The Effects of Age, Gender, and Temperament Traits on School Adjustment for Preschool Children

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Abstract

The aim of this study is to examine the relation between age, gender and temperamental traits (approach-withdrawal, persistence, rhythmicity and reactivity) of 5-6 year old children and school adjustment. The sample of the study consists of 91 children selected by simple random sampling method among children attending preschool education classes at the city of Çorum in Turkey. Data of the study was collected by Teacher Rating Scale of School Adjustment developed by Ladd, Kochenderfer and Coleman (1996) and The Short Temperament Scale for Children developed by Prior, Sanson & Oberklaid (1989). Teachers of the children were asked to complete the Teacher Rating Scale of School Adjustment for each child in their classroom. Also, parents were asked to complete Short Temperament Scale for Children to determine the temperament traits of their child. Results of the study reveal that there are significant relations between age, temperamental traits and school adjustment among 5-6 year old children. However, gender has not been found to correlate directly with school adjustment.

Key words: School adjustment, Gender, Age, Transition to school, Child’s temperament.

INTRODUCTION

School is the most important developmental system in children’s life after the family (Bronfenbrenner & Morris, 2006). It is the first place where children participate in the outside world and social environment after they get out of the family environment in which they were born, grew up and used to feel safe (Akman, Baydemir & Akyol, 2011; Erkan, 2011). To start school is one of the most important milestones in children’s life (Bart, Hajami & Bar-Haim, 2007; Dockett & Perry, 1999). As children start school they are faced with many challenges (Dunlop, 2000). During this process, children should adjust to a new building and classroom environment; learn how to meet teacher expectations, meet and communicate with a new and different peer group as well as be accepted by this group (Fabian, 2000; Ladd, Herald & Kochel, 2006; Koomen et al., 2004; Margetts, 2003).

Any change in a child’s environment and people with which the child interacts results in new adjustment problems for that child. One of these adjustment problems is adjustment to school. Adjustment to schooling is a multidimensional concept related to not only school success but also social impact and social behaviors (Önder & Gülay, 2010). Pianta (1997) institutionalized adjustment to schooling as a concept which comprises academic and social skills and self-regulation skills. Within the first years of schooling, adjustment to school is associated with children’s attitudes
towards school (e.g., avoiding school or liking school) emotional experience (e.g., loneliness), participation in the learning environment and academic success (Ladd, 1996). Therefore, the problem of adjustment to school may result in other problems such as low academic success, behavioral problems and dropping out of school (Raju & Rahamtula, 2007).

There are many factors which affect children’s adjustment to school. Some of these factors are children’s characteristics (e.g. cognitive preparation, language skills and temperament traits); school environment (e.g. teacher-child relationship) and demographic factors such as gender, age, socio-economic status etc. (Birch & Ladd, 1997; McDermott, 1995; Rimm-Kaufman & Pianta, 2000). Temperament is a remarkable factor for adjustment to school. Thomas and colleagues (1963) are known as pioneers in the field of childhood temperament research. The temperament research with young children began in the New York Longitudinal Study. The New York Longitudinal Study identified that each child’s behavioural style depends on nine different temperament characteristics or traits, and three basic temperament types. The nine temperament traits that have been defined by the researchers are: activity, rhythmicity, approach/withdrawal, adaptability, intensity, mood, persistence, distractibility and sensory threshold (Thomas et al., 1963). Approach-withdrawal refers to the response to a new object or person. Adaptability, refers to the child either adjusts to changes in routines or plans easily or resists transitions. Quality of mood, refers to the amount of pleasant and cheerful behavior (positive mood), as contrasted with fussy, sad and unpleasant behavior (negative mood). Intensity of reaction refers to the energy level of a response whether positive or negative. Distractibility, the child is either easily distracted from what he is doing or shuts out external distractions and stays with the current activity. Persistence/attention span refers to the length of time a child’s continues in activities in the face of obstacles. Rhythmicity refers to the regularity of child’s sleep, wakefulness, eating, and elimination. Threshold of responsiveness refers to the child’s reaction to a range of external stimuli or environmental changes. Activity level refers to the child’s physical energy. Researchers have found that children can be categorized into three temperament groups based on these individual differences: easy, difficult, and slow-to-warm-up (Thomas, Chess, & Birch, 1968; Thomas & Chess, 1977).

