Unleashing Creative Writing in Language Classrooms Through the Power of Predictive Learning Strategy

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Abstract

The research aimed at investigating the impact of a predictive thinking strategy on the improvement of creative writing skills among pupils within Arab educational environment. The subjects were drawn from the lower primary classes in some Jordanian schools and were randomly assigned either to the experimental group that would be taught using the predictive thinking strategy or to the control group that would be taught using conventional methods. Under the predictive thinking strategy, a test of creative writing skills was carried out after its validity and reliability were confirmed. The results revealed that the experimental group's members scored high on creative writing compared with their counterparts in the control group. The results further demonstrated the existence of statistically significant differences according to pupil's gender in favor of females and non-existence of statistically significant differences due to interaction between pupil's gender and predictive thinking strategy. The outcomes of the research indicate that the predictive thinking strategy enhances the creative writing skills and therefore recommends the implementation of the strategy into language learning curricula, in addition to providing training to teachers in practicing this strategy.

Keywords: predictive thinking, creative writing, language learning

1. Introduction

Educational trends emphasize the importance of activating pupils' roles to engage in the learning process. To achieve that engagement, learning strategies that encourage pupils to think creatively and unconventionally should be employed (Bataller et al., 2024; Brod, 2021; Kornell, 2014). Predictive thinking is the type of thinking that considers questioning the existing data and trying to expect what actions might follow (AlAli & Al-Barakat, 2023; Al-Barakat & AlAli, 2024).

Predictive thinking strategy is a cognitive learning strategy that aim to develop interaction skills with the environment that are based on previously gained knowledge and experience (Rivas et al., 2023). Al-Barakat et al. (2023) reported predictive thinking as a learning strategy as very important because it triggers motivation in pupils to interact meaningfully with the learning process (Al-Halalat et al., 2024; Alhamad et al., 2024).

In addition, predictive thinking can bring together the learners' higher manifestations of cognition such as advanced analytical and critical realization of information and different situations, giving them better chances to make decisions (Alhamad et al., 2024; Al-Hassan & Al-Barakat, 2009). Consequently, when learners work with these skills, they can offer more innovative solutions and answers to complicated issues, whether in learning or in real life, since these skills broadens the scope within which the learners foretold consequences, act against possible risks, and

benefit of possible success opportunities (Bani Irshid et al., 2023; Fraihat et al., 2022).

Realizing potential difficulties or opportunities prepares learners for confident, flexible coping strategies, i.e. a learner might engage in predictive thinking to overcome an academic or real-life problem, thereby improving his ability to think powerfully and deeply about the future and alternatives, and how to achieve goals efficiently (Seabrooke et al, 2018; Yan et al, 2014).

Encouraging learners to practice predictive thinking also fosters creativity and innovation (Aqel, 2017; Ayashi, 2018; Baki, 2020; Khasawneh et al., 2022; Pishghadam & Mehr, 2011; Rizal, 2012). In the context of learning, pupils who are motivated to think in terms of outcomes tend to possess greater creativity, as, through analyzing problems, they try to come up with non-traditional approaches and possible solutions. This makes them more receptive to formulating thoughts that aim at improving a situation or providing a solution to a specific problem. This strategy helps learners in developing creative skills and ideas that have the potential to change the sequence of events (Hawamdeh et al., 2025; Al-Barakat & Bataineh, 2011).

Concerning fostering creative writing capabilities, AlAli et al. (2024) and Al-Hassan et al (2012) declare that predictive thinking is immensely useful for pupils, as it aids them in expressing their thoughts creatively. Pupils can construct creative texts that are filled with multifarious futuristic ideas and text scenarios through helping to imagine how events around a given topic would unfold. Such abilities to imagine future scenarios extend beyond academic writing; it encompasses all forms of literary and creative writing where a writer can structure new visions, innovative characters, and formulate new storyline directions (Khasawneh et al., 2023; McGeown & Smith, 2024; McGeown & Wilkinson, 2021). Through such skills, pupils start by contemplating the present to imagine the future and, as a result, enhance their scope of creativity (AlAli & Al-Barakat, 2024a; Pishghadam & Mehr, 2011; Rizal, 2012; Remolar et al., 2021; Tobar-Muñoz et al., 2017).

