The Impact of a Cultural Children's Program and Adult Mediation
on Children's Knowledge of and Attitudes Towards Opera

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Date of third revision: 6 February 1998
Abstract

In this experiment, we investigated whether adult mediation during a cultural children's program stimulates children's knowledge of and attitudes towards opera. 124 children were randomly assigned to one of two viewing conditions. In the mediation condition a coviewing adult provided the children with additional comments and showed a positive attitude towards opera. In the non-mediation condition a coviewing adult did not give comments and showed a neutral attitude towards the program watched. Children in the mediation condition recalled significantly more opera information. In both the mediation and the non-mediation condition children's attitude towards opera was stimulated by the cultural children's program.
The Impact of a Cultural Children's program and Adult Mediation on Children's Knowledge of and Attitudes Towards Opera

Over the past two decades, an increasing number of authors have emphasized that children's learning of knowledge and attitudes from television can be facilitated, channelled, or counteracted through a coviewing adult who offers comments and interpretations of content (e.g., Alexander 1994; Bybee, Robinson, & Turow, 1982; Huston & Wright, 1996; Huston, Zillmann, & Bryant, 1994; Messaris & Sarett, 1981; St. Peters, Fitch, Huston, Wright, & Eakins, 1991). It is commonly recommended that parents and teachers take an active role in mediating children's experiences with television, that is, help them to understand the medium and its content, encourage them to accept certain messages and reject others, and intervene immediately should undesirable content be broadcast (Desmond, Singer, Singer, Calam, & Colimore, 1985; Dorr, Kovicar, & Doubleday, 1989).

There is ample evidence of the beneficial effects of adult mediation on children's learning of knowledge and attitudes (Huston & Wright, 1996); For example, several experiments have demonstrated that a coviewing adult who offers comments and interpretations of content improves children's learning from educational programs such as Sesame Street and Mister Roger’s Neighborhood (Ball & Bogatz, 1970; Collins, 1983; Colder-Bolz, 1980; Friedrich & Stein, 1975; Salomon, 1977; Watkins, Calvert, Huston-Stein, & Wright, 1980). In addition, adult mediation can enhance children's understanding of characters and events in action/adventure programs (Collins, Sobol, & Westly, 1981) and can modify children's attitudes toward violence in those same action/adventure programs (Corder-Bolz, 1980; Colder-Bolz, & O'Bryant, 1978). In tests of the effects of mediation on children’s responses to commercials, it has been found that mediation can make children feel more
positive towards non-traditional sex roles (Colder-Bolz, 1980), and can counteract the undesirable effects of television commercials themselves (Prasad, Rao, & Seikh, 1978; Robertson, 1979). Finally, when children are exposed to frightening scenes in children’s programs such as The Wizard of Oz mediation can serve to soothe them (Cantor, 1994; Cantor & Wilson, 1984).

The above-mentioned experiments suggest that adult mediation has a significant impact on children’s knowledge of and attitudes towards a variety of topics. However, the experimental evidence supporting the effects of adult mediation is limited in two ways. First, most of the mediation experiments have used young children and the impact of mediation on older children and young adolescents has largely been ignored. With the exception of a study by Colder-Bolz (1980), in which 11-year olds were included, the mediation studies have focused on either preschoolers (Ball & Bogatz, 1970; Colder-Bolz, & O'Bryant, 1978; Collins, 1983; Friedrich & Stein, 1975; Salomon, 1977; Watkins et al., 1980) or early elementary school children till the age of nine (Cantor & Wilson, 1984; Collins et al., 1981; Corder-Bolz, 1980; Prasad et al., 1978; Watkins et al., 1980). It is important to investigate whether the beneficial effects of adult mediation can be generalized to older children and young adolescents, because it is possible that the adult mediation strategies used for younger children do not hold for older children and young adolescents. It is possible, for instance, that the impact of adult mediation on younger adolescents is less than on younger children, because adolescents are more concerned with the opinions of their peer group than with the opinions of adults (Lapsley, 1991).

