

# The Contribution of Peer Values to Children's Values and Behavior

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Personality and Social  
Psychology Bulletin  
1–21  
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DOI: 10.1177/01461672211020193  
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## Abstract

Personal values have a key role in determining people's perceptions, judgments, and behaviors. Only a handful of studies examined determinants of children's values outside the family. We used longitudinal data on children's values from 15,008 children in Grades 3 to 9, and homeroom teachers' reports about the behaviors of 3,476 of these children. As predicted, peers' values were positively correlated with the strengthening of children's corresponding values. Moreover, with the exception of self-transcendence values, peer values had an indirect effect on corresponding child behavior, through children's self-endorsed values. Girl peers had stronger effects on both girls' and boys' values. In addition, we found some evidence for stronger relationships between peer and children's values among the older children, in particular among boys. These latter effects were even more prominent in an extended sample that included data from first and second graders. We discuss the theoretical and practical implications of our findings.

## Keywords

values, value socialization, values and behavior, peers, peer influence

Received April 20, 2020; revised accepted May 2, 2021

Values reflect what is important in people's lives. They influence how people perceive themselves and the world around them, and highlight the importance of one behavior over another, inducing people to act in a certain way (Schwartz, 2012). Accordingly, much research is devoted to understanding how values develop, early on, typically during childhood and youth (e.g., Döring et al., 2016). Socialization has a significant role in the development of children's values, as these are transmitted to the child from close others (Grusec et al., 2000). Numerous studies show the impact of parents on their children's values (for reviews, see Grusec & Davidov, 2010; Knafo-Noam, Barni, & Schwartz, 2020).

Only a handful of studies, however, have examined the role of factors outside the family. One such factor is the school and its staff. In a recent longitudinal study, school children's values were linked to the values of the school principal (Berson & Oreg, 2016). Beyond the school staff, classmates may be another significant source of influence on children's values, which in childhood and early adolescence are a particularly powerful socialization factor (Rubin et al., 2015). In this study, we focused on classmates' values and their impact on children's values and school-related behavior (see Figure 1). Specifically, we argue that, over time, children's values will become more similar to those of their peers, which, in turn, will predict children's classroom behavior. We also considered differences in the effects of classmates' values on children's values as a function of their gender and age.

## What Are Values?

Values are an aspect of personality involving what people consider important in life (Rokeach, 1973). They capture individual differences in people's overarching motivations and can be viewed as guiding principles in people's lives (Schwartz, 1992, 2012). Once consolidated, typically by early adulthood, they are relatively stable over time and across situations. In his theory of personal values, Schwartz defines four broad values, represented by the poles of two orthogonal bipolar continua. One continuum represents the conflict between self-enhancement and self-transcendence values. *Self-enhancement* values' focus is on the pursuit of personal goals by excelling and by controlling others. *Self-transcendence* values which involve an emphasis on the concern for close and distant others. The second continuum represents the conflict between openness to change and conservation values. *Openness to change* involves an emphasis on the search for change through new ideas,

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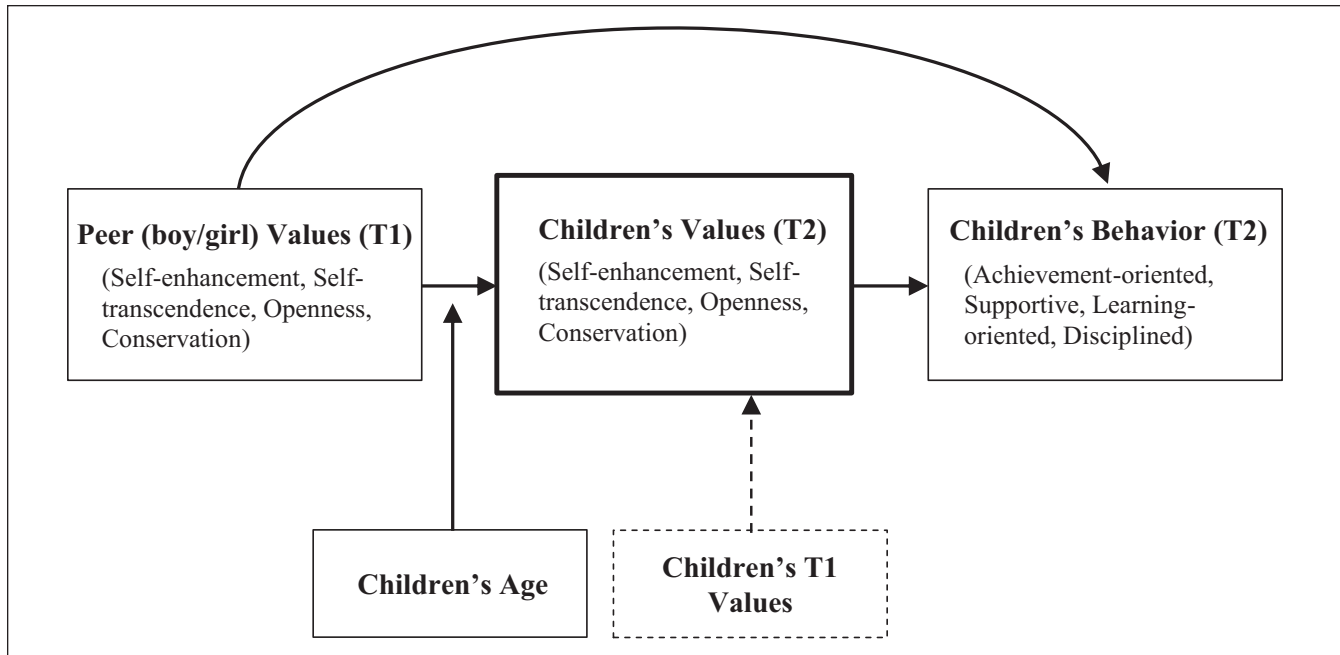
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**Figure 1.** Hypothesized relationships between peer values (T1), children's values (T2), and children's behavior (T2) and the moderating effects of children's age (grade), controlling for children's T1 values.

