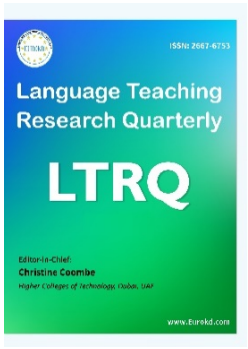


Language Teaching Research Quarterly

2025, Vol. 48, 236–255

Understanding Anxiety, Enjoyment, and Breakdown Fluency in L2 Monologic and Dialogic Speaking: An Idiodynamic Approach

Yuwen Shangguan[1], Yan Ni[2], Peifeng Zhou[3], Peijian Paul Sun[4]*

[1]Department of English Language Literature, Zhejiang University, China
[2]Department of Psychology and Behavior Sciences, Zhejiang University, China
[3]Department of Linguistics and Translation, Zhejiang University, China
[4]Department of Linguistics, Zhejiang University, China

Received *11 May 2024* ***Accepted*** *15 June 2025*

Abstract

This study reports on anxiety, enjoyment, and breakdown fluency of L2 English learners under the monologue and dialogue conditions using an idiodynamic approach. Eight Mandarin-speaking undergraduates from a top university in China voluntarily participated in the study, with half completing in a monologue condition and the other half in a dialogue condition. The results showed that both monologue and dialogue groups exhibited a significant positive correlation between anxiety and breakdown fluency, and a significant negative correlation between enjoyment and breakdown fluency. However, these correlations were more pronounced in the dialogue group. The study also revealed that the monologue group experienced significantly less anxiety ($p < 0.05$) and more enjoyment ($p < 0.001$) in L2 speaking than the dialogue group. Nevertheless, there was no significant difference in breakdown fluency between the two groups ($p = 0.152$). Last but not least, the study found that learners' emotional fluctuations could be subject to cognitive, task implementation, task design, and interpersonal factors.

Keywords: *Anxiety, Enjoyment, Breakdown Fluency, Monologic and Dialogic Speaking, Idiodynamic Method*

How to cite this article (APA 7th Edition):

Shangguan, Y., Ni, Y., Zhou, P., & Sun, P. P. (2025). Understanding anxiety, enjoyment, and breakdown fluency in L2 monologic and dialogic speaking: An idiodynamic approach. *Language Teaching Research Quarterly*, *48*, 236-255. https://doi.org/10.32038/ltrq.2025.48.14

* Corresponding author.
E-mail address: luapnus@zju.edu.cn
https://doi.org/10.32038/ltrq.2025.48.14

[1]Introduction

The significant role that emotions play in language learning has been increasingly recognized within the field of second language acquisition research (Dewaele & MacIntyre, 2014; MacIntyre & Gardner, 1994). Emotions, such as anxiety and enjoyment, have been demonstrated to influence learners' cognition, thereby affecting their language performance (Swain, 2013). For example, negative emotions, such as anxiety, can restrict attention and cognitive resources (Fredrickson, 2001). More specifically, anxiety has a tendency to divert individuals' attention away from the task at hand towards the source of distress (Derakshan & Eysenck, 2009). This attentional shift can impair cognitive performance and hinder learning outcomes among students (Eysenck, 1979; Meinhardt & Pekrun, 2003; UNESCO, 2020).

In contrast, positive emotions, such as enjoyment, can facilitate learning by broadening learners' cognitive scope, promoting flexible thinking, and enhancing creative problem-solving abilities (Fredrickson, 2001; Pekrun et al., 2002). As such, it enables individuals to engage more deeply with tasks, thereby enhancing their learning outcomes (Fredrickson, 2001; Pekrun et al., 2002). Moreover, positive emotions can foster creativity and flexibility in thinking among students (Fredrickson & Branigan, 2005; Isen, 1999). As a result, learners with more positive emotions are more likely to explore novel ideas and approaches, establish connections between different pieces of information, and ultimately develop stronger problem-solving skills (Clore & Huntsinger, 2007; Fredrickson, 2004). This, in turn, facilitates a deeper level of understanding and promotes more meaningful learning experiences.

Despite the above insights, much existing research focuses on the general impact of emotions, such as anxiety and enjoyment, on learning, with little attention drawn to examining the specific, real-time fluctuations of these emotions during second/foreign language (L2) tasks. Given that anxiety can lead to hesitant speech and increased errors, while enjoyment can enhance motivation and facilitate smoother language production (Dewaele & MacIntyre, 2014), it is necessary to investigate how moment-to-moment changes of anxiety and enjoyment can influence learners' L2 task performance. As a core indicator of language proficiency and a crucial component of effective communication (Gao & Sun, 2023, 2024; Segalowitz, 2010; Sun, 2025), fluency serves as one of the most direct metrics for observing these emotional influences on L2 task performance.

Fluency is a multifaceted construct that can be analyzed through various dimensions including speed fluency (speech rate), repair fluency (frequency of corrections), and breakdown fluency (frequency and duration of pauses) (Saito et al., 2018). Unlike speed fluency and repair fluency, breakdown fluency provides a more detailed understanding of the real-time cognitive load and emotional state of speakers (Saito et al., 2018). In other words, directly measuring breakdown fluency allows us to explore how fluctuations in emotions might disrupt or enhance language production, thereby shedding light on the nuanced and dynamic role emotions play during task performance.

Although there have been some endeavors examining how emotions fluctuate in real-time and influence L2 fluency during task performance, these studies have focused on the relationship between emotions and L2 fluency in monologue tasks (e.g., Aubrey, 2022;

[1] This paper is part of a special issue (2025, 48) entitled: In Honour of Peter D. MacIntyre's Contributions to Psychology of Language and Communication and Second Language Research Methodology (edited by Mirosław Pawlak, Zhisheng (Edward) Wen, and Hassan Mohebbi).

Gregersen & Horwitz, 2002; Inoue & Lam, 2021; MacIntyre & Gardner, 1994), without taking dialogue tasks into account. According to Tavakoli (2016), monologues tend to impose a higher cognitive load on speakers, as they are responsible for generating and organizing content independently. This increased cognitive load often leads to heightened anxiety and more frequent pauses. In contrast, dialogues involve interactive communication, where the presence of a conversational partner can provide emotional support and reduce anxiety. This supportive environment created during dialogues has the potential to result in smoother and more fluent speech. On the other hand, dialogues introduce the complexity of managing turn-taking and responding to unpredictable inputs, which may have a negative influence on fluency compared to monologues (Kirk, 2016; Tavakoli & Foster, 2008).

Taken together, two research gaps remain: limited exploration of how emotional fluctuations impact fluency, and a predominant focus on monologue tasks over dialogue tasks in this line of inquiry. This study, therefore, seeks to uncover emotions (i.e., anxiety and enjoyment) and breakdown fluency under the monologue and dialogue conditions through an idiodynamic approach. Specifically, the study aims to examine 1) the inter-group and intra-individual relationships between emotions and breakdown fluency, 2) the differences in emotions and breakdown fluency, and 3) the contributing factors to emotions under the monologue and the dialogue conditions.

Literature Review

Emotions in L2 Learning

Emotions in L2 learning, understood as affective experiences that learners undergo during the process of learning a new language, encompass both positive (e.g., enjoyment, excitement, and satisfaction) and negative (e.g., anxiety, frustration, and boredom) feelings that influence cognitive processes and language performance (Dewaele & MacIntyre, 2014; Pawlak et al., 2020; Shao et al., 2019). Previous research has shown that emotions play a crucial role in L2 learning, influencing various aspects of the learning process from engagement to performance (Dewaele & Alfawzan, 2018; Pekrun et al., 2002). For example, high-activation positive emotions can significantly enhance motivation, focus, and engagement, leading to more effective learning outcomes (Linnenbrink, 2007; Pekrun, 2014). Specifically, L2 enjoyment encourages learners to take risks and participate more actively in communicative activities. More frequent and meaningful use of an L2, in turn, facilitates the development and refinement of language skills (Dewaele & MacIntyre, 2016). As evidenced in Dewaele and MacIntyre's (2014) study of 1,746 L2 learners, those who experienced higher levels of enjoyment in their L2 classes were more willing to communicate and engage in classroom activities. This increased willingness to communicate is critical for language development, as it provides more opportunities for practice and feedback which are essential for language acquisition (MacIntyre et al., 1998). Additionally, Teimouri et al. (2019) examined the relationship between positive emotions and language learning success. They found that students who reported higher levels of enjoyment and interest in their L2 learning exhibited better language performance, including higher grades and greater fluency. The importance of fostering positive emotions to achieve better learning outcomes has also been corroborated in Dewaele and MacIntyre (2014) study, showing it is enjoyment rather than anxiety that significantly predicts L2 learning achievement.