The evidence of the effects of adult mediation is also limited in that most of the mediation experiments have covered only certain kinds of content. This content has included
educational shows that typically attract a preschool audience (Jordan, 1997), action/adventure programs that also typically attract children (Miller, 1996), TV movies such as *Wizard of Oz*, that are aimed at children, and commercials that occur incidentally in the programs that children watch. The studies suggest that a mediating adult is an effective tool in helping children become critical viewers of programs they select and therefore, either enjoy, or are at least familiar with. However until now, it is unclear whether children make any gains from programs whose content or format they do not normally choose or are unfamiliar with. Recently, Jordan (1997) stated that as children enter school, they are less likely than their preschool counterparts, to choose educational and prosocial programming. Although older children still view educational fare in school settings, fewer and fewer children choose to watch it at home. There is a gap, therefore, in the research. Whereas children benefit from the mediation of programs they choose to watch and are therefore familiar with, it is unclear if older children make any gains from programs whose content or format they do not normally choose.

**Status of Children’s Programs**

Why is it important that we understand how children are affected by unfamiliar programs and programs about subjects that admittedly do not seem to attract them? Because positive programs aimed at children are increasing in number, due, in part, to the Children’s Television Act of 1990 which mandates that broadcasters serve the “educational/informational needs of children.” Although this act was passed 7 years ago, the act was vague enough that the identification of what constituted children’s educational programming was left up to the licensees, and therefore generated little change. Recently, however, more pressure has been put on the networks to attend to the television needs of
children. Faced with the threat of more specific legislation, they increased the number of educational and prosocial programs aimed at older children (Jordan, 1997). Unfortunately, children aren’t watching these educational and prosocial programs (Jordan, 1997). If these programs are to remain on the air, there must be audiences for them. Adult mediation may help increase and retain child audiences for positive programs.

Educational programs that are on the rise include such shows as Beakman’s World, a science program aimed at 8- to 12-year-olds, and a cultural children’s programs such as Wishbone. Wishbone presents a literary classic (e.g., Jane Austin’s Emma) during each program, but one of the lead role is adopted by Wishbone, a talking dog. However, these programs do not garner huge ratings shares, and producers therefore argue that the programs are difficult and unreasonably costly to produce and maintain. Without large enough and interested enough audiences these educational programs may become less prevalent, even with legislative pressures. Keeping the programs on the air is obviously more likely if children are watching them and if the benefits of watching can be maximized. Therefore, the present study seeks to examine the effect of a well-designed children’s program and adult mediation on children’s attraction to and learning from a program that they might not typically choose to watch. This is done so that we might contradict the television industry argument that “If you put on a program that is narrowly educational in a sort of scholastic sense..., then it seems that overwhelmingly kids will gravitate toward the entertaining program” (pp. 27-28, Jordan, 1997).

The present adult mediation study was aimed to fill in the gaps in earlier mediation studies in three ways. First, we investigated the effect of adult mediation on children aged nine to twelve. Second, we focused on a television program about a subject which older
children and young adolescents would not typically choose. Third, we aimed at the effect of an active mediating adult during a cultural children’s program on children's knowledge of and attitudes towards art and culture, which is to date unprecedented.

Cultural programming. By a cultural children’s program we mean a program in which children’s interest in art and culture is aroused in a entertaining way. More specifically, a cultural children’s program is designed to teach and to amuse children. In our experiment, we assigned a sample of children from grades 4 and 6 to one of two viewing conditions in which they watched a cultural program about opera that was designed specifically for children. The children watched with a coviewing adult who either commented positively or did not comment on the program.

From the range of different forms of art, we selected opera. The reason for this choice was twofold. First, we wanted to use a program about a subject which our sample age group would not immediately choose. Opera is a form of entertainment which is not very popular among young people (Geier, 1996). Second, during selection of the stimulus materials, we found an episode of a children’s program about opera, which fitted in our definition of a cultural children’s program and which was in addition so funny that it might have the potential to affect children’s attitudes. After all, to find media effects within the time frame of one 12-min episode, this episode has to be really persuasive.