experiences, and actions. In contrast, *conservation values* involve an emphasis on stability and the preservation of the status quo.

### Predictors of Children's Values

Much research has explored the role of family socialization, including the importance of parental practices in the formation of children's value systems (Döring et al., 2017; Grusec & Davidov, 2010). Complementing this research, recent studies highlight the role of nondomestic factors in shaping children's values (Uzefovsky et al., 2016). Among such nondomestic factors is the school, in which values are promoted and endorsed (Tal & Yinon, 2009). Yet only a few studies have examined schools' role in shaping children's values, most of which demonstrated only aggregate differences in the values of children from different schools (Bacchini et al., 2015; Hofmann-Towfigh, 2007; Knafo et al., 2008). In a recent study, principals' values and schools' climates were linked with the development of children's values such that, over time, children's values became more similar to those of the principal and corresponded with the school climate (Berson & Oreg, 2016). Specifically, principals' values were positively associated with the change in their schoolchildren's aggregated values over a 2-year period. Beyond vertical school effects, from educators to students, schools also contribute to children's value socialization through the horizontal effects of peers. In fact, most of children's time in

school is spent with their peers, who have a much more proximal and direct impact on children's values than do educators. Accordingly, peer groups in schools are considered the most powerful source of influence on the development of children's personality (Harris, 1995).

### Peers' Influence on Children's Behavior

Peers have a strong influence on children (Rodkin & Ryan, 2012), potentially leading to both positive (e.g., Padilla-Walker & Bean, 2009; van Hoorn et al., 2016) and negative (Boehnke, 2008; Dishion et al., 2006) behaviors and outcomes. In a meta-analysis of 75 studies, peers' behaviors were associated with children's risk behaviors (Liu et al., 2017), stressing the potentially destructive role of peers. In contrast, peer feedback has also been shown to yield positive outcomes, such as prosocial behavior (van Hoorn et al., 2016).

Although evidence for peer influences on children's behavior is prevalent, and although values have been said to play a role in the process of peer influence (Rubin et al., 2015), little is known about peers' role in shaping children's values. In the present examination, we propose that one factor through which peers influence children's behavior is their personal values. Specifically, we tested the effects of peer values on children's own values, and their indirect effect on children's behavior, mediated by children's own values. As we describe below, we also propose that the effects of peer values on children's values strengthen with children's age (see Figure 1).

## Peer Values and Children's Values

Although peer influences on children's values have yet to be studied explicitly, some theoretical developments support this notion. First, values are said to be one of the mechanisms through which children become similar to their peers, not only in behavior but also in attitudes, beliefs, and experiences (McPherson et al., 2001). Peers are important social agents, in their role as an important reference group, providing important information and perspectives about social reality (Rivas-Drake et al., 2018). Among their influences, peers have an important role in facilitating a favorable sense of self (Ladd & Troop-Gordon, 2003). Such self-appreciation is often enabled through children's adoption of their peers' values and behaviors (Gerrard et al., 2008). In addition, the need to individuate themselves from adults further drives children and youth to rely on their peers for understanding and determining what is acceptable and desired (Brechwald & Prinstein, 2011).

