	high	53.3 dB	Low	0.14 s rate: 0.52
get	121.4 Hz	standard	61.16 dB	Standard	0.18 s syllable/s
a	99.96 Hz	low	51.53 dB	low	0.003 s
laugh	116.3 Hz	standard	60.01 dB	standard	0.28 s
every	112.4 Hz	standard	55.59 dB	low	0.23 s
now	102 Hz	standard	53.62 dB	low	0.21 s
and	97.69 Hz	low	50 dB	low	0.14 s
then	100 Hz	low	50 dB	low	0.16 s

### Intonasi

Based on the Praat measurements, the intonation of the utterance “I get a laugh every now and then” ranged from 97.69 Hz to 160.8 Hz, which falls within the typical range for a male speaker. The highest pitch occurred on the word “I” (160.8 Hz) and gradually declined toward the end of the sentence, reaching the lowest point on the word “and” (97.69 Hz). The intonational contour formed a rise–fall pattern [^], beginning with a relatively high pitch and descending toward the sentence-final position. This contour is characteristic of a stable declarative sentence. The word “I” functioned as the center of intonational prominence due to its highest pitch value, thereby prosodically emphasizing the subject, namely Mike, as the focal point of the utterance. This pattern can be represented as follow:

I get a laugh every now and then

### Loudness

In addition, the intensity of the utterance ranged from 50 dB to 61.16 dB, with relatively limited variation. The highest intensity values were observed on the words “get” (61.16 dB) and “laugh” (60.01 dB), while the lowest intensity occurred on “and” and “then” (50 dB). Although the overall intensity was categorized as low to moderate, the slight increase on “get” and “laugh” indicated that these words received greater prominence through vocal strength. Functionally, the emphasis on “get” highlighted the speaker's experience or achievement, whereas “laugh” underscored the positive outcome or humor obtained. This prosodic pattern can be illustrated as follows:

I get a laugh every now and then

### Duration

The duration of the utterance varied between 0.003 and 0.28 seconds, with a speech rate of 0.52 syllable per second. The shortest duration occurred on the word “a” (0.003 s), while the longest duration was found on “laugh” (0.28 s), followed by “every” (0.23 s) and “now” (0.21 s). The lengthening of “laugh” indicated temporal emphasis, whereas the remaining words contributed to maintaining a natural and fluent speech rhythm.

### Sad

Mike : *Just leave me alone. I'm fine*

### Emotion Analysis

This data was found in the interaction between Mike dan Jeff.

Jeff : Sorry about Troy. He's an ass.

Mike : *Just leave me alone. I'm fine*

Jeff : You know what? I've got an idea. Let's go.

This conversation reflected a negative emotional situation initiated by Jeff's utterance, “Sorry about Troy. He's an ass.” This utterance functioned as an affective stimulus (prime) because it reactivated Mike's unpleasant experiences with Troy, during which Mike was mocked for his physical condition and even physically pushed by Troy. The stimulus subsequently triggered cognitive and emotional processes in the form of activated sadness and emotional distress, which influenced the manner in which Mike responded to the situation. The response, “Just leave me alone. I'm fine,” was linguistically realized as a rejection; however, on an emotional level, it reflected a self-protective mechanism and a tendency toward withdrawal. Within the framework of affective priming, this process can be formulated as follows: Prime → Cognitive and emotional processing → Response, which in this case took the form of “Sorry about Troy. He's an ass.” → activation of negative emotion → “Just leave me alone. I'm fine.” The expression “just leave me alone” signaled a need to

disengage from interaction, while “I’m fine” indicated a mild form of emotional denial. This utterance was produced with the facial expression shown in the figure below.



Figure 3. Sad facial expression.

As shown in the figure, Mike displayed a sad facial expression characterized by slightly lowered eyebrows, downturned mouth corners, the absence of a smile, a lowered head position, and a downward gaze, accompanied by crying. These facial cues were supported by a closed and inactive body posture, with the arms held close to the front of the body, slightly lowered shoulders, and a slouched stance. These characteristics are consistent with the features of sadness as described in Ekman’s theory of universal facial expressions.

**Prosodic Analysis**

The Praat output of the utterance “Just leave me alone. I’m fine” is presented in the figure below.