In the present study, we investigated to what extent a creative children's program about opera and a mediating adult can influence children's knowledge of and attitudes towards opera. We assumed that because educational and prosocial programming is on the rise, children might have more access to this kind of program in the future. We were interested in how they might respond to this a-typical form of children’s programming if the program were
positively mediated by an adult coviewer.

Hypotheses

It is commonly understood that attitudes towards art and culture, just like many other attitudes, are influenced by socialization processes (Zimbardo & Leippe, 1994). Because of their cognitive immaturity, children are assumed to be more vulnerable than adults to persuasive television messages. This is the cause of parental concern about many negative influences of television content (e.g., on screen violence, stereotypes, advertising manipulation). However, because of children's increased susceptibility, television has an enormous potential for contributing to children's socialization through well-designed educational programming, especially when these programs are accompanied by adult mediation. Several earlier studies have found that adult mediation can exert a positive influence on children's knowledge of (Ball & Bogatz, 1970; Collins, 1983; Colder-Bolz, 1980; Collins et al., 1981; Friedrich & Stein, 1975; Salomon, 1977; Watkins et al., 1980) and attitude (Austin & Meili, 1994; Colder-Bolz, 1980; Colder-Bolz & O'Bryant, 1978; Prasad et al., 1978; Robertson, 1979) towards a variety of topics. On the basis of these earlier findings, we investigated the following two hypotheses:

H₁: Children who are given additional information about opera from a coviewing adult while watching a cultural children's program, will have more knowledge of opera than children who do not receive this additional information.

H₂: Children who receive positive evaluative comments from a coviewing adult, will have a more positive attitude towards opera than children who do not receive these evaluative comments.
Sample

The children, 64 fourth graders (9- to 10-year-olds) and 61 sixth graders (11- to 12-year-olds), were recruited from three primary schools in the area surrounding Amsterdam. One of these schools was a typical village school with children from different social backgrounds. The other schools were located in suburbs of medium-sized cities with primarily middle-class children. The sample consisted of 59 boys and 65 girls.

Stimulus Tape

The cultural program that was used in the present study was a 12 min episode of a Dutch children’s program made for children between 9 and 12 years old, which is broadcast daily in the Netherlands. The program consisted of approximately 50 percent educational information and 50 percent drama. In the dramatic part, the educational information was introduced and discussed—often in a very amusing way. The episode used was about opera in general and about the opera The Magic Flute in particular. In the first part of the episode, it was announced that a Dutch opera group has adapted the opera The Magic Flute for children. Then, some scenes from the opera were shown, some aspects about the history of opera were explained and it was demonstrated how the different male (bas, baritone, and tenor) and female opera voices (alt, mezzo-soprano, and soprano) sounded. The information was alternated with funny skits by Dutch actors. For example, the family life of Lucciano Pavarotti was parodied; he is shown to be unable to stop singing while he is at home.

Procedure and design

To investigate whether our experimental manipulation would lead to changes in children’s attitude towards opera, we utilized a pretest-posttest design. The comparisons between the experimental conditions occurred between the pretest and posttest level of
children's attitude towards opera. To minimize testing effects, children's attitudes towards opera were pretested at least two weeks before the experiment was conducted.

To investigate the difference in knowledge about opera between the mediation and non-mediation condition, a posttest-only design was utilized. This decision was made for two reasons. First, a substantial part of the knowledge test is based on specific information about the opera The Magic Flute, and we did not expect children to be familiar with this information. Second, testing effects seem to be greater in tests of knowledge than in that of attitude. It is possible that children's attention would be drawn to specific information given during a pretest, which could activate their memory while watching the stimulus tape, and, as a result, influence their posttest scores. This testing effect could threaten the internal validity of the experiment.