Despite the lack of research on peer influence on values, some research demonstrates peer influences on constructs that are related to values, such as motives and goals (McAdams & Olson, 2010). Specifically, research has addressed peers' impact on children's academic motivation and social goals (e.g., Berndt et al., 1990; Brechwald & Prinstein, 2011). Although these concepts are narrower and more context-specific than values, they are similar to values in that they too are motivational in nature and differ across individuals and can thus provide some basis for hypothesizing about peers' influence on children's values. For example, peers may contribute to a supportive academic environment that can increase children's academic motivations (Juvonen & Knifsend, 2016). Accordingly, in an experiment, conversations with friends were shown to affect children's academic motivations (Berndt et al., 1990).

Similar peer effects have been found for social goals (Brechwald & Prinstein, 2011). Social goals include agentic goals, which are geared toward gaining a sense of independence, dominance, and mastery (similar to self-enhancement values) and communion goals, which are relational and are geared toward gaining affiliation and intimacy (and are thus related to self-transcendence values). In one study, friends grew more similar over time in both agentic and communal goals (Ojanen et al., 2013).

Accordingly, children have been shown to be similar in their values to their friends (Solomon & Knafo, 2007). Although this similarity may also result from self-selection, in that children tend to choose to be with those who resemble them (Bardi et al., 2014), evidence suggests that it may also result from the process of peer influence (e.g., Brechwald & Prinstein, 2011; Steinberg & Monahan, 2007). Although this has yet to be tested empirically, one could similarly hypothesize that peers influence children's values (see first link in Figure 1).

Of the research reviewed above, only one study examined peers' values, demonstrating similarity among classmates'

values (Solomon & Knafo, 2007). Peers' and children's values in that study, however, were examined concurrently. One of the challenges, in studying peer influence on values, is to disentangle the reciprocal effects that children have on each other. In this study, we addressed this challenge by examining these effects longitudinally, such that peer values are assessed before the assessment of children's values and behavior.

## Children's Values and Behavior

As noted above, we propose that children's values mediate the relationship between peer values and children's behavior (first and second links in Figure 1). Thus, following the link between peer values and children's values, we also expect that children's values will predict their behavior. Whereas the relationships between values and behavior have been extensively demonstrated among adults (for a review, see Roccas & Sagiv, 2017), only recently has evidence begun to accumulate about these relationships among children. For example, values have been shown to predict children's prosocial behavior (Abramson et al., 2018; Benish-Weisman et al., 2019) and aggression (Benish-Weisman, 2015, 2019; Benish-Weisman & McDonald, 2015; Daniel et al., 2020). In other research, among primary and secondary school children, the four basic value dimensions (i.e., self-enhancement, self-transcendence, openness to change, and conservation) have been linked with corresponding school-related behaviors (i.e., achievement-oriented, supporting, learning, and disciplined; Berson & Oreg, 2016). Thus, alongside the ample evidence among adults, some evidence is beginning to accumulate of the relationship between values and behavior among children and adolescents.

Unlike previous research in this field, most which has focused on deviant and maladaptive behavior (Liu et al., 2017), we considered in this study a broad range of behaviors, which correspond with the full range of personal values. Specifically, we considered relationships between values and behaviors that are supportive, disciplined, achievement-oriented, and learning-oriented. Moreover, we used teacher reports of children's behaviors, to avoid a common source bias (Podsakoff et al., 2003).

## Gender and Peer Effects on Values

From childhood, to early adolescence, children tend to play with same-gender peers (Mehta & Strough, 2009; Parker et al., 2006). Although there are many exceptions, and differences between typical boy and girl behavior have become less distinct, a recent meta-analysis showed that boys and girls at this age still tend to engage in different patterns of play (Todd et al., 2018): Boys tend to be involved in physical activities, such as rough-and-tumble play, whereas girls tend to play games with an emphasis on social relations (Mehta & Strough, 2009). In addition, boys are more likely to be more assertive and are more likely to value mastery and competition, whereas

girls more likely to value cooperation and affiliation with others (Rose & Rudolph, 2006). Overall, despite evidence for the benefits of cross-gender relationships (e.g., Martin et al., 2014), same-gender friendships and gender-typed behavior are still generally considered normative and desirable among children (e.g., Bigler et al., 2016; Lee & Troop-Gordon, 2011). Both parents and other authority figures (e.g., teachers) help preserve this divide, as parents and school staff often encourage gender-typed play (Brown & Stone, 2018). In addition, peers also shape such gender-typed play, as children who do not conform to same-gender friendships are often target of social sanctions and bullying (Mehta & Strough, 2009). We therefore propose that in testing peer influences, same-gendered and different-gendered peer effects should be tested separately. Moreover, we propose that peer effects will be particularly potent for same-gendered peers.