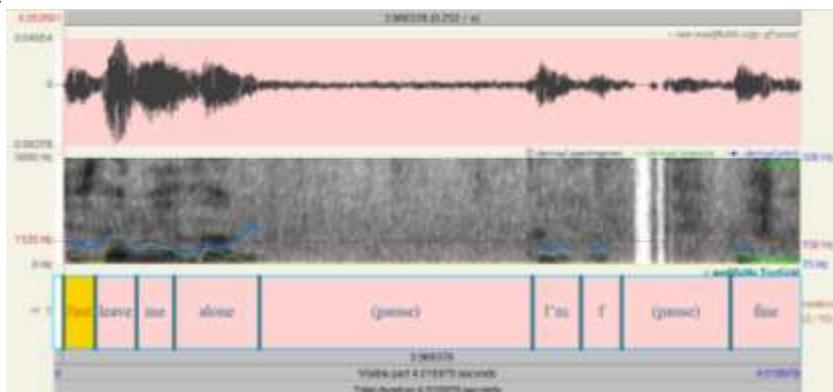


Figure 4. Praat: Sad.

Based on the Praat results, the prosodic analysis of the utterance “Just leave me alone. I’m fine” is presented as follows.

Table 3. Prosodic Features of Mike’s Sad Emotion

Word	Pitch	Intensity	Duration
Just	149.2 Hz high	51.47 dB low	0.19 s rate: 0.25
leave	162.5 Hz high	61.1 dB standard	0.16 s syllable/s
me	137.2 Hz loud	56.87 dB low	0.033 s
alone	161.7 Hz high	53.96 dB low	0.31 s pause:
I’m	132.5 Hz loud	50 dB low	0.19 s 1.9 s
fine	134.1 Hz loud	53.62 dB low	0.12 s

**Intonasi**

Based on the Praat measurements, the pitch of the utterance “Just leave me alone. I’m fine.” ranged from 132.5 Hz to 162.5 Hz, with the highest values occurring on “leave” (162.5 Hz) and “alone” (161.7 Hz), and the lowest value on “I’m” (132.5 Hz). The word “just” appeared as an opening with a relatively high pitch, followed by a rise on “leave,” a slight decline on “me,” and a subsequent rise on “alone,” before the pitch decreased and remained relatively stable on “I’m” and “fine.” This pattern formed a rise–fall [^] contour in the first clause, followed by a falling and level contour in the second clause. Such a contour suggested heightened emotional tension at the beginning of the utterance, which gradually subsided toward the end. The concentration of pitch prominence on “leave” and “alone” marked a strong emotional drive to withdraw, whereas the lowered pitch on “I’m fine” reflected a reduction in emotional energy. The intonational pattern can be illustrated as follows:

Just leave me alone. I’m fine.

### Loudness

In terms of intensity, the loudness of the utterance ranged from 50 dB to 61.1 dB, with the highest value observed on “leave” (61.1 dB), followed by “me” (56.87 dB), and the lowest on “I’m” (50 dB). The words “just” (51.47 dB), “alone” (53.96 dB), and “fine” (53.62 dB) fell within the low-to-moderate range. This pattern indicated that loudness prominence was concentrated on “leave” as an emphatic marker of rejection, before gradually weakening toward the end of the utterance. Such a decline in intensity reflected a decrease in emotional drive and the emergence of affective fatigue. The contrast in loudness across the utterance can be illustrated as follows:

Just leave me alone. I’m fine

### Duration

Temporally, the longest duration occurred on “alone” (0.31 s), followed by “just” and “I’m” (0.19 s each), while the shortest durations were observed on “me” (0.033 s) and “fine” (0.12 s). A prolonged pause of approximately 1.4 seconds occurred between “alone” and “I’m,” and a brief hesitation of about 0.5 seconds was observed in the production of “f...fine.” The lengthening of “alone” functioned as the center of temporal prominence, reinforcing the speaker’s desire for isolation. Moreover, the extended pause and hesitation indicated internal conflict and a mismatch between the verbal claim “I’m fine” and Mike’s actual emotional state. With a speech rate of 0.25 words per second, duration played a crucial role in constructing a restrained and subdued rhythm characteristic of sadness.

### Fear

Mike : *hi...i...is patty home?*

### Emotion Analysis

These data were observed in the situation that initiated the interaction between Jeff and Patty.

