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A SYSTEMATIC REVIEW REGARDING THE IMPACT OF AFFECTIVE FACTORS ON READING SUCCESS

*Research article*

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Abstract

This study aimed to examine the studies investigating the relationship between affective factors and reading success through systematic review. The studies were reviewed based on the study type, study design, sample size, sample type, data collection tool, data analysis method, and study purpose. More than 80% of the studies related to reading motivation, reading attitude, and reading self-efficacy; 85% had a quantitative study design, and the number of studies conducted with large groups for examining reading self-efficacy was limited. However, there were studies with different sample groups aiming to assess reading motivation and reading attitude. The number of studies with a sample consisting of high school students among the three variables was also limited; in more than 80% of the studies, Scales, tests, and questionnaires were used as the data collection tool, while correlation and t-tests were used in 50% as the data analysis method. When the studies were examined by their objectives 60% of the studies aimed to determine the relationship between the variables and the impact of various applications on the variables. The relationship between motivation, attitudes, self-efficacy, and reading success was examined through a meta-analysis.

Keywords: affective factors; motivation; reading success; self-efficacy; attitude

1. Introduction

Reading improves intellectual skills, intellectuality, and emotionality; it is also key in gaining success in academic and social lives, as well as life-long learning. Studies conducted since the 1800s have searched for methods to improve students’ reading success and comprehension skills. During the reading process, readers must manage the complex coordination of multiple cognitive elements such as phonological, syntactic, semantic, and strategic processes, as well as multiple dimensions of text for different purposes (Cartwright, 2009). In addition to cognitive activities, emotional and motivational processes affect reading comprehension, further complicating this process (Cartwright, Marshall & Wray, 2015).

While certain individuals read voluntarily and enjoy doing so, others attribute being a passive reader to affective factors. The emotions children have about a certain reading activity significantly affect the amount they read and their reading success (Petscher, 2010). According to Hedges and Gable (2016), the relationship between reading comprehension skill and affective factors (motivation, attitude, and self-efficacy) is critical. There is an array of studies demonstrating the impact of attitude—defined by Sallabaş (2008) as people’s tendency to react toward any phenomenon or anything—and motivation—defined by Watkins and Coffey (2004) as the element triggering a behavior (Guthrie & Wigfield, 2005)—on reading comprehension success (McKenna, Kear & Ellsworth, 1995).
Demirel (1993) also defines attitude as the learned tendencies directing people to display certain behaviors against certain cases, objects, and people. Attitude refers to emotions and thoughts toward a situation, concept, or event that affects the probability of adopting and displaying an attitude. Reading attitude can be defined as the emotion and tendency towards reading (Murtafi’ah & Putro, 2018). According to Smith (2015), reading attitude is a “state of mind accompanied by feelings and emotions that makes reading more or less probable.” The role of emotions was theorized by Mathewson (1976) as a main factor in learning to read and reading to learn; they consider attitude as the central element in the model regarding the function of the attitude during the reading process. If the attitude is positive and motives are suitable, then understanding takes place at the highest efficiency; but if the attitude is negative or motivation is absent or not suitable, then understanding becomes ineffective. Motivation refers to students’ energy and success in participating in an activity and insisting on that activity even if the conditions become more challenging (Murtafi’ah & Putro, 2018).

Reflecting a motivational structure, self-efficacy—conceptualized by Bandura (1986) under the social cognitive theory—refers to one’s belief in performing a certain duty and people’s judgment regarding organizing and managing skills required to acquire a certain type of performance. People’s beliefs about self-efficacy are affected by four factors: enactive self-mastery, vicarious experience, verbal persuasion, and physiological state. Enactive self-mastery reflects people’s previous experience of success and failure and is considered the most effective source of self-efficacy. Previous successes or failures affect people’s self-efficacy, but the successes or failures of others may also affect one’s self-efficacy. Verbal persuasion, as well as stress and fear, affect self-efficacy. Students with high self-efficacy do their best to fulfill a duty, while those with low self-efficacy may discontinue what they do within a short period (Tobing, 2013).

The aim of the study

The primary and secondary objectives of this study are as follows:

Purpose: To determine the degree of relationship between affective factors (motivation, attitude, self-efficacy) and reading skills.