### Age and Peer Effects on Values

Throughout childhood and early adolescence, peers' position in children's lives becomes more prominent with age (Knoll et al., 2015). During this period, children take their first steps toward becoming emotionally independent from their parents, and therefore gradually transition part of their focus to their peers (Steinberg & Monahan, 2007). Accordingly, as children develop and enter adolescence, they are more likely to align their preferences and priorities along those of their peers (Gavin & Furman, 1989). We therefore hypothesize that age will moderate the relationships between peers' values and children's own values, such that the relationship will strengthen with age, as children enter adolescence.

## Method

The data we used for this study were collected as part of a broader project, parts of which have been published in Berson and Oreg (2016). The focus in the previous publication was on the effects of principals and organizational factors within the school on children's values, and their indirect effect on children's behavior. Thus, although the data on children's values and behaviors were used for that study, the focus was on different predictors and hypotheses than those of this study. The procedures we describe below for collecting data on children's values and behaviors, and the information about the measures, were nevertheless also described in Berson and Oreg (2016). The study was conducted in accordance with the requirements of the Haifa University's and the Ministry of Education's ethical review boards.

### Participants

Data for this study were collected from children and teachers in public elementary ( $N = 24,582$ ) and secondary ( $N = 7,105$ ) schools sampled from all education districts in Israel, in both central and peripheral towns. Data were collected at two points in time, 2 years apart. As a rule, elementary school

in Israel ends at sixth grade, and secondary school ends at ninth grade. To ensure that we can approach the same children at the two data collection phases, we therefore collected data at Time 1 from children in Grades 3 to 4, and 7.<sup>1</sup> Accordingly, the children from whom we collected data at Time 2 were in Grades 5 to 6, and 9.

We collected in Time 1 data from 31,687 children (50.8% female) about their personal values. We collected data on children's values again at Time 2 from 18,431 children, 15,008 of whom were the same children who reported their values in Time 1. Because our focus was on the change in children's values over the two points in time, we only used data from those children who provided values data in both time points. In addition, we collected at Time 2 data from 555 homeroom teachers<sup>2</sup> who reported about the behaviors of 3,476 of the children in our sample. Of the children in the study, 80.5% were Jewish and the remaining 19.5% were Arab, which closely corresponds with the distribution of Jews and Arabs in Israel. The mean number of children in our study, per class, was 25.11 ( $SD = 6.76$ ).

### Procedure

During each data collection phase (i.e., Time 1 and Time 2), children filled out values questionnaires in class, over a 30- to 45-min time frame. In each class, a research assistant provided instructions for filling out the questionnaire, and remained in class to answer questions and attend to children who required assistance. Homeroom teachers were approached at Time 2 and asked to randomly select up to 12 children from their class, who attended the school 2 years earlier, and rate their typical class behavior. Behaviors were reported through the class behavior questionnaire (Berson & Oreg, 2016). The median number of children rated by each homeroom teacher was seven.

### Measures

**Age.** Because our data do not include children's age, we used their grade (in Time 1) as a close proxy. Children in Israel typically enter the first grade at the age of 6 years. The average age of third-grade students in Israel in 2013 (the first year during which the data for this study were collected) was 8.14 years ( $SD = 0.40$ ; data obtained from Israel's Central Bureau of Statistics, October 2020).

**Personal values.** Children in Grades 3 and above have been shown to have sufficient reading ability for filling out values scales (e.g., Knafo & Spinath, 2011). We therefore based our measure on the Portrait Values Questionnaire (PVQ5X, Schwartz et al., 2012), which is one of the main scales used for assessing personal values. The PVQ5X is a refined version of the earlier PVQ scale (Schwartz et al., 2001), which, like the PVQ, includes short descriptions of the goals and aspirations of hypothetical individuals. Participants are asked to rate how similar they are to the hypothetical