Patty’s maid : hello, McGrath residence

Mike : *hi...i...is patty home?*

In this data, the initial interaction between Mike and Patty occurred through a telephone call. Prior to the conversation, Mike had already developed feelings of affection toward Patty, which generated internal affective tension in the form of nervousness and fear of rejection. These internal feelings functioned as an affective stimulus (prime) within Mike. When Patty’s housekeeper answered the phone with the utterance “Hello, McGrath residence,” this utterance merely triggered the actualization of emotions that had already been activated, thereby requiring Mike to respond while still in an emotionally unstable state. Within the framework of affective priming, this process can be summarized as follows: Prime → Cognitive and emotional processing → Response. In this case, the mechanism operated as: feelings of affection and nervousness → activation of anxiety → “hi...i...is Patty home?” Mike’s response was characterized by pauses and initial sound repetitions, which indicated a lack of synchrony between cognitive and emotional processes as a result of the previously activated fear. The utterance “hi...i...is Patty home?” was produced with the facial expression shown in the figure below.

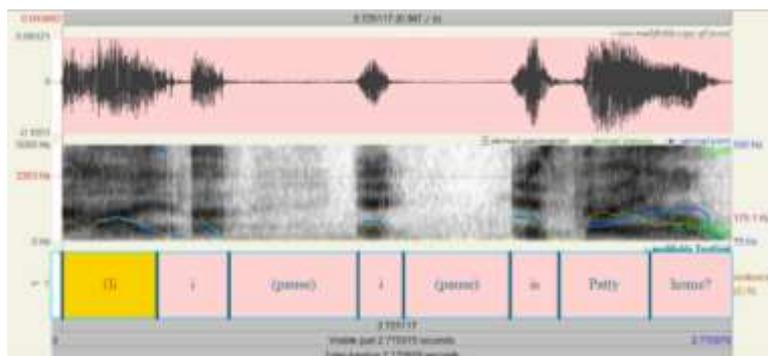


Figure 5. Fear facial expression.

Mike’s fearful facial expression was characterized by raised eyebrows that were slightly drawn toward the center, eyes that appeared more open than usual, and lips slightly pulled backward as if restraining tension. These features are consistent with the characteristics of fear as described in Ekman’s theory of universal facial expressions, which associates fear with bodily responses to psychological threats such as anxiety and uncertainty.

**Prosodic Analysis**

The Praat output of the utterance “hi...i...is Patty home?” is presented in the figure below.



**Figure 6.** Praat: Fear

Based on the Praat results, the prosodic analysis of the utterance “hi...i...is Patty home?” is presented as follows.

**Table 4.** Prosodic Features of Mike’s Fear Emotion

Word	Pitch	Intensity	Duration
Hi	105.3 Hz low	56.68 dB low	0.52 s rate: 0.56
is	117.4 Hz low	59 dB low	1.59 s syllable/s
Patty	161.6 Hz high	63.42 dB standard	0.26 s pause:
home?	145.7 Hz high	57.73 dB low	0.35 s 0.98 s

**Intonasi**

Based on the Praat measurements, the pitch of the utterance ranged from 105.3 Hz to 161.6 Hz. The lowest pitch values occurred on “hi” (105.3 Hz) and “is” (117.4 Hz), indicating that the utterance began with a low and hesitant tone. This was followed by a marked rise in pitch on the word “Patty” (161.6 Hz), which constituted the highest intonational peak of the utterance, and the pitch then remained relatively high on “home?” (145.7 Hz). This pattern formed a rising contour that remained high toward the end of the utterance, which is generally characteristic of interrogative sentences. The high pitch on “Patty” and “home” positioned these words as centers of intonational prominence, functioning prosodically as markers of attentional focus and emotional tension. Notably, the intonational peak occurred on the name of the person who served as the source of the speaker’s anxiety, which is consistent with a fearful emotional state in which heightened tension emerges when the speaker refers to the object of apprehension. This intonational pattern can be illustrated as follows:

hi...i...is patty home?