Sub-objectives of the research

- How are studies on reading motivation, reading attitude, and reading self-efficacy distributed by study type?
- How are studies on reading motivation, reading attitude, and reading self-efficacy distributed by study design?
- How are studies on reading motivation, reading attitude, and reading self-efficacy distributed by sample size?
- How are studies on reading motivation, reading attitude, and reading self-efficacy distributed by sample type?
- How are studies on reading motivation, reading attitude, and reading self-efficacy distributed by data collection tool?
- How are studies on reading motivation, reading attitude, and reading self-efficacy distributed by analysis method?
- How are studies on reading motivation, reading attitude, and reading self-efficacy distributed by their purpose?
What is the general impact size of the relationship between motivation and reading comprehension?

What is the general impact size of the relationship between self-efficacy and reading comprehension?

2. Method

2.1. Focus of the Study:

Defining the study subject/ Developing research questions/ Deciding the databases where the data will be collected/ Determining the date range when keyword patterns and data will be collected/ Determining the inclusion and exclusion criteria/ Classification of 232 studies examining the relationship between reading comprehension and affective factors/ Analyzing, coding, and reliability/ Classification of agreed studies under the titles of attitude, self-efficacy, and motivation/ Creating codes for each title/ Coding the research accessed by both researchers within the scope of the study separately to ensure reliability. /The reliability formula developed by Miles and Huberman (1994) was used to calculate the reliability of the findings. Miles and Huberman (1994) Reliability Formula: Reliability = Consensus / (Agreement + Disagreement) x 100 (Baltacı, 2017). Examining the consistency between the codes and reaching the result of 0.90/ Presentation of the results and discussion of the results based on the relevant literature (Çalık & Wiyarsi, 2021)

2.2 Data Collection

Data were collected between October 2020 and January 2021 using the related keyword patterns (Model 1: “motivasyon ve okuduğunu anlama”, “motivation and reading comprehension”; Model 2: “tutum ve okuduğunu anlama”, “attitude and reading comprehension”; Model 3: “öz yeterlilik ve okuduğunu anlama”, “self-efficacy and reading comprehension”) from Web of Science, Proquest, Google Scholar, ULAKBİM, YÖK and Science Direct. Afterward, 105, 86, and 41 studies on reading motivation, reading attitude, and self-efficacy, respectively, were found. The code list included information about study type, study design, purpose, sample size, sample type, data collection tool, and data analysis method. Coding was initially performed by one researcher. A second researcher coded ten randomly selected studies for the second time. According to Baltacı (2017), the consistency between the coders should be at least 0.70 for the study to be reliable. In this study, the rate of consistency was calculated at 90%, implying that the study was reliable. The following inclusion criteria were used for the meta-analysis: 1. The sample size should be provided. 2. The correlation values should be provided. 3. The t-value that enables the calculation of the correlation coefficient should be provided.

2.3. Publication Bias

In this study that examined the impact of affective factors (motivation, attitude, and self-efficacy) on reading skill, the funnel plots displaying the publication bias are presented in Figure 1:
When there is no publication bias, studies should be symmetrically distributed on both sides of the vertical line; conversely, if there is a publication bias, the distribution is concentrated on one side of the line. Additionally, if studies are concentrated on the bottom corner of the triangle, a potential publication bias can be assumed (Borenstein, Hedges, Higgins & Rothstein, 2009). In the present study, while the funnel plot related to motivation and self-efficacy showed a distribution close to symmetry, the attitude funnel plot did not show a symmetrical distribution. In the next part of the study, the title of attitude was not included.

Table 1. Results of Rosenthal FSN calculation displaying the publication bias of studies in the meta-Analysis

<table>
<thead>
<tr>
<th>State of Bias</th>
<th>Motivation</th>
<th>Self-efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z-value of the observed studies</td>
<td>39.79</td>
<td>29.67</td>
</tr>
<tr>
<td>P-value of the observed studies</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Alpha</td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td>Direction</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Z-value for Alpha</td>
<td>1.95</td>
<td>1.95</td>
</tr>
<tr>
<td>Number of Observed Studies</td>
<td>32</td>
<td>15</td>
</tr>
<tr>
<td>FSN</td>
<td>3572</td>
<td>3424</td>
</tr>
</tbody>
</table>
As seen in Table 2, Rosenthal’s Safe N Test indicates that the meta-analysis results are statistically significant (p =0.000). For the meta-analysis results to be considered insignificant (i.e., for the p-value to be >0.05), an additional 3572 and 3424 studies are needed for reading motivation and reading self-efficacy, respectively. Funnel plot figure and Rosenthal’s FSN calculation indicate that the study has no publication bias. In the absence of publication bias, Kendall's tau b coefficient is expected to be close to 1 and the double-tailed p value is not significant. Calculation of the tau coefficient as 0.24 for motivation, 0.07 for p-value, 0.12 for self-efficacy, and 0.52 for p-value; In addition, the nonsignificance of the Egger test result (p>.05) confirmed that there was no publication bias in the meta-analysis.