The nine NYLS dimensions have also been widely used in research on childhood temperament. But, some consensus about a more limited set of factors to describe childhood temperament is also emerging. A large-scale study conducted with Australian children, the Australian Temperament Project (ATP), has identified four main dimensions of temperament. Four dimensions of temperament were measured: Approach/withdrawal, persistence, reactivity and rhythmicity using the teacher ratings form of the Short Temperament Scale for Children. The current study is based on the work of Australian Temperament Project (ATP), who identified four domains of temperament (Prior, Sanson, Smart, & Oberklaid, 2000).
Temperament has been found to be associated with children’s school adjustment. In their study conducted on the basis of teacher assessment, Carey, Fox, and McDevitt found a positive and significant relationship between temperaments and adjustment to school of children aged 5 to 7 years. In another study, Klein (1982) found that low adjustment to school in preschool period is associated with low persistence and withdrawal against new situations and people.

Gender was found to be a significant factor in school success and adjustment to school (Ramey et al., 1998). Wang et al. (2008) found that girls have higher levels of academic success and adjustment compared to boys. Age is another factor that can be effective in adjustment to school. Research showed that children’s behavioral problems decrease and their peer relationships, social skills and adjustment to school increase with increasing age (Campbell, 2006; Vandell et al., 2006).

In recent years, studies regarding school adjustment of preschool children have increased in Turkey. These studies investigated the relationship between children’s levels of a adjustment to school and peer relationships (Gülay, 2011a), levels of exposure to peer violence (Yoleri, 2014), and social skills (Gülay, 2011b). However, no studies are available among these studies that age, gender and temperament traits in children with regard to school adjustment. Thus, the main purpose of the present study was to examine the relation between school adjustment and the temperament traits in preschool children. In addition to some variables including age, and gender were to examine relations with the preschool childrens’ school adjustment. For this purpose, answers have been sought to the following questions: (1) What is the correlation between school adjustment, and age, gender and temperament traits? (2) How would the age, gender and temperament traits predict the school adjustment of preschoolers?

METHOD

Participants

A total of 91 children (51 males (%56) and 40 females (%44), M age= 5.3 years) and their teachers participated in this study. The sample group of the research consists of 5-6 year old 91 children attending the kindergarten classes of primary schools affiliated with the Ministry of National Education and located in the city centre of Çorum province. Participants were selected using random sampling. The sampling method was applied by drawing lots among the names of kindergartens in the city centre of Çorum, resulting in three schools being accepted for participation in the study. All children included in the study displayed normal development. The 91 children with normal development came from the six kindergarten classes in these three schools. The socio-economic status of their families was determined on the basis of information gathered from the parents’ professions. Socio-economic status ranged from lower-middle to upper-middle class.
Measures

*Teacher Rating Scale of School Adjustment* for 5-6 years of developed by Ladd, Kochenderfer and Coleman in 1996 designed to evaluate preschool children’s school adjustment. Scale included 25 items and 4 subscales (school avoidance, school liking, cooperative participation, self-directiveness). Teachers completed the items using a three-point scale: doesn’t apply, applies sometimes, and certainly applies (Birch & Ladd, 1997). The internal consistency scores for the original version of the scale across measurement occasions exceed .75 (Birch & Ladd, 1997). The Turkish version of the TRSSA was adapted by Önder and Gülay (2010). The internal consistency, as reported by Önder and Gülay (2010), for the whole scale was .70. In the current study, internal reliability of the whole scale was found at .80.

In order to measure temperamental traits of the children in the sample, their mothers completed the Turkish version (Yağmurlu & Sanson 2009) of the *Short Temperament Scale for Children (STSC)* (Prior, Sanson & Oberklaid, 1989). The mothers evaluated their children’s temperamental traits on a basis of a Likert-type scale, with six frequency choices. The scale consists of 30 items with four subscales, which measured approach/withdrawal, persistence, rhythmicity and reactivity dimensions. Sample items for dimensions were: Approach/withdrawal, persistence, reactivity and rhythmicity. The internal consistency scores for the original version of the scale were 0.66 for approach, 0.75 for inflexibility/reactivity, 0.75 for persistence, and 0.51 for rhythmicity (Prior, Sanson, & Oberklaid, 1989). In Yağmurlu and Sanson’s study (2009) internal consistency was .80 for Approach/Withdrawal, .77 for Reactivity, .48 for Rhythmicity and .76 for Persistence. The scale has proved to be a reliable form of measurement, with an average Cronbach Alpha of .80 for the reactivity subscale; .80 for the approach/withdrawal subscale; .76 for the persistence subscale; and .57 for the rhythmicity subscale.

