

**READING PROSODY: THE ROLE OF AUTOMATICITY  
AND MOTIVATIONAL VARIABLES**

**PROSÓDIA NA LEITURA: O PAPEL DA AUTOMATICIDADE E  
DAS VARIÁVEIS MOTIVACIONAIS**

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**Abstract**

Proficient reading goes beyond the automatic recognition of words; it involves the ability to read a text effortlessly, with expressiveness, intonation, appropriate pauses, and accuracy. Several studies support the idea that prosody is the most prominent skill in reading fluency due to its strong connection with reading comprehension. The present study sought to expand knowledge on the association of prosody with motivational variables, such as self-concept and reading enjoyment, over and above reading speed and accuracy. The study involved 189 third grade students from public schools in the North, Center, and South of Portugal. The results indicate that motivational variables, particularly self-concept, are associated to prosody performance. However, when reading speed and accuracy are included in the model, the motivational variables are no longer predictors of prosody performance. The results are discussed, allowing for reflection on possible implications for practice in the context of early elementary education.

**Keywords:** prosody; decoding; reading fluency; reading accuracy; reading motivation

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## Resumo

A leitura proficiente vai além do reconhecimento automático de palavras; envolve a capacidade de ler um texto sem esforço, com expressividade, entoação, pausas adequadas e precisão. Vários estudos sustentam a ideia de que a prosódia é a habilidade mais proeminente na fluência da leitura devido à sua forte ligação com a compreensão da leitura. O presente estudo procurou alargar o conhecimento sobre a associação da prosódia com variáveis motivacionais, como o autoconceito e o prazer da leitura, para além da velocidade e da precisão da leitura. O estudo envolveu 189 alunos do 3.º ano de escolaridade de escolas públicas do Norte, Centro e Sul de Portugal. Os resultados indicam que as variáveis motivacionais, nomeadamente o autoconceito, estão associadas ao desempenho prosódico. No entanto, quando a velocidade de leitura e a precisão são incluídas no modelo, as variáveis motivacionais deixam de ser preditoras do desempenho prosódico. Os resultados são discutidos, permitindo refletir sobre possíveis implicações para a prática no contexto dos primeiros anos do ensino básico.

**Palavras-chave** prosódia; descodificação; fluência da leitura; precisão da leitura; motivação para a leitura

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## Introduction

The acquisition of decoding skills at the word and text levels is one of the main learning goals in the first years (Suggate, 2016). With practice and training, this process helps children become increasingly fluent in reading (Cruz et al., 2022). The theoretical foundations of reading fluency primarily stem from the work of LaBerge and Samuels (1974) with their theory of automaticity, which highlights fluency as a critical element in the reading process. According to this theory, automaticity in word recognition refers to the ability to recognize words automatically and effortlessly, as competent readers do. Both the automaticity theory (LaBerge & Samuels, 1974) and the verbal efficiency theory (Perfetti, 2007) suggest that as readers become more automatic in word identification, the cognitive resources allocated to decoding processes decrease, freeing up more resources for text comprehension.

There is a consensus on the definition of reading fluency, which includes three components: accuracy, speed, and prosody (Calet et al., 2017; Hudson et al., 2005; Hudson et al., 2009; Kuhn et al., 2010; Kuhn & Stahl, 2003). Accuracy in word decoding refers to the ability to correctly identify written words (Torgesen &

Hudson, 2006) and accurately represent them orally based on their orthographic forms (Zimmerman et al., 2019). The research by Roberts et al. (2011) confirms the importance of accuracy in word recognition for competent reading. If a reader is unable to recognize the words in a text, comprehension will be impaired (Zimmerman et al., 2019).

Prosodic reading has been identified by numerous authors as a fundamental component of reading fluency (Kuhn & Stahl, 2003; Schrauben, 2010). The inclusion of this component in the definition of fluency has contributed to deconstructing the idea that a good reader is one who quickly reaches the end of a text (Dowhower, 1991). Prosody in reading represents the ability to make oral reading sound like spoken language (Kuhn, 2005; Kuhn et al., 2010).