### 2.4. Heterogeneity test

Analyses regarding the study included in the meta-analysis are performed using two main methods: fixed effect and random effect methods (Kaşarcı, 2013). The method is selected according to the result of the heterogeneity test. The Q-value that is found as a result of the homogeneity test being than the degree of freedom in the χ² table (Q> χ²) or the p-value being significant (p<0.05) indicates that the studies are heterogeneous; whereas the Q-value being

<table>
<thead>
<tr>
<th></th>
<th>Tau</th>
<th>Z-value for Tau</th>
<th>P-value (tailed)</th>
<th>P-value (tailed)</th>
<th>Standard Error</th>
<th>95% sub limit (One-tailed)</th>
<th>95% sub limit (Two-tailed)</th>
<th>t-value</th>
<th>1.58</th>
<th>0.01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tau</td>
<td>0.24</td>
<td>0.12</td>
<td>1.98</td>
<td>0.64</td>
<td>2.24</td>
<td>-1.01</td>
<td>8.13</td>
<td>6.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-6.55</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>31</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13</td>
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<td>0.06</td>
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<td></td>
<td>0.49</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.12</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
lower than the degree of freedom (df) in the $\chi^2$ table ($Q<\chi^2$) or the p-value not being significant ($p>0.05$) indicates that the studies are homogeneous (Dincer, 2014). Values indicate that the studies in the meta-analysis were heterogeneous. Therefore, it was decided that the random impacts model was to be used to calculate the mean impact sizes.

All correlation values and their confidence intervals in the meta-analyses are transformed into the Fisher z-value, and analyses were performed based on these values. While assessing the results, the Fisher z-value is re-transformed into the correlation value. The same path was followed in this study. The correlation value was used as the impact size in the correlation data in line with the direction of the relationship (positive or negative). Correlation coefficient impact sizes are considered very weak, weak, moderate, strong, and very strong if they are between $\pm 0.00$ and $\pm 0.10$, $\pm 0.10$ and 0.30, $\pm 0.30$ and 0.50, $\pm 0.50$ and 0.80, and $\pm 0.80$ and higher, respectively (Kalkan, 2020).

4. Findings

![Figure 2](image1.png)

Figure 2. Distribution of the studies on reading motivation, reading attitude, and reading self-efficacy by study type

In Figure 2, more than 80% of the studies on reading motivation, reading attitude, and reading self-efficacy were articles.

![Figure 3](image2.png)

Figure 3. Distribution of the studies on reading motivation, reading attitude, and reading self-efficacy by study design

Figure 3, the quantitative study design was used the most (80%) in the studies on reading motivation, reading attitude, and reading self-efficacy. Qualitative and mixed designs were the least common study designs.
Figure 4. Distribution of the studies on reading motivation, reading attitude, and reading self-efficacy distributed by sample size

The distribution of the studies by sample sizes is presented in Figure 4, wherein 28 (26.66%), 16 (15.23%), 26 (24.76%), 25 (23.80%) of 105 studies examining the motivation and reading skill together consisted of 1–100, 100–200, 200–400, and more than 400 people, respectively. Ten studies (10.47%) did not include the sample size. Of 86 studies examining the attitude and reading skill together, 19 (22.09%), 18 (20.93%), 20 (23.25%), and 27 (31.39%) had a sample consisting of 1–100, 100–200, 200–400, and more than 400 people, respectively. Two studies (2.32%) did not include the sample size. Finally, among the 40 studies examining self-efficacy and reading skill together, 19 (47.50%), 7 (17.50%), 11 (27.50%), and 3 (7.50%) had a sample consisting of 1–100, 100–200, 200–400, and more than 400 people, respectively.