**Loudness**

In terms of loudness, the intensity values ranged from 57.73 dB to 63.42 dB. The lowest intensity occurred on “hi” (58.68 dB) and “home?” (57.73 dB), while the highest intensity was observed on “Patty” (63.42 dB). This pattern indicated that dynamic stress was concentrated on the name “Patty,” whereas the remaining parts of the utterance were produced with relatively weak vocal energy. This finding reflected “Patty” as the central topic of the utterance and, simultaneously, as the source of Mike’s emotional tension. The pattern can be illustrated as follows:

hi...i...is Patty home?

**Duration**

About the duration, the utterance exhibited striking temporal variation. The longest duration occurred on “is” (1.59 s), accompanied by a stuttering pause of approximately 0.98 seconds in the sequence “i... i... is,” whereas “Patty” (0.26 s) and “home?” (0.35 s) were relatively brief. The word “hi” also showed a relatively long duration (0.52 s), indicating a slowed onset of speech. Functionally, duration in this utterance served to construct the prosodic rhythm of fear, which was marked by hesitation, unpreparedness, and stuttering. The low speech rate of only 0.56 words per second further reinforced that the utterance was produced under an emotionally unstable condition characterized by anxiety and apprehension.

**Angry**

Mike : *Don't push me asshole!*

**Emotion Analysis**

This data was discovered in the interaction between Mike dan Troy.

Troy : Heading for the short bus?

Mike : I wouldn't wanna take your seat.

Troy suddenly pushed Mike

Mike : *Don't push me asshole*

These data emerged in a situation of direct conflict between Mike and Troy at school. Troy's verbal taunt, "Heading for the short bus?", functioned as an initial affective stimulus that activated negative emotions in Mike, namely feelings of humiliation and threat. Mike's initial response, "I wouldn't wanna take your seat," indicated an attempt at cognitive regulation. However, when Troy physically pushed Mike, the anger that had been latently activated immediately escalated and directly influenced Mike's speech production. Within the framework of affective priming, this process can be summarized as follows: verbal and non-verbal mockery combined with feelings of humiliation → activation of anger → "Don't push me, asshole." This response was explosive in nature and signaled the dominance of anger over cognitive control. The expression of anger in this utterance is shown in the figure below.

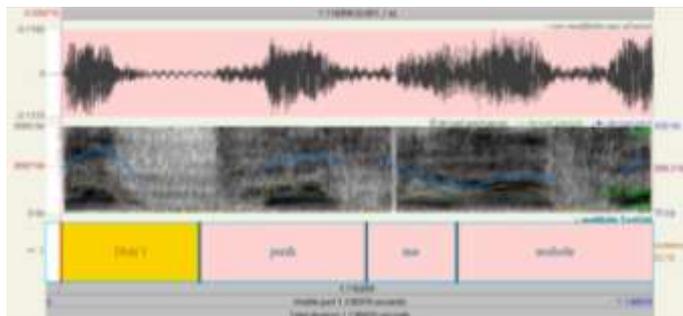


**Figure 7.** Angry facial expression

Mike's angry expression was characterized by lowered and inward-drawn eyebrows forming vertical furrows between the brows, wide-open eyes, parted lips revealing the teeth, and visible tension in the neck and shoulders. These features indicated that anger not only emerged at a psychological level but was also clearly manifested through facial expression as a direct response to threat and aggressive treatment.

**Prosodic Analysis**

The Praat output of the utterance "Don't push me, asshole" is presented in the figure below.



**Figure 8.** Praat: Angry

Based on the Praat results, the prosodic analysis of the utterance "don't push me, asshole" is described as follows.

**Table 5.** Prosodic Features of Mike's Angry Emotion

Word	Pitch	Intensity	Duration
Don't	290.3 Hz high	61 dB standard	0.28 s rate: 0.90
push	335.6 Hz high	61.89 dB standard	0.32 s syllable/s
me	260.8 Hz high	60.82 dB standard	0.14 s
asshole	246.6 Hz high	62.74 dB standard	0.35 s

### Intonasi

Berdasarkan data Praat, pitch ujaran ini berada pada rentang yang sangat tinggi, yaitu 246.6 Hz hingga 335.6. Based on the Praat data, the pitch of this utterance fell within an exceptionally high range, from 246.6 Hz to 335.6 Hz, far exceeding the typical pitch range of a male speaker. The pitch on “Don’t” (290.3 Hz) was already high at the onset of the utterance and increased sharply on “push” (335.6 Hz), before gradually declining on “me” and “asshole,” while remaining within the high category. This pattern formed a rise–fall [^] contour, characterized by a sharp increase on the second word followed by a gradual decline toward the end of the utterance. Prosodically, “push” served as the primary locus of stress due to its extremely high pitch and functioned as a marker of intense emotional involvement, verbal aggression, and affective outburst. The intonational pattern can be illustrated as follows.

