# Psychological Factors Influencing Students' Anxiety in Speaking English

### <sup>1</sup>Ari Putri Haryanti, <sup>2</sup>Rini Yuliana

<sup>1</sup>Institut Teknologi dan Bisnis Adias Pemalang <sup>2</sup>Universitas Sebelas Maret

e-mail: ariputri.h@gmail.com, riniyuliana97@gmail.com

#### Abstrak

Penelitian ini bertujuan untuk menyelidiki faktor psikologis yang mempengaruhi kecemasan siswa dalam berbicara bahasa Inggris. Penelitian ini menggunakan pendekatan kualitatif deskriptif. Data dikumpulkan dengan menggunakan observasi, kuesioner terbuka, dan wawancara. Terdapat sembilan mahasiswa semester dua ITB Adias Pemalang yang berpartisipasi dalam penelitian ini. Data dianalisis melalui reduksi data, penyajian data, dan penarikan kesimpulan. Hasil penelitian menunjukkan bahwa ada tiga faktor yang memicu kecemasan mahasiswa dalam berbicara bahasa Inggris, yaitu kecemasan komunikasi, kecemasan akan ujian, dan ketakutan akan penilaian negatif. Hasil penelitian ini dapat menjadi referensi untuk menganalisis kecemasan siswa selama belajar bahasa Inggris untuk meningkatkan motivasi dan kepercayaan diri siswa dalam berbicara bahasa target.

Kata kunci: kecemasan siswa, faktor psikologis, berbicara

# Abstract

This study aimed to investigate the psychological factor influencing the students' anxiety in speaking English. It used a descriptive qualitative approach. The data were acquired by using observation, open-ended questionnaires, and interviews. There were nine students in the second semester of ITB Adias Pemalang participating in this research. The data was analyzed through data reduction, display, and conclusion drawing established. The findings indicated that communication apprehension, test-anxiety, and fear of negative evaluation were three main factors causes of the students' anxiety when speaking English. The findings of this research can be as a guide to examine the students' anxiety during their studies in order to improve the students' motivation and confidence when speaking the target language.

Keywords: student's anxiety, psychological factors, speaking

*How to Cite*: Haryanti, A.P., & Yuliana, R. (2024). Psychological Factors Influencing Students' Anxiety in Speaking English. *Globish (An English-Indonesian Journal for English, Education and Culture)*, 13(2). http://dx.doi.org/

# **INTRODUCTION**

English is one of the international languages commonly used to communicate with others worldwide. In the era of globalization, where competition is made accessible to everyone worldwide, mastering English is becoming increasingly important. For example, to face the ASEAN Economic Community (AEC), where there is a free flow of trade, services, investment, and labor among ASEAN countries. The impact of the AEC is the increased competition for labor, which can lead to increased unemployment if it has low competitiveness.

The growing importance of English proficiency is reflected in various aspects of popular culture, including music, with BTS (Bangtan Sonyeondan) as a prime example.

Known for their captivating lyrics and dynamic performances, BTS strategically incorporates English into their songs to reach a broader international audience, bridging cultural and linguistic gaps and enhancing their global appeal (Yuliana et al, 2024). One of the things that can be done to prepare students to face world competition is to prepare students to master English. By equipping students with strong English skills, they can better navigate and compete in the global marketplace, much like BTS leverages their bilingualism to achieve international success. Integrating English proficiency into education not only opens up more opportunities for students but also empowers them to connect with diverse cultures and perspectives, fostering a more inclusive and competitive future workforce.

One of the most important skills the students must have is speaking, as it is an essential tool for effective communication with others. It conveys ideas, expresses feelings, creates information, and builds conversation. People can be said to master English fluently if they can speak English well. Speaking is one of the most important parts of learning a foreign language, as Nunan (2000:39) points, because being able to have a conversation in the target language is a key component of language proficiency. As a result, developing students' speaking skills is crucial to helping them in their jobs.