Children in each classroom were randomly assigned to one of the two conditions of the study: a mediation condition and a non-mediation condition. The randomization procedure took place in the classroom by having children blindly choose from a bag of black and white marbles. Children were then assigned to condition based on the color marble they had chosen. The experimenter (the third author of this article) brought the children in groups of six to ten, to an empty classroom in which a television and video player was located. Children were brought to the room only with the others who made up their condition. In both the mediation and the non-mediation condition, the experimenter watched the cultural children's program with them. The children were allowed to speak with each other during the program, just like they would speak in a natural home situation. In case that the conversations during the program was too uncontrolled, the experimenter was allowed to intervene. This was however, never necessary.
In the two conditions the experimenter's attitude differed considerably. In the mediation condition, she showed an enthusiastic attitude towards opera. She sat with the children, watching the program attentively, sometimes laughing at certain scenes in the program. She made several statements in a nonchalant manner. These included: "We are going to watch a very funny program about opera" and (afterwards) "In the program, you could hear that the singers had very beautiful voices." The experimenter also drew children's attention to certain aspects of opera: "We have just seen that the singers had to sing very loudly. This is because they don't use sound equipment at the opera" and "As you heard, they call a male singer with a high voice a tenor." Following Watkins et al. (1980), we initially tried to edit camera freezes in the stimulus tape during which the experimenter could give her comments. A pilot study showed, however, that it is very difficult to give innocuous and nonchalant comments that fit exactly in the edited intervals in the tape. Therefore, we decided to give the comments before and after the stimulus tape. This is in our opinion also more comparable to the home television viewing situation, in which camera freezes are also not possible.

In the non-mediation condition, the co-viewing adult did not give comments on the program. She showed a neutral attitude by sitting in the back of the room, refraining from any comment and alternating between watching the video tape and reading a newspaper. In this way, the non-mediation condition was similar to a situation in which children are supervised by a co-viewing adult, but no actual verbal mediation occurs.

After viewing, the children in both conditions first completed the attitude test and subsequently the knowledge test. The reason that we did not rotate the order of questionnaires was that we were afraid that children’s knowledge scores would influence their attitude.
scores. For example, a child who could not answer many knowledge questions might have become frustrated, and therefore feel less favorably towards opera. Before the questionnaires were administered, the experimenter emphasized that the tests had nothing to do with formal grades or testing. At the end of the session, the experimenter brought the children back to their classroom, and took the second group of children to the video room, repeating all procedures.

**Measures**

**Knowledge.** In order to measure children's knowledge of opera, we made up 23 multiple-choice questions. Following Findahl en H’ijer (1985), the questions were developed by determining all of the information units of the stimulus tape by means of the journalistic questions of who, what, when, where, and why. From the four possible answers only one option was correct. All of the questions tapped explicit content about opera. Children were asked for example: “What is the libretto”? (possible answers: a. The words of an opera that are sung or spoken; b. The music of an opera; c. The setting of an opera; d. The choir of an opera), “A low voice of a female opera singer is called”: (possible answers: a. Bass b. Alto c. Soprano; and d. Baritone), and “Who composed The Magic Flute”? (possible answers: a. Verdi; b. Mozart; c. Puccini; d. Bizet). Children's knowledge of opera was measured by totalling the number of correctly answered multiple choice questions. Cronbach's alpha of the knowledge scale was .69.

**Attitude.** The attitude scale consisted of five statements about opera: (a) “I think that opera music is a bore,” (b) “I think operas are cool,” (c) “When I hear an opera, I fall asleep,” (d) “I think operas are thrilling,” and (e) “In my opinion, operas last too long.” Two of the opera statements were stated positively, and three negatively. Children responded to the
statements on a four-point scale with the values always, often, sometimes, and never. The five attitude statements loaded on one factor which explained 55% of the variance. Cronbach's alpha for the scale was .76 in the pretest and .78 in the posttest.

**Design**

Knowledge. To investigate differences in knowledge of opera between the mediation and non-mediation condition, we utilized a between subjects design with mediation condition (mediation vs. non-mediation) and age group (grade 4 vs. grade 6) as between subjects factors.

Attitude. To measure differences in children's attitude towards opera between the conditions, we used a mixed design, with mediation condition (mediation vs. non-mediation) and age group (grade 4 vs. grade 6) as between subjects factors and measurement time (pretest attitude scores vs. posttest attitude scores) as a within subjects factor.

