A Study of the Correlations among Reading Frequency, Participation in Reading Environments and Reading Attitude*

By

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Abstract

The present study was designed to measure the extent to which the reading frequencies of the mother, father and child could affect the child’s participation in reading environments. The indicators of participation in reading environments were acknowledged to be academic and recreational reading attitudes. A total of 550 eighth graders participated in the study. Whereas their academic and recreational reading attitudes were measured through the Survey of Adolescent Reading Attitudes (SARA), their reading frequencies were revealed via the reading frequency form. The data were analyzed through Multiple Indicators Multiple Causes (MIMIC) approach on the basis of structural equation modeling. The conceptual model established in accordance with the purpose of the study was subject to a test, which indicated that the model had decent goodness of fit values. All the path coefficients for the model were significant (p<0.05). The findings suggested that parental reading frequency had a positive impact on the child’s participation in reading environments, and willingness to participate in reading environments was significantly correlated with the child’s academic and recreational reading attitudes.

Keywords: Reading frequency, reading attitude, participation in reading environments.

1. Introduction

Reading is a skill that can be learned and improved by means of practice. Once they have learned how to read, children need to get involved in a constant process of reading so that they can improve on the skill. The support provided by teachers, parents and peers is of great importance for the process (Akyol, 2012). That is because it helps children to have self-confidence in reading. Furthermore, the quality of their reading gets deteriorated if such activities are not carried out properly and sufficiently. To avoid this and to improve their acquired reading skill, they need to get involved in frequent and extensive reading. According to Stanovich (1986), this theoretical condition is the Matthew effect on reading. The effect refers to the fact that an increase in the quantity of reading leads to a corresponding improvement in reading and cognitive skills. On the other hand, a decrease in the quantity of reading results in a reading process marked by increasing deterioration and decay in terms of quality and quantity. Seeing that the quantity and frequency of reading are of great importance, they have been discussed in a number of different ways. In other words, research has been conducted on the effect of the quantity of reading on reading achievement (Yap, 1977), on reading attitude (Stokmans, 1999), on reading motivation (De Naeghel, Van Keer, Vansteenkiste, & Rosseel, 2012), on reading advancement (Anderson, Wilson, & Fielding, 1988), and on language development and early literacy skills (Bus, van IJzendoorn, & Pellegrini, 1995). In studies on the correlation between the reading attitude and quantity of reading, the former is taken as ‘general reading attitude’ (Stokmans, 1999). In recent years, however, the focus has not been on a general reading attitude but on different sub-dimensions (recreational reading, academic reading, digital reading, print reading, general reading and so forth (McKenna, Conradi, Lawrence, Jang, & Meyer, 2012; Ozbay & Uyar, 2009). This means that it is now necessary to discuss differentiated reading attitudes separately. For instance, it is difficult to say that academic reading and recreational reading attitudes are two identical components (McKenna et al., 2012). At this point, it is essential to

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know whether different reading attitudes can be used as indicators of participation in reading environments. All things considered, it is evident that a closer look is needed for the correlations between the reading attitude and other variables. The reason for this is that children’s reading attitudes are a factor in their school performance (Keskin, 2013).

Attitude is a learned product of a cognitive process and has an influence on behaviors (Ajzen, 2005; Hogg & Vaughan, 2011). Most human attitudes arise from a direct interaction with the attitude object. Positive or negative experiences with the attitude object determine the type of the attitude one has towards that object (Hogg & Vaughan, 2011: 197). On the other hand, Zajonc (1968) points to ‘the exposure effect’, maintaining that attitudes are formed as a result of many times of exposure to the attitude object (as cited in Hogg & Vaughan, 2011). When the reading frequency is considered as exposure to reading, the argument seems to suggest that the reading frequency is a factor in reading attitude. Even so, Hogg and Vaughan (2011) argue that one should have positive experiences in order for this interaction through exposure to bring about positive attitudes. Reading is no exception in this respect. According to McKenna, Kear and Ellsworth (1995), the reading attitude is shaped by previous reading experiences and by one’s perceptions of and beliefs about the outcome that is derived from reading. As for family environment, it is an important variable in the process by which reading experiences affect attitudes. That is because children regard their parents as a source of learning that involves a number of learning types (Hogg & Vaughan, 2011: 200). A study by Rena, Abedalaziz and Leng (2013) demonstrated a correlation even between authoritative parental attitudes and the child’s reading in his/her free time. Considering this, it is quite important to reveal the effect of parents on children’s acquisition of anything that involves reading.