Figure 5. Distribution of the studies on reading motivation, reading attitude, and reading self-efficacy by sample type

In figure 5, wherein 37 (35.23%), 27 (25.71%), 3 (2.85%), and 28 (26.66%) of 105 studies examining motivation and reading skills together were conducted with primary school, secondary school, high school students, and university students, respectively. Of 86 studies examining reading attitude and skills together, 26 (30.23%), 32 (37.20%), 5 (5.81%), and 19 (22.35%) studies were conducted with primary school, secondary school, high school students, and university students, respectively. Finally, for studies investigating self-efficacy and reading skills together, eight, seven, five, and twenty were conducted with primary school, secondary school, high school students, and university students, respectively. When the studies on the three factors were examined, it was observed that the number of studies on high school students was limited. A significant portion of the self-efficacy studies was conducted with university students.
In Figure 6; tests, and questionnaires were the data collection methods used most frequently (more than 80%) in the studies on reading motivation, reading attitude, and reading self-efficacy. Inventory, rubric, and observation were the least-used methods.

In Figure 7, correlation analyses and *t*-tests were the most used data analysis methods (50%) in the studies on reading motivation, reading attitude, and reading self-efficacy, while Structural Equation Model (SEM) and content analyses were among the least-used.

<table>
<thead>
<tr>
<th>Code</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To examine the impact of various practices on students’ reading motivations</td>
<td>31</td>
<td>29.52</td>
</tr>
<tr>
<td>To examine the relationship between reading motivation and reading comprehension</td>
<td>30</td>
<td>28.57</td>
</tr>
<tr>
<td>To examine the impact of reading on motivation as well as the impact of motivation on reading</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To determine students’ reading motivations

To examine the relationship between students’ reading motivations and various variables

To develop scales on reading motivation

To examine the impact of reading motivation and reading comprehension on academic success

To examine the relationship between reading motivation and reading comprehension based on literature review

Total

In Table 2, the most common purposes of the studies on reading motivation were “to review the impact of various procedures on students’ reading motivation” (29.52%), “to examine the relationship between reading motivation and reading comprehension” (28.57%), and “to investigate the impact of reading on motivation as well as the effect of motivation of reading” (10.47%). The least common purposes were “to examine the relationship between reading motivation and reading comprehension based on the literature review” (1.90%) and “to reveal the impact of reading motivation and reading comprehension on academic success” (3.80%).

Table 3. Distribution of studies on reading attitude by their purpose

<table>
<thead>
<tr>
<th>Code</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To examine the relationship between reading motivation and reading comprehension</td>
<td>25</td>
<td>29.06</td>
</tr>
<tr>
<td>To determine students’ reading attitudes</td>
<td>20</td>
<td>23.25</td>
</tr>
<tr>
<td>To examine the relationship between students’ reading attitudes and various variables</td>
<td>17</td>
<td>19.76</td>
</tr>
</tbody>
</table>
To examine the impact of various practices on students’ reading attitudes 15 17.44

To develop a reading attitude scale 4 4.65

To examine students’ reading attitude on reading success 3 3.48

To determine the differences experienced in students’ reading attitudes 2 2.32

Total 86 100

In Table 3, the most common purposes of the studies on reading attitude were “to examine the relationship between reading attitude and reading comprehension” (29.06%), “to determine students’ reading attitudes” (23.25%), and “to review the relationship between students’ reading attitudes and various variables” (19.76%), while the least common were “to determine the differences experienced in students’ reading attitudes” (2.32%) and “to examine the impact of students’ attitudes on reading success” (3.48%).

Table 4. Distribution of studies on reading self-efficacy by their purpose

<table>
<thead>
<tr>
<th>Code</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To examine the relationship between reading motivation and reading comprehension</td>
<td>25</td>
<td>29.06</td>
</tr>
<tr>
<td>To determine students’ reading attitudes</td>
<td>20</td>
<td>23.25</td>
</tr>
<tr>
<td>To examine the relationship between students’ reading attitudes and various variables</td>
<td>17</td>
<td>19.76</td>
</tr>
<tr>
<td>To examine the impact of various practices on students’ reading attitudes</td>
<td>15</td>
<td>17.44</td>
</tr>
<tr>
<td>To develop a reading attitude scale</td>
<td>4</td>
<td>4.65</td>
</tr>
<tr>
<td>To examine students’ reading attitude on reading success</td>
<td>3</td>
<td>3.48</td>
</tr>
</tbody>
</table>
To determine the differences experienced in students’ reading attitudes

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>2.32</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>86</td>
<td>100</td>
</tr>
</tbody>
</table>

According to Table 4, the most common purposes of the studies on reading self-efficacy were “to review the relationship between reading skills and reading self-efficacy” (51.21%) and “to examine the impact of various procedures on students’ reading self-efficacy” (31.70%). The least common purposes were “to examine the relationship between reading attitude, motivation, strategy use, socioeconomic variables and self-efficacy” (14.63%) and “to investigate reading self-efficacy based on the literature” (2.43%).