**Results**

Knowledge

To test our first hypothesis, we conducted a 2 x 2 ANOVA on the mean scores on the knowledge test, with mediation condition and age group as between subjects factors. The mean numbers of correctly answered knowledge questions (range: 0-23) are presented in Table 1.

<table>
<thead>
<tr>
<th></th>
<th>Mediation</th>
<th>Non-Mediation</th>
<th>Main Effect</th>
</tr>
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<tbody>
<tr>
<td>Grade 4</td>
<td>15.6</td>
<td>12.4</td>
<td>Mediation</td>
</tr>
<tr>
<td>Grade 6</td>
<td>16.2</td>
<td>13.8</td>
<td>Mediation</td>
</tr>
</tbody>
</table>

The ANOVA revealed a main effect of mediation, $F(1,118) = 10.31$, $p < .01$, $\eta^2 = .08$. As predicted, children learned more of a cultural children's program when a co-viewing adult
gave them additional information about the topic of the program watched. The ANOVA also yielded a main effect of age group, $F(1,118) = 3.93, p < .05, \eta^2 = .03$; older children had more knowledge of opera than younger children, regardless of whether they received additional information by the coviewing experimenter. There were no significant interactions between age and mediation.

**Attitude**

To investigate our second hypothesis, we conducted a 2(mediation condition) x 2(age group) x 2 (measurement time) ANOVA on the mean attitude toward opera scores. Mediation condition and age group were between subjects factors and measurement time was a within subjects factor. Table 2 shows the mean attitude scores of the two age groups and two mediation conditions measured during the pretest and posttest.

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
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</thead>
<tbody>
<tr>
<td>Mediation condition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No mediation</td>
<td>0.85</td>
<td>0.72</td>
</tr>
<tr>
<td>Mediation</td>
<td>0.78</td>
<td>0.65</td>
</tr>
</tbody>
</table>

The ANOVA yielded a significant main effect of age group, $F(1,120) = 18.30, p < .001, \eta^2 = .13$. Children in grade 6 had a more negative attitude towards opera than the children in grade 4. The ANOVA also showed a main effect of measurement time, $F(1,120) = 5.54, p < .05, \eta^2 = .04$, which means that both younger and older children’s attitude towards opera had become more positive after having seen the stimulating children’s program. However, this more positive attitude towards opera was found in both conditions. While the difference in attitude between the pretest and the posttest was higher in the mediation condition ($M_{\text{change}} = .13$) than in the non-mediation condition ($M_{\text{change}} = .07$), this difference was not significant, $F(1, 120) = .49, p = .49, \eta^2 = .01$. There were no significant interactions between
any of the variables.

**Correlation between knowledge and attitudes scores**

To investigate whether children’s attitudes towards opera was related to their knowledge of opera, we calculated Pearson’s correlation between the knowledge and attitudes scores. The relationship between knowledge of and attitudes towards opera turned out to be nonsignificant, $r = -.08$, $p = .38$.

**Discussion**

The purpose of this experiment was to investigate the extent to which older children's knowledge of and attitudes towards a program whose content they would not typically choose and whose content they are unfamiliar with, is affected by adult mediation. We chose a program about opera that had been designed for children in the ages of 9 to 12. We hypothesized that children who are given additional information by a coviewing adult gain more knowledge about opera than children who do not receive this information. This hypothesis was confirmed. In agreement with earlier studies (Ball & Bogatz, 1970; Collins, 1983; Colder Bolz, 1980; Friedrich & Stein, 1975; Salomon, 1977; Watkins et al., 1980), active mediation proved to exert a significant influence on children's learning from the children's program about opera.

Our second hypothesis, that children who receive positive evaluative comments from a coviewing adult, would have a more positive attitude towards opera than children who did not receive these evaluative comments, was not confirmed. Children's attitude towards opera was similar for the two mediation conditions. Our results did show, however, that the cultural children's program had a stimulating effect on children's attitude towards opera, irrespective of mediation condition. There are three possible explanations for these findings. First, the
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A coviewing adult in the present experiment might not have served as an adequate role model
for the children, because the children were unfamiliar with her. The experimenter had seen the
children only once before the experiment was conducted. A second plausible explanation is
that a cultural program such as the one used in the present study has a so-called self-mediating
function (Colder-Bolz, 1980). The program presented children with a number of very funny
scenes, which the children may have liked so much that external mediation by an adult was
redundant.