In contrast, high-activation negative emotions can have detrimental effects on L2 learning. Anxiety, in particular, is one of the most extensively investigated negative emotions in the context of language learning (Horwitz, 2010; MacIntyre & Gardner, 1994; Sun & Teng, 2021). Generally, high levels of anxiety can lead to cognitive overload, where the learner's cognitive resources are consumed by worry and fear, leaving fewer resources available for language processing and production (Horwitz, 2010; MacIntyre & Gardner, 1994). In effect, the negative influence of anxiety on L2 performance has long been documented. For example, Horwitz et al.'s (1986) development of Foreign Language Classroom Anxiety Scale (FLCAS) revealed that higher levels of anxiety were associated with poorer performance in language tasks. Similarly, Gregersen and Horwitz's (2002) exploration of the relationship between anxiety and L2 performance found that anxious learners often exhibited a fear of negative evaluation, which resulted in their avoidance of challenging language tasks and opportunities for language use. This avoidance behavior limited the practice needed for language development and led to less fluent and accurate language use. To gain more nuanced understanding, MacIntyre and Gregersen (2012) adopted the idiodynamic method to examine the fluctuation of anxiety levels within individuals during language tasks. The study showed that moments of high anxiety corresponded with increased pausing and self-repair behaviors. The study also highlighted the importance of addressing anxiety not just as a general trait but as a dynamic state that could vary within a single language task.

The above studies have collectively demonstrated the importance of anxiety and enjoyment in L2 learning. Specifically, enjoyment play a pivotal role in enhancing motivation, focus, and engagement in L2 learning, leading to more frequent and meaningful language use and, ultimately, better learning outcomes. Anxiety, on the other hand, can significantly hinder language learning as it may impair cognitive resources, reduce engagement, and increase avoidance behaviors among learners. Although emotions are diverse and span a broad spectrum, enjoyment and anxiety are the most prevalent ones observed in L2 learning, particularly in L2 speaking (Dewaele & MacIntyre, 2014; Gregersen et al., 2014). Therefore, this study focuses on these two pivotal emotions.

Anxiety and Enjoyment in L2 Speaking

Anxiety and enjoyment are two critical emotions that can profoundly impact L2 speaking performance. Research has shown that anxiety can have detrimental effects on L2 speaking by increasing cognitive load, leading to more frequent hesitations, errors, and overall decreased fluency (e.g., Horwitz, 2010; MacIntyre & Gardner, 1994). Specifically, anxiety causes learners to focus excessively on potential errors and negative evaluations, which disrupts their ability to produce fluent and coherent speech (Gregersen & Horwitz, 2002). Conversely, enjoyment has positive influences on L2 speaking performance by enhancing motivation, reducing psychological barriers, and promoting active engagement in communicative activities (Dewaele & MacIntyre, 2016). Enjoyment can also encourage learners to take risks and use the language more freely, which leads to more frequent practice and improvement in speaking skills (Dewaele & MacIntyre, 2014).

Against the traditional view of anxiety and enjoyment as single continuums of emotions, previous research has demonstrated that the relationship between anxiety and enjoyment is independent yet dynamically related (Dewaele & MacIntyre, 2014). For example, Elahi

Shirvan and Talebzadeh (2017) used an idiodynamic method to capture real-time fluctuations in learners' emotional states during speaking tasks. Their findings revealed that moments of high anxiety often coincided with increased pausing and self-repair behaviors, whereas periods of enjoyment were associated with smoother, more fluent speech. This suggests that anxiety and enjoyment can co-occur and interact dynamically within the same speaking task, influencing fluency in different ways.

Anxiety, Enjoyment, and Breakdown Fluency in L2 Speaking

Fluency in L2 performance can be examined across different dimensions, including speed fluency, repair fluency, and breakdown fluency (e.g., Aubrey, 2022; Saito et al., 2018; Segalowitz, 2010; Skehan, 2003). Specifically, speed fluency refers to the rate at which a speaker produces speech, typically measured in words or syllables per minute. This dimension reflects a speaker's ability to articulate language rapidly and continuously without significant pauses (Lennon, 1990; Skehan, 2003). Repair fluency pertains to the speaker's ability to correct themselves during speech, involving the frequency and manner of self-corrections and reformulations when speakers notice errors or need to rephrase their utterances (Kormos, 1999; Skehan, 2003). Breakdown fluency is characterized by the frequency and duration of pauses and hesitations in speech, providing insights into moments where the speaker experiences cognitive or emotional disruptions that interrupt the flow of speech (Segalowitz, 2010; Skehan, 2003).

Research on L2 speaking performance indicates that different task types can influence these dimensions of fluency differently. In monologue tasks, where speakers must sustain self-generated speech, higher levels of anxiety and increased cognitive load often result in more pauses and hesitations. For example, Inoue and Lam (2021) found that learners produced more fluent language when given extended planning time in the TOEFL iBT speaking subtest, but fluency tended to suffer under spontaneous monologue conditions. In contrast, dialogue tasks involve interaction with a partner, which can provide scaffolding and reduce cognitive load as evidenced in Tavakoli and Foster (2008). The study found that dialogue tasks often result in more fluid and interactive speech as learners can rely on their interlocutor for prompts and cues. This interactive dynamic reduces the pressure on any single speaker to continuously generate content, leading to fewer breakdowns in fluency.

Although fluency is multidimensional, breakdown fluency, given its ability to directly reflect cognitive and emotional disruptions during speech production, has been frequently employed as a critical indicator of the immediate cognitive and emotional states of speakers (Gregersen et al., 2014; MacIntyre & Legatto, 2011). As a valuable measure of L2 fluency, breakdown fluency provides a lens for understanding the real-time processing challenges that L2 speakers face. It highlights moments where speakers struggle with vocabulary retrieval, sentence formulation, or managing anxiety, all of which can lead to pauses or hesitations.

There are studies, albeit limited, have indicated the link between emotions and breakdown fluency. For example, Boudreau et al. (2018) investigated the role of positive and negative emotions in L2 speaking tasks and found that managing anxiety and promoting positive emotional experiences can significantly enhance fluency by reducing cognitive load and facilitating smoother language production. Additionally, Aubrey (2022) used an idiodynamic method to capture real-time fluctuations in learners' emotional states during speaking tasks.

His findings revealed that moments of high anxiety often coincided with increased pausing and self-repair behaviors, whereas periods of enjoyment were associated with smoother, more fluent speech. This suggests that anxiety and enjoyment can co-occur and interact dynamically within the same speaking task, influencing fluency in different ways.

Existing Gaps and Research Questions

While previous research has significantly advanced our understanding of the impact of emotions on L2 learning, much of it has focused on broad, static measures of emotions and their general effects on language performance. Studies have demonstrated that positive emotions like enjoyment enhance motivation, engagement, and overall language performance, while negative emotions like anxiety impede fluency and increase cognitive load (Dewaele & MacIntyre, 2014; Horwitz, 2010). However, these studies often overlook the real-time, dynamic fluctuations of emotions during language tasks and their immediate impact on L2 speaking performance, particularly on breakdown fluency. Furthermore, the differential effects of task types (monologue vs. dialogue) on fluency and emotional states remain underexplored (Saito et al., 2018; Tavakoli & Foster, 2008). To address these gaps, three research questions (RQs) were proposed to guide the present study.