Research (Seabrooke et al., 2018; Yan et al., 2014) emphasize that predictive thinking is a crucial component in developing the learner's critical and creative thinking skills, whereby enhancing these skills, learners become capable of interacting with both the present and the future in an inclusive manner, resulting in improving their skills to solve problems and make decisions. Over time, predictive thinking becomes an influential tool that can be applied in various academic and personal areas, helping to fully develop the learner’s character and giving him the ability to invent when facing future challenges (Al-Hassan et al., 2022; Miyamoto et al., 2019; Mohammadhossein et al., 2024).

Considering the above, the researchers claim that employing predictive thinking in learning writing skills not only stimulates the learner's cognitive memory but also serves as a means that enables him to deal with texts and topics, leading to writing expression in multiple forms and to predicting the likely course of events based on prior knowledge (Kormos et al., 2024; Lotino & Ocampo, 2024; Potts et al., 2019; Potts & Shanks, 2014). Seabrooke et al. (2018) and Yan et al. (2014) confirm that employing the predictive thinking strategy is one of the fruitful methods and strategies for creative and analytical thinking among learners in expressive writing contexts.

Studies of (AlAli & Al-Barakat, 2024b; Brod, 2021; Kornell, 2014; Potts et al., 2019) reported that the predictive thinking strategy significantly contributes to enabling learners to predict the future, and that prediction leads them to develop their writing skills by providing conclusions or expected endings - somehow - based on their critical and analytical predictions. Hence, these studies suggested providing diverse and multi-faceted learning opportunities to stimulate predictive thinking that invites learners to express their thoughts, feelings, and values.

Al-Hassan (2025) indicates that using predictive thinking in teaching children verbal issues helps them express themselves in diverse and multiple ways, leads them to generate deep ideas about every topic they talk about, and thus helps and enables them to formulate their ideas innovatively. In line with this context, research conducted by Al-Khasawneh et al. (2022) revealed that using prediction through solving verbal mathematical problems encouraged pupils to use their linguistic abilities in a critical and aesthetic way, write multiple and diverse mathematical ideas, and invent creative mathematical solutions in a consistent, clear, coherent, and logical way.

Researchers (Assimonye & Ibe, 2019; Nasir et al., 2021) reported that through the predictive thinking strategy, pupils are stimulated to interact with texts in ways that allow their imagination to flow and promote divergent thinking regarding those texts. Within this framework of the predictive thinking strategy, pupils work actively and interactively and thus developing their writing skills until reaching creativity (Assimonye & Ibe 2019; Bataineh et al., 2023; Bataineh & Bani Amer, 2023; Nasir et al. 2021; Rini & Cahyanto 2020).

Considering the importance of integrating predictive thinking strategies in acquiring language skills, Al-Barakat & AlAli (2024) highlight that the use of educational images as an aid for language skills developed young children’s

ability to express familiar concepts in novel and impactful ways. Through the use of educational images, children were able to think in a novel manner because they used predictive thinking as a springboard for creative thinking and provided alternative interpretations that would hook the readers and compel them to think deeply (Al-Barakat et al., 2022; Al-Hassan et al. 2022; Rini & Kahyanto, 2020; Santosa et al., 2019; Wang, 2019).

With the assistance of creative imagination and logical structure, Al-Hassan et al. (2012) asserts that pupils are able to formulate an intriguing narrative and analyze the situation from various perspectives, thereby broadening the range of their originality. Such an approach allows pupils to expand their conventional writing boundaries, make it more appealing, and convert it into an exciting piece of work. This means that predictive thinking not only enhances learners' writing abilities, but also enables them to develop their linguistic, intellectual, emotional, and social skills (Bataineh, & Bataineh, R., 2024; Zghoul & Bataineh, 2024).

The above argument emphasizes the importance of linking language and thinking, deeming that predictive thinking is a strategy for guiding pupils to learn creative writing, and build writing skills based on analytical comprehension (Assimonye & Ibe, 2019; Nasir et al., 2021), as this provides pupils with opportunities to carefully review their ideas before reaching a final written form, predicting the alternatives that the text may go through (Rini & Cahyanto, 2020; Santosa et al., 2019), thus excelling their writing skills.