Procedure and Data analysis

Mothers were invited to complete the Short Temperament Scale for Children. Teacher Rating Scale of School Adjustment was completed by teachers for each student. Before the data collection process, the parents and teachers of the children were informed about the objective of the study and how the measurement tools would be applied. In this case, 91 mothers, and six teachers participated in this study. Parents were asked for permission about their children’s participation in the study and data was gathered from the parents of children that gave permission. Teachers completed the TRSSA in November-December of the kindergarten year. Mothers completed the scale based on their child’s general behaviours; teachers completed the scale based on their eight-month observation of the child.

SPSS version 20.0 was used to analyze the data. The Pearson Product-Moment Correlation Coefficient technique was used to reveal the relationship between age, gender, school adjustment, and temperament traits. Hierarchical regression analysis
was performed to determine the predictive effect of age, gender and temperament traits on children’s school adjustment.

RESULTS

Pearson correlation coefficients for all variables were used in the present study.

Table 1: 
Descriptive statistics and correlations matrix for study variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Means±SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. School Adjustment</td>
<td>44.70±6.74</td>
<td></td>
<td>.43**</td>
<td>.01</td>
<td>-.01</td>
<td>.22*</td>
<td>.26*</td>
<td>-.43**</td>
</tr>
<tr>
<td>2. Age</td>
<td>1.50±.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Gender</td>
<td>1.56±.49</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Approach/withdrawal</td>
<td>27.92±7.95</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Persistence</td>
<td>28.80±6.82</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Rhythmicity</td>
<td>29.28±4.98</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Reactivity</td>
<td>24.82±8.94</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to the findings, age was significantly and positively related to school adjustment. Gender was not significantly related to school adjustment and other variables. School adjustment was significantly and positively correlated with persistence and rhythmicity sub-dimensions of temperament. On the other hand, there was a significant and negative relationship between school adjustment and anger reactivity sub-dimension of temperament.

The results of the hierarchical regression predicting school adjustment from age, gender, and temperament traits are reported in Table 2.

As a single predictor at Model 1 of the regression analysis, age accounted for 19% of the variance in school adjustment in preschool, $R^2=.19$, $F(1,89)=20.34$, $p<.001$ (Model 1). Child age and child gender were entered on the second step. The gender variable included in the analysis in the second model was not associated with children’s school adjustment, $F(1, 88) = .214; p > .05$ (Model 2). When age and gender was included in the analysis in the third model, together with approach, persistence, rhythmicity and reactivity temperament traits, was found to be associated with school adjustment, $R^2=.31$, $F(4,84)=3.54$, $p<.01$ (Model 3). Among these temperament variables, just, reactivity temperament of sub-dimension ($\beta=-.30$) of was significant predictor of school adjustment in preschool children.
Table 2:  
Hierarchical Regression Analysis Evaluating Predictors of School Adjustment

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$\beta$</td>
<td>$t$</td>
</tr>
<tr>
<td>Age</td>
<td>5.78</td>
<td>.43</td>
<td>4.51***</td>
</tr>
<tr>
<td>Gender</td>
<td>.60</td>
<td>.04</td>
<td>.46</td>
</tr>
<tr>
<td>Approach</td>
<td></td>
<td>-.13</td>
<td>-.13</td>
</tr>
<tr>
<td>Persistence</td>
<td>.10</td>
<td>.00</td>
<td>.955</td>
</tr>
<tr>
<td>Rhythmicity</td>
<td>.18</td>
<td>.10</td>
<td>.129</td>
</tr>
<tr>
<td>Reactivity</td>
<td>-.23</td>
<td>-.30</td>
<td>-.777***</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.10</td>
<td>.10</td>
<td>.365</td>
</tr>
<tr>
<td>$F$ for change in $R^2$</td>
<td>20.34***</td>
<td>.214</td>
<td>3.548**</td>
</tr>
</tbody>
</table>

Note. $N = 91$; *$p < .05$, **$p < .01$, ***$p < .00$.

DISCUSSION

The first step was to assess the Pearson Correlation between the independent variables and the dependent variables. Results of a Pearson Correlation analysis indicated that child age, and child’s temperament dimensions were significantly correlated with school adjustment scores. Stepwise regressions were conducted for to school adjustment for in preschool children. Here too, age was entered in the 1st step, gender in the 2nd, and temperament traits in the last step. Step 1st and 3rd regression models were significant. Neither child age nor gender, entered on the second step, accounted for are not significant variance in children’s school adjustment.