individuals described, using a scale ranging from 1 (*not like me at all*) to 6 (*very much like me*). To make it easier for children to comprehend the items and maintain focus throughout the scale administration procedure, we introduced two adaptations to the scale. First, whereas PVQ items are typically worded in the third person, we revised item wording to the first person (e.g., “I go out of my way to be a dependable and trustworthy friend”), to make items less abstract. Second, given children’s difficulties in filling out long questionnaires, we used a subset of the original set of items, selected through consultation with Shalom Schwartz (personal communication, January 11, 2011), who developed the theory and measure of personal values, and recommended items based on his familiarity with their validity. We focused on items with high face validity and relevance for the school context, and a relatively high degree of concreteness. As preliminary assessment of the scale’s validity, we ran a multidimensional scaling (MDS) analysis. MDS is used for mapping the relationships among scale items onto a two-dimensional space and is one of the basic procedures used for validating the two-dimensional structure of values scales. This two-dimensional structure is the core of what Schwartz (1992) describes as the “circular structure of values.” As would be predicted by Schwartz’s theory, scale items were organized in a circular pattern, forming two axis—one with self-enhancement values opposite to self-transcendence values and one with conservation values opposite to openness to change values.

Conservation values were assessed with six items that tapped aspects of conformity (e.g., “It is important to me to follow rules even when no one is watching”), tradition (e.g., “Following my family’s customs is important to me”), and security (e.g., “It is important to me that my country protect itself against all threats or danger”). Openness to change values were assessed with four items that tapped individuals’ preference for stimulation (e.g., “It is important to me to have all sorts of new experiences”) and self-direction (e.g., “It is important to me to make my own decisions”). For self-transcendence and self-enhancement values, which are relatively heterogeneous in their content, part of which is particularly abstract (e.g., “He works to promote harmony and peace among diverse groups”), we focused on the particular value in each category that is most concrete (e.g., Datler et al., 2013; Schwartz, 1992, 2012) and most clearly manifested in the school context. Self-transcendence was therefore assessed with two items that tap benevolence (e.g., “It’s important to me to help the people dear to me”), and self-enhancement was assessed with two items that tap achievement (e.g., “Being very successful is important to me”). A list of the items used in the study and their designated values are provided in Appendix 1.

Cronbach alpha scores in Time 1/Time 2 were .72/.75, .59/.62, .53/.57, and .71/.75, for conservation, openness to change, self-transcendence, and self-enhancement, respectively. Although some of these alpha scores are lower than the accepted .70 threshold, they closely correspond with those obtained from other samples of children who filled out the

PVQ (e.g., Benish-Weisman, 2015; Vecchione et al., 2015) and correspond with the heterogeneous content captured in the broad value categories. It is, in fact, not uncommon for the reliability scores of values in general to be relatively low, even among adults, as indicated in the research through which Schwartz’s values scales were developed (Schwartz et al., 2001, 2012) as well as in others’ research (e.g., Leikas et al., 2009; Leung et al., 2007; Lönnqvist et al., 2009). The lower reliability scores among children may further result from the fact that values among children and have yet to consolidate and the distinctions among them are still unclear (Döring et al., 2016).

To further test the validity of this adapted scale we applied four procedures. We started with a confirmatory factor analysis of the scale to verify its four-factor structure. As expected, all items loaded significantly on their corresponding values and the fit of the model was good (comparative fit index [CFI] = .96, root mean square error of approximation [RMSEA] = .040). Second, we used a data set we had available from a previous project, that included data from 75 school principals who filled out the complete PVQ40 (Schwartz et al., 2001). Although the wording of items on the PVQ40 and the PVQ5X is slightly different, it is sufficiently similar to allow for a comparison of the two versions. We calculated value indexes, first by using the full PVQ40 and then by using the 14 items that corresponded with the items we used for measuring children’s values in this study. The correlations between the original scale value dimensions and those calculated with the subset of items were .86, .74, .73, and .87 for conservation, openness to change, self-transcendence, and self-enhancement, respectively (all were significant at  $p < .001$ ). All these correlations are strong and thus provide evidence for the validity of the abbreviated scale.

Third, Dr. Schwartz provided us with data from a sample of 410 Israeli adults who had filled out the complete PVQ5X scale (Schwartz et al., 2012). Using these data, we calculated the same two sets of indexes as described above: one was of the four value dimensions using all the PVQ5X items, and the other was of the value dimensions using the subset of items used in this study. The correlations were .88, .91, .80, and .91 for openness, conservation, self-transcendence, and self-enhancement, respectively, all of which are very high and provide yet further evidence for abbreviated scale’s validity. Finally, we tested the measurement invariance of the measure across the two waves of data. The analysis supported both configural (CFI = .917, RMSEA = .061) and metric ( $\Delta$ CFI = .000,  $\Delta$ RMSEA = .002) invariance.