Speaking is challenging for many students because it requires interaction with others (Indriyanty, 2016). The other skills can be practiced alone while peaking requires partners to respond to the student's utterances, so students should try their hardest to locate someone with whom to communicate. However, it is not an easy thing to do. Speaking is the most difficult skill, especially for students at ITB Adias Pemalang. The majority of students still struggle with communicating in English. Students tend to be passive when they are in English class. When the lecturer asks questions in English, they seem hesitant and not confident when they have to say something or answer questions in English. It is not infrequent that students stammer and would prefer to answer in Indonesian. Students have much anxiety in the classroom when they have to speak in English. A lack of confidence and fear of making mistakes are just two of the many factors that need to be taken into account when explaining why students are reluctant to speak in English (Boonkit, 2010). Furthermore, according to Thornbury (2005: 28), anxiety and speaking failure might be caused by a lack of vocabulary, poor grammar, and a fear of making mistakes.

Based on the observations during the teaching-learning process and their interview. it was found that the students had anxiety about speaking English. Students faced several problems in speaking English, such as their belief that English was challenging and their grammar, information, and pronunciation. The student's anxiety made them like to underestimate themselves, owing to feeling afraid, worried, frustrated, shy, or nervous about speaking in English classes. These things are classified as psychological problems. Psychological factors can cause of students' antipathy to speak the target language (Sari, 2022). According to Horwitz et al. (1986), anxiety is one of the psychological issues that students face and that affects their bravery when speaking the language they are studying. Anxiety includes emotions such as tension, worry, and uneasiness when speaking in English. It happens when someone is forced to deal with particular issues or subjects. Students that are anxious also have trouble comprehending and communicating with others when they speak. However, Hanim (2018) states that if students can raise their motivation and confidence to speak, they will no longer be anxious about expressing their ideas. It will be impossible for students to be a good speaker if they have lots of anxiety (Anggini and Arjulayana, 2011).

Several previous studies related to the issue of foreign language anxiety in speaking performance have become the background of the study. Nijat et. al. (2019) conducted research in Malaysia Primary Schools. It was concluded that the majority of students were

the victims of common physiological factors such as fear in class, shyness, and anxiety. Most pupils were not confident speaking because they feared speaking in English. Additionally, Sulistyowati (2023) reported that the students experience anxiety, uneasiness, nervousness, and fear when speaking English as a second language. During class presentations and conversations, their speaking motivation and fluency were impacted by their anxiousness.

Moreover, there is a correlation between students' speaking anxiety and their skill ability. Andita et. al. (2019) stated in their study that there was a significant correlation between students' speaking skill and their anxiety. Students would find it harder to speak English if they had high anxiety. In order to determine whether there was a relationship between university students' anxiety when speaking English as a second language (ESL) and demographic characteristics like mother tongue, parents' educational background, and SPM English results, Sim, et al. (2020) also carried out quantitative research on the subject. The outcome demonstrated a positive relationship between the ESL speaking anxiety of university students and their SPM English Language scores. Meanwhile, Platika and Adnan's study in 2021 showed that there was a moderate and negative correlation between students' speaking anxiety and students' speaking ability. In addition, Darojah and Aminin (2023) reported a strong positive correlation between students' speaking abilities and their sense of self-efficacy. Students who have strong belief their ability can excel speaking well.

In order to deal with the condition and situation mentioned above, students' anxiety about speaking English from students' perspective need to be investigated. This study will focus on students' anxiety about speaking English in the classroom. The results of this research are expected to enrich the study of students' anxiety in speaking English and contribute significantly to the theory of students' anxiety in speaking English. Furthermore, it is expected to broaden the information related to the influences of psychological factors on students' anxiety in speaking English.

#### **RESEARCH METHOD**

This research is part of a case study designed to investigate the psychological factors influencing students' anxiety about speaking English. It used descriptive qualitative methods to explain the psychological factors that influenced students' anxiety about speaking English from students' perspectives. The research was conducted in a natural classroom setting where human behavior and events occurred. The researcher was a data collector, observer, and interviewer in this research. The research participants were second-semester working students of the Information System Study Program of TB Adias Pemalang. Nine students, five female, and four male, participated in the second semester.

The data were obtained through observation of class interaction, open-ended questionnaires, and interviews. An observation sheet was adopted by Pratiwi and Analido (2018). Observation aimed to recognize the students' condition, feelings, personal characteristics, and behavior in the classroom. The open-ended questionnaire analyzed the students' anxiety about speaking English. It was adopted by Horwitz et al. (1986). The interviews were used to confirm students' responses to the questionnaire information. The data analysis was carried out in three steps: reduction, display, and conclusion drawing.