Table 5. The weight, impact sizes, and general impact levels of studies examining the relationship between motivation and reading comprehension (Fisher Z)

<table>
<thead>
<tr>
<th>Study</th>
<th>Impact Size</th>
<th>Lower Limit</th>
<th>Upper Limit</th>
<th>Z</th>
<th>p</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kızgın and Baştuğ, 2020</td>
<td>0.180</td>
<td>0.110</td>
<td>0.248</td>
<td>5.000</td>
<td>0.000</td>
<td>6.04</td>
</tr>
<tr>
<td>Yamaç and Çeliktürk Sezgin 2018</td>
<td>0.330</td>
<td>0.166</td>
<td>0.476</td>
<td>3.833</td>
<td>0.000</td>
<td>1.00</td>
</tr>
<tr>
<td>Yamaç and Çeliktürk Sezgin, 2018</td>
<td>0.340</td>
<td>0.177</td>
<td>0.485</td>
<td>3.959</td>
<td>0.000</td>
<td>1.00</td>
</tr>
<tr>
<td>Taboada et. al, 2009</td>
<td>0.380</td>
<td>0.256</td>
<td>0.491</td>
<td>5.686</td>
<td>0.000</td>
<td>1.62</td>
</tr>
<tr>
<td>Murtafi’ah and Putro, 2018</td>
<td>0.570</td>
<td>0.491</td>
<td>0.640</td>
<td>11.511</td>
<td>0.000</td>
<td>2.53</td>
</tr>
<tr>
<td>Bates et. al, 2016</td>
<td>0.150</td>
<td>0.105</td>
<td>0.195</td>
<td>6.418</td>
<td>0.000</td>
<td>14.42</td>
</tr>
<tr>
<td>Guthrie et. al, 2007</td>
<td>0.400</td>
<td>0.053</td>
<td>0.661</td>
<td>2.242</td>
<td>0.000</td>
<td>0.22</td>
</tr>
<tr>
<td>Hebbecker et al., 2019</td>
<td>0.240</td>
<td>0.180</td>
<td>0.299</td>
<td>7.596</td>
<td>0.000</td>
<td>7.70</td>
</tr>
<tr>
<td>Hebbecker et al., 2019</td>
<td>0.270</td>
<td>0.211</td>
<td>0.327</td>
<td>8.592</td>
<td>0.000</td>
<td>7.70</td>
</tr>
<tr>
<td>Hebbecker at al., 2019</td>
<td>0.380</td>
<td>0.325</td>
<td>0.433</td>
<td>12.415</td>
<td>0.000</td>
<td>7.70</td>
</tr>
<tr>
<td>Study</td>
<td>CO2</td>
<td>CO</td>
<td>O2</td>
<td>TSI</td>
<td>p-value</td>
<td>CO2</td>
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<tr>
<td>-------------------------------</td>
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<td>------</td>
<td>-------</td>
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</tr>
<tr>
<td>Hebbecker et al., 2019</td>
<td>0.130</td>
<td>0.067</td>
<td>0.192</td>
<td>4.057</td>
<td>0.000</td>
<td>7.70</td>
</tr>
<tr>
<td>Hebbecker et al., 2019</td>
<td>0.110</td>
<td>0.047</td>
<td>0.172</td>
<td>3.427</td>