Prosody is a component of spoken language and represents suprasegmental features of speech, as it involves more than just phonemic segments (syllables, words, and larger speech units). It primarily allows for the description of rhythmic and tonal patterns of speech (Dowhower, 1991), particularly changes in pitch (intonation), duration, and emphasis. In other words, prosodic features enable the production of speech with different pitch contours, faster or slower tempos, and higher or lower volumes (Pronina et al., 2021). According to Dowhower (1987), when these suprasegmental characteristics are perceptible in fluent reading, the term "reading with prosody" is used. Fluent readers are characterized by reading at an appropriate pace and conveying meaning through their voice, including tone, stress, and proper phrasing (Rasinski et al., 2009). Interest in research on prosodic reading has emerged primarily due to its role as a dimension of reading fluency and, secondly, due to its relationship with comprehension (Dowhower, 1991; Kim et al., 2021; Kuhn et al., 2010; Kuhn & Stahl, 2003). Although prosody is considered a fundamental component of fluency (Kuhn et al., 2010), research has predominantly focused on the more quantifiable dimensions of fluency, particularly speed and accuracy (Dowhower, 1991).

Prosody in reading is currently conceptualized as a multifactorial construct (Lopes et al., 2015). It encompasses variables such as smoothness, rhythm/pace, expression, volume, and phrasing, that readers use to convey meaning (Calet et al., 2017; Godde et al., 2020; Zimmerman et al., 2019). Rasinski (2004) developed a multidimensional classification system to characterize reading prosody, suggesting the need to integrate four key components: expressiveness, phrasing, smoothness, and pace. Expressiveness refers to reading that sounds like natural speech, with appropriate tone and volume (Lopes et al., 2015). It is primarily associated with punctuation, volume, and pitch variation. According to Erekson (2010) and Martin (2011), punctuation alone is insufficient to translate expressiveness into written language. Expressive reading implies that the reader has a deep understanding of the text and can infer the emotional states of the characters based on the story's context (Erekson, 2010). Conversely, a reader might demonstrate appropriate phrasing and intonation without expressiveness.

The phrasing dimension relates to the reader's awareness of sentence boundaries (Lopes et al., 2015), specifically the ability to recognize punctuation and appropriately mark the end of sentences. This dimension also pertains to the duration of pauses and hesitations, which typically occur when the reader has not yet achieved accuracy and automaticity in reading and are therefore linked to decoding difficulties (Miller & Schwanenflugel, 2006). Respiratory pauses produced by beginning readers are often a result of a slow speaking rate, whereas pauses made by more experienced readers tend to align with punctuation marks. Once automaticity is achieved, there is better coordination between breathing and textual analysis (Rasinski, 2004).

Smoothness reflects how the reader navigates through the text (Lopes et al., 2015), while rhythm refers to the consistency and pacing of reading throughout the text (Rasinski, 2004; Lopes et al., 2015). Fluent reading and efficient comprehension require the ability to capture and focus on the morphological, syntactic, and semantic cues present in the text, as well as an awareness of punctuation (Kim et al., 2014; Lopes et al., 2015). Without this, reading will be slow, marked by frequent hesitations and lack of expressiveness (Kim et al., 2010).

Thus, for prosodic reading, the reader must adopt the author's intonation and expressiveness to grasp the meaning of the text through its suprasegmental aspects (intonation, stress, rhythm, pauses, and speech rate). Whenever a reader engages in prosodic reading, variations in tone and rhythm indicate that the lexical and morphosyntactic features of the text have been identified and interpreted (Ravid & Mashraki, 2007). Therefore, prosodic reading signals that the text is being comprehended (Lopes et al., 2015).

Research suggests that the prosodic structure of texts is more readily attainable by fluent readers (Schrauben, 2010). Experienced readers can read words automatically, with greater accuracy and expression, resulting in prosodic reading characterized by appropriate intonation, pitch, and rhythm, as well as an adequate level of word reading (Rasinski, 2004). In contrast, beginning readers tend to focus their available attentional resources on word decoding due to limitations in word recognition (Lopes et al., 2015).

A study by Chung (2024) sought to understand whether the oral reading prosody of third-grade children in Mandarin differed based on their word-reading abilities. Prosody was assessed using the scale developed and adapted by Rasinski (2004), which evaluated expression, phrasing, smoothness, and rhythm. The results demonstrated that children with better word-reading performance exhibited superior prosody compared to those with lower word-reading performance (Chung, 2024). These findings are consistent with previous studies that confirmed that children proficient in word reading outperformed their peers with poor word-reading skills across various aspects of prosodic reading. All these findings highlight the notion that fluent word reading facilitates more prosodic reading (Benjamin & Schwanenflugel, 2010; Chung & Bidelman, 2022; Miller & Schwanenflugel, 2006).