Parents’ doing literacy practice with their children has a considerable effect on their children’s development of an attitude to reading and writing (Hume, Lonigan, & McQueen, 2012). According to DeBaryshe (1995), parents are role models for their children; thus, they should get involved in such activities as literacy practice and library visits so that their children can develop a positive attitude to reading. Gunes (2013) recommends that reading activities at home should be planned collaboratively by parents and children; in this way, children can experience the entertaining aspect of reading. In addition, having a reading attitude has an influence on one’s reading motivation. Thus, it can be argued that the frequency and quantity of reading has an indirect effect on the reading motivation through the reading attitude. In their study, Schaffner, Schiefele and Ulferts (2013) discovered that the quantity of reading serves as full mediator for the reading motivation, which suggests that those students who are involved in more extensive reading are more likely to have positive reading attitudes. This is also the case for recreational reading. In fact, McKenna et al. (1995) draw attention to the importance of reading experiences for the process by which recreational reading attitudes are developed. Similarly, Hong Ng, Chai and Yee (2010) conducted a study on a Facebook-assisted reading curriculum. Although the participants in the control group did not experience a change, those in the experimental group had significant improvements in their recreational reading attitudes.

It is possible to classify reading attitudes into two main components, namely academic reading and recreational reading (McKenna et al., 2012). Studying the correlation between non-academic free reading activities and the general reading attitude, Stokmans (1999) reported that the reading attitude had a positive influence on the reading behavior. In their study, Cloer and Pearman (1992) asserted that male students’ negative reading attitudes to academic and recreational reading were associated with their low reading achievement. In addition, it has been observed that there are strong correlations between different reading attitudes. Bastug and Keskin (2013) carried out a study on the adaptation of a scale and found a considerably strong correlation between academic reading and recreational reading. The finding is important in that it demonstrates the connection between different reading attitudes.

Children’s literacy skills are heavily influenced by their participation in literacy activities, or in an environment rich in literacy activities, and by their involvement in particular activities during the
Hasan Kagan Keskin and Muhammet Bastug

preschool period (Levitt & Red Owl, 2013). Therefore, reading activities at home enable children to spend more time in reading environments. Even so, it is less clear how the frequency of the reading activities undertaken by parents or children themselves affects children’s willingness to participate in such environments. This is the reason why children’s willingness to participate in reading environments was accepted as the latent variable in the model established in the present study. The model was established in reference to the theory by Joreskog and Goldberger (1975).

Knowing the factors in students’ participation in reading environments provides invaluable data for both parents and teachers. The idea is to use the extents to which children have academic and recreational reading attitudes as an indicator on the basis of the interplay between attitudes and behaviors. That is because a positive reading attitude has a direct influence on one’s reading performance (Hong Ng et al., 2010). Therefore, the present study acknowledged academic and recreational reading attitudes as indicators of children’s participation in reading environments and was designed to determine the extent to which the reading frequencies of the mother, father and child could affect participation in reading environments.

2. Methodology

The present study was designed as a quantitative one and based on the correlative survey model. Structural Equation Modeling (SEM) is often used in correlative survey models to reveal explanatory and predictive correlations between observable and latent variables. The present study was based on the MIMIC approach, a particular type of SEM, for there were variables of different types and nature (Joreskog & Goldberger, 1975).

Participants
The study contained a total of 550 eighth graders, 261 of them being female and the remaining 289 being male, from the city center of Konya, Turkey. There is a lack of consensus on the size of sample in studies of structural equation modeling. According to Hair, Anderson, Tatham and Black (1998), each parameter in a scale should be answered by at least 10 people in order for data to be distributed normally (p. 604). According to Bentler and Chou (1987), however, the proportion ‘5:1’ should be ensured for free parameters. The sample size in the present study meets both of the criteria.

Data Collection
The data for the study were collected through two different measurement tools. The first one was the reading frequency form, which was intended to measure the reading frequencies of students and parents. The form had categorical values. The second one was the Survey of Adolescent Reading Attitudes (SARA), which was developed by McKenna, Conradi, Lawrence, Jang and Meyer (2012) and adapted to Turkish by Bastug and Keskin (2013). The Turkish version of the form had 15 items and four dimensions. The dimensions were as follows: recreational reading in digital settings (RD), recreational reading in print settings (RP), academic reading in print settings (AP), and academic reading in digital settings (AD). As for the present study, only the items that measured AP and RP attitudes were used. The Cronbach’s alpha coefficients were as follows: 0.691 for the whole scale, 0.802 for RD, 0.690 for RP, 0.660 for AP and 0.623 for AD. The two dimensions to be used for the present study, AD and RD, were subject to another analysis of reliability, which yielded the following findings: α=0.71 for academic reading attitude (AP) and α=0.72 for recreational reading attitude (RP). The items in both dimensions had a reliability coefficient of α=0.83 as a whole.