RQ_1: What are the respective inter-group and intra-individual relationships between emotions (i.e., anxiety & enjoyment) and breakdown fluency under the monologue and dialogue conditions?

RQ_2: Are there differences in the levels of anxiety, enjoyment, and breakdown fluency under the monologue and dialogue conditions?

RQ_3: What factors contribute to participants' enjoyment and anxiety and thus their breakdown fluency under the monologue and dialogue conditions?

Methodology

This study investigated the intra-individual relationships between anxiety, enjoyment, and breakdown fluency in monologic and dialogic tasks, examining how these emotions interact dynamically to influence fluency and identifying factors that contribute to these emotional states during L2 speaking tasks. Specifically, an idiodynamic approach was adopted for investigation. This approach is a mixed-methods design, used to collect 1) participants' dynamic changes in affective and/or cognitive states through the idiodynamic software and 2) their possible explanations for the changes through semi-structure interviews (see MacIntyre & Ducker, 2022 for details).

Participants

In this study, eight students (aged 18–23) were recruited from a top university in Zhejiang. All participants were native Mandarin speakers with proficient English skills as evidenced by their performance in standardized English tests (IELTS speaking score $\geq$ 5.5 or TOEFL speaking score $\geq$ 18). They were late L2 English learners in mainstream classrooms and none of them had overseas living experience. Most participants self-reported a high level of willingness to communicate in English with a mean score of 4.63 (±0.33) (for the WTC scale, see Appendix 1). Participants were divided into two groups: one for monologic speaking tasks and the other

for dialogic tasks, with each group balanced by gender and WTC scores (monologue: 4.69±0.41; dialogue: 4.56±0.21). Table 1 presents the details of participant information.

Table 1

Summary of Participant Information

Participant ID	Gender	Age	Major	English Score	WTC Score
M-1	F	23	Finance	TOEFL speaking 26	5
M-2	M	18	English	IELTS speaking 6.5	4.75
M-3	M	20	English	TOEFL speaking 26	4
M-4	F	24	Food Science & Engineering	IELTS speaking 6	5
D-5	M	22	Computer Science and Technology	TOEFL speaking 21	4.75
D-6	F	22	Software Engineering	TOEFL speaking 18	4.5
D-7	F	21	Economics	IELTS speaking 6.5	4.25
D-8	M	19	Journalism	IELTS speaking 6	4.75

Note: M, monologue group participant; D, dialogue group participant.

Instruments

Questionnaire

An online questionnaire was used to collect participants' background information, including their gender, age, major, performance in standardized English tests (i.e., TOEFL and/or IELTS), overseas living experience, and willingness to communicate (WTC) in English. Specifically, the WTC scale was adapted from the speaking part of MacIntyre et al.'s (2001) five-point Likert scale of willingness to communicate in the classroom (8 items, α = .81). The WTC items that best fit the situations faced by Chinese students were selected (see Appendix 1).

Speaking task

A speaking task was designed to elicit participants' L2 English speech performance in a seminar room setting. The task is a problem-solving task concerning university students' mental health (see Appendix 2). Specifically, for the monologic group, participants were given three minutes to read a problem description of mental health issues on campus, followed by ten minutes to listen to supplementary audio material (see Appendix 2) and complete a planning worksheet (see Appendix 3). The audio material was used to ensure equivalency with the discussion materials provided by the partner during the dialogic planning. After preparation, participants were invited to give their speech in English for three minutes. The entire process was audio and video recorded. For the dialogic group, participants were also given three minutes to read the same problem description, after which they engaged in a five-minute discussion with a research assistant who acted as their partner, and subsequently completed the worksheet independently in five minutes. The remaining procedure mirrored that of the monologic group, with participants delivering a three-minute speech in English, which was also audio and video recorded.

The idiodynamic software for emotional change assessment

Developed by MacIntyre and Ducker (2022), the idiodynamic software is a crucial component of the idiodynamic method. Using the software, participants can review their speaking performance and rate their emotional levels based on their performance on a per-second basis. The advantage of the software is that it can generate a line chart, illustrating participants' emotional fluctuations over time. Based on the line chart, participants can provide retrospective explanations for their emotional fluctuations.

Semi-structured interview

Semi-structured interviews were conducted in Chinese to fully elicit participants' opinions on their emotional changes. Emotional line charts generated through the idiodynamic software were presented to participants to help them recall emotional fluctuations during speaking performance. Participants were required to explain all the self-reported emotional changes. For participants in the dialogic task, additional questions were asked about the support provided by their partner regarding emotions, vocabulary, and ideas. Appendix 4 provides the full list of interview questions.

Data Collection and Analysis

Prior to data collection, written informed consent was obtained from all participants. The eight participants were then divided into two groups. To mitigate the Hawthorne effect and help participants familiarize themselves with the experimental procedure and the idiodynamic approach for emotional assessment, all participants underwent a practice session. During this session, they performed a 30-second self-introduction in English, which was recorded and then played it back on a computer for them to rate their anxiety and enjoyment on a per-second basis using the idiodynamic software (MacIntyre & Ducker, 2022; MacIntyre & Legatto, 2011). To help participants rate their emotions in a more accurate manner, anxiety and enjoyment items (Appendix 5), borrowed from Monteiro et al.'s (2023) Mini-DASS scale (anxiety section) and Aydın, S. et al.'s (2024) foreign language enjoyment scale, were presented for their reference.

In the formal data collection phase, participants were initially required to complete the background information questionnaire. Afterwards, they were invited to finish the problem-solving speaking task. Specifically, the monologue group participants were given 3 minutes to read the task problem and 10 minutes for task preparation, including listening to the audio material and completing the worksheet. After preparation, participants gave a 3-minute speech without using the worksheet. For the dialogue group, the only difference was that participants paired with a partner for a 5-minute collaborative preparation and then independently completed the same worksheet for 5 minutes. To eliminate potential variations resulting from different partners, the dialogue group participants were one-by-one invited to complete the collaborative preparation with the same research assistant as a partner. After completing the speaking task, participants had to conduct a real-time emotional assessment of their anxiety and enjoyment through the idiodynamic software based on their video-recorded performance. The recorded videos were played back on a computer to facilitate participants' stimulated recall of their anxiety and enjoyment on a per-second basis throughout the speaking performance. By using the idiodynamic software, participants could identify points within their 3-minute speech where emotional shifts—such as increases or decreases in anxiety and enjoyment—occurred.

The video could be watched repeatedly as needed. Lastly, a semi-structured interview was conducted to collect the reasons behind the emotional changes reported by the participants.

After the data collection, each participant's speech was imported to PRAAT (version 6.053) to identify silent pauses of 0.25 seconds or more as breakdown fluency (De Jong & Bosker, 2013). All the speeches were transcribed and divided into 30 six-second segments, because six seconds as a segment satisfied the minimum threshold for inferential statistics in the present study (Bonett & Wright, 2000). The mean length of pausing per second was calculated for each segment to quantify breakdown fluency. In parallel, participants' idiodynamic ratings of enjoyment and anxiety were analyzed in these six-second segments, mirroring the segmentation used for breakdown fluency. This approach allowed for the calculation of mean anxiety and enjoyment ratings for each segment (MacIntyre & Serroul, 2015).

To answer RQ1, the ratings of anxiety and enjoyment collected through the idiodynamic software were examined to see how fluctuations in emotions corresponded with changes in breakdown fluency. Given that the data were not normally distributed, Spearman correlation (non-parametric) analysis was performed to capture the relationships between anxiety, enjoyment, and breakdown fluency. To answer RQ2, an independent-samples Mann-Whitney U test was performed to determine whether there were significant differences in anxiety, enjoyment, and breakdown fluency between the two conditions. To answer RQ3, post-task semi-structured interviews were transcribed in verbatim. Descriptions provided by participants regarding the causes of their emotional fluctuations were systematically reviewed and categorized into *cognitive*, *task implementation*, *task design*, and *interpersonal* factors. Frequency counts for each category were then calculated to observe how each factor influenced emotions and breakdown fluency. To enhance the trustworthiness of qualitative data analysis, such as accuracy, consistency, and completeness, the first three authors reviewed and coded the data respectively. When differences emerged in terms of coding, they engaged in a rigorous process of discussion and negotiation to reach consensus.