These findings align with LaBerge and Samuels' (1974) automaticity theory, which suggests that automaticity in word reading fluency frees up cognitive resources for other aspects of reading, including prosody. In other words, children who can decode words automatically and effortlessly have more resources available to focus on prosody, resulting in fluent reading with better expressiveness, intonation, and rhythm (Benjamin & Schwanenflugel, 2010).

Reading fluency is thus associated with expressive reading, and prosodic reading occurs once decoding becomes automatic (Kim et al., 2010; Miller & Schwanenflugel, 2006; Taylor et al., 2013). There appears to be a consensus that the development of proficient reading is linked to expressive/prosodic reading, and the development of prosodic reading occurs when automaticity and accuracy in word recognition are achieved (Kim et al., 2010; Miller & Schwanenflugel, 2006; Taylor et al., 2013; Lopes et al., 2015). In turn, appropriate prosodic reading fosters proficiency in reading comprehension (Kuhn & Stahl, 2003; Hudson et al., 2005; Eason et al., 2013; Lopes et al., 2015; Veenendaal et al., 2016).

In addition to decoding skills, speed, and accuracy, research suggests that motivation for reading also contributes significantly to reading performance, despite receiving less attention in the literature (Gambrell, 1996; Wigfield & Guthrie, 2000; Hudson et al., 2020). Several authors define reading motivation as a multidimensional construct that involves components related to the enjoyment of reading tasks, the value associated with reading, and self-concept regarding one's reading performance (Baker & Wigfield, 1999; Gambrell, 1996; Wigfield & Guthrie, 1997).

Since the 1990s, thanks to studies by Gambrell (1996) and Wigfield and Guthrie (1997), research in the field of reading has begun to consider both cognitive and affective aspects of reading acquisition. Oldfather and Wigfield (1996) describe two perspectives on reading motivation. One perspective focuses on how the reader's interest influences comprehension of the material. This perspective suggests that interest is linked to attention level, the effective use of learning strategies, and comprehension of the material. Interest in the material facilitates comprehension. The other perspective emphasizes the role those social interactions, both in the classroom and within the family, play in developing students' motivation for learning. Baker et al. (1997) support the idea that a student may be motivated to read because they perceive reading as valuable and because it enables interaction with others. Wigfield (1997) further argues that reading motivation is derived from readers' perceptions of themselves, particularly regarding their sense of self-efficacy and the pleasure they associate with reading.

Research findings consistently associate motivational variables with reading skills. In a study by Wantchekon and Kim (2019) involving third- and fourth-grade students, reading engagement predicted 4% of reading comprehension by the end of the year, with the relationship between reading engagement and comprehension being weaker for below-average readers. Several studies have found moderate to

strong correlations between reading engagement and reading comprehension (Hamedi et al., 2020; Lin et al., 2021; Wantchekon & Kim, 2019).

Regarding the dimension of reading for pleasure, although there is much debate over defining this concept, there seems to be a consensus that reading for pleasure is associated with students' reading motivation (Reedy & De Carvalho, 2019). Reedy and De Carvalho (2019) suggest that reading for pleasure may result from stronger reading fluency and the consequent self-confidence in that fluency, rather than the other way around. Reading self-confidence has also been cited as a good predictor of reading development. Melero et al. (2020) studied the relationship between various motivational variables and word reading as well as reading comprehension, concluding that self-confidence was the only significant motivational predictor. Similarly, a study by Cho et al. (2018) found a positive relationship between reading self-confidence and reading comprehension among second-grade students. These results highlight the importance of promoting family involvement in children's reading acquisition to maintain their self-confidence.

A Portuguese study by Lopes et al. (2022), which included fourth-grade students, sought to identify the individual and school factors that best predict reading success. The study concluded that students' attitudes toward reading—specifically, reading engagement, enjoyment of reading, and reading confidence—are predictors of reading success, with varying levels of predictive power. Reading confidence was the strongest indicator of reading success, while reading engagement was a marginal indicator, and enjoyment of reading was negatively associated with reading performance. In a study by Wigfield and Guthrie (2000), it was found that students with higher motivation and confidence are more likely to become fluent readers. Thus, reading motivation appears to affect students' reading competence, with higher motivation and confidence correlating with an increased likelihood of becoming fluent readers.

In summary, the research highlights that prosody appears to be influenced by variables related to decoding, accuracy, and reading speed. Additionally, research suggests a connection between reading motivation and both reading fluency and comprehension. However, there is a lack of studies investigating the specific role of motivation in prosody. In light of this gap, the present study aims to contribute to the understanding of prosodic performance in third-grade students, examining the influence of reading skills and motivational variables on prosody performance.

## **Method**

### *Participants*

The participants were recruited as part of a larger project aimed at testing the effects of a reading intervention [reference omitted]. This study involved 189 students enrolled in the third grade at public schools in the northern, central, and southern regions of Portugal. Among the participants, 54.0% were female and 46.0% were male. The mean age of the students was 11 years (SD = 0.55), with ages

ranging from 10 to 13 years. Only students whose native language was Portuguese were included in the study, and all of them were speakers of European Portuguese.

## **Measures**

### *Sociodemographic Questionnaire*

The sociodemographic questionnaire, completed by the student's parents/guardians, collected information regarding the children, including their age, gender, and native language.

### TLP: Word Reading Test (Chaves-Sousa et al., 2017)

To assess the decoding of isolated words, the TLP Word Reading Test was utilized. The TLP consists of 30 words, displayed on a computer screen. Students are instructed to read aloud the words, even if they are unsure of the correct reading. There is no time limit for the presentation of each word or for the completion of the test. The test is administered individually. Scoring is based on a binary system: 1 point awarded for each correctly read word, and 0 points given for incorrect readings, including omissions, substitutions, additions, or no response. The total score was calculated by summing the number of correctly read words, with a minimum score of 0 and a maximum score of 30.

### REI: Text Reading Accuracy and Fluency Test (Carvalho & Pereira, 2009)

Text reading accuracy and fluency were assessed using the REI test. The test is administered individually, and students are asked to read aloud a text, which contains 281 words, within a 3-minute time frame. The reading was recorded for subsequent analysis. Reading accuracy was calculated by dividing the number of correctly read words by the total number of words read. Reading fluency was assessed by computing the number of words read correctly per minute.

### Prosody scoring grid (Zimmerman et al., 2019)

Using the recorded reading task from the REI: Text Reading Accuracy and Fluency Test, prosody was evaluated. Prosody was assessed using a rating grid adapted from Zimmerman et al. (2019). This grid is divided into four dimensions: expressiveness, phrasing, accuracy, and rhythm. Each subscale was scored on a scale of 1 to 4, with the total prosody score being the sum of the subscale scores.

For expressiveness, the scoring varies from 1, where 1 corresponds to situations where the reader speaks softly, as if trying to say something specific, but the reading does not sound natural, to 4 that is used when the reader uses varied volume and expression throughout the reading and the reading sounds natural.

For phrasing, the scoring varies from 1, where the reader reads word by word, in a monotone voice, and the text is read as individual words, without flow or phrasing, to 4, where the reader reads sentences well, consistently respecting punctuation, emphasis, and intonation. The reading has regular intonation, and respect for punctuation is constant throughout the text.

Accuracy scoring is similar, and score 1 corresponds to a reader who frequently hesitates during reading, mispronounces words, and repeats words or phrases, making multiple attempts to read the same passage and/or the same word; whereas score 4 refers to a reader who reads without issues, with some pauses, but self-corrects difficult words and/or sentence structures.

Finally, score 1 for rhythm is attributed when the reader reads slowly and laboriously, and score 4 refers to a reader who reads at a conversational pace throughout the reading, resembling a conversation.

#### Reading Motivation Scale “Me and Reading” (Monteiro & Mata, 2000)

The Reading Motivation Scale “Me and Reading” includes 20 items divided into three subscales: (1) Reading enjoyment (8 items), (2) Reader self-concept (7 items), and (3) Social recognition (5 items). Respondents rate each item on a scale of 1 to 4, where 1 indicates low motivation for reading and 4 indicates high motivation for reading (Monteiro & Mata, 2000). In this study, only the first two subscales were used, as the social recognition scale demonstrated low internal consistency ( $\alpha < .70$ ).

### **Procedures**

This study received approval from the university's ethics committee [reference omitted]. After obtaining authorization to conduct the study, all participating school groups approved the project's development, including the implementation of the proposed methodology, data collection, and the use of these data for research and intervention purposes. Parents or guardians were informed about the project and its objectives, and they were asked to complete an informed consent form. This consent form ensured the confidentiality and protection of the children's data. Data collection was conducted by school psychologists who received specific training for this task. The assessment of word decoding, fluency, and accuracy skills was conducted individually, with each session lasting approximately 10 minutes per student, ensuring that school activities were not disrupted. The assessment of reading motivation was conducted in a group setting, with the test being read aloud by the assessors to ensure that students with lower reading fluency could understand the items.

After data collection, prosody scoring was conducted using inter-rater agreement, carried out by two raters who underwent three training sessions, each lasting two hours. During these sessions, the raters listened to and evaluated the recordings of the students' readings under the guidance of a specialist. In the following weeks, the raters worked independently, analyzing an additional 20 readings. Subsequently, they met to compare evaluations and continued training with an additional 10 readings. After this training, the raters independently evaluated 69 recordings. Cohen's kappa was used to assess inter-rater reliability, yielding high values:  $k = .844$  ( $p < .001$ ) for expressiveness,  $k = .798$  ( $p < .001$ ) for phrasing,  $k = .886$  ( $p < .001$ ) for accuracy, and  $k = .823$  ( $p < .001$ ) for rhythm.

## Data Analysis

To investigate the contribution of reading skills (decoding, speed, accuracy) and motivational variables to prosody skills, a hierarchical multiple linear regression was conducted using the enter method. The total score of prosody was used as dependent variable. In the first block, motivational variables (self-concept and reading enjoyment) were entered. In the second block, the impact of decoding on prosody was assessed. In the third block, variables related to reading fluency and accuracy were added. Prior to the analysis, the assumptions were checked: sample size, absence of collinearity and multicollinearity, absence of outliers in all studied variables, and normality, linearity, homoscedasticity, and independence of residuals (Pallant, 2020). The study included 189 students, and the literature suggests that approximately 10 subjects per independent variable are needed for multiple regression analysis (Pallant, 2020). Tolerance values ( $>.10$ ) and VIF values ( $<10$ ) indicated the absence of collinearity and multicollinearity, demonstrating the independence of predictor variables (Pallant, 2020). All predictor variables were significantly correlated with the dependent variable ( $p < .05$ ) (Field, 2009), meeting the requirements for inclusion in the regression analysis. Analysis of standardized residuals and standardized predicted values (between -3 and 3) indicated the absence of outliers. The Durbin-Watson test value (1.3) was within the expected range (1.5–2.5), suggesting independence of residuals (Pallant, 2020). Examination of the residuals' histogram confirmed that the assumptions of homoscedasticity, linearity, and normality of residuals were met (Pallant, 2020). Thus, the assumptions underlying multiple linear regression analysis were met. All statistical analyses were conducted using IBM SPSS Statistics version 27.

## Results

Table 1 presents the descriptive statistics for the variables under analysis, including prosody, self-concept, reading enjoyment, decoding, fluency, and accuracy. For the prosody variable, the average score was 1.79 (SD = 0.61), with a maximum score of 3.25. The average score for the self-concept in reading was 3.00 (SD = 0.64) out of a total of 4 points. Regarding the enjoyment associated with reading tasks, the mean score was 3.24 (SD = 0.53) out of a possible 4 points. In the decoding test, students showed an average performance of 23.21 (SD = 4.63) out of a total of 30 points. For reading fluency, the average score was 54.40 (SD = 24.77) words per minute, with a maximum of 126.36 words per minute. Regarding reading accuracy, the mean score was 91.28 (SD = 6.76) out of a maximum of 100 points.

**Table 1**  
**Descriptive statistics of the variables scores**

Variables	M	SD	Minimum	Maximum
Prosody	1.79	.61	1.00	3.25
Reader self-concept	3.00	.64	1.14	4.00
Reading enjoyment	3.24	.53	1.13	4.00
Decoding	23.21	4.63	11.00	30.00
Fluency	54.40	24.77	7.67	126.36
Accuracy	91.28	6.76	66.67	100.00

Note: M=Mean; SD=Standard deviation.

The multiple linear regression analysis conducted (see Table 2) revealed that the two motivational variables (self-concept and reading enjoyment subscales) introduced in Block 1 explained 27% of the variance in students' prosody performance, with the regression model being statistically significant,  $F(2, 186) = 35.89$ ,  $p < .001$ . Only the self-concept variable made a significant contribution to explaining prosody performance ( $\beta = .56$ ,  $t = 8.08$ ,  $p < .001$ ).

When motivational variables were combined with decoding in Block 2, the explained variance in prosody performance increased by 20% ( $R^2 \text{ adj.} = .47$ ), and the model remained statistically significant,  $F(3, 186) = 55.50$ ,  $p < .001$ . In this model, the self-concept subscale continued to significantly contribute to prosody performance ( $\beta = .31$ ,  $t = 4.68$ ,  $p < .001$ ), and the decoding measure also made a significant contribution ( $\beta = .50$ ,  $t = 8.27$ ,  $p < .001$ ).

When dimensions related to fluency and accuracy were included in the final model, 66% of the variance in prosody performance was explained ( $R^2 \text{ adj.} = .66$ ). This comprehensive model, which included all variables, was also statistically significant,  $F(5, 186) = 74.60$ ,  $p < .001$ . Notably, with the exception of fluency, all other dimensions ceased to be statistically significant. Fluency emerged as the sole and primary factor explaining prosody performance ( $\beta = .71$ ,  $t = 10.44$ ,  $p < .001$ ).

Table 2  
**Multiple Linear Regression Analysis for Prosody Performance**

Variables	Beta	t	p	R <sup>2</sup> change	R <sup>2</sup> Adj.
Block 1					.27
Reading self-concept	.56***	8.08	.001		
Reading enjoyment	-.08	-1.18	.241		
Block 2				.20***	.47
Reading self-concept	.31***	4.68	.001		
Reading enjoyment	-.03	-.45	.655		
Decoding	.50***	8.27	.001		
Block 3				.20***	.66
Reading self-concept	.05	.87	.387		
Reading enjoyment	.03	.56	.579		
Decoding	.09	1.21	.230		
Fluency	.71***	10.44	.001		
Accuracy	.03	.42	.673		

Note: \*\*\* p <.001.

### Discussion

This study aimed to investigate the contributions of reading skills—specifically decoding, speed, and accuracy—and motivational variables, including reader’s self-concept and reading enjoyment, to prosody performance in third-grade students. The literature indicates that proficient reading extends beyond the automatic recognition of words; it also involves the ability to read text effortlessly with expressiveness, intonation, appropriate pauses, accuracy, and motivation (Therrien et al., 2016; Veenendaal et al., 2016; Hudson et al., 2020; Paige et al., 2017; Zimmerman et al., 2019). Several studies have shown a strong link between prosody and reading comprehension, with those skills being influenced by factors related to decoding, accuracy, speed, and motivation (Wigfield & Guthrie, 2000; Benjamin & Schwanenflugel, 2010; Miller & Schwanenflugel, 2008; Rasinski et al., 2009).

Hierarchical multiple linear regression analysis was used to test the contribute of reading and motivational variables to prosody. The first block included self-concept and reading enjoyment as predictor variables. The second block added reading decoding to these variables. The third block incorporated all predictor variables, including self-concept, reading enjoyment, decoding, fluency, and accuracy.

In the first block, which included only the two motivational variables as predictors, 28% of the variance in prosody performance was explained. The data indicated that the self-concept subscale was the only significant individual predictor of prosody performance. These findings suggest the need for strategies that enhance self-concept regarding reading, particularly in reading aloud. Strategies such as assisted reading, self- and peer-assessment of reading, and recording and listening to one’s own reading are crucial for students to evaluate themselves, recognize areas for improvement, and thus engage more fully in

reading tasks, increasing their self-awareness about their performance (Cruz et al., 2022).

When decoding was included in the second block, a significant increase in the percentage of explained variance was observed compared to the previous model. These results align with the literature regarding the contribution of decoding to prosody performance. Both the automaticity theory and the verbal efficiency theory (LaBerge & Samuels, 1974; Perfetti, 2007) suggest that as readers become more automatic in word identification, the cognitive resources devoted to decoding processes decrease, making more resources available for expressive reading and comprehension. Research indicates that the prosodic structure of texts is more easily achieved by fluent readers (Schrauben, 2010). This is because fluent readers automatically recognize words and engage in prosodic reading characterized by appropriate intonation and tone.

The third block, which added fluency and accuracy as variables, explained 66% of the variance in prosody outcomes, making it the model that explained the most variance in prosody performance. The data indicated that fluency was the main predictor of prosody. These results suggest that improvements in reading fluency are associated with improvements in reading expressiveness. Consequently, they highlight the importance of promoting practices that develop and enhance fluency instruction (Miller & Schwanenflugel, 2008; Therrien et al., 2016; Veenendaal et al., 2016). Of note is that, when fluency was included in the model, all other variables ceased to be significant. The strong association between fluency and prosody implies that as fluency skills improve, the ability to read expressively also increases. Previous studies in European Portuguese have demonstrated that, past the second grade, speed is a stronger predictor of comprehension than accuracy, given that European Portuguese is an intermediate depth orthography, in which accuracy is mastered relatively early for most of the students (Cadime et al., 2017, 2023).

In summary, the results of this study indicate that motivational variables, particularly self-concept, impact prosody performance. However, when reading performance is considered, fluency emerges as the most significant contributor to prosody performance. These findings provide valuable insights into the implications for educational practice, particularly the need to identify students at risk in various reading competencies—especially fluency—early on. Early identification can help minimize difficulties from the outset of formal education and promote foundational reading skills that contribute to the development of more complex skills like prosody.

The study also highlights that motivation for reading contributes to prosody performance, underscoring the importance of implementing strategies to enhance student motivation, particularly their self-concept. Motivational strategies include praise, reinforcing effort during each reading, providing timely corrective feedback, and setting goals after self-assessment of reading (Cruz et al., 2022; Cruz et al., 2023).

Given the study's results and the extensive literature on reading, it is increasingly important to consider the broad concept of fluency and its development within the school curriculum. Accuracy, automatic word recognition, and prosody throughout the early years of primary education continue to play a crucial role in achieving the ultimate goal of reading: text comprehension (Kuhn et al., 2010). All components of fluency—accuracy, automaticity, and prosody—should be considered in reading fluency assessment and in teaching methodologies aimed at improving reading fluency and, consequently, reading comprehension (Rasinski et al., 2009).

The study's findings also highlight the importance of equipping teachers with the necessary knowledge and tools for systematic fluency training, particularly in prosody, which is often overlooked in reading instruction. Developing teachers' understanding of prosody—such as expressiveness, phrasing, accuracy, and rhythm—can significantly enhance their ability to support students in becoming expressive and fluent readers. Several studies reinforce the value of systematic and explicit instruction, emphasizing that gains in reading fluency are influenced by several key factors. These include the amount of time students spend practicing fluency, the quality of reading models provided (e.g., teacher-assisted reading training or peer modelling), immediate and constructive feedback on their performance, and innovative techniques such as recording one's reading and listening to the playback to self-assess and refine fluency (Beach & Philippakos, 2021; Gersten et al., 2020). Considering these strategies, literature suggests that teachers should allocate regular and focused time for fluency activities in their reading instruction, ensuring students have consistent opportunities to develop their skills. Also, teachers can serve as effective reading models by demonstrating prosodic reading. Using read-aloud strategies with expressive intonation can help students internalize the natural rhythm and tone of fluent reading. Given feedback is also relevant, and should focus on specific aspects of fluency, such as phrasing, emphasis, and pace. Highlighting both strengths and areas for improvement can guide students toward more expressive reading. Recently, several studies have highlighted the positive impact of the use of recording technology, evidencing that encouraging student to record their reading and listen to the playback allows them to identify areas for improvement independently. This strategy also fosters self-awareness and accountability for their progress (Beach & Philippakos, 2021; Cruz et al., 2023; Rasinski et al., 2009). By implementing these strategies, teachers can create a supportive environment that fosters fluency development, enabling students to become confident, expressive readers capable of understanding and engaging with texts at a deeper level.

The main limitation of this study is the use of a convenience sampling method. Future studies should use a probabilistic sampling method, but also include the assessment of reading comprehension. It is essential to understand the role of prosody after the acquisition of decoding skills to determine its contribution to the comprehension of read texts.

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