Besides, creative writing is one of the best skills that arouse pupils' interest and enthusiasm to carry out collaborative writing tasks through group work and create a dynamic and interactive learning environment both inside and outside the classroom. Accordingly, previous studies (Rini & Cahyanto, 2020; Santosa et al., 2019; Wang, 2019) have focused on the importance of designing lessons based on predictive thinking to help pupils produce original and imaginative pieces of writing, as well as enhancing the effectiveness of lessons through teachers' personal understanding of the creative writing process and improving their learning practices in writing learning environments (El-Dakhs & Bataineh, 2023; Remolar et al., 2021; Tobar-Muñoz et al., 2017).

Researchers (Kormos et al., 2024; Lotino et al., 2024) reported the importance of designing predictive thinking-based learning environments as a means to see and guide others to see things in a new light. Researchers (Cornell, 2014; Richland et al., 2009) confirmed that learning through predictive thinking is an effective teaching method because it engages pupils in the subject being learned, leading them to guess answers, make mistakes that lately contribute to enhancing pupils' learning.

Research by (Cornell et al., 2009) has indicated that prediction not only serves as a memory enhancement strategy but also enhances higher order thinking skills (analysis, comparison and critical thinking) among pupils to engage in predictive thinking, through drawing on their prior knowledge to predict possible outcomes or continuations. Such practices not only boost academic performance, but also allow pupils to think independently, thus developing their problem-solving skills and their ability to deal with complex learning situations. However, in spite of research examining the effect of predictive thinking on aspects related to overall academic achievement, there is still a gap in investigating of the role of predictive thinking strategy in developing pupils' creative writing.

1.1 Statement of the Study

Although it is important to develop the ability of children to write creatively, as it is one of the basic skills that learners need, observing this skill through learning contexts reveals a weakness in pupils' writing skills attributed to the deficiency of conventional methods and strategies utilized in teaching (Al-Barakat et al., 2025), in addition to the content-centered learning that ignores the active role of the pupils and is unable to motivate them (Al-Hassan et al., 2012).

Given the importance of employing the predictive thinking strategy in learning situations, it has become very important to investigate the impact of the predictive thinking strategy in improving pupils' learning of creative writing skills from the early grades, as researchers (Al-Barakat et al., 2025; Kormos et al., 2024) indicated that predictive thinking strategy allows children to engage more deeply with the content by predicting events in the reading text using their prior knowledge and then expressing them in multiple and varied ways. In addition, this strategy contributes to enabling learners to interact with linguistic texts, which provides pupils with opportunities to express their ideas through conversation and verbal and written communication.

Based on the above discussion, this research presents a new teaching strategy that has not been implemented in language learning in Arabic educational environments, aiming at improving pupils' predictive writing through posing the following question: "*Is there a statistically significant difference at the level ($p \leq 0.05$) in pupils' performance on the creative writing skills test attributed to predictive thinking strategy compared to the conventional way, pupil's gender, and the interaction between gender and teaching method?*"

2. Method

2.1 Research Design and Sample

This research is based on a quasi-experimental research approach that compares the predictive thinking learning strategy with the conventional method. This design aims to test the effect of each of these two strategies on improving creative writing skills. The research sample consisted of eight private schools in the Jordanian capital, Amman, the schools were selected purposefully due to the cooperation of school principals. 244 pupils were chosen to participate in the research, they were randomly divided into two equal groups: an experimental group that was taught through the predictive thinking strategy, and a control that was taught through the conventional method. The participants were from diverse social and academic backgrounds and schools, as diversity contributes to achieving a balance between personal characteristics and academic performance. Teacher training and learning environment conditions were controlled. Besides, pupils' creative writing skills were analyzed using a pre-test to determine the performance differences between the groups before the experiment and then changes in writing performance were measured in both the experimental and control groups.

2.2 Predictive Thinking Strategy Learning Plans

The learning plans aimed to innovatively stimulate pupils to interact with the learning content, so as to enhance the use of language skills that go beyond the traditional understanding of reading texts. More specifically, the learning plans were prepared in consideration of the intended learning outcomes and recommendations of Al-Barakat & AlAli, (2024) regarding developing creative writing skills through the predictive thinking strategy. The learning plans included a set of linguistic activities such as predictive questions, predictive dialogue, rewriting events, predictive analysis, in addition to induction and deduction activities from digital images. All of these activities aimed at directing the pupil to investigate, discover and express through interactive situations in a constructive manner.