According to the results of this study, which investigated the temperamental traits and school adjustment of children, temperamental traits of 5–6-year-old children have a predictor effect on school adjustment. Children’s temperaments have been found to have a significant relationship with school adjustment and academic achievement (Blair et al., 2004). Temperament dimensions are linked to educational performance (Keogh, 1986; Martin & Holbrook, 1985). For example, in a study of the relationship between 104 first grade children’s temperament traits and their academic achievement, the temperament traits of activity, adaptability and persistence were related to reading and mathematics achievement, even when controlling for IQ (Martin & Holbrook, 1985). Reed-Victor (2004) investigated the


relationship between temperament and adjustment to school. Their findings showed that temperament is a significant determinant for children’s adjustment to school. Zupancic and Kavic (2011), in their research conducted with 366 preschool children, sought whether the children’s characteristics, along with their respective preschool institutions, were influential factors in their adaptation to school. Their study concluded that the children’s personal characteristics were influential in their adjustment to school. In a study conducted on 51 children aged 5 to 7 years who have hard or easy temperament, a relationship was discovered between temperament, impulsivity and adjustment to school (Carey, Fox, & McDevitt, 1977).

In this study, gender has not been found to correlate directly with school adjustment. Other studies are available that parallel the results of this study. For example, Yoleri (2014) reported that gender is not a variable which affects adjustment to school. Similarly, Çıkrıkçı (1999) found that gender is not a significant variable for adjustment to school.

According to this study, it was found that the age variable is a significant predictor for adjustment to school. Children who started kindergarten at the age of 2 were demonstrated to have higher levels of anti-social behavior compared to those who started at the age of 3 (Sylva et al., 2003). Mühlenweg, Blomeyer, Stichnoth and Laucht (2012) reported that starting school earlier than the specified date does not make much difference on cognitive development of children, however, has adverse effects on other areas of development. Various studies demonstrated that the problem of adjustment to school is more common in younger children (Datar, 2006; Stipek & Byler, 2001). In a study conducted by Ogelman and Erten (2013), children’s level of liking of school at the age of 6 is higher than that at the age of 5.

According to the result of the research has found that certain temperament traits of children to be associated with school adjustment. Specifically, reactivity temperament trait has been shown to be associated with school adjustment in children. Reactivity dimension of temperament (e.g. shyness, anger and sadness) is associated with academic success and adjustment (Valiente, Lemery-Chalfant, & Swanson, 2010; Valiente et al., 2008). In their study, Cillessen, Haselager and Van Lieshout (1997) monitored adjustment to schooling of 231 preschool children for five years. The results indicated that aggressive, tyrannical and positive social behaviors are effective on adjustment to school. Preschool children who cause damage to their peers and exhibit aggressive and disruptive behaviors were demonstrated to maintain these behaviors during the primary school period and have lower levels of adjustment to school in line with their levels of behavior. Aggressiveness was found to be associated with adjustment to school in the short term and dropping out of school and crime in the long term (Loeber, 1990). Shy children can have low levels of class participation and adjustment to school. This was found to be associated with levels of adjustment to school and withdrawal in the following years (Stoeckli, 2010). Researchers reported that some temperament traits of children (e.g. low levels of negative affect, high control levels of behavior and affect and low reactivity) highly correlate with adjustment (Liew, Eisenberg, & Reiser, 2004; Nelson et al., 1999;
Prior et al., 2001; Sanson et al., 2009). Seven (2010) investigated children’s adjustment to school, patterns of attachment and social behaviors in transition from preschool period to primary school. The results of the research reveal that attachment pattern and shy-withdrawn behaviors of children in preschool period have effects on their adjustment to school in primary school. In a study by Ladd and Burgess (1999), preschool children were monitored from kindergarten to 2nd grade and the effects of behavioral features on children’s adjustment to schooling were investigated. Children in three groups, including aggressive, shy, aggressive/shy were compared to the control group. According to the results of the study, children who were aggressive in preschool period maintain their aggressive behaviors during 1st and 2nd grades. It was found that aggressive/shy children in preschool period and primary school have low levels of peer-acceptance and fever close friends.