Results

Correlations between Enjoyment, Anxiety, and Breakdown Fluency under Monologue and Dialogue Conditions

Table 2 shows the general correlations between enjoyment, anxiety, and breakdown fluency between the monologue and dialogue groups. The results revealed that in both monologic and dialogic conditions, participants' emotions (i.e., anxiety and enjoyment) were significantly correlated with breakdown fluency, with anxiety and breakdown fluency showing a positive correlation and enjoyment and breakdown fluency a negative correlation. However, such correlations were stronger in the dialogue condition, as indicated by the *p* values in Table 2.

Table 2

General Correlations between Emotions and Breakdown Fluency

Pattern	Correlation	Spearman's *r*	*p*	f^2
Monologue	anxiety-breakdown fluency	.272**	0.003	0.079
	enjoyment-breakdown fluency	-.254**	0.005	0.069
Dialogue	anxiety-breakdown fluency	.313***	<0.001	0.109
	enjoyment-breakdown fluency	-.430***	<0.001	0.227

Note. ** Correlation is significant at the 0.01 level (2-tailed); *** Correlation is significant at the 0.001 level (2-tailed); effect size f^2 is classified as: Small (0.02), Medium (0.15), Large (0.35) according to Cohen (1988).

Table 3 presents the correlations between emotions and breakdown fluency under the monologue and dialogue conditions at the intra-individual level. In terms of the correlation between anxiety and breakdown fluency, only one of the four participants (M-2) from the monologue group showed a significant positive correlation between anxiety and breakdown fluency at $p < 0.01$ level with a large effect size. In other words, learners who are more anxious while speaking will demonstrate more pauses in their speech production. In contrast, there were two participants (D-5 & D-6) from the dialogue group who exhibited a significant positive correlation ($p < 0.01$) between the two variables with a large effect size. In terms of the correlation between enjoyment and breakdown fluency, participants M-1 and M-2 from the monologue group showed a significant negative correlation between enjoyment and breakdown fluency at $p < 0.05$ and $p < 0.01$ levels with a medium effect size, respectively. This indicates that higher levels of enjoyment were associated with fewer pauses, facilitating smoother speech. In contrast, three participants (D-5, D-6, and D-7) showed significant negative correlations between enjoyment and breakdown fluency, with D-5 and D-6 at $p < 0.01$ level (a large effect size) and D-7 at $p < 0.05$ level (a medium effect size). The visualized figures of idiodynamic ratings and breakdown fluency per segment can be found in Appendix 6.

Table 3

Correlations between Emotions and Breakdown Fluency at the Individual Level

Pattern	Participant	Correlation	Spearman's *r*	f^2
Monologue	M-1	anxiety-breakdown fluency	0.344	0.134
		enjoyment-breakdown fluency	-0.424*	0.219
	M-2	anxiety-breakdown fluency	0.530**	0.391
		enjoyment-breakdown fluency	-0.468**	0.280
	M-3	anxiety-breakdown fluency	0.272	0.080
		enjoyment-breakdown fluency	-0.049	0.002
	M-4	anxiety-breakdown fluency	0.259	0.072
		enjoyment-breakdown fluency	-0.216	0.049
Dialogue	D-5	anxiety-breakdown fluency	0.566**	0.471
		enjoyment-breakdown fluency	-0.678**	0.851
	D-6	anxiety-breakdown fluency	0.540**	0.412
		enjoyment-breakdown fluency	-0.539**	0.409
	D-7	anxiety-breakdown fluency	0.067	0.005
		enjoyment-breakdown fluency	0.202	0.043
	D-8	anxiety-breakdown fluency	0.042	0.002
		enjoyment-breakdown fluency	-0.456*	0.263

Note. M-1 = number 1 participant in the monologue condition; D-5 = number 1 participant in the dialogue condition; ** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed); effect size f^2 is classified as: Small (0.02), Medium (0.15), Large (0.35) according to Cohen (1988).

Anxiety, Enjoyment, and Breakdown Fluency Differences under Monologue and Dialogue Conditions

Tables 4 and 5 show the results of the descriptive analysis and the independent-samples Mann-Whitney U test of the two group participants' general anxiety, enjoyment, and breakdown fluency. The results suggested that the monologue group experienced significantly less anxiety ($p < 0.05$) and more enjoyment ($p < 0.001$) in L2 speaking than the dialogue group. However, there was no significant difference in breakdown fluency between the two groups ($p = 0.152$).

Table 4

Anxiety, Enjoyment, and Breakdown Fluency Differences

Emotions	Monologue		Dialogue		Mann-Whitney U
	M	SD	M	SD	*p*
Anxiety	0.908	1.368	1.431	2.04	0.015
Enjoyment	0.640	2.026	-0.632	2.184	< 0.001
Breakdown fluency	0.287	0.341	0.273	0.225	0.152

Table 5

Independent-Samples Mann-Whitney U Test Summary

	Anxiety	Enjoyment	Breakdown Fluency
Mann-Whitney U	5887.5	5057.5	6430
Wilcoxon W	13147.5	12317.5	13690
Z	-2.443	-3.988	-1.432
Asymp. Sig. (2-tailed)	0.015	< 0.001	0.152

A Grouping Variable: task condition

Factors Influencing Anxiety and Enjoyment in L2 Speaking

To address the third question, semi-structured interviews were closely examined to identify the factors influencing participants' enjoyment and anxiety in L2 speaking under the monologue and dialogue conditions. Overall, the reasons behind emotional fluctuations could be categorized into *cognitive*, *task implementation*, *task design*, and *interpersonal* factors (see Figures 1-4).

In terms of *cognitive* factors, they were the most significant contributors to emotional fluctuations for both the monologue and dialogue groups. For example, difficulty in formulating language notably increased anxiety and decreased enjoyment. As M-3 and M-4 reported, "thinking about how to connect sentences" significantly raised their anxiety levels, while smooth language formulation positively impacted their enjoyment (e.g., "this sentence was easy to think about, so I felt more relaxed." (M-3). Furthermore, self-evaluating their own performance tended to increase anxiety and lower enjoyment, as participants frequently critiqued their word choice and fluency: "I thought the word I just used was weird, so I was very dissatisfied" (M-2) and "I felt stuck and it was a bit embarrassing" (D-8). However, some participants reported that evaluating their fluency and coherence enhanced their enjoyment, such as feeling satisfied when they performed well.

In terms of *task implementation* factors, the impact of pre-task planning was most frequently reported. Most participants indicated that prepared language and ideas allowed them to feel more relaxed: "I had previously memorized some related expressions, so I could say

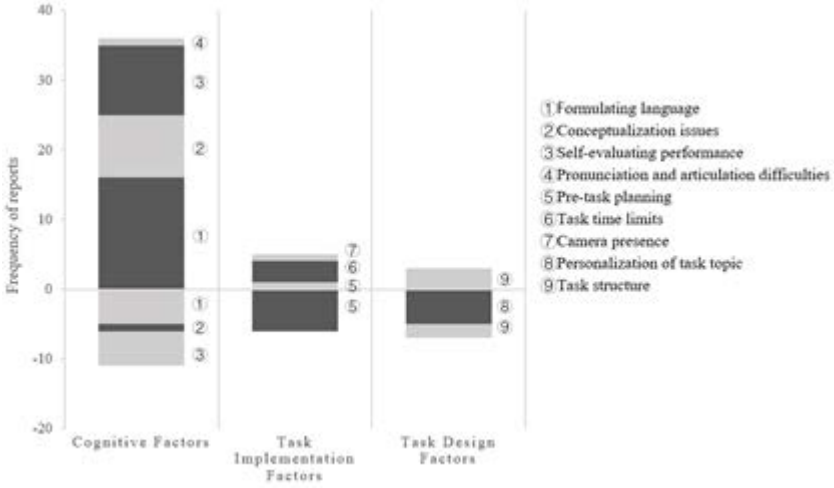
them directly without feeling nervous" (D-5). However, pre-task planning did not always have a positive effect. Some participants found that it caused them to switch to "recall mode" (M-3), which was tiring and increased anxiety while decreasing enjoyment. The countdown timer during the task also contributed to anxiety, especially when participants felt pressed for time or ran out of content to talk about.