In line with the guidelines for the use of Schwartz’s values scales, we ipsatized value scores prior to using them in our analyses by centering participants’ responses around their mean response to the full values scale, which included 24 items, including values not used in our model (e.g., hedonism, humility).

*Schoolchildren’s class behaviors.* The items for assessing children’s class behavior were composed for the purpose of the

**Table 1.** Means and Standard Deviations and Sample Size of Study Variables.

		Girls			Boys			Cohen's <i>d</i>
		<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	
Values (T1)	Self-enhancement	-0.19	0.96	7,672	0.16	1.00	7,265	-.36
	Self-transcendence	0.12	0.94	7,671	-0.10	1.02	7,268	.22
	Openness	-0.05	0.96	7,671	0.03	1.02	7,261	-.08
	Conservation	0.11	0.93	7,673	-0.08	1.03	7,267	.19
Values (T2)	Self-enhancement	-0.15	0.92	9,316	0.25	0.95	9,023	-.43
	Self-transcendence	0.21	0.91	9,317	-0.09	0.97	9,022	.32
	Openness	-0.04	0.96	9,315	0.08	0.98	9,024	-.12
	Conservation	-0.06	0.94	9,317	-0.15	1.03	9,025	.09
Behaviors (T2)	Achievement	0.01	0.63	1,445	0.11	0.67	1,302	-.15
	Supportive	0.06	0.61	1,445	-0.15	0.68	1,303	.33
	Learning	0.17	0.51	1,445	0.25	0.54	1,302	-.15
	Disciplined	0.61	0.72	1,445	0.32	0.85	1,301	.37

Note. Children's grade at Time 1 were third (elementary school) and seventh (secondary school).

broader project within which this study was conducted. As described in Berson and Oreg (2016), scale items consist of descriptions of typical class behaviors. The scale provides scores on four types of behaviors that correspond with the four broad values categories. Disciplined behavior (two items) corresponds with conservation values; learning-oriented behavior (three items) with openness to change values; supportive behavior (three items) with self-transcendence values; and achievement-oriented behavior (three items) with self-enhancement values (see Appendix 2 for a list and classification of the scale items). For each child of those selected by the homeroom teachers, the homeroom teachers rated the degree to which each of the descriptions accurately portrayed the child. Cronbach alpha reliability scores for the scale were .92, .87, .75, and .80, for the disciplined, learning-oriented, supporting, and achievement-oriented dimensions, respectively. Because the scale was modeled over the values scale, we ipsatized behavior scores prior to using them in our analyses.

## Analyses and Results

Given that our model involves a relatively large number of hypotheses, we used a correction for multiple tests, to account for false detection rates (Benjamini & Hochberg, 1995). We used the Benjamini and Hochberg's stepwise procedure, which accounts for false detection rates, and thus lowers the probability for type I error, but at the same time does not inflate the chances for type II error as much as the more conservative Bonferroni procedure. Given our focus on explaining children's values, we applied the correction for the hypotheses in which we predict children's values. These include the four primary hypotheses about the relationships between peer values and children's values, the eight hypotheses about the separate effects of girl and boy peer values, and the eight about the moderating effect of age (28 in total).

We first created peer value scores by calculating, for each child, the average values of her and his classmates. We calculated three peer scores: all peers (boys and girls together), girl peers, and boy peers. Means, standard deviations, and numbers of observations for children's values (separately for T1 and T2) and behaviors are presented in Table 1. Correlations among variables for the girls and boys in our sample are presented in Tables 2 and 3, respectively. Although all our variables are at the individual-level, our data are nested, at three levels (children within classes, within schools). We therefore conducted multi-level analyses for testing our hypotheses to account for the nonindependence of our data within classes and schools. We used Mplus (Version 8; Muthén & Muthén, 1998–2012) for the multilevel mediation tests (i.e., indirect effects) and the lmer function in R's lme4 package (R-Core-Team, 2013; version 3.6.0) for the multilevel moderation analyses. The mediated effects for the four value dimensions were tested simultaneously, while controlling for children's values in Time 1 and for the intercorrelations among value dimensions and among behavior dimensions (see Figure 2).