This study has some limitations. The present research is limited with 91 children. Further longitudinal research with sample groups consisting of higher number of children should be conducted. For example, long-term studies which monitor children’s adjustment to school from preschool period to primary school should be conducted. Children with the temperament traits of shyness/introversion are faced with the risk of exposure to peer violence, loneliness, low social competency and poor friendships (Mendez, Fantuzzo, & Cicchetti, 2002; Rubin et al., 2006). Therefore, further studies are required to investigate other issues (e.g. peer relationships, social skills) which affect the relationship between temperament and adjustment to school.

CONCLUSION AND RECOMMENDATIONS

Fundamental needs of children include adjustment to school and develop successful and effective relationships (Stoeckli, 2010). Successful adjustment to school is reflected on children’s behaviors in classroom (e.g. positive social behaviors, behavioral problems) and academic performance (Petriwskyj, Thorpe, & Tayler, 2005). A child with adjustment to school problem can be introvert, anxious or exhibit disruptive and aggressive behaviors (Keogh, 2003). Studies have shown that the relationship between children’s temperament traits and classroom environment affects teacher attitude, teacher-child interaction and children’s adjustment to school (Pullis & Cadwell, 1982). For that reason, school environment should be compatible with a child’s temperament in order to support the optimum development and healthy adjustment of the child and achieve positive educational outcomes (Kristal, 2005). Future studies should also address the role of the interaction between a child’s temperament and the classroom environment as well as the ways that classrooms affect developmental changes in the structure of temperament. In order for the research results to be generalized, it can be suggested that research is repeated in different countries, cities and regions. Also, a higher number of children could participate in future studies. Training programs should be established and extended for children who experienced school adjustment issues.
References


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Yaş, Cinsiyet ve Mizaç Özelliklerinin Okul Öncesindeki Çocukların Okula Uyumları Üzerindeki Etkileri

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Genişletilmiş Özet


Yöntem: Araştırmanın örneklem grubunu, Çorum il merkezinde Milli Eğitim Bakanlığı'na bağlı ilköğretim okullarının anasınıflarına devam eden, 5-6 yaş grubundan 91 çocuk oluşturmaktır. Araştırmada veri toplama araçları olarak Çocuklar İçin Kısa Mizaç Ölçeği ve 5-6 Yaş Çocukları İçin Okul Uyumu Öğretmen Değerlendirme Ölçeği kullanılmıştır. Araştırmada veriler çocukların anneleri ve onların öğretmenlerinden elde edilmiştir. Yaş, cinsiyet ve mizaç özellikleri ile çocukların okula uyum değişkenleri arasındaki ilişkiye ortaya koymak amacıyla Pearson Momentler Çarpımı Korelasyon Katsayısı Tekniği uygulanmıştır. Çocukların yaş, cinsiyet ve mizaç özelliklerinin onların okula uyumları üzerinde yordayıcı etkisinin bulunup bulunmadığını tespit etmek amacıyla Hiyerarşik Regresyon Analizi yapılmıştır.

edilmiştir. Araştırmanın sonucu özellikle mizacın reaktivite boyutunun okula uyumun anlamlı bir yordayıcısı olduğunu göstermiştir.

**Sonuç ve Öneriler:** Okula uyum sağlayarak başarılı, etkili ilişkiler geliştirmek çocukların temel ihtiyaçları arasındadır (Stoeckli, 2010). Araştırmalar çocuğun mizaç özellikleri ve sınıf ortamı arasındaki ilişkinin öğretmen tutumu, öğretmen-çocuk etkileşimini ve çocukların okula uyumlarını etkilediğini göstermektedir (Pullis & Cadwell, 1982). Çeşitli araştırma sonuçları okula uyum sorununun yaş küçük olan çocuklarda yaş büyük olan çocuklara göre daha yaygın olduğunu göstermiştir (Datar, 2006; Stipek ve Byler, 2001).

Gerek bu araştırmının bulguları gerekse destekleyici alanyazın tespitleri ışığında, uygulamacıların, okulun ilk günlerinde mizacı uyumlarını olumsuz etkileyen özellikleri olan çocuklara farklı alıştırma programları düzenlemeleri yerinde bir önlem olabilir. Diğer yandan yaş küçük çocukların yaş büyük çocuklara aynı sınıfta bir araya getirilmemeleri de uyum adına alınabilecek önlemlerden biri olarak değerlendirilebilir. Bu araştırmının bir ilde ve çok az bir orandaki katılımcıyla yapıldığı göz önüne alınarak daha kapsamlı ve farklı illerde benzer çalışmalar yapılabilir.

**Anahtar Kelimeler:** Okula uyum, Cinsiyet, Yaş, Okula geçişi, Çocuk mizacı.