In terms of *task design* factors, personalization of the task topic was an important factor in reducing anxiety and increasing enjoyment. When participants were familiar with the topic, their emotions were more elevated and positive. As participants pointed out, "when I talked about my friend's story, I found it easy and interesting" (D-7), or "I had seen this issue on a forum before, and I felt like I was talking about myself" (M-1). Additionally, tasks that provide opportunities to express original and personally meaningful viewpoints also had a positive impact on emotions: "I wanted to express my own ideas, so I was more focused on what I was saying" (D-7). Furthermore, as the problem-solving task involves 4 parts (to explain the problem, compare potential solutions, recommend one of these solutions, and give reasons for recommendation), the speakers needed to shift their focus every time they started the next part. This step-by-step problem-solving task nature may help reduce anxiety and thus increase enjoyment among participants. As M-3 reported, "when I said the word 'besides', my speech went to the next part, so I did not have to think about the previous part anymore. This made me happy". However, in some cases, transitioning to another part increased cognitive load, causing anxiety: "Switching to a new section made me think more, so I felt a bit tense." (M-3)

The last category, *interpersonal* factors, was specific to the dialogue group and related to the role of the partner. The presence of the partner could have a double-edged effect on participants' emotions. Positive feedback from the partner generally improved emotional states, as D-7 pointed out: "He looked at me encouragingly and nodded, which made me feel like I was doing okay." Conversely, the partner's presence could also create negative effects, as participant D-6 reported: "This solution was his idea, so I had to recall and organize it, and my vocabulary wasn't sufficient, which made me anxious." In general, most participants acknowledged that their partner provided support in terms of emotions, language, and ideas.

Figure 1

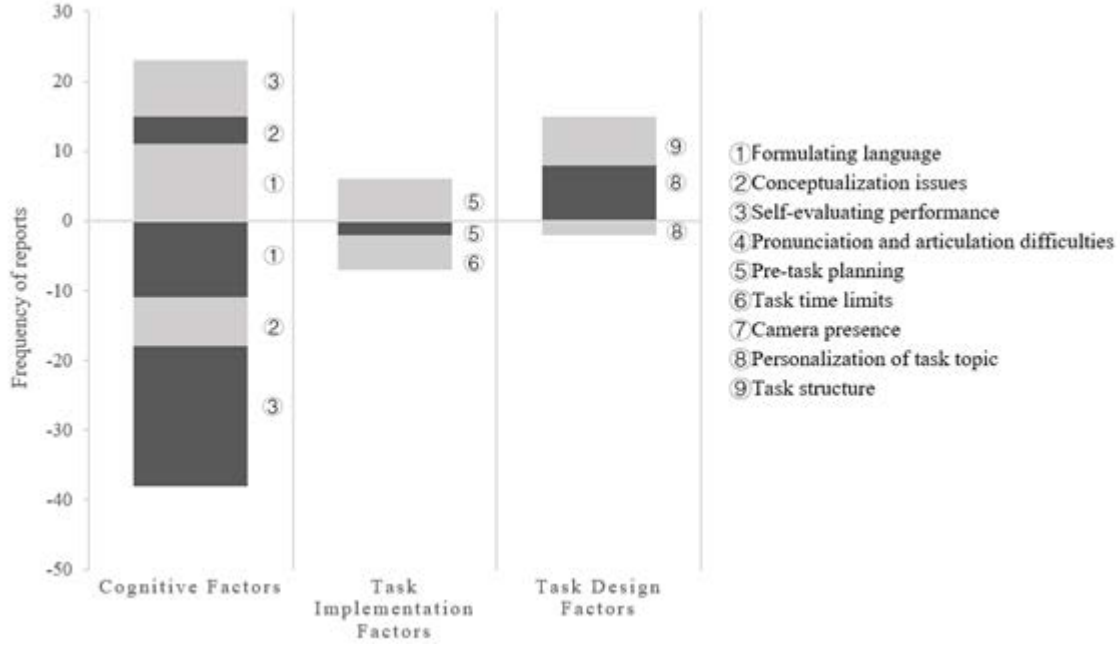
Reasons for Change in Anxiety (Monologue)



Note. Frequency of reports refers to the number of times the participants cited them as reasons for emotional changes

Figure 2

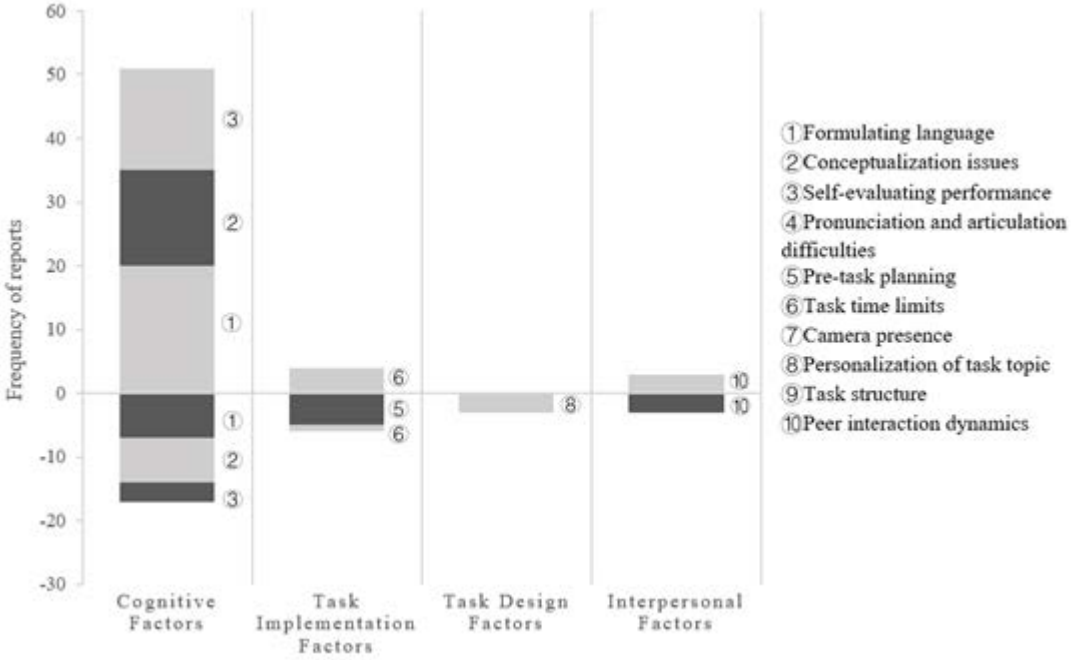
Reasons for Change in Enjoyment (Monologue)



Note. Frequency of reports refers to the number of times the participants cited them as reasons for emotional changes