Don’t push me asshole

### Loudness

In terms of loudness, the intensity of the utterance was relatively stable within the moderate-to-strong range, with values between 60.82 dB and 62.74 dB. The words “Don’t” (61 dB) and “push” (61.89 dB) were produced with firm and forceful loudness, whereas “me” (60.82 dB) exhibited the lowest intensity. In contrast to pitch, the highest intensity occurred on “asshole” (62.74 dB), which constituted the peak of dynamic stress in the utterance and functioned as the most powerful emotional release in terms of vocal energy. This pattern can be illustrated as follows:

Don’t push me asshole!

### Duration

The duration of the utterance was relatively short, ranging from 0.14 to 0.35 seconds, with a speech rate of 0.90 words per second. Lengthening was observed on “push” (0.32 s) and, most notably, on “asshole” (0.35 s), indicating primary temporal stress. The rapid rhythm, without extended pauses, marked the utterance as spontaneous and impulsive, which is characteristic of an angry emotional outburst.

### Surprise

Mike : *I’m not drunk*

### Emotion Analysis

These data were observed in the interaction between Mike and Jeff, which involved a situation in which someone answered a telephone call.

Troy : h...hi, is Patti there? Pa...pa...Patty McGrath. This is Michael Conley from school

Mike : *I’m not drunk*

The data emerged in a phone interaction that, from the outset, was already permeated by emotional tension within Mike due to his romantic feelings toward Patty. These feelings triggered emotions of fear, nervousness, and anxiety about potential rejection. Such internal emotions functioned as the initial affective prime. When Mike believed that he was speaking with Patty, this positive expectation was abruptly disrupted upon realizing that the interlocutor was not Patty. This unexpected shift in stimulus activated the emotion of surprise and resulted in the spontaneous utterance “I’m not drunk,” which was defensive in nature and unrelated to the original communicative intention. Within the framework of affective priming, this mechanism followed the sequence: Prime → Cognitive and emotional processing → Response. In this utterance, the process can be described as follows: romantic feelings combined with nervousness → activation of expectation → confrontation with reality → surprised response. In this situation, Mike’s expressive behavior can be observed in the figure below.

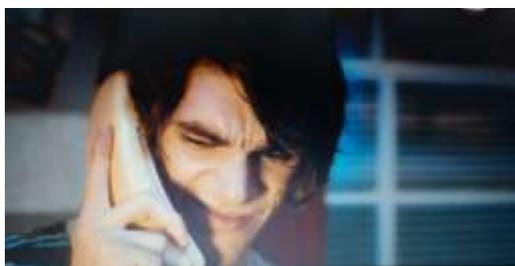
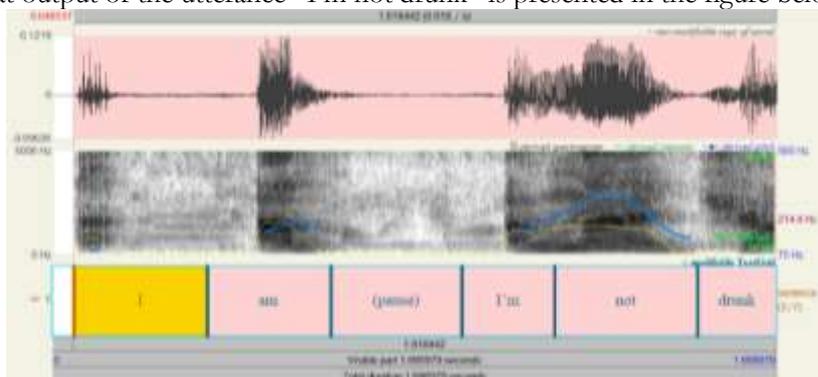


Figure 9. Surprise facial expression

Mike’s expression of surprise was indicated by the sudden widening of his eyes, a brief facial tension, the inward lowering of the inner eyebrows forming wrinkles on the forehead, raised cheeks creating creases, as well as a startled bodily reaction involving a sudden jerk and sideways movement. The prosodic characteristics of this utterance are discussed in the following section.