To avoid subjectivity, triangulation was suggested in this research as methodology triangulation. Some instruments, such as observation sheets, interviews, and open-ended questionnaires, were obtained.

#### **RESULTS AND DISCUSSION**

In the English classroom, some indications of students' anxiety in speaking English were found, such as shyness, nervousness, anxiety, fear of making mistakes, and lack of confidence. These made students unable to convey their ideas orally in the classroom.

According to Umisara et. al. (2021), three signs of students' anxiety when speaking English exist. Those are general avoidance, physical actions, and cultural dependence signs. Based on the classroom observation, some signs show students' anxiety in speaking English. The first sign was general avoidance. Some students felt anxious in answering questions from the lecturer or other students. They stammer and cannot answer the question in English, so they prefer to answer it in Indonesian. The second sign was physical action. Students tend to touch objects around them, avoid eye contact with the lecturer, play with their fingers, and shake their legs when speaking English. The last sign was cultural dependence. Students avoided interactions in class, were reluctant to communicate and discuss, and displayed excessive behavior such as smiling, laughing, and joking when feeling anxious.

These signs indicated that students felt anxious, which is caused by students' anxiety factors, such as communication apprehension, test-anxiety, and fear of negative evaluation.

# **Communication Apprehension**

According to Horwitz et al. (1986), "communication apprehension is a type of shyness characterized by fear or anxiety." It focuses on the students' capacity to converse with others in a foreign language. The table below is the result of questionnaire adapted from Horwitz et al. (1986).

| No | Statement   |    | Scale |   |   |    |
|----|---|----|-------|---|---|----|
|    |   | SA | А     | Ν | D | SD |
| 1  | I never feel quite sure of myself when I am speaking  | 3  | 4     | 1 | 1 |    |
|    | in my foreign language class                          |    |       |   |   |    |
| 2  | It frightens me when I do not understand what the     | 2  | 4     |   | 3 |    |
|    | teacher is saying in foreign language.                |    |       |   |   |    |
| 3  | I feel confident when I speak the foreign language    |    | 2     | 1 | 5 | 1  |
|    | in my foreign language class                          |    |       |   |   |    |
| 4  | I would not be nervous speaking the foreign           |    |       |   | 3 | 6  |
|    | language with native speakers                         |    |       |   |   |    |
| 5  | I get upset when I don't understand what the          | 2  | 4     |   | 3 |    |
|    | teacher is correcting.                                |    |       |   |   |    |
| 6  | I feel confident when I speak in foreign language     |    |       |   | 6 | 3  |
|    | Class   |    |       |   |   |    |
| 7  | I feel very self-conscious about speaking the foreign | 2  | 7     |   |   |    |
|    | language in front of other students.                  |    |       |   |   |    |
| 8  | I get nervous and confused when I am speaking in      | 3  | 6     |   |   |    |
|    | my foreign language class                             |    |       |   |   |    |
| 9  | I get nervous when I don't understand every word      | 3  | 5     |   | 1 |    |
|    | the foreign language teacher says.                    |    |       |   |   |    |
|    |   |    |       |   |   |    |

# Table 1. The result of Communication Apprehension

| 10 | I feel overwhelmed by the number of rules you have to learn to speak a foreign language. | 9 |   |   |
|----|--|---|---|---|
| 11 | I would probably feel comfortable around native speakers of the foreign language.        | 1 | 6 | 2 |

Table 1 was the result of questionnaire of communication apprehension. The table showed that the students were feeling nervous, unconfident, shy, angry, self-conscious, and unable to understand. To ensure the factor of communication apprehension was to influence the students' anxiety in speaking English, interview was done to follow up the result of the questionnaire. Students stated that they were afraid of making mistakes in speaking English. They were afraid not to pronounce the words correctly and could make them feel embarrassed due to being laughed at other students. Some students statements, as follows:

Student 1 : "Saya takut salah ngucapinnya, Miss karena kurang pandai bicara bahasa Inggris."

(I'm afraid I'll pronounce it wrong, Miss, because I'm not good at speaking English ) Student 3 : "Saya takut salah ngomong Miss, malu nanti kalau ditertawakan sama yang lain."

(I am afraid I make mistake, Miss. I am ashamed to be laughed at."