Figure 3

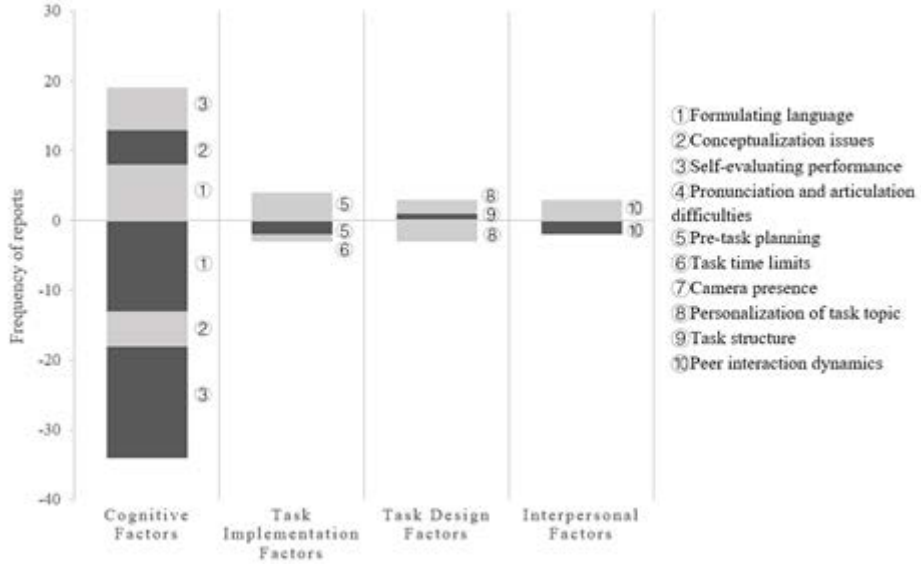
Reasons for Change in Anxiety (Dialogue)



Note. Frequency of reports refers to the number of times the participants cited them as reasons for emotional changes

Figure 4

Reasons for Change in Enjoyment (Dialogue)



Note. Frequency of reports refers to the number of times the participants cited them as reasons for emotional changes

Discussion

Relationships between Emotions and Breakdown Fluency (RQ1)

In line with previous research findings that anxiety can disrupt cognitive processing and hinder fluent language production (MacIntyre & Gregersen, 2012; Horwitz, 2010), our study also found a positive correlation between anxiety and breakdown fluency for most participants (i.e., M-1, M-2, M-3, M-4, D-5, & D-6). In other words, higher anxiety levels can result in more frequent pauses in speech. Additionally, our study corroborates Aubrey's (2022) idiodynamic research on participants' real-time emotional fluctuations during language tasks, showing that moments of high anxiety often coincide with increased pausing and self-repair behaviors.

Regarding the relationship between the enjoyment and breakdown fluency, our study found that enjoyment was negatively correlated with breakdown fluency in general. This finding adds to the literature that higher enjoyment levels are generally associated with smoother speech (e.g., Aubrey, 2022; Boudreau et al., 2018). Although most participants experienced less breakdown fluency with increased enjoyment (i.e., M-1, M-2, M-4, D-5, D-6, D-8), there were still some participants (i.e., M-3, D-7) that did not demonstrate such a correlational pattern, suggesting the relationship between enjoyment and breakdown fluency may be more complex.

Given these insights, educators should be aware of the strong impact that anxiety and enjoyment have on language production. Strategies, such as creating a supportive and non-judgmental classroom environment, may help reduce learners' anxiety and in turn improve their L2 speech fluency. Moreover, incorporating activities that promote enjoyment and align with students' interests can enhance learners' activity engagement and facilitate the development of their L2 speaking ability. For example, role-playing relevant scenarios, storytelling on favorite topics, and interactive activities, such as "Describe and Draw" and "Two Truths and One Lie", may spice up the class and help students stay engaged in class (Sun & Yuan, 2018).

Differences in Anxiety, Enjoyment, and Breakdown Fluency in Different Task Modes (RQ2)

In terms of the differences in anxiety, enjoyment, and breakdown fluency under the monologue and dialogue conditions, our study found that the task mode significantly influenced participants' anxiety and enjoyment rather than breakdown fluency. Specifically, participants in the monologue condition experienced significantly less anxiety and more enjoyment than those in the dialogue condition. This finding aligns with previous research, such as Tavakoli and Foster (2008) and Kirk (2016), which highlights the impact of different task modes on learners' emotional responses. One possible explanation for the significant influence of task mode on emotions could be that monologue tasks allow for controlled and predictable speech production in a more relaxed condition. In contrast, dialogue tasks involve interaction with a partner, which can introduce unpredictable elements. The interactive nature of dialogue tasks requires participants to manage turn-taking and respond to their partner's inputs, adding cognitive load and potentially increasing anxiety levels. Additionally, different personalities and/or speaking styles may clash between interlocutors in the dialogue condition, leading to moments of tension, as some participants may feel challenged or discomfort if their counterparts prefer a faster or slower pace for the personality's sake (Sun & Teng, 2017). This friction could add to the emotional strain during the speaking task.

Although participants in the dialogue condition mentioned that their partners offered language and idea support during language production, as well as emotional support through gestures such as nodding or smiling, the potential negative impact of increased anxiety on L2 performance due to the unpredictability of interaction sometimes overshadowed these positive effects (Storch, 2002). In other words, the overall emotional influence of anxiety and enjoyment on breakdown fluency under the two task conditions may be of similar intensity. This explains why there was a lack of significant differences in breakdown fluency between the two task conditions.

Therefore, teachers should carefully consider the design of speaking tasks, balancing monologue and dialogue activities to cater to different emotional responses. Monologue tasks can be used to build confidence and reduce anxiety, while dialogue tasks can enhance interactive skills despite the potential increase in anxiety. To maximize these benefits, it is advisable to implement a gradual progression from monologue to dialogue tasks. Teachers might start with simple monologue exercises where students present topics they are passionate about. This allows them to prepare thoroughly and express themselves in a more controlled environment. Once students feel comfortable, teachers can introduce dialogue activities that foster interaction, such as structured debates or role-playing scenarios. Additionally, providing students with strategies to manage anxiety in unpredictable dialogue tasks, such as turn-taking cues and supportive feedback, may also help mitigate negative emotional impacts (Sun, 2022; Wang & Sun, 2024). In these dialogue tasks, teachers can use strategies like providing sentence starters or conversation prompts to facilitate smoother interactions and lessen anxiety.

Factors Contributing to Anxiety and Enjoyment and their Impact on Breakdown Fluency (RQ3)

The findings of this study illuminate the multifaceted factors influencing participants' enjoyment and anxiety and thus their breakdown fluency in their monologic and dialogic task performance. Cognitive factors emerged as the most significant contributors to emotional fluctuations, with difficulties in language formulation and self-evaluation notably heightening

anxiety and diminishing enjoyment. This aligns with previous literature highlighting the cognitive challenges faced by language learners (Gregersen & Horwitz, 2002). The present study extends these findings by showing how these factors dynamically affect breakdown fluency during real-time L2 speaking tasks. For instance, when participants focused on retrieving language and critiquing their performance, they may experience a decline in their ability to communicate fluidly. Tasks that impose high cognitive demands—such as those requiring complex conceptualization and frequent self-evaluation—significantly increase anxiety and disrupt fluency, which echoes Horwitz's (2010) claims about the impact of the cognitive overload on language performance.

Task implementation factors, like pre-task planning and camera presence, are less frequently explored in the context of L2 learning. This study highlights their significant role in shaping emotional fluctuations and fluency outcomes. The importance of pre-task planning was evident, as it generally allowed participants to feel more prepared and relaxed. However, this preparation sometimes led to a "recall mode", which increased anxiety to some extent (Thornbury, 2005). The pressure of camera presence also exacerbated anxiety, aligning with findings from classroom settings where performance anxiety is heightened under observation (MacIntyre & Gardner, 1994).

Task design factors, particularly the personalization of the task topic, have been shown to influence engagement and motivation (Pekrun et al., 2002). Our results reinforce this argument, underscoring the critical role of the personalization of topics in fostering positive emotional states. Familiarity with the task topic correlated with enhanced enjoyment and reduced anxiety, suggesting that tailoring tasks to learners' interests is beneficial.

Interpersonal factors, such as peer interaction dynamics, are crucial in dialogic tasks. Positive peer feedback and supportive interactions can alleviate anxiety and foster enjoyment, leading to smoother and more fluent speech. This echoes findings from studies on collaborative learning, which emphasize the emotional and cognitive benefits of peer support (Dewaele & MacIntyre, 2016).