2.3 Creative Writing Test

The aim of this test was to measure children's skills in creative writing. It was an essay-type test that investigate numerous features of creative-writing skills, including form and content. The test consisted of seven questions to evaluate the child's creative writing skills through learning scenarios that required innovative application of writing skills, the questions focused on linguistic text structure, precision of language, sound and coherent sequence of expressions, and the ability to express thoughts in a fluent, original, and flexible manner that reflects the children's thoughtful creative thinking.

2.4 Validity and Reliability

The apparent validity of the test was verified by experts in language teaching, educational psychology, and measurement and evaluation. The clarity of the questions, their suitability to the pupils' level, and their ability to achieve the test objectives were verified. Based on the experts' opinions, certain modifications were made to the questions, such as adding, deleting, and modifying linguistic formulation. The jury experts also confirmed that the instrument covers creative writing skills.

To check the instrument's reliability (AlAli & Al-Barakat, 2022), two methods were used; the first involved a pilot test with 23 pupils who were excluded from the research sample to evaluate whether the questions were appropriately structured, whether the pupils understood the questions, and if the estimated test time was enough. The second method used to check the instrument reliability was using Holsti's formula for assessing the level of agreement among three independent raters. Their agreement was between 86% and 95%. The test of those 23 pupils was given two weeks later for retesting. Pearson's r coefficient (0.96) indicated a high degree of stability (AlAli & Al-Barakat, 2022).

2.5 Data Collection and Analysis

Data collection process began with intensive training for language teachers of the experimental group who participated in a 20-hour training program comprising of workshops and practical components aimed at enabling teachers to implement predictive thinking strategies during teaching. The training program also focused on motivating pupils to participate in group interactions and discussions for creative writing purposes. Several data collection methods were conducted during this timeframe, including administering pre-tests and post-tests to both the experimental and control groups. The pre-test aimed to determine the level of creative writing skills prior to the intervention. The results of the pre-test are shown in Table 1.

Table 1. T-test Results for Pre-test Group Equality

Test	Group	No.	Mean	St.Dev.	T Value	Sig.*
Creative Writing Skills Test	**Experimental**	122	12.17	0.77	6.035	0.062
	Control	122	11.85	0.82		

** Significance level ($p \leq 0.05$)*

As outlined in Table (1), there were no differences between the two led groups at ($p \leq 0.05$) level in the pre-test, suggesting that both groups were equally proficient in terms of creative writing skills. Later, pupils in the experimental group completed an 8-week training program which consisted of 4 sessions a week, each lasting 45 minutes. The activities in this training program aimed at fostering predictive thinking and stimulating pupils' willingness to analyse and express ideas on given topics at a complex level.

3. Results of the Research

3.1 Results of the Effect of Predictive Thinking Strategy

The means and standard deviations of the creative writing skills post-test scores for both groups were calculated. The results are shown in Table 2.

Table 2. Mean Scores and Standard Deviations of Creative Writing skills Performance on the Post-Test

Group	Gender	No.	Mean*	St. Dev.
Experimental	Female	64	38.03	0.81
	Male	58	36.68	0.81
	Total	122	38.02	0.79
Control	Female	64	23.05	1.46
	Male	58	22.30	1.29
	Total	122	23.05	1.57

Results in Table 2 indicates that the use of predictive thinking strategy is more effective than conventional methods in enhancing creative writing, since the control group has lower scores compared to the experimental group. The control group's mean score was 23.05 while the experimental group's mean score was 38.02. Besides, the experimental group had lower values (0.79) than the control group (1.57). The lower value of standard deviation implies that predictive thinking strategy not only increased the scores but also helped in achieving uniformity among the pupils. This points out that the strategy led to improvements not just the writing skills but also ensured that there was consistency among the pupils.