The statements presented above supported that some students were feeling anxious to speak English because they were not fluent in speaking English. They were fear of making error and their friends would laugh at them. Other students stated that they did not feel afraid of making mistake but they felt confused to say it in English because the lack of vocabularies. They knew what the teacher's saying, but they did not know how to respond it in English. It indicated that the students had been frightened in speaking English when they realized their ability were insufficient.

It can be concluded, communication apprehension occurred in the language classroom. The pressure of speaking English in the classroom, especially in front of the class, had created anxiety to them. Some students kept trying on in speaking English despite of their limited skill but others gave up and speak in Indonesia. It meant the students must speak English regularly to practice their speaking skill. They were required to speak English in the classroom to improve their ability. It is because outside the class, they are going to speak their mother language and not going to use English.

# **Test Anxiety**

Horwitz et al. (1986) describes test anxiety as the anxiety of performance coming from the fear of failure and making a mistake. Students feel fear of exams, quizzes, and other assignments used to evaluate their performance. It made them feel uncomfortable to speak English in the language classroom. Students are afraid it will affect their grades. Furthermore, Horwitz et.al explain that the students who have high anxiety to do the oral test will experience a greater difficulty in speaking and make mistakes more than students with low anxiety. The table below is the result of questionnaire adapted from Horwitz et al. (1986).

# Table 2. The result of Test Anxiety

| No | Statement | Scale |   |   |   |    |
|----|-----------|-------|---|---|---|----|
|    |           | SA    | Α | N | D | SD |
|    |           |       |   |   |   |    |

# Globish (An English-Indonesian journal for English, Education and Culture)

Vol. 13, No.2, Juli 2024,

P-ISSN: 2301-9913, E-ISSN: 2597-9132 DOI: http://dx.doi.org/10.31000/globish.v7i2

| _ |    |  |   |   |   |   |   |
|---|----|--|---|---|---|---|---|
|   | 1  | I tremble when I know that I'm going to be   |   | 7 |   | 2 |   |
|   | 2  | called on in foreign language class<br>It wouldn't bother me at all to take more                             |   |   | 1 | 5 | 3 |
|   | -  | foreign language classes   |   |   | 1 | 0 | 0 |
|   | 3  | During foreign language class, I find myself<br>thinking about things that have nothing to do with<br>course | 2 | 4 | 1 | 2 |   |
|   | 4  | I am usually at ease during my tests in my<br>foreign language class   |   |   |   | 5 | 4 |
|   | 5  | I worry about the consequences of failing my foreign language class  | 3 | 6 |   |   |   |
|   | 6  | I don't understand why some people get so<br>upset over foreign language class.                              |   | 3 |   | 6 |   |
|   | 7  | In foreign language class, I can get so nervous I forget things I know.                                      | 6 | 3 |   |   |   |
|   | 8  | Even if I am well prepared for foreign language class, I feel anxious about it                               | 3 | 4 |   | 2 |   |
|   | 9  | I often feel like not going to my foreign language<br>Class  |   | 2 | 1 | 3 | 2 |
|   | 10 | I can feel my heart pounding when I'm going to be called on in foreign language class                        | 3 | 4 |   | 2 |   |
|   | 11 | The more I study for a foreign language test,<br>the more confused I get                                     | 1 | 5 |   | 3 |   |
|   | 12 | I don't feel pressure to prepare very well for foreign language class  |   | 2 | 3 | 4 |   |
|   | 13 | The teaching pace of my foreign language class<br>is so quick that I worried about getting left behind.      |   | 2 |   | 5 | 2 |
|   | 14 | I feel more tense and nervous in my foreign<br>language class than in my other classes.                      | 1 | 5 |   | 3 |   |
|   | 15 | When I'm on my way to foreign language<br>class, I feel very sure and relaxed.                               |   | 4 | 1 | 4 |   |
|   |    |  |   |   |   |   |   |

Table 2 was the results of the questionnaire of test anxiety. The table showed students were not ready to speak in English in the classroom. The students felt tense and nervous in the classroom. They forgot what they were going to say in front of the classroom although they have already prepared it at home. To ensure the factor of test-anxiety was to influence the students' anxiety in speaking English, interview was done to follow up the result of the questionnaire.