<td>0.001</td>
<td>7.70</td>
</tr>
<tr>
<td>Cox and Guthrie, 2001</td>
<td>0.430</td>
<td>0.323</td>
<td>0.526</td>
<td>7.242</td>
<td>0.000</td>
<td>1.98</td>
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<td>Cox and Guthrie, 2001</td>
<td>0.390</td>
<td>0.280</td>
<td>0.490</td>
<td>6.485</td>
<td>0.000</td>
<td>1.98</td>
</tr>
<tr>
<td>Cartwright et al., 2015</td>
<td>0.410</td>
<td>0.190</td>
<td>0.591</td>
<td>3.512</td>
<td>0.001</td>
<td>0.52</td>
</tr>
<tr>
<td>Lau and Chan, 2003</td>
<td>0.340</td>
<td>0.195</td>
<td>0.471</td>
<td>4.423</td>
<td>0.000</td>
<td>1.25</td>
</tr>
<tr>
<td>Lau and Chan, 2003</td>
<td>0.200</td>
<td>0.046</td>
<td>0.345</td>
<td>2.532</td>
<td>0.012</td>
<td>1.25</td>
</tr>
<tr>
<td>Dhanapala and Hirakawa, 2015</td>
<td>0.860</td>
<td>0.832</td>
<td>0.883</td>
<td>25.964</td>
<td>0.000</td>
<td>3.22</td>
</tr>
<tr>
<td>Dhanapala and Hirakawa, 2015</td>
<td>0.730</td>
<td>0.681</td>
<td>0.772</td>
<td>18.644</td>
<td>0.000</td>
<td>3.22</td>
</tr>
<tr>
<td>Logan and Medford, 2011</td>
<td>0.160</td>
<td>0.073</td>
<td>0.245</td>
<td>3.569</td>
<td>0.000</td>
<td>3.91</td>
</tr>
<tr>
<td>Logan and Medford, 2011</td>
<td>0.300</td>
<td>0.068</td>
<td>0.501</td>
<td>2.515</td>
<td>0.015</td>
<td>0.53</td>
</tr>
<tr>
<td>Huang, 2013</td>
<td>0.180</td>
<td>0.056</td>
<td>0.298</td>
<td>2.843</td>
<td>0.005</td>
<td>1.95</td>
</tr>
<tr>
<td>Huang, 2013</td>
<td>0.160</td>
<td>0.036</td>
<td>0.279</td>
<td>2.521</td>
<td>0.012</td>
<td>1.95</td>
</tr>
<tr>
<td>Türkben, 2020</td>
<td>0.780</td>
<td>0.730</td>
<td>0.822</td>
<td>17.586</td>
<td>0.000</td>
<td>2.26</td>
</tr>
<tr>
<td>Wang et. al, 2020</td>
<td>0.200</td>
<td>0.116</td>
<td>0.281</td>
<td>4.619</td>
<td>0.000</td>
<td>4.15</td>
</tr>
<tr>
<td>Kuşdemir and Bulut, 2018</td>
<td>0.350</td>
<td>0.181</td>
<td>0.499</td>
<td>3.936</td>
<td>0.000</td>
<td>0.93</td>
</tr>
</tbody>
</table>
According to Table 5, the impact level of the relationship between reading motivation and reading comprehension was 0.359 based on the random impacts model, with the lower limit being 0.263 and upper limit being 0.449 at a 95% confidence interval. These values are statistically significant (Z=6.882, \( p=0.000 \)).

