



## TEMPERAMENTAL CHARACTERISTICS AND PEER VICTIMIZATION AMONG PRE-SCHOOL CHILDREN

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### ABSTRACT

The aim of this study was to examine the relation between temperamental characteristics (approach-withdrawal, persistence, rhythmicity and reactivity) of 5-6 year old children and peer victimization. The sample of the study consists of 211 children (girls=107 and boys=104) selected by simple random sampling method among 5-6 years old children continuing preschool education classes at the city of Çorum in Turkey. Data of the study was collected by Peer Victimization Scale developed by Ladd and Kochenderfer-Ladd (2002) and The Short Temperament Scale for Children developed by Prior, Sanson & Oberklaid (1989). Teachers of the children were asked to complete the Peer Victimization Scale for each child in their classroom. Also, parents were asked to complete Short Temperament Scale for Children to determine the temperament characteristics of their child. Results of the study reveal that there are significant relations between gender, temperamental characteristics and peer victimization among 5-6 year old children.

**Key Words:** Early childhood education, Temperamental characteristics, Peer victimization, Pre-school children

### INTRODUCTION

Children, begin to develop their social and emotional skills through interaction firstly with their family members and later with peers at preschool. During preschool period, children's social awareness and interaction with other people increases with an intention to develop self-concept and to receive social acceptance from their reference groups (Wortham, 1998). Starting from early years, the observable behavioral characteristics children display influence their social skills in relationships (Sanson et al., 2004) and temperament is seen as an important factor in general social functionality and efficacy in social skills.

Peer relationships is a critical component for socialization during childhood and young adolescence. There are numerous factors that affect peer relations during preschool. Among a number of influential factors, temperament was found to be a major factor in building peer relationships (Szewczyk-Sokolowski, Bost & Wainwright, 2005) and effecting development of children's personality and social behavior (Rothbart et al., 2000). Temperament can be defined as the determining styles of behavior specific to the individual (Kristal, 2005). The traditional view is that temperament traits are largely genetic and biological in nature, present early in childhood, and generally stable across the lifespan (Buss & Plomin, 1975; Strelau, 1987; Thomas & Chess, 1977; cited by Grist & McCord, 2010).

One of the first studies about temperament was carried by Thomas and Chess (1977) and longitudinal data has shown that children's behavioral style depends on nine different temperamental traits and three basic temperament types. The nine temperament traits that are defined by the researchers were: activity, rhythmicity, approach/withdrawal, adaptability, intensity, mood, persistence, distractibility and sensory threshold (Oliver, 2002). These traits combine to form three basic types of temperaments: 1) Easy or flexible children (generally calm, happy, regular in sleeping and eating habits, adaptable and not easily upset); 2) Difficult, active or feisty children (often fussy, irregular in feeding and sleeping habits, fearful of new



people and situations, easily upset by noise and commotion, highly strung, and intense in their reactions); 3) Slow to warm up or cautious children (relatively inactive and fussy, tend to withdrawal or to react negatively to new situations, but reactions become more positive with continuous exposure) (Zentner & Bates, 2008). According to Thomas and Chess (1977), 65% of children in their sample fit into one of the three constellations and 35% of all children may show a combination of characteristics from more than one category (Kristal, 2005). Forty percent of children are generally regarded as “easy or flexible,” 10% are regarded as “difficult, active, or feisty,” and the final 15% are regarded as “slow to warm up or difficult” (Oliver, 2002).