Data Analysis
After the data were computerized, they were subject to an analysis through the MIMIC (Multiple Indicators and Multiple Causes) approach. Involving multiple causes of and multiple indicators of the latent variable and including both observable and latent variables, the MIMIC approach is a specific type of structural equation modeling that is used for making predictions on the latent variable (Baldemir,
A Study of the Correlations among Reading Frequency, Participation in Reading Environments and Reading Attitude

Ozkoc, & Isci, 2009; Joreskog & Goldberger, 1975; Schumacker & Lomax, 2004; Urbán & Demetrovics, 2010). Especially used for making predictions in studies on economics (Baldemir et al., 2009; Breusch, 2005), the approach is also employed for studies in the field of health (Urbán & Demetrovics, 2010) and education (Lin, Lawrence & Gorrell, 2003). In addition, LISREL was used for testing how well the model fit (Joreskog & Sorbom, 2006). The conceptual structure for the model is presented in Figure 1.

![Figure 1. The Conceptual MIMIC Model](image)

The conceptual MIMIC model identifies “the reading frequency of students (OGSK)”, “the reading frequency of the father (BABASK)” and “the reading frequency of the mother (ANASK)” as the causes of the latent variable “participation in reading environments (OKORTKTL)”, and the observable variables “academic reading (AP)” and “recreational reading (RP)” as the indicators of attitude.

3. Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>ANASK</th>
<th>BABASK</th>
<th>OGSK</th>
<th>AP</th>
<th>RP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANSK</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BABASK</td>
<td>.456**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OGSK</td>
<td>.366**</td>
<td>.420**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AP</td>
<td>.264**</td>
<td>.304**</td>
<td>.344**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>RP</td>
<td>.382**</td>
<td>.377**</td>
<td>.629**</td>
<td>.532**</td>
<td>1</td>
</tr>
<tr>
<td>X</td>
<td>2.70</td>
<td>2.641</td>
<td>2.980</td>
<td>4.460</td>
<td>4.54</td>
</tr>
<tr>
<td>SS</td>
<td>.821</td>
<td>.883</td>
<td>.707</td>
<td>1.062</td>
<td>1.215</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-.452</td>
<td>-.316</td>
<td>-.529</td>
<td>-.829</td>
<td>-.907</td>
</tr>
<tr>
<td>Skewness</td>
<td>-.218</td>
<td>-.582</td>
<td>.528</td>
<td>.630</td>
<td>.277</td>
</tr>
</tbody>
</table>

** Correlations are significant at the level of 0.01.

Note: OGSK= the reading frequency of the student, BABASK= the reading frequency of the father, ANASK= the reading frequency of the mother, (AP)= academic reading, (RP)= recreational reading.

Table 1 presents the descriptive values for the observable variables in the model. There were positive and significant correlations between the variables. In addition, the kurtosis and skewness values satisfied the normality assumptions (-1.96 to +1.96). Seeing that the data were suitable for analysis, the MIMIC Model was subject to an analysis. The results are presented in Figure 2.
Figure 2. Reading Frequency, Participation in Reading Environments and Reading Attitude

The Chi-Square value for the model was $\chi^2=3.24$, df=2, $p=0.198$ and $p$ was significant ($p>0.05$). This is called badness of fit index in structural equation modeling, and what is desirable, in contrast to traditional tests of significance, is an insignificant $p$ value (Cokluk, Sekercioglu, & Buyukozturk, 2012:267; Kline, 2011). In other words, the $p$ value suggested a perfect fit between the data and the model. Similarly, the Normed Chi-Square ($\chi^2/sd$), another value for the model, suggested that the model had good fit ($\chi^2/sd=1.62$). In fact, a Normed Chi-Square value of two or less represents good fit whereas a value of five or less stands for an acceptable fit (Simsek, 2007). Since these indicators were not enough on their own to assess the model, other goodness of fit indicators (AGFI, GFI, CFI, NFI, SRMR and RMSEA) had to be considered, too. The model had a RMSEA value of 0.034. It is accepted that a RMSEA value lower than 0.05 stands for perfect fit (Joreskog & Sorbom, 1996). The other values for the model were as follows: CFI=1.00, GFI=1.00, NFI=1.00 and AGFI=0.98. The extent to which the indicators met the criteria could be expressed in the following way: CFI$\geq$0.97, GFI$\geq$0.95, NFI$\geq$0.95 and AGFI$\geq$0.95. In other words, it the CFI, GFI, NFI and AGFI values for the model represented perfect fit. Another indicator, the SRMR value for the model was 0.0008. A SRMR value lower than 0.05 signals perfect fit (Brown, 2006; Cokluk et al., 2012; Hooper, Coughlan, & Mullen, 2008; Hu & Bentler, 1999; Joreskog & Sorbom, 1996; Kline, 2011; Tabachnick & Fidell, 2001). As for the coefficients of the model, 42% of the variance concerning participation in reading environments was accounted for by the reading frequencies of the child, father and mother. The path coefficient between participation in reading environments and academic reading attitudes was .64 whereas the between participation in reading environments and recreational reading attitudes was .71. All the path coefficients of the model had a significant $t$ value.