Table 6. The weight, impact sizes, and general impact levels of studies examining the relationship between self-efficacy and reading comprehension (Fisher z)

<table>
<thead>
<tr>
<th>Study</th>
<th>Impact Size</th>
<th>Lower Limit</th>
<th>Upper Limit</th>
<th>Z</th>
<th>( p )</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sani and Zain, 2011</td>
<td>0.290</td>
<td>0.158</td>
<td>0.412</td>
<td>4.191</td>
<td>0.000</td>
<td>6.96</td>
</tr>
<tr>
<td>Fitri et. al, 2019</td>
<td>0.320</td>
<td>0.209</td>
<td>0.423</td>
<td>5.450</td>
<td>0.000</td>
<td>7.06</td>
</tr>
<tr>
<td>Naseri and Ghabanchi, 2014</td>
<td>0.840</td>
<td>0.761</td>
<td>0.894</td>
<td>10.785</td>
<td>0.000</td>
<td>6.45</td>
</tr>
<tr>
<td>Bağcı and Ünveren, 2020</td>
<td>0.810</td>
<td>0.772</td>
<td>0.842</td>
<td>21.883</td>
<td>0.000</td>
<td>7.14</td>
</tr>
<tr>
<td>Study</td>
<td>Self-efficacy</td>
<td>Reading Comprehension</td>
<td>Relationship Level</td>
<td>p-value</td>
<td>Confidence Interval</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------</td>
<td>-----------------------</td>
<td>--------------------</td>
<td>---------</td>
<td>---------------------</td>
<td></td>
</tr>
<tr>
<td>Tobing, 2013</td>
<td>0.440</td>
<td>0.295</td>
<td>0.566</td>
<td>5.487</td>
<td>0.000</td>
<td>6.80</td>
</tr>
<tr>
<td>Yoğurtçu, 2012</td>
<td>0.480</td>
<td>0.413</td>
<td>0.542</td>
<td>12.298</td>
<td>0.000</td>
<td>7.20</td>
</tr>
<tr>
<td>Naseri and Zaferanieh, 2012</td>
<td>0.620</td>
<td>0.463</td>
<td>0.739</td>
<td>6.362</td>
<td>0.000</td>
<td>6.44</td>
</tr>
<tr>
<td>Habibian and Roslan, 2014</td>
<td>0.620</td>
<td>0.441</td>
<td>0.751</td>
<td>5.662</td>
<td>0.000</td>
<td>6.24</td>
</tr>
<tr>
<td>Piran, 2014</td>
<td>0.650</td>
<td>0.514</td>
<td>0.754</td>
<td>7.314</td>
<td>0.000</td>
<td>6.55</td>
</tr>
<tr>
<td>Salehi and Khalaji, 2014</td>
<td>0.450</td>
<td>0.190</td>
<td>0.651</td>
<td>3.251</td>
<td>0.003</td>
<td>5.92</td>
</tr>
<tr>
<td>Tabrizi and Jafari, 2015</td>
<td>0.550</td>
<td>0.466</td>
<td>0.624</td>
<td>10.657</td>
<td>0.000</td>
<td>7.08</td>
</tr>
<tr>
<td>Mills et al., 2006</td>
<td>0.290</td>
<td>0.094</td>
<td>0.464</td>
<td>2.864</td>
<td>0.005</td>
<td>6.57</td>
</tr>
<tr>
<td>Ghonsooly and Elahi, 2010</td>
<td>0.760</td>
<td>0.683</td>
<td>0.820</td>
<td>12.078</td>
<td>0.000</td>
<td>6.84</td>
</tr>
<tr>
<td>Solheim, 2011</td>
<td>0.290</td>
<td>0.163</td>
<td>0.407</td>
<td>4.368</td>
<td>0.000</td>
<td>6.99</td>
</tr>
<tr>
<td>Wilson and Kim, 2016</td>
<td>0.350</td>
<td>0.052</td>
<td>0.591</td>
<td>2.282</td>
<td>0.029</td>
<td>5.75</td>
</tr>
<tr>
<td>Fixed effects model</td>
<td>0.549</td>
<td>0.522</td>
<td>0.575</td>
<td>31.888</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Random effects model</td>
<td>0.550</td>
<td>0.427</td>
<td>0.653</td>
<td>7.483</td>
<td>0.000</td>
<td></td>
</tr>
</tbody>
</table>

The impact level of the relationship between self-efficacy and reading comprehension was 0.550 based on the random impacts model, with the lower limit being 0.427 and upper limit being 0.653 at a 95% confidence interval. These values are statistically significant (Z=7.483, p=0.000).
5. Conclusion and Discussion

Of the studies investigating the relationship between affective factors and reading comprehension, approximately 85% were articles and 15% were theses. A significant portion of these studies employed quantitative research methods (85%), and studies with qualitative (4%) and mixed (10%) designs were limited. That the quantitative method yields objective results and is convenient may have led researchers to use this study design. The literature indicates that the quantitative method was used more in educational science studies conducted in Turkey (Saban et al., 2010). However, mixed methods studies allow one to answer research questions comprehensively, to compensate for the weaknesses of one method with another, and to generate more precise and complete details regarding the theories and practices (Baki & Gokçek, 2012). Given this, the number of studies performed with mixed methods should be increased. However, this method is used less since it is challenging for the researchers to deal with both qualitative and quantitative research methods. Using mixed methods becomes difficult when both methods are employed simultaneously since costs increase and this method requires collection and analysis of both qualitative and quantitative data (Fırat, Kabakçı Yurdakul & Ersoy, 2014).