Student 7 : "Kalau pelajaran biasa tidak apa-apa Bu, tapi kalau pas presentasi itu takut gak bisa jawab pertanyaan. Nanti mempengaruhi nilai. Kan kelompok"

"I am okay in the usual teaching learning process, Miss, but in the presentation, I am afraid I can't answer the question. It also will influence my group assessment."

The statement above supported that test-anxiety was influenced by fear of doing badly because it would influence their grade. Hotwitz et.al. (1986) state that fear of failure can detain their performance. In addition, some students stated although they've prepared it before performing, they still could not do well because fear of failure and fear of making errors.

# Globish (An English-Indonesian journal for English, Education and Culture)

Vol. 13, No.2, Juli 2024, P-ISSN: 2301-9913, E-ISSN: 2597-9132 DOI: http://dx.doi.org/10.31000/globish.v7i2

Student 5 : "Saya sudah latihan Miss, tapi kalau di depan kelas itu lupa semuanya. Makanya saya bawa kertas."

"I've already practiced it, but I forget as soon as I am in front of the class. That's why I bring a paper (to read it)"

Based the explanation above, test-anxiety could occur in the language classroom. The pressure of speaking English in the classroom, especially when they knew the lecturer would asses them, had created anxiety to them. They stated that although they have already prepared it but they did not confident to perform it. In a line with their statements, students tend to stammer and nervous when doing their presentation. They stated that they lack of vocabularies and fear of mispronounce.

It can be established that test anxiety was a factor influencing students' nervousness when learning to speak. Students' speaking anxiety stemmed from feelings of nervousness, shyness, confusion, and discomfort speaking English in front of the class. Test anxiety has a stronger psychological influence on students, such as fear of being tested or receiving low grades. The factors listed made the kids feel pressed and forced to speak English.

# Fear of Negative Evaluation

Hotwitz et.al (1986) explain the dread of unfavorable assessment has a broader scope in speaking anxiety since it happens in numerous circumstances, such as social interactions, speaking activities, and speaking tests. The table below is the result of questionnaire adapted from Horwitz et al. (1986).

| No | Statement   | Scale |   |   |   |    |
|----|---|-------|---|---|---|----|
|    |   | SA    | А | N | D | SD |
| 1  | I do not worry about making mistakes in<br>foreign language class   |       | 1 |   | 5 | 3  |
| 2  | I keep thinking that the other students are better at foreign language than I am                          | 4     | 3 |   | 2 |    |
| 3  | It embarrasses me to volunteer answers in my foreign language class.                                      | 5     | 4 |   |   |    |
| 4  | I am afraid that my foreign language teacher is ready to correct every mistake I make                     | 2     | 3 |   | 4 |    |
| 5  | I always feel that the other students speak the foreign language better than I do.                        | 3     | 6 |   |   |    |
| 6  | I am afraid that the other students will laugh at me when I speak the foreign language.                   | 3     | 3 | 1 | 2 |    |
| 7  | I get nervous when the foreign language<br>teacher asks questions which I haven't prepared in<br>advance. |       | 6 | 2 | 1 |    |

### Table 3. The result of Fear of Negative Evaluation

Table 3 was the result of questionnaire of negative evaluation. Based on the data above, fear of negative evaluation showed as an element that influenced students' anxiety in speaking English. Negative evaluation made students anxious to speak English. Indrianty (2016) explained negative correction and evaluation could be a problem which made the students anxious. According to the data shown above, students were relunctant to participate in speaking English for fear of having negative reactions. It influenced the students' anxiety,

# Globish (An English-Indonesian journal for English, Education and Culture)

Vol. 13, No.2, Juli 2024, P-ISSN: 2301-9913, E-ISSN: 2597-9132 DOI: http://dx.doi.org/10.31000/globish.v7i2

such as belief that other students were more capable at speaking English. The students became nervous when the lecturer asked the questions that they had not prepared for.

An interview was conducted to establish that the negative evaluation was influencing the students' fear when speaking English. Some of them stated that they felt embarrasses to answer it although they knew the answer. It was because if they made mistake, some students would make fun of them. They were afraid to be laughed at. Others stated that they had no confident to answer it because they were not sure whether their answer was correct or not. However, the students were not afraid of evaluating their speaking if the lecture gave the positive feedback of their mistakes.