The above findings contribute to a more nuanced understanding of how cognitive, task implementation, task design, and interpersonal factors may influence L2 learners' emotional fluctuations and fluency performance. The findings also highlight the importance of considering a wide range of influences when designing language learning tasks to optimize both emotional well-being and fluency outcomes for learners. Specifically, teachers should consider a holistic approach to task design by taking cognitive, implementation, design, and interpersonal factors into account. For example, teachers can offer prompts with target words and sentence structures to help alleviate students' cognitive load. Additionally, teachers can guide students to view their peers as collaborators rather than evaluators to help reduce their anxiety of being observed during speaking performance. Furthermore, assigning tasks that encourage students to share personal stories or opinions on current events or personalizing task topics to align with students' interests may boost their enjoyment and engagement in task performance. Last but not least, fostering positive peer interactions and providing strategies for effective collaboration can help balance the emotional dynamics in dialogic tasks.

Conclusion

This study delved into the complex relationships between enjoyment, anxiety, and breakdown fluency in L2 speaking tasks, examining how different task modes (monologue and dialogue) influence these dynamics. The results showed that both monologue and dialogue groups exhibited a significant positive correlation between anxiety and breakdown fluency, and a significant negative correlation between enjoyment and breakdown fluency. However, these correlations were more pronounced in the dialogue group. The study also revealed that the monologue group experienced significantly less anxiety and more enjoyment in L2 speaking than the dialogue group. Nevertheless, there was no significant difference in breakdown fluency between the two groups. Lastly, the study found that learners' emotional fluctuations could be subject to cognitive, task implementation, task design, and interpersonal factors.

However, this study is not without limitations. The small sample size limits the generalizability of the results, necessitating further research with a larger participant pool. The reliance on self-reported ratings of anxiety and enjoyment introduces potential biases, as participants may have varying interpretations of these emotions and differing abilities to assess them accurately. Despite efforts to provide clear definitions and practice with the rating software, these subjective ratings require cautious interpretation. Additionally, while the idiodynamic method provided valuable insights, it may not capture all the nuances of emotional fluctuations and their impact on fluency. Future studies should consider incorporating physiological measures of anxiety to complement self-reported data.

ORCID

https://orcid.org/0009-0001-1788-8611
https://orcid.org/0009-0001-8595-0739
https://orcid.org/0009-0002-6276-0948
https://orcid.org/0000-0003-4820-2915

Acknowledgements

The authors would to express their sincere thanks to the editors and anonymous reviewers for their constructive feedback.

Funding

The study was funded by the Fundamental Research Funds for the Central Universities in China.

Ethics Declarations

The study was reviewed and approved by the Human Participants Ethics Committee of Zhejiang University (Approval No. SIS2023-07).

Competing Interests

No, there are no conflicting interests.

Rights and Permissions

Open Access

References

Aubrey S (2022). The relationship between anxiety, enjoyment, and breakdown fluency during second language speaking tasks: An idiodynamic investigation. *Frontiers in Psychology, 13*, 968946. https://doi.org/10.3389/fpsyg.2022.968946

Aydın, S., Tekin, I., & Akkaş, F. D. (2024). Construction and validation of the foreign language learning enjoyment scale. *Psychology in the Schools, 61*(2), 657-670. https://doi.org/10.1002/pits.23076

Bonett, D. G., & Wright, T. A. (2000). Sample size requirements for estimating Pearson, Kendall, and Spearman correlations. *Psychometrika, 65*(1), 23-28. https://doi.org/10.1007/BF02294183

Boudreau, C., MacIntyre, P. D., & Dewaele, J.-M. (2018). Enjoyment and anxiety in second language communication: An idiodynamic approach. *Studies in Second Language Learning and Teaching, 8*(1), 149-170. https://doi.org/10.14746/ssllt.2018.8.1.7

Clore, G. L., & Huntsinger, J. R. (2007). How emotions inform judgment and regulate thought. *Trends in Cognitive Sciences, 11*(9), 393-399. https://doi.org/10.1016/j.tics.2007.08.005

De Jong, N. H., & Bosker, H. R. (2013). Choosing a threshold for silent pauses to measure second language fluency. In R. Eklund (Ed.), *Proceedings of the 6th workshop on disfluency in spontaneous speech (DiSS)* (pp. 17-20). Stockholm.

Derakshan, N., & Eysenck, M. W. (2009). Anxiety, processing efficiency, and cognitive performance: New developments from attentional control theory. *European Psychologist, 14*(2), 168-176. https://doi.org/10.1027/1016-9040.14.2.168

Dewaele, J.-M., & Alfawzan, M. (2018). Does the effect of enjoyment outweigh that of anxiety in foreign language performance? *Studies in Second Language Learning and Teaching, 8*(1), 21-45. https://doi.org/10.14746/ssllt.2018.8.1.2

Dewaele, J.-M., & MacIntyre, P. D. (2014). The two faces of Janus? Anxiety and enjoyment in the foreign language classroom. *Studies in Second Language Learning and Teaching, 4*(2), 237-274. https://doi.org/10.14746/ssllt.2014.4.2.5

Dewaele, J.-M., & MacIntyre, P. D. (2016). Foreign language enjoyment and foreign language classroom anxiety: The right and left feet of the language learner. In P. D. MacIntyre, T. Gregersen, & S. Mercer (Eds.), *Positive psychology in SLA* (pp. 215-236). Multilingual Matters.

Elahi Shirvan, M., & Talebzadeh, N. (2017). Exploring the fluctuations of foreign language enjoyment in conversation: An idiodynamic perspective. *Journal of Intercultural Communication Research, 47*(1), 21–37. https://doi.org/10.1080/17475759.2017.1400458

Eysenck, M. W. (1979). Anxiety, learning, and memory: A reconceptualization. *Journal of Research in Personality, 13*(4), 363-385. https://doi.org/10.1016/0092-6566(79)90001-1

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*(3), 218–226. https://doi.org/10.1037/0003-066X.56.3.218

Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philosophical Transactions of the Royal Society B: Biological Sciences, 359*(1449), 1367-1377. https://doi.org/10.1098/rstb.2004.1512

Fredrickson, B. L., & Branigan, C. (2005). Positive emotions broaden the scope of attention and thought-action repertoires. *Cognition and Emotion, 19*(3), 313-332. https://doi.org/10.1080/02699930441000238

Gao, J., & Sun, P. P. (2023). To correct or not: The role of L1 fluency in understanding and measuring L2 fluency. *TESOL Quarterly, 57*(2), 643–655. https://doi.org/10.1002/tesq.3198

Gao, J., & Sun, P. P. (2024). How does learners' L2 utterance fluency relate to their L1? A meta-analysis. *International Journal of Applied Linguistics, 34*(1), 276–291. https://doi.org/10.1111/ijal.12493

Gregersen, T., & Horwitz, E. K. (2002). Language learning and perfectionism: Anxious and non-anxious language learners' reactions to their own oral performance. *The Modern Language Journal, 86*(4), 562-570. https://doi.org/10.1111/1540-4781.00161

Gregersen, T., MacIntyre, P. D., & Meza, M. (2014). The motion of emotion: Idiodynamic case studies of learners' foreign language anxiety. *The Modern Language Journal, 98*(2), 574-588. https://doi.org/10.1111/modl.12084

Horwitz, E. K. (2010). Foreign and second language anxiety. *Language Teaching, 43*(2), 154-167. https://doi.org/10.1017/S026144480999036X

Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. *The Modern Language Journal, 70*(2), 125-132. https://doi.org/10.1111/j.1540-4781.1986.tb05256.x

Inoue, C., & Lam, D. M. K. (2021). The effects of extended planning time on candidates' performance, processes, and strategy use in the lecture listening-into-speaking tasks of the TOEFL iBT® test. *ETS Research Report Series, 2021*(1), 1-35. https://doi.org/10.1002/ets2.12322

Isen, A. M. (1999). Positive affect. In T. Dalgleish & M. J. Power (Eds.), *Handbook of cognition and emotion* (pp. 521-539). John Wiley & Sons.

Kirk, S. J. (2016). *Second language spoken fluency in monologue and dialogue*. University of Nottingham.