Temperament has been recognized as an important factor in general social functioning and competence, including behavior with peers and peer acceptance for preschool to elementary school children (Eisenberg, Fabes, et al., 1997; Eisenberg et al., 2003; Lengua, 2003; Stocker & Dünn, 1990) and adolescents (Murphy, Shepard, Eisenberg & Fabes, 2004; Windle et al., 1986, cited by Sterry et al., 2010). Theoretically, temperament may operate indirectly on friendship through its influence on social development and social skills (Rothbart & Bates, 1998; Sanson, Hemphill & Smart, 2002). Empirical evidence suggests that temperament contributes to social behaviors (Rothbart, Ahadi&Hershey, 1994; Rubin, Burgess & Hastings, 2002; Russell, Hart, Robinson & Olsen, 2003); withdrawal (Rubin, Burgess&Hastings, 2002); aggression (Guerin, Gottfried, Oliver&Thomas, 1994), and aggressive behaviors (Rubin, Burgess, Hastings&Dwyer, 2003; Rubin, Hastings, Chen, Stewart&McNichol, 1998; Tallandini, 2004) in preschool and elementary school-aged children. In addition, temperament has been found to predict academic skills and performance (DiLalla, Marcus&Wright-Phillips, 2004; Stright, Gallagher&Kelly, 2008), school adjustment (Nelson, Martin, Hodge, Havill&Kamphaus, 1999), degree of compliance with requests (Wachs, Gurkas&Kontos, 2004), and student-teacher relationship quality (Rudasill&Rimm-Kaufman, 2009; Stright, Gallagher, &Kelley, 2008).

Temperament has also been associated with some behaviour problem as internalizing and externalizing (Saudino, 2005). Besides social skills and peer relations, it was stated that, some aspects of temperament have an effect on the maladaptive behaviors in children (Sanson et al., 2002). For example, difficulties in emotionality, reactivity aspects of temperament may lead children to experience difficulties in adjustment related issues. More importantly, as Sanson et al. (2002) stressed, “reactivity and emotional self regulation” aspect of temperament are the most critical determinants which have great potential for contributing maladaptive behaviors especially externalizing kind of problems in children (cited by Şendil, 2010). There is a strong correlation between children facing problems in their social relationships and their temperament types (Moon, 2001). Walker, Berthelson and Irving (2001) found that children low on social acceptance compared to popular children were of difficult temperamental types, showing aggressive, annoying behavior, being attention deficit and avoiding cooperative play with other children. Similarly, the study carried out by Fabes, Hanish, Martin and Eisenberg (2002) pointed out that the emotions of children with tough temperament may affect their relationship with peers. The children who experience the negative feelings deeply and have difficulty in tackling with are under the risk of social interaction and peer relations.

Research findings show that approach-withdrawal and persistent temperamental traits tend to elicit positive emotions, behavioral adaptation (Kyrios & Prior, 1990; Youngblade & Mulvihill, 1998) whereas reactive and impulsive temperamental traits correlate with problematic social skills (Sanson et al., 1994). Also, Poulin and Boivin (2000) showed that the display of reactively aggressive behavior was concurrently associated with negative social status and peer victimization. Walker, Berthelsen, and Irving (2001) investigated the relation between difficult children and their peer relationships in preschool-age boys and girls. Defining difficult



children as high in activity level, high in distractibility, and negative in quality of mood, the results indicated that children with difficult temperament tend to be rejected or neglected by their peers. Furthermore, difficult children tend to have a higher rate of negative quality of mood and lower level of adaptability than popular children.

Children who are victimized by their peers are at greater risk for a wide range of social (e.g. peer rejection, friendlessness), emotional (e.g. loneliness, depression), behavioral, and academic adjustment problems, both concurrently and prospectively (Hanish & Guerra, 2002; Hawker & Boulton, 2000; Kochenderfer-Ladd & Ladd, 2001). Peer victimization is associated with several adjustment problems, including compromised academic achievement, school avoidance, peer rejection, behavior problems, and aggression (Hanish & Guerra, 2002). Approximately 10% of children experience repeated peer victimization, with even more experiencing periodic victimization (Hanish & Guerra, 2000). This victimization can occur in the form of physical (e.g., hitting, pushing), verbal (e.g., name calling), or relational (e.g., ostracism) aggression. (Hanish & Guerra, 2002).

Kochenderfer and Ladd (1996) reported that among kindergarten children peer victimization was around 22.6% which is determined as a high percentage. Gender was found as an important determinant for peer victimization/peer acceptance among early childhood children. Boys are frequently rated higher in activity level and impulsivity (Gunnar et al 2003; Mendez et al, 2002). For instance, Maccoby and Jacklin (1980) found that 6 year old boys were more aggressive compared to girls in their study of aggressive behaviors and gender differences. Likewise Martin et al (1997) found that boys' activity level were higher and adaptation levels were lower. Wood et al. (2002) in their study with 3-5 year old children from various cultures (Asian and African Americans), found that aggressive, shy/intraverted and misbehaved both girls and boys were rejected by their peers.