To summarize, fear of negative evaluation was one of the elements that influenced students' nervousness in speaking English. The data above demonstrated that the students did not confident in their English abilities because they assumed that the other students were better at speaking English than they were. Those made the students feel frightened when speaking English. Furthermore, the students pointed that they felt good when giving feedback during the lesson. It helped them to identify areas where they made faults in speaking English. However, they were terrified when they were received a poor evaluation.

### CONCLUSION

Anxiety has a psychological impact on students' growth, reducing their motivation and confidence. There were three symptoms of students' uneasiness when speaking English: general avoidances, physical actions, and cultural reliance signs. These indications correspond to students' anxiety issues in speaking English, such as communication apprehension, test anxiety, and fear of poor evaluation.

Communication anxiety is the first issue that affects pupils' capacity to communicate with others in the target language. Communication apprehension in the classroom was evident in the students' concerns that generated anxiety, such as trouble learning vocabulary, fear of being laughed at, fear of making mistakes, and dissatisfaction with their performance.

The second issue is test anxiety, which is induced by the dread of failing and making a mistake, making students uncomfortable in language class. Test anxiety has an impact on students. They are afraid of being tested or receiving poor results.

The last issue, fear of negative evaluation, influenced pupils' nervousness when speaking English. Students are terrified of being evaluated by others, hence they are unable to communicate their ideas verbally.

# REFERENCES

Andita, P. E, Arjulayana., & Ramadhaniah (2021). The Correlation between Speaking English Anxiety at The Eight Grade Students' Speaking skill. *Globish (An English-Indonesian Journal for English, Education and Culture)*, 8(1).

Anggini, D., & Arjulayana. (2021). Analysis Student's Speaking Performance as a Public Speaker. *Globish (An English-Indonesian Journal for English, Education and Culture)*, 10(1).

Ariyanti, A. (2016). Psychological factors affecting EFL students' speaking performance. *ASIAN TEFL Journal of Language Teaching and Applied Linguistics*, *1* (1), 77–88.

Boonkit, K. (2010). Enhancing the Development of Speaking Skills for Non-native Speakers of English. *Procedia Social and Behavioral Sciences*, *2* (2010) 1305–1309.

Darojah, Z., & Aminin. The Correlation between Students' Self-Efficacy And Their Speaking Ability. *Globish (An English-Indonesian Journal for English, Education and Culture)*, 12(2).

Hanim, I. (2018). The Learners' Perceptions of Speaking English at Lia Pramuka English Club. *Globish (An English-Indonesian Journal for English, Education and Culture)*, 7(1)

Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign Language Classroom Anxiety. *The Modern Language Journal*, 70 (2), 125–132.

Indrianty, S. (2016). Students' Anxiety in Speaking English (A Case Study in One Hotel and Tourism College in Bandung. *Eltin*, 4 (1), 28–39.

Nijat, N., et.al. (2019). Psychological Factors that Affect English Speaking Performance among Malaysian Primary School Pupils. *American International Journal of Education and Linguistics Research, 2* (2).

Pratiwi, M. A., & Analido, B. (2018). EFL Students' Anxiety in Research Proposal Seminar. *Proceedings of the Sixth International Conference on English Language and Teaching*, 6 (6), 184–194.

Sari, N. M. (2022). The Psychological Factors in Learning Speaking. *Educasia*, 7(1) Sim, S. P. L., Yeo, J. Y., & Lau, K. Y. L. (2018). Speaking anxiety among ESL University undergraduates in Sarawak. *Proceeding in the* 

*International Conference on Education Transformation: Transforming Learning through Multiple Intelligences*, 24-25 October 2018, Sarawak, 73-85.

Syahfutra, W., & Wibowo. (2021) Students' Speaking Anxiety in English Education Study Program. *ELT-Lectura: Studies and Perspectives in English Language Teaching*, 8(1)

Taly, B. C., & Paramasivam, S. (2020). Speaking anxiety among Postgraduate International Students in the academic context of a University in Malaysia. *International Journal of Linguistics*, 12(1), 198–219.

Thornbury. (2005). How to Teach Speaking. Harmer, J. (ed). London: Longman

Umisara et. al. (2021). An Evaluation of the Psychological Factors influencing the Students'Anxiety in Speaking English. *EEJ*, *11*(4), 496-505

Yuliana, R., et al. (2024). BTS beyond beats: Disclosing semantics through lyric analisis. *World journal of english language.* 14 (4), 264-275