With respect to the male and female performance comparison within both groups, females in the experimental group (38.03) outperformed the males (36.68). This uniformity across both genders implies that the predictive thinking strategy worked equally well for male and female pupils. Also, the control group showed a uniformity in performance across both genders, with females scoring 23.05 and males 22.30. However, this difference does not significantly alter the overall results, and the performance of both genders within the experimental group remains relatively close. To find out the statistical significance of the differences in the mean scores between the two groups, a paired-sample t-test was used, as shown in Table 3:

Table 3. Paired-Sample ANOVA Results for Experimental and Control Groups on Post-Test Creative Writing

Source	Sum of Squares	d.f.	Mean Squares	F	Sig.
Covariate	9524.178	1	9524.178	857.123	0.000
Group	1898.834	1	1898.834	174.827	0.000
Error	1136.957	239	9.854		
Total	9648.034	243			

** Significance level ($p \leq 0.05$)*

In Table 3, the F-value of 174.827 indicates a highly significant difference between the two groups, suggesting that the intervention (predictive thinking strategy) led to a substantial improvement in the experimental group's performance. Furthermore, the *p*-value of 0.000 confirms that the observed differences are statistically significant.

The Sum of Squares for the group factor (1898.834) highlights the large effect that the teaching strategy (predictive thinking vs. traditional strategies) had on pupil performance. The Sum of Squares for error (1136.957) represents the variance within each group, but the higher value of the group factor indicates that the differences between the experimental and control groups were far more pronounced than any variation within the groups themselves.

The results of both Tables 2 and 3 indicate that predictive thinking strategy have a notable and positive impact on enhancing creative writing skills. The significant difference in performance between the experimental and control groups, coupled with the consistency observed in the experimental group's results, supports the hypothesis that predictive thinking is a more effective educational strategy compared to conventional teaching strategies. Furthermore, the statistical analysis by ANOVA clearly shows that the differences in writing performance are not caused by chance but are results of the intervention, confirming the effectiveness of combining predictive thinking tasks into learning environments to enhance writing skills and creativity.

3.2 Effect of Pupils' Gender on Enhancing Creative Skills

To find out the effect of pupils' gender on enhancing creative skills, the paired-sample ANOVA was conducted based on pupils' performance in the Post-test, the results are shown in Table 4.

Table 4. Paired-Sample ANOVA Results for Creative Writing Performance by Gender in Experimental and Control Groups on Post-Test

Source	Sum of Squares	df.	Mean Squares	F	Sig.
Covariate	9379.124	1	9379.124	934.161	0.000
Group	1562.94	1	1562.94	125.34	0.000
Error	1050.924	239	6.244		
Total	189278.062	243			

** Significance level ($p \leq 0.05$)*

As shown in Table 4, The Sum of Squares for the group factor (1562.94) indicates that there is a notable difference between the groups. The F-value of 125.34 signifies a strong statistical relationship between gender and performance in creative writing, implying that gender had a measurable effect on pupils' scores. Furthermore, the p-value of 0.000 confirms that the difference is statistically significant.

The Sum of Squares for the covariate (9379.124) suggests that other variables may have also influenced performance, but the primary focus here is the substantial impact of gender, as indicated by the group factor. The Error Sum of Squares (1050.924) reflects the variance within each group, and the relatively low mean square for error (6.244) further strengthens the conclusion that gender plays a significant role in the performance differences. These results imply that male and female pupils may respond differently to the teaching strategies, potentially leading to varying levels of improvement in their creative writing abilities.

3.3 Effect of Interaction between Teaching Strategy and Gender on Enhancing Creative Skills

To address this objective, a paired-sample ANOVA was performed, and the results are reported in Table 5.

Table 5. Paired-Sample ANOVA Results for Interaction between Gender and Teaching Strategy on Post-Test Creative Writing Performance

Source	Sum of Squares	d.f.	Mean Squares	F	Sig.
Covariate	7934.123	1	7934.123	834.131	0.000
Group	10481	1	10481	1.935	0.701
Error	1070.527	235	8.629		
Total	182358.163	239			

** Significance level ($p \leq 0.05$)*

The results of Table 5 indicate that even though the covariate (7934.123) showed a strong and statistically significant effect on the pupils' performance **(**F = 834.131, p = 0.000**)**, the interaction effect between gender and teaching strategy itself was not significant; the F-value for the interaction was 1.935, and the p-value was 0.701.

The non-significant interaction effect indicates that the teaching strategy's impact on creative writing performance was gender-independent. In other words, both male and female pupils benefitted equally from the teaching strategies, whether it was the predictive thinking strategy or the conventional strategies. This contrasts with the initial assumption that the teaching strategy might affect male and female pupils differently.