A third explanation for the lack of impact of adult mediation on attitudes might be that
the adult mediation strategies used for young children do not hold for older children and
young adolescents. It could be possible that the influence of adult mediation on young
adolescents is less than on younger children, because adolescents at this stage might be more
concerned with the opinions of their peer group than with those of an adult (Lapsley, 1991).
In fact, it is possible that because of their greater emphasis on peer norms, peer mediation and
not adult mediation may be more beneficial for this older age group in terms of attitudes.
Whereas young adolescents may look to adults to improve their knowledge about a certain
topic, adults may be less relevant to their attitude formation. Additional research should focus
on the interaction between age and peer mediation on children’s attitudes towards unfamiliar
topics. It is possible that older children and adolescents may garner benefits from adult
mediation in the domain of knowledge but from peer mediation in the domain of attitude;
whereas younger children may garner benefits from adults in both knowledge and attitude
formation.

There was a significant main effect for age on children’s attitude towards opera.
Overall, 11- and 12 year olds had more negative attitudes towards opera than their 9- and 10
years old counterparts. This effect is most likely due to the fact that as children enter adolescence, they become more concerned with the opinions held by those in their peer group, whether those opinions are really held by their peers or only imagined by the adolescent (Lapsley, 1991). It is likely then that these older, more self-conscious adolescents imagined opera to be an inappropriate form of entertainment for them and for their peers. They therefore adopted a more negative attitude than the younger children did in the pretest and posttest of both experimental conditions.

In general, our results show that when programs are planned and designed to teach, children can learn from them. In addition, positive comments from an adult can enhance learning; however, in the case of unfamiliar content, such as opera, attitudes do not seem to be improved by adult mediation. Although the program itself improved attitudes towards opera, adult mediation only provided additional benefit to knowledge and not to attitude.

Currently, educational and prosocial programming aimed at children is on the rise, albeit slowly. If children’s television advocates want to convince producers to create more positive programs for children, it is important that children watch the programs. Obviously, without a large enough audience, even the most motivated advocates would be hard-pressed to convince producers to continue positive programming for children. Therefore, we must understand first, how to improve children’s attitudes towards these unfamiliar programs and second, how to improve the knowledge gains made by watching them. If television is to become a positive force for the development of children, the industry has a responsibility to supply varied, creative and well-designed programs and the general public has a responsibility to encourage positive attitudes towards watching those programs.
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References


Author Note

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An earlier version of this paper was presented at the annual conference of the International Communication Association, Montreal, May 22-26, 1997. This study is supported in part by a grant from the Dutch National Science Foundation [Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO)]. We would like to thank Sandra Calvert for her useful comments on an earlier version of this paper.

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Table 1

Mean Numbers of Correctly Answered Knowledge Items for the Two Mediation Conditions and Age Groups

<table>
<thead>
<tr>
<th>Condition</th>
<th>Grade 4</th>
<th>Grade 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-mediation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>12.8</td>
<td>13.6</td>
</tr>
<tr>
<td>SD</td>
<td>3.2</td>
<td>3.8</td>
</tr>
<tr>
<td>Mediation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>14.3</td>
<td>16.0</td>
</tr>
<tr>
<td>SD</td>
<td>3.2</td>
<td>3.3</td>
</tr>
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</table>
Table 2
Mean Attitude Scores in the Pretest and Posttest for the Two Mediation Conditions and Age Groups

<table>
<thead>
<tr>
<th>Condition</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
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<tbody>
<tr>
<td>Non-mediation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>2.53</td>
<td>2.58</td>
</tr>
<tr>
<td>SD</td>
<td>.68</td>
<td>.53</td>
</tr>
<tr>
<td>Grade 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>2.00</td>
<td>2.09</td>
</tr>
<tr>
<td>SD</td>
<td>.56</td>
<td>.71</td>
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<tr>
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<td>SD</td>
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