Certain limitations are observed when studies are examined based on sample size and sample type. While studies with both small and large sample sizes were conducted on reading motivation and reading attitude, few studies on reading self-efficacy had large samples (7.50%). A literature review showed studies focused on determining how much reading comprehension skill was affected by motivation and attitude variables, while self-efficacy was neglected. When the distribution by sample type was assessed, studies with samples consisting of high school students were insufficient. For data collection tools, scales, tests, and questionnaires were used the most (80%), while rubrics, interviews, and observation were among the least-used. Quantitative research methods were preferred in the studies, and mixed and qualitative research methods were neglected. This is evidenced by scales, tests, and questionnaires being the most used data collection tools and qualitative and mixed methods—such as interviews, observation, and rubrics—being the least used tools. Scales, tests, and questionnaires are frequently used since they are convenient and allow quick data collection and assessment. When the studies were reviewed based on their purposes, most (30%) examined the relationship between two variables and the impact of various practices on affective factors (30%). Given that examining the relationship between two variables requires less effort and can be performed in a shorter period (Akaydın & Çeçen, 2015), researchers focus on such studies. Depending on the study design and purpose, correlations were used in relational studies while t-tests were used in experimental studies. Intensive use of quantitative research methods results in the use of quantitative data analysis methods. Similarly, qualitative studies should be conducted more for further use of qualitative analysis methods.

The general impact sizes of the relationship between affective factors and reading comprehension success were calculated through a meta-analysis. The relationship between reading motivation and reading comprehension was examined through 32 datasets from 19 studies, and the resultant level of the relationship between the two variables was low. Although many studies indicate that motivation has a significant impact on reading success (Dhanapala & Hirakawa, 2015; Cartwright et al., 2015), only a minor relationship was found in the present study. The different impact exerted by internal and external motivation on reading success is believed to have affected this result. A reader with internal reading motivation both enjoys reading and considers it rewarding. Externally motivated readers read to achieve targets beyond the actual reading process, such as being praised by others or rewarded. Although there is a positive relationship between internal reading motivation and the amount read, the relationship between external reading motivation and the amount read is weak (Schiefele, Stutz &
Schaffner, 2016). The relationship between internal reading motivation and the adoption of reading was consistently positive, whereas external reading motivation had negative or insignificant relationships with reading comprehension (Becker et al., 2010). The negative impact of external motivation on reading success reduces the effect of motivation on the reading skill (Becker et al., 2010). Some studies included in the meta-analysis indicate whether the motivation is internal or external, but most did not make such a distinction. Separate assessments of internal and external motivation will help determine how effective these variables will be in reading comprehension success. Studies examining reading motivation did not separate internal and external motivation, thus this study was also unable to evaluate these constructs separately. Assessments regarding external motivation in the literature indicate that external motivation causes lower reading success, which reveals the minor relationship between motivation and reading.

Similarly, the relationship between reading self-efficacy and reading comprehension was assessed with 15 datasets from 15 studies. A moderate relationship was found between the two variables. Unrau et al. (2018) conducted a meta-analysis study to determine at what level experimental studies affect the relationship between self-efficacy and reading comprehension skill, concluding that there is a moderate relationship between the two variables. This is in line with other relevant studies in the literature. According to Bandura (1986), the perception of self-efficacy aid the individual in determining how they think, feel, and act. Doubt toward self-efficacy feeds hesitation, defeat, and failure. As such, students with high self-efficacy are likely more ready to be occupied for a longer time, show more interest, to be more successful than students who question their learning skills (Bandura, 1977).

5.1 Recommendations

Studies examining the relationship between affective factors and reading success made limited use of qualitative and mixed methods. Conducting future studies with mixed methods may be effective in obtaining comprehensive data.

More comprehensive studies simultaneously examining affective factors and reading success are required. Significantly, comprehensive studies conducted with high school students are currently lacking in the literature.

Self-efficacy, an affective factor, being a relatively new topic in academic studies resulted in fewer studies being conducted in this field. Conducting more extensive studies on the impact of self-efficacy on reading success is believed to make significant contributions to the literature.

5.2 Ethical Text

"In this article, the journal writing rules, publication principles, research and publication ethics, and journal ethical rules were followed. Responsibility for any violations that may arise regarding the article belong to the authors." Within the scope of the research, ethics committee approval was obtained from the ethics committee of Necmettin Erbakan University with the decision dated 16.04.2021 and numbered 2021/218. There is no conflict of interest between the authors. The contribution rate of the first author to the article is 50%, and the contribution rate of the second author to the article is 50%.
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