As can be seen in Figure 2, for all four value dimensions, peers' values predicted children's values. In addition, with the exception of self-transcendence, children's values predicted their behavior. Accordingly, the indirect effects of peer values on children's behavior were significant (at least at  $p < .05$ ) for the self-enhancement, openness to change, and conservation value categories (Table 4). The direct (unmediated) effects of peer values on behavior were not significant for all value dimensions with the exception of conservation values. These findings thus provide overall support for our main hypotheses about the mediated effect of peer values on behavior, through children's values. As can be seen in the  $R^2$  values in Figure 2, our predictions were more meaningful in the prediction of children's Time 2 values, with the

**Table 2.** Correlations Among Study Variables in Girls Sample.

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Grade in T1												
T1 Values	2. Self-enhancement (T1)	.07**										
	3. Self-transcendence (T1)	.18**	-.38**									
	4. Openness (T1)	.01	-.06**	-.25**								
	5. Conservation (T1)	-.09**	-.40**	-.01	-.43**							
T2 Values	6. Self-enhancement (T2)	.15**	.35**	-.11**	.01	-.14**						
	7. Self-transcendence (T2)	.15**	-.17**	.23**	-.06**	.03**	-.33**					
	8. Openness (T2)	-.01	-.00	-.03*	.23**	-.16**	-.10**	-.21**				
	9. Conservation (T2)	-.12**	-.13**	.00	-.16**	.28**	-.33**	-.05**	-.48**			
Behaviors	10. Achievement (T2)	.01	.06*	-.01	.06*	-.03	.07**	-.04	.08**	-.09**		
	11. Supportive (T2)	.01	-.10**	.06*	-.05	.06*	-.08**	.06*	-.06*	.06*	-.63**	
	12. Learning (T2)	-.00	-.05	.03	.09**	-.04	-.03	.05*	.05	-.01	.07**	-.21**
	13. Disciplined (T2)	.04	-.05	.00	-.06*	.06*	-.03	.01	-.14**	.11**	-.44**	.16**

Note. \* $p < .05$ . \*\* $p < .01$ .

**Table 3.** Correlations Among Study Variables in Boys Sample.

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Grade in T1												
T1 Values	2. Self-enhancement (T1)	.08**										
	3. Self-transcendence (T1)	.12**	-.36**									
	4. Openness (T1)	-.01	-.08**	-.21**								
	5. Conservation (T1)	-.07**	-.40**	-.06**	-.43**							
T2 Values	6. Self-enhancement (T2)	.14**	.33**	-.12**	-.01	-.15**						
	7. Self-transcendence (T2)	.09**	-.15**	.19**	-.02	.01	-.34**					
	8. Openness (T2)	-.00	-.02	-.01	.23**	-.13**	-.08**	-.18**				
	9. Conservation (T2)	-.13**	-.11**	-.01	-.14**	.26**	-.37**	-.10**	-.43**			
Behaviors	10. Achievement (T2)	-.06*	.02	.02	.06	-.09**	.07*	-.08**	.11**	-.08**		
	11. Supportive (T2)	.09**	-.04	.02	-.07*	.09**	-.10**	.07**	-.13**	.11**	-.66**	
	12. Learning (T2)	-.09**	-.07*	.09**	.08**	-.07*	.03	-.02	.12**	-.10**	.20**	-.35**
	13. Disciplined (T2)	.11**	-.00	-.03	-.12**	.12**	-.10**	.09**	-.12**	.12**	-.48**	.25**