**Prosodic Analysis**

The Praat output of the utterance “I’m not drunk” is presented in the figure below..



**Figure 10.** Praat: Surprise.

Based on the Praat results, the prosodic features of the utterance “I’m not drunk” are described as follows.

**Table 6.** Prosodic Features of Mike’s Surprise Emotion

Word	Pitch	Intensity	Duration
I	100 Hz low	51.7 dB low	0.42 s rate: 0.61
am	188.9 Hz high	61.75 dB standard	0.18 s syllable/s
I’m	199.3 Hz high	61.75 dB standard	0.15 s pause:
not	247.5 Hz high	61.86 dB standard	0.27 s 0.3 s
drunk	145 Hz high	55.52 dB low	0.20 s

**Intonasi**

Based on the Praat data, the intonational pattern of the utterance “I am... I’m not drunk” exhibited unstable pitch movement with sudden pitch jumps. The pitch began at a low level on “I” (100 Hz), rose sharply on “am” (188.9 Hz), remained high on “I’m” (199.3 Hz), and reached its peak on “not” (247.5 Hz), before declining on “drunk” (145 Hz). This pattern formed a sharp rise–fall contour, which prosodically signaled sudden surprise and high affective tension. The word “not” received the primary pitch-based stress due to its highest pitch value, indicating emotional focus on the act of denial. The intonational pattern can be illustrated as follows:

I’m not drunk

**Loudness**

In terms of loudness, the intensity of the utterance increased abruptly in the middle of the sentence, reflecting a reflexive reaction characteristic of surprise. The initial intensity on “I” was low at 51.7 dB, followed by a significant increase to 61.75 dB on “am” and “I’m,” and reaching its highest value on “not” (61.86 dB), before decreasing again on “drunk” (55.52 dB). Similar to the pitch data, stress was concentrated on “not,” which functioned as the focal point of denial regarding the speaker’s perceived state. The loudness pattern can be illustrated as follows:

I’m not drunk

**Duration**

The duration of each word varied considerably, and a dysfluent pause of 0.3 seconds occurred between “I am ... I’m,” indicating a disruption in speech planning caused by the sudden surge of surprise. The prolonged duration of “I” (0.42 s) and “not” (0.27 s) suggested that the greatest cognitive load was placed on self-reference (I) and denial (not). The speech rate of 0.61 words per second indicated that the utterance was not particularly fast, but rather fragmented and unstable. In this context, durational prosody functioned as a marker of a temporary cognitive processing breakdown resulting from the abrupt mismatch between expectation and reality.

## 5. Conclusion and Suggestion

The emotions experienced by Mike as a character with cerebral palsy in the film *Triumph* included happiness, sadness, anger, surprise, and fear, which were generally triggered by affective priming from his social environment in the form of mockery or support. Mike's motor impairment was relatively mild, allowing his facial expressions to be clearly observed: happiness was expressed through smiling when receiving encouragement; sadness through downward-curved lips and crying when being mocked; anger through facial muscle tension and visible teeth following physical aggression; surprise through eyebrow and cheek wrinkles accompanied by stammering when expectations were violated; and fear through raised eyebrows and hesitant speech. From a prosodic perspective, happiness was characterized by a mid-range pitch (155.31 Hz), stable intensity (58.78 dB), and short duration; sadness showed a low pitch (148.54 Hz), the lowest intensity (53.89 dB), and the longest duration; anger exhibited the highest pitch (280.7 Hz) and the strongest intensity (62.47 dB) with short duration; surprise displayed relatively high pitch (196.3 Hz) and moderate intensity; while fear fell within a mid-range pitch (161.03 Hz) and moderate intensity. These findings indicated that each emotion exhibited a distinct prosodic pattern, with variations in pitch and intensity that were not always aligned, thereby reinforcing the close relationship between emotion and prosody in Mike's speech production.

Despite its contributions, this research is limited by its reliance on film-based data due to limited research time. Therefore, the future research is recommended to collect data directly from Cerebral Palsy sufferers to obtain more naturalistic language production within systematically controlled situational and contextual frameworks. It would enable a more accurate and in-depth analysis of affective priming in real communicative contexts.

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