4. Discussion and Conclusion

The present study acknowledged academic and recreational reading attitudes as indicators of children’s participation in reading environments and was aimed to determine the extent to which the reading frequencies of the mother, father and child could affect participation in reading environments. A total of 550 eighth graders participated in the study. The findings suggest that participation in reading environments is mostly affected by the reading frequency of the child himself/herself. The reading frequency is also an indicator of reading habits. Schiefele, Schaffner, Moller and Wigfield (2012) maintain that reading motivation acquired through habit formation is effective in students’ willingness to read. Furthermore, the frequency of literacy activities provides one with information as to children’s reading motivation. Besides, the finding supports the idea that direct experiences have a strong effect on
behavior prediction (Hogg & Vaughan, 2011). In order to do so, however, such experiences should make a positive impression on individuals.

The reading frequencies of both the father and the mother have less influence on participation in reading environments when compared to that of the child. This can be attributed to the fact that the reading frequency of parents can only indirectly predict the child’s behavior. Attaching importance to reading activities carried out collectively by parents and children, Anbar (1986) notes that such activities increase the willingness of both parties to get involved in similar activities thanks to the process of interaction. Similarly, Hume et al. (2012) report that parents’ exposing their children to literacy activities leads the latter to have more interest in literacy practice. This is consistent with the finding of the model in the present study that the reading frequency of parents has an influence on children’s participation in reading environments. Therefore, it can be argued that parental reading at home is imitated by children and increases their willingness to get involved in reading environments. The argument seems to support DeBaryshe’s (1995) idea that parents serve as role models for their children as far as reading is concerned.

Furthermore, there was a positive and significant correlation between students’ participation in reading environments, the latent variable, and the two different reading attitudes as indicators of this latent variable. A closer analysis of the findings suggested a higher correlation between the latent variable and recreational reading attitude than between the latent variable and academic reading attitude. The finding can be explained by the fact that the reading frequencies expressed in the study model were measured through recreational reading materials. The finding also confirms the idea that the reading attitude is comprised of different components (Ozbay and Uyar, 2009; McKenna et al., 2012). In other words, a difference in the purpose of reading and environment leads to a corresponding differentiation in reading attitudes. Therefore, it is not surprising that materials designed for a particular reading purpose (academic, recreational and so forth) will have a stronger influence on the corresponding reading attitude (academic, recreational and so forth). However, it is hard to say that this limitation is so clear-cut. That is because different reading attitudes are also correlated with one another (Bastug & Keskin, 2013; McKenna et al., 2012; Ozbay & Uyar, 2009). In the present study, accordingly, there was a significant correlation between willingness to participate in reading environments and academic reading attitude. Willingness to participate in reading environments was assessed in the present study, as stated above, on the basis of the reading frequency for recreational texts. Thus, it is not surprising that the coefficient for the correlation between academic reading attitude and the latent variable was lower when compared to the one for the correlation between recreational reading attitudes and the latent variable. That is because it is only natural that individuals with academic reading attitudes opt for academic texts whereas those with recreational reading attitudes favor recreational texts.

The positive effect of reading activities with texts designed for a different purpose on academic reading attitude can be explained by the term "endurance in reading". In fact, Kostewicz and Kubina (2010) compare the process of acquiring endurance in reading to preparation for a particular sports activity. In other words, endurance in something involves extensive exercising. At this point, it can be asserted that reading performance on different materials facilitates students’ academic reading. Even so, recreational reading does not always promote academic reading. For instance, McNinch (1997) administered a program entitled “Earning by Learning” to a group of students. The author observed positive changes in their recreational reading attitude but not a notable one in their academic reading attitude. This makes it clear that endurance in reading is a factor that should be dealt with and considered more.

Accordingly, it can be recommended that further studies could attempt to reveal the effect of recreational reading materials on recreational reading attitude or the effect of academic reading materials on academic reading attitude. In addition, further researchers could investigate whether the effect of reading frequency on willingness to participate in reading environments is a motivational process brought about by force of habit.
The present study had two main limitations. First, the reading frequency was the only component of the latent variable in the study, and indicators of the latent variable were confined to academic and recreational reading attitudes. Therefore, it is necessary to consider other variables, too, such as motivational beliefs and reading frequency at school. The other limitation was that the reading frequency was confined to reading in print settings. However, it is known that most students are involved in a substantial amount of reading in digital settings, too (Gunes, 2010).

Serving as role models, parents are an important factor in children’s development of a reading attitude (DeBaryshe, 1995). Therefore, children can be enabled to develop a reading habit through frequent reading activities and positive experiences at home. On the other hand, children who enjoy participating in reading environments and doing related activities have not only academic but also recreational reading attitudes. In conclusion, it can be argued that parents’ organizing frequent reading activities at home encourage their children to participate in reading environments.

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