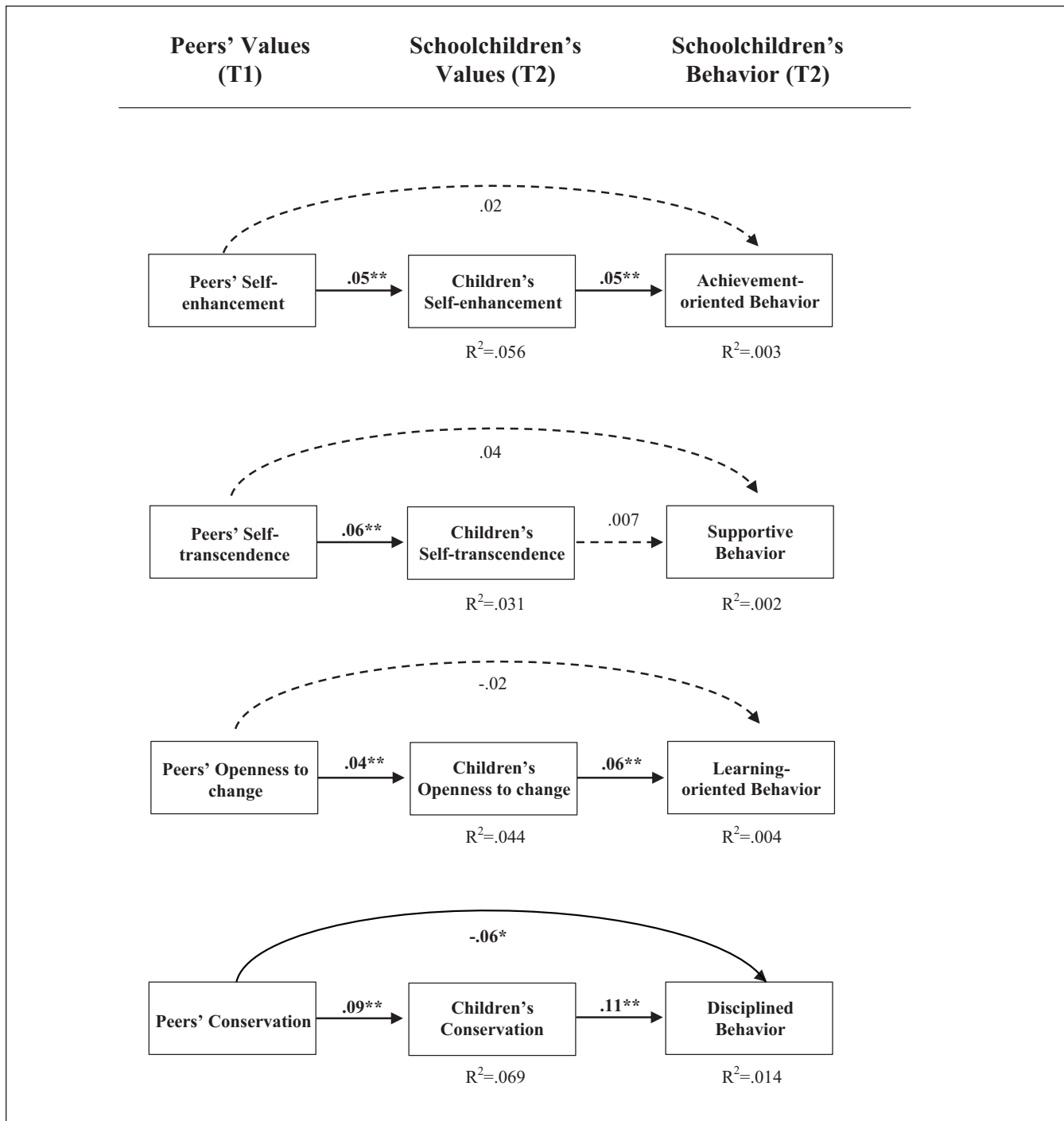
\* $p < .05$ . \*\* $p < .01$ .

percentage of variance explained ranging between 3.1% and 6.9%, than in the prediction of behaviors ( $.1\% < R^2 < 1\%$ ). We address this point in the “Discussion” section.

Next, we tested the effect of girl and boy peers’ values on girls’ and boys’ values separately (see Figures 3 and 4). As can be seen in Figure 3, girl peer values significantly predicted girls’ values for all four value dimensions, whereas boy peer values predicted only girls’ conservation values, and the effect was smaller than that of girl peers. With respect to the relationship between girls’ values and behavior, the effects were significant only for self-enhancement and conservation values. In line with these findings, the indirect effects for girl peers on girls’ behavior were significant only for self-enhancement and conservation (see Table 4), and only the indirect effect of the boy peer conservation values on girls’ disciplined behavior was statistically significant. Among the direct effects, only the

effect of girl peer self-enhancement on achievement-oriented behavior was significant.

As can be seen in Figure 4, boy peer values significantly predicted boys’ values for all value categories, with the exception of self-enhancement. In addition, girl peer values predicted boys’ self-transcendence and conservation values. In turn, boys’ values predicted boys’ corresponding behavior for all values, with the exception of self-transcendence. The indirect effects of boy peer values on boys’ behavior were significant for openness to change and conservation, and the indirect effects of girl peer values on boys’ behavior were significant only for conservation values (see Table 4). The direct effects of peers’ values on boys’ behavior were not significant for neither boy nor girl peers. Overall, the findings support our hypothesis about the stronger effects of same-gender peer values on children’s values, and to some degree on their



**Figure 2.** Model results for the four value dimensions, using the pooled (girls and boys) sample. Effect sizes are standardized. Analyses were conducted while controlling for values in Time 1 and school size (number of teachers). The model also included intercorrelations among the residuals of children's values and among the residuals of children's behaviors. Solid lines and bold font represent statistically significant effects: \* < .05. \*\* < .01.

behavior, although the differences between same-gender and different-gender peers were more marked among girls.

Following tests of the mediation hypotheses, we turned to testing the moderating effects of children's age (grade) on both sets of relationships that comprise the mediated