Depending on the results above, it can be seen that early childhood is a critical period for determining socialization problems related to temperamental characteristics of children and peer victimization among children. The aim of this study is to examine the relation between temperamental characteristics (approach-withdrawal, persistence, rhythmicity and reactivity) of 5-6 year old children and peer victimization. Also, reciprocal relations between some socio-demographic variables, child's temperament and victimization will be investigated.

## **Method**

### ***Participants***

A random sampling method was used to select the sample group of the research. The sample consisted of 211 five-six year old children attending early childhood education classes. The sample group was selected among the students attending a public independent preschool in the city of Çorum. Gender distribution of the children were, % 49.3 (n=104) boys and %50.7 (n=107) girls. Socioeconomic status of the children and families ranged from lower-middle to upper middle class.

### ***Measures***

The data of this study was collected by two instruments:

The ***Victimization Scale*** is a measurement tool, developed by Ladd and Kochenderfer-Ladd (2002), to determine peer victimization among 5-6 year old children. The teachers completed the scale. The scale consists from four items, each of which focuses on one of the four types of



peer aggression (physical, indirect, direct and general). Evaluations for each item are in accordance with 'Never', 'Sometimes' and 'Always' (Ladd and Kochenderfer-Ladd, 2002). Adaptation of the scale to Turkish sample was carried out by Gülay (2008) and the internal consistency coefficient for the scale was determined as .72. In this current study the internal consistency was found as .66.

***The Short Temperament Scale for Children:*** In order to measure temperamental characteristics of the child, the Turkish version (Yagmurlu and Sanson, 2009) of the *Short Temperament Scale for Children* (STSC) was used. Parents evaluate their children's temperamental characteristics on a 6 level Likert type scale consisting of 30 items and 4 subscales (approach, persistence, rhythmicity and reactivity). Sample items for dimensions are: Reactivity (If my child resists some activity such as having hair brushed, he/she will continue to resist it for months), Persistence (My child is unwilling to leave a game or activity that he/she has not completed), Approach/Withdrawal (My child is shy when first meeting new children), and Rhythmicity (After my child is put to bed at night, he/she takes about the same length of time to fall asleep). In Yağmurlu and Sanson's study (2009) internal consistency was .80 for Approach/Withdrawal, .77 for Reactivity, .48 for Rhythmicity and .76 for Persistence. In this current study, the cronbach's alpha coefficient scores for Reactivity subscale was .74, Approach/Withdrawal .69, Persistence .76, and Rhythmicity .54.

### ***Procedure***

The research was conducted in the relational scanning model. The data was collected from the mothers and teachers of children. 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. 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. Parents were requested to fill the *Short Temperament Scale for Children* to determine their children's temperament. Teachers of children involved in the study were asked to answer *Victimization Scale* to gather data about childrens victimization behaviors.

### ***Results***

In the first part of this section  $2 \times 2$  analysis of variance (ANOVA) results for temperament and victimization scores of participants in relation with age and gender will be presented. In the second part of results section, the intercorrelations between the test variables will be discussed.

In order to examine the relation between children's temperament and victimization scores, age and gender,  $2 \times 2$  analysis of variance (ANOVA) statistics was conducted, with age (5-6) and gender (boys-girls) as independent variables.

**Table 1.** Descriptive Statistical Results of the Short Temperament Scale for Children-Approach/withdrawal Subscale in Relation to Age and Gender

Age	Gender	Count	Mean	SD
5 years	Girl	60	25.65	7.20
	Boy	56	29.33	5.77
	Total	116	27.43	6.78
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6 year	Girl	47	26.76	6.53
	Boy	48	27.04	6.45
	Total	95	26.90	6.46
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Total	Girl	107	26.14	6.91
	Boy	104	28.27	6.17
	Total	211	27.19	6.63

**Table 2.** Two-Way Variance Analysis (ANOVA) Results for the Short Temperament Scale for Children-Approach/withdrawal Subscale in Relation to Age and Gender

Source of Variance	Sum of Squares	df	Mean	F	p
Age	18.22	1	18.22	.42	.51
Gender	205.14	1	205.14	4.81	.02 *
A*G	152.05	1	152.05	3.567	.06
Error	8824.54	207	42.63		
Total	5276.00	211			

\* =  $p < .05$ 

Table 1 reveals that the highest scores for approach/withdrawal subscale was obtained by the group of 5 year old boys ( $M = 29.33$ ) and also by the group of 6 year old boys ( $M = 27.04$ ). It can be seen from Table 2 that, although age is not statistically related with approach/withdrawal scores of the participants, gender is significantly related with approach/withdrawal ( $F(1,207) = 4.81$ ,  $p < .05$ ). The total scores of boys ( $M = 28.27$ ) in approach/withdrawal scale was higher than total score of girls ( $M = 26.14$ ). This finding indicates that gender is significantly related with approach/withdrawal temperament.

**Table 3.** Descriptive Statistical Results of the Short Temperament Scale for Children-Persistence Subscale in Relation to Age and Gender

Age	Gender	Count	Mean	SD
5 years	Girl	60	26.91	7.00
	Boy	56	26.26	5.33
	Total	116	26.60	6.23
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6 year	Girl	47	29.61	7.16
	Boy	48	26.31	6.81
	Total	95	27.94	7.15
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Total	Girl	107	28.10	7.17
	Boy	104	26.28	6.03
	Total	211	27.20	6.68

**Table 4.** Two-Way Variance Analysis (ANOVA) Results Showing the Short Temperament Scale for Children-Persistence Subcale in Relation to Age and Gender

Source of Variance	Sum of Squares	df	Mean	F	p
Age	98.32	1	98.32	2.25	.13
Gender	203.94	1	203.94	4.68	.03*
A*G	92.03	1	92.03	2.11	.14
Error	9008.98	207	43.52		
Total	65579.00	211			

\* =  $p < .05$ 

Table 3 reveals that there is a small difference between the persistence scores of 5 year old girls ( $M=26.91$ ) and boys ( $M=26.26$ ). The highest average value of persistence level was obtained from the group of 6 year old girls ( $M=29.61$ ) compared to the scores of 6 year old boys ( $M=26.31$ ). Table 4 demonstrated that age is not significantly related with persistence. Gender of the children is significantly related with their persistence level ( $F(1,207)= 4.68, p < .05$ ). The Persistence scores of girls ( $M=28.10$ ) is higher than those of boys ( $M=26.28$ ).

**Table 5.** Descriptive Statistical Results of the Short Temperament Scale for Children-Reactivity Subcale in Relation to Age and Gender

Age	Gender	Count	Mean	SD
5 years	Girl	60	26.80	6.58
	Boy	56	27.57	7.69
	Total	116	27.17	7.12
6 year	Girl	47	26.89	8.42
	Boy	48	29.14	8.47
	Total	95	28.03	8.47
Total	Girl	107	26.84	7.40
	Boy	104	28.29	8.06
	Total	211	27.55	7.75

**Table 6.** Two-Way Variance Analysis (ANOVA) Results Showing the Short Temperament Scale for Children-Reactivity Subcale in Relation to Age and Gender

Source of Variance	Sum of Squares	df	Mean	F	p
Age	36.30	1	36.30	.60	.43
Gender	119.30	1	119.30	4.35	.03*
A*G	28.61	1	28.61	.47	.49
Error	124551.76	207	60.15		
Total	172885.00	211			

\* =  $p < .05$ 

It can be seen from Table 5 that, reactivity scores of 5 year old boys ( $M=27.57$ ) are higher than girls ( $M=26.80$ ), but the difference between the scores due to gender is more significant at 6 year old children (boys  $M=29.14$ , girls  $M=26.89$ ). The reactivity scores of children are significantly related with gender ( $F(1,207)= 4.35, p < .05$ ). According to the



difference between the total average scores, the reactivity levels of boys (M=28.29) are higher than those of girls (M=26.84).

**Table 7.** Descriptive Statistical Results of the Short Temperament Scale for Children-Rhythmicity Subcale in Relation to Age and Gender

Age	Gender	Count	Mean	SD
5 years	Girl	60	28.33	5.04
	Boy	56	29.94	5.00
	Total	116	29.11	5.06
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6 year	Girl	47	29.23	5.68
	Boy	48	29.89	5.38
	Total	95	29.56	5.51
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Total	Girl	107	28.72	5.32
	Boy	104	29.92	5.15
	Total	211	29.31	5.26

**Table 8.** Two-Way Variance Analysis (ANOVA) Results Showing the Short Temperament Scale for Children-Rhythmicity Subcale in Relation to Age and Gender

Source of Variance	Sum of Squares	df	Mean	F	p
Age	9.43	1	9.43	.34	.56
Gender	67.53	1	67.53	2.44	.12
A*G	11.89	1	11.80	.42	.51
Error	5729.07	207	27.67		
Total	187184.00	211			

\* = p<.05

Table 7 reveals that the highest average value of Rhythmicity level was obtained from the group of 5 year old boys (M= 29,94) and also from the group of 6 year old boys (M=29,89). No statistically significant difference was found between the Rhythmicity scores of children in relation to age and gender .

**Table 9.** Descriptive Statistical Results of the Peer Victimization Scale of 5-6 Year Old Children in Relation to Age and Gender

Age	Gender	Count	Mean	SD
5 years	Girl	60	1.70	.78
	Boy	56	1.67	.76
	Total	116	1.68	.77
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6 year	Girl	47	1.70	.77
	Boy	48	1.87	.86
	Total	95	1.78	.82
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Total	Girl	107	1.70	.77
	Boy	104	1.76	.81
	Total	211	1.73	.79



**Table 10.** Two-Way Variance Analysis (ANOVA) Results of the Peer Victimization Scale of 5-6 Year Old Children in Relation to Age and Gender

Source of Variance	Sum of Squares	df	Mean	F	p
Age	.51	1	.51	.80	.37
Gender	.29	1	.29	.47	.49
A*G	.49	1	.49	.77	.38
Error	131.89	207	.63		
Total	768.00	211			

Table 9 demonstrates that the average victimization scores of 5 and 6 year old girls are near to each other (5 and 6 year old M=1.70), but different for boys (5 year M=1.67 and 6 year M=1.87). This results illustrates that as they get older boys are more under risk for victimization, but this result is not found as statistically significant.

As shown in Table 10, no statistically significant difference was found between the peer victimization among children in terms of age ( $F(1,207) = .80; p > .05$ ) and gender ( $F(1,207) = .47; p > .05$ ).

*Correlation between, Temperament Subscale and Victimization*

To determine the intercorrelations between the subscales of Short Temperament Scale for Children (approach/withdrawal, persistence, reactivity and rhythmicity) and Victimization Scale, pearson correlation analysis was conducted.

Table 11 shows negative significant correlation between the reactivity subscale and victimization ( $r = -.41, p < .05$ ). As reactivity scores of children increase, the victimization scores decrease. Persistence and rhythmicity are positively correlated ( $r = .34$ ) but the relation is not significant. There was no significant correlations between victimization and approach/withdrawal, persistence and rhythmicity scores.

**Table 11.** Correlation Matrix of Short Temperament Scale Subscales and Victimization Scale

	1	2	3	4	5
1. Victimization	-	-.00	-.13	.10	-.41*
2. Approach/ withdrawal	-	-	.06	.13	-.14
3. Persistence	-	-	-	.34	.12
4. Rhythmicity	-	-	-	-	-.10
5. Reactivity	-	-	-	-	-

\* $p < .05$   $N = 211$

**Discussion and Conclusion**

The main goal of this study was to explore the temperamental characteristics and peer victimization during early childhood period and to determine it's relations with gender and age. The second but not the least aim was to investigate if there was any reciprocal relations between the temperamental traits of children and victimization. Our main concern was to see what temperamental characteristics were prominent at 5-6 year old children and if gender had any relatio with these characteristics. Our current study hypothesized that, certain temperamental





traits might be associated with victimization in preschool children and determining this reciprocal relation would help to predict peer victimization at preschool period.

A statistically significant difference was found between the approach/withdrawal, persistence, reactivity subscale scores of children with relation to gender. On the other hand, no statistically significant difference was detected between the approach/withdrawal, persistence, reactivity subscale scores of children in relation to age. There was no significant difference between the rhythmicity scores of children due to age and gender.

Data reveals that approach/withdrawal and reactivity scores of boys are higher than girls. This result is consistent with existing theory and research (Gülay, 2011; Walker, 2004; Wood et al., 2002). Schmidt et al. (2002) found that boys are as significantly less socially competent, and more angry/aggressive and anxious/withdrawn than are girls. During gender socialization, boys are expected to be more physically active, dominant, and aggressive than girls, nevertheless these aggressive behaviors may harm the children's peer relationships (Ladd & Burgess, 1999, Snyder et al., 2003). The only subscale that girls get higher scores than boys is persistence. Although no difference is seen between the scores of boys and girls at 5 years, as they get older, girls get more persistent in their behaviors. This temperamental trait might be also associated with gender socialization, but more research is needed to determine the actual relation between temperamental traits and socialization process.

An interesting result of this study is that, no significant correlation was found between children's gender, age and peer victimization. On the contrary, other related studies, for example Snyder's et al. (2003) results demonstrated that, for boys, an increase in peer victimization across kindergarten and first grade was related to an increase in aggressive and antisocial behaviors throughout the assessed period. The study of Keenan and his colleagues (1999) supports that the tough temperament problems for boys, such as aggressiveness and disobedience are the signs of behaviour problems in the following years. Although not supported by the results of this study, it seems that the relation between gender, aggressive behavior and victimization needs more work. Especially aggressive and antisocial behavior among boys and how it's relation with temperament and socialization process should be critically analyzed.

The second aim of this study was to understand what temperamental characteristics would be related to peer victimization. According to the results, no significant relations were found between victimization and approach/withdrawal, persistence and rhythmicity subscales. On the other hand, a statistically significant correlation was observed between the peer victimization and reactivity subscale. Olweus (1993), defines school bullying or victimization that stronger child slong to bullying repeatedly to weaker child without any negative actions. It was reported in previous results that the peer victimization variable may affect aggression. Perren and Alsaker (2006) found that kindergarten bullies, bully-victims, and victims have different social behaviour regarding degrees of aggression and prosocial behaviour.

Temperamentally reactive children may be likely to exhibit externalizing, lower empathy, anger/frustration proneness acting out behaviors if they are low on self regulation. Eisenberg et al. (2001) found that children high on externalizing behavior were low on self-regulation and high on anger. Howes and Phillipsen (1998) found that both children's aggression and social withdrawal in the preschool period predicted later aggression. Gleason et al. (2005) explained, some components of gender and temperaments (activity level, impulsivity, and soothability) can be related with the development of friendship in children in early childhood period.

Peer relationships become important as children develop social skills in early development. Peer problems observed in the first years of life are related to social and emotional



problems in later age (Fox et al., 2005; Henderson et al., 2004). These problems may be manifest in a child's avoidance of the company of other children, or in a negative attitude or rejection by other children. Peer acceptance has been found to be a protective factor for early aggression, family adversity, and child maltreatment (Criss, Pettit, Bates, Dodge, & Lapp, 2002; Prinstein & La Greca, 2004). Externalizing behavioral problems experienced with peer victimization in childhood period can contribute to the antisocial tendencies in adolescence (Laird et al., 2001). Problem behavior associated with symptoms of hyperactivity and attention deficiency in school are in some sense related with bullying, either as a bully or as a victim (Bacchini, Affuso & Trotta, 2008).

Considering the effect of temperamental traits on various aspects of peer relations, it is important that teachers focus on social relations when children begin to come together with their peers in the early childhood settings. Children should be motivated at these early ages to develop positive social skills within peer relations. Temperament is seen as one of the major factors that might be influencing the way children interact with their peers thus affect how they form early friendship relations. Teachers should be sensitive to this early appearance of temperamental traits and skilled to solve problems caused by them. Victimization on the other hand, should be investigated with caution because of the long-term effects it causes on socialization practices, academic achievement and behavior disorders of children.

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