Furthermore, the Error Sum of Squares (1070.527) contains some unexplained variance within the groups, but the overall effect of gender and teaching strategy interaction on creative writing scores was still relatively small. The results indicate that other possible factors may have an effect on the pupils' writing performance, like prior knowledge or individual motivation, and these factors were controlled due to using the covariate analysis.

4. Discussion

The findings of this research underscore the impact of predictive thinking strategy on developing the creative writing skills of pupils. More specifically, the experimental group, which participated in predictive thinking activities, significantly outperformed the control group in writing skills. This indicates that predictive thinking strategy assist pupils with advanced creative thinking as well as writing skills. The predictive thinking strategy enables pupils to come up with new concepts, analyze them, and convey them unreservedly without the fear of being judged. The findings are in line with the research of (Hadi & Khalaf, 2022; Nasir et al., 2021; Rini & Cahyanto, 2020; Vicol et al., 2024; Zedelius et al., 2019) which outlined that strategies based on predictive approaches certainly promote originality, which is the ability to think of novel and unlike concepts, and fluency, which is the ability to express manifold thoughts concerning a singular subject matter.

A notable difference between genders in creative writing skills was found, as females scored higher than males. This can be attributed to the emotional and social traits that are stereotypically related to females, such as higher emotional sensitivity and empathy, as well as better verbal articulation, which, perhaps, could help females express their feelings better. This result is consistent with research conducted by Aburezeq (2020), which indicated that females seem to be more proficient in performing imaginative creative tasks because of their engagement in activities that demand thinking and reflection, which are essential in the formation of creative concepts.

Despite the notable difference between genders in creative writing skills, the interaction between gender and the teaching strategy was not significant. In other words, female and male pupils have performed alike. This can be attributed to the broader context of the predictive thinking strategy that was designed irrespective of gender. The design ensured unbiased participation of male and female pupils, allowing them to utilize their creativity and benefit from the strategy. This finding is consistent with Atallah & Ababneh (2019), whose research showed that predictive thinking strategy tends to improve writing performance at all educational levels irrespective of gender.

5. Conclusions, Recommendations, Limitations, and Future Research Directions

This research underlines the need for modern pedagogical teaching methods which encourage and nurture constructive and creative self-thinking and self-expression among learners and, consequently, enrich their cognition and creativity. The results indicate that predictive thinking strategy strongly assists in the development of pupils' writing skills because they stimulate ideas and fluency, which are the most important attributes of creative writing.

The results of the research showed that predictive thinking strategy is effective in improving creative writing skills among both males and females since they stimulate creative and critical thinking. A notable difference was found due to gender in favor of females, but this difference was not a result of the teaching strategy used. The absence of an interaction between gender and the teaching strategy implies that predictive thinking strategy is non-restrictive and are, therefore, more applicable for fostering writing skills. These findings emphasize the effectiveness of predictive thinking strategy in stimulating creativity and enhancing writing skills for various groups of pupils and increasing opportunities for all learners to develop their creative abilities irrespective of their cultures or gender.

Based on these results, it is suggested that predictive thinking strategy should be extended to all subjects and grades and that teachers should be trained in the implementation of the predictive thinking strategy within their classes as a means of developing pupils' creativity and critical thinking skills. To ensure that the goals of the strategy are fully accomplished, a classroom atmosphere that encourages individual opinion, free speech, and socialization should be provided. Furthermore, there is a need to change curricula to foster creative thinking skills through predictive thinking

strategy so that the 21st century learners' needs are addressed.

This research has encountered certain constraints that deserve paying attention. It was conducted in a single educational directorate which makes it difficult to generalize the findings for a wider pupil population. Besides, other social and psychological aspects such as pupil motives, individual differences, and culture were not considered and might have affected the outcome. To make the most of the findings, consideration should be given to other educational levels like secondary and higher education. Also, the use of predictive thinking strategy in other subjects like science and arts needs to be studied in order to understand how such a strategy promotes creativity and critical thinking in different disciplines. Doing so would enable educators and researchers to understand predictive thinking strategy more holistically and how this strategy can be integrated into different educational environments.

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Authors contributions

AAA, RMA, OMA and KMA conceptualized the manuscript's focus, proposed the aims, prepared the draft manuscript, and wrote all the sections. AAA, RMA, OMA and KMA also collected, analyzed, and interpreted the data. AAA and RMA were major contributors to writing the manuscript. All authors have read and agreed to the published version of the manuscript.

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