Kormos, J. (1999). Monitoring and self-repair in L2: A corpus-based analysis. *Language Learning, 49*(2), 303-342. http://doi.org/10.1111/0023-8333.00090

Lennon, P. (1990). Investigating fluency in EFL: A quantitative approach. *Language Learning, 40*(3), 387-417. http://doi.org/10.1111/j.1467-1770.1990.tb00669.x

Lindberg, R., McDonough, K., & Trofimovich, P. (2023). Second language anxiety in conversation and its relationship with speakers' perceptions of the interaction and their social networks. *Studies in Second Language Acquisition, 45*(5), 1413–1426. https://doi.org/10.1017/S0272263122000523

Linnenbrink, E. A. (2007). The role of affect in student learning: A multidimensional approach to considering the interaction of affect, motivation, and engagement. In P. A. Schutz & R. Pekrun (Eds.), *Emotion in education* (pp. 107-124). Academic Press.

MacIntyre, P. D., Baker, S. C., Clément, R., & Conrod, S. (2001). Willingness to communicate, social support, and language-learning orientations of immersion students. *Studies in Second Language Acquisition, 23*(3), 369-388. https://doi.org/10.1017/S0272263101003035

MacIntyre, P. D., Clément, R., Dörnyei, Z., & Noels, K. A. (1998). Conceptualizing willingness to communicate in a L2: A situational model of L2 confidence and affiliation. *The Modern Language Journal, 82*(4), 545–562. https://doi.org/10.1111/j.1540-4781.1998.tb05543.x

MacIntyre, P., & Ducker, N. (2022). The idiodynamic method: A practical guide for researchers. *Research Methods in Applied Linguistics, 1*(2), 100007. https://doi.org/10.1016/j.rmal.2022.100007

MacIntyre, P. D., & Gardner, R. C. (1994). The effects of induced anxiety on three stages of cognitive processing in computerized vocabulary learning. *Studies in Second Language Acquisition, 16*(1), 1-17. https://doi.org/10.1017/S0272263100012560

MacIntyre, P. D., & Gregersen, T. (2012). Affect: The role of language anxiety and other emotions in language learning. In Mercer, S., Ryan, S., & Williams, M. (Eds.), *Psychology for language learning: Insights from research, theory and practice* (pp. 103-118). Palgrave Macmillan. http://doi.org/10.1057/9781137032829_8

MacIntyre, P. D., & Legatto, J. J. (2011). A dynamic system approach to willingness to communicate: Developing an idiodynamic method to capture rapidly changing affect. *Applied Linguistics, 32*(2), 149-171. https://doi.org/10.1093/applin/amq037

MacIntyre, P. D., & Serroul, A. (2015). Motivation on a per-second timescale: Examining approach-avoidance motivation during L2 task performance. In Z. Dörnyei, P. D. MacIntyre, & A. Henry (Eds.), *Motivational dynamics in language learning* (pp. 109-138). Multilingual Matters.

Meinhardt, J., & Pekrun, R. (2003). Attentional resource allocation to emotional events: An ERP study. *Cognition & Emotion, 17*(3), 477-500. https://doi.org/10.1080/02699930244000039

Monteiro, R. P., Coelho, G. L. d. H., Hanel, P. H. P., et al. (2023). The 12-Item Mini-DASS: A concise and efficient measure of depression, anxiety, and stress. *Applied Research in Quality of Life, 18*, 2955–2979. https://doi.org/10.1007/s11482-023-10214-8

Pawlak, M., Kruk, M., & Zawodniak, J. (2020). Investigating factors responsible for boredom in English classes: The case of advanced learners. *System, 91*, 102259. https://doi.org/10.1016/j.system.2020.102259

Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice. *Educational Psychology Review, 18*(4), 315-341. https://doi.org/10.1007/s10648-006-9029-9

Pekrun, R. (2014). *Emotions and learning*. International Academy of Education.

Pekrun, R., Goetz, T., Titz, W., & Perry, R. P. (2002). Academic emotions in students' self-regulated learning and achievement: A program of qualitative and quantitative research. *Educational Psychologist, 37*(2), 91-105. https://doi.org/10.1207/S15326985EP3702_4

Robinson, P. (2001). Task complexity, cognitive resources, and syllabus design: A triadic framework for examining task influences on SLA. In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 287-318). Cambridge University Press. https://doi.org/10.1017/CBO9781139524780.012

Saito, K., Dewaele, J.-M., Abe, M., & In'nami, Y. (2018). Motivation, emotion, learning experience, and second language comprehensibility development in classroom settings: *A cross-sectional and longitudinal study. Language Learning, 68*(3), 709-743. https://doi.org/10.1111/lang.12297

Segalowitz, N. (2010). *Cognitive bases of second language fluency*. Routledge. https://doi.org/10.4324/9780203851357

Shao, K., Pekrun, R., & Nicholson, L. J. (2019). Emotions in classroom language learning: What can we learn from achievement emotion research? *System, 86*, 102121. http://doi.org/10.1016/j.system.2019.102121

Skehan, P. (2003). Task based instruction. *Language Teaching, 36*(1), 1–14.

Storch, N. (2002). Patterns of interaction in ESL pair work. *Language Learning, 52*(1), 119-158. https://doi.org/10.1111/1467-9922.00179

Sun, P. P. (2022). Strategic self-regulation for speaking English as a foreign language: Scale development and validation. *TESOL Quarterly, 56*(4), 1369–1383. https://doi.org/10.1002/tesq.3132

Sun, P. P. (2025). Exploring the hierarchical antecedents of willingness to communicate and its relationship with utterance fluency in learning Chinese as a foreign language. *International Review of Applied Linguistics in Language Teaching*. https://doi.org/10.1515/iral-2024-0058

Sun, P. P., & Teng, L. S. (2017). Profiling perceptual learning styles of Chinese as a second language learners in university settings. *Journal of Psycholinguistic Research*, *46*(6), 1529–1548. https://doi.org/10.1007/s10936-017-9506-y

Sun, P. P., & Teng, L. S. (2021). Why so nervous? Revisiting the sources of speech anxiety in Chinese as a second language. *System*, *103*, 102647. https://doi.org/10.1016/j.system.2021.102647

Sun, P. P., & Yuan, R. (2018). Understanding collaborative language learning in novice-level foreign language classrooms: perceptions of teachers and students. *Interactive Learning Environments*, *26*(2), 189–205. https://doi.org/10.1080/10494820.2017.1285790

Swain, M. (2013). The inseparability of cognition and emotion in second language learning. *Language Teaching, 46*(2), 195-207. https://doi.org/10.1017/S0261444811000486

Tavakoli, P. (2016). *Fluency in monologue and dialogue*. University of Reading.

Tavakoli, P., & Foster, P. (2008). Task design and second language performance: The effect of narrative type on learner output. *Language Learning*, *58*(2), 439–473. https://doi.org/10.1111/j.1467-9922.2008.00446.x

Teimouri, Y. (2017). L2 selves, emotions, and motivated behaviors. *Studies in Second Language Acquisition, 39*(4), 681–709. https://doi.org/10.1017/S0272263116000243

Teimouri, Y., Goetze, J., & Plonsky, L. (2019). Second language anxiety and achievement: A meta-analysis. *Studies in Second Language Acquisition*, *41*(2), 363-387. http://doi.org/10.1017/S0272263118000311

Thornbury, S. (2005). *How to teach speaking*. Pearson Education.

UNESCO. (2020). *Global education monitoring report 2020: Inclusion and education: All means all* (3rd ed). Paris, UNESCO. https://doi.org/10.54676/JJNK6989

Wang, Y., & Sun, P. P. (2024). Development and validation of speaking strategies for self-regulated learning questionnaire (S3RLQ): A multidimensional approach. *Asia-Pacific Education Researcher, 33*, 1339–1350. https://doi.org/10.1007/s40299-023-00807-0

Young, D. J. (1991). Creating a low-anxiety classroom environment: What does language anxiety research suggest? *The Modern Language Journal*, *75*(4), 426-439. https://doi.org/10.1111/j.1540-4781.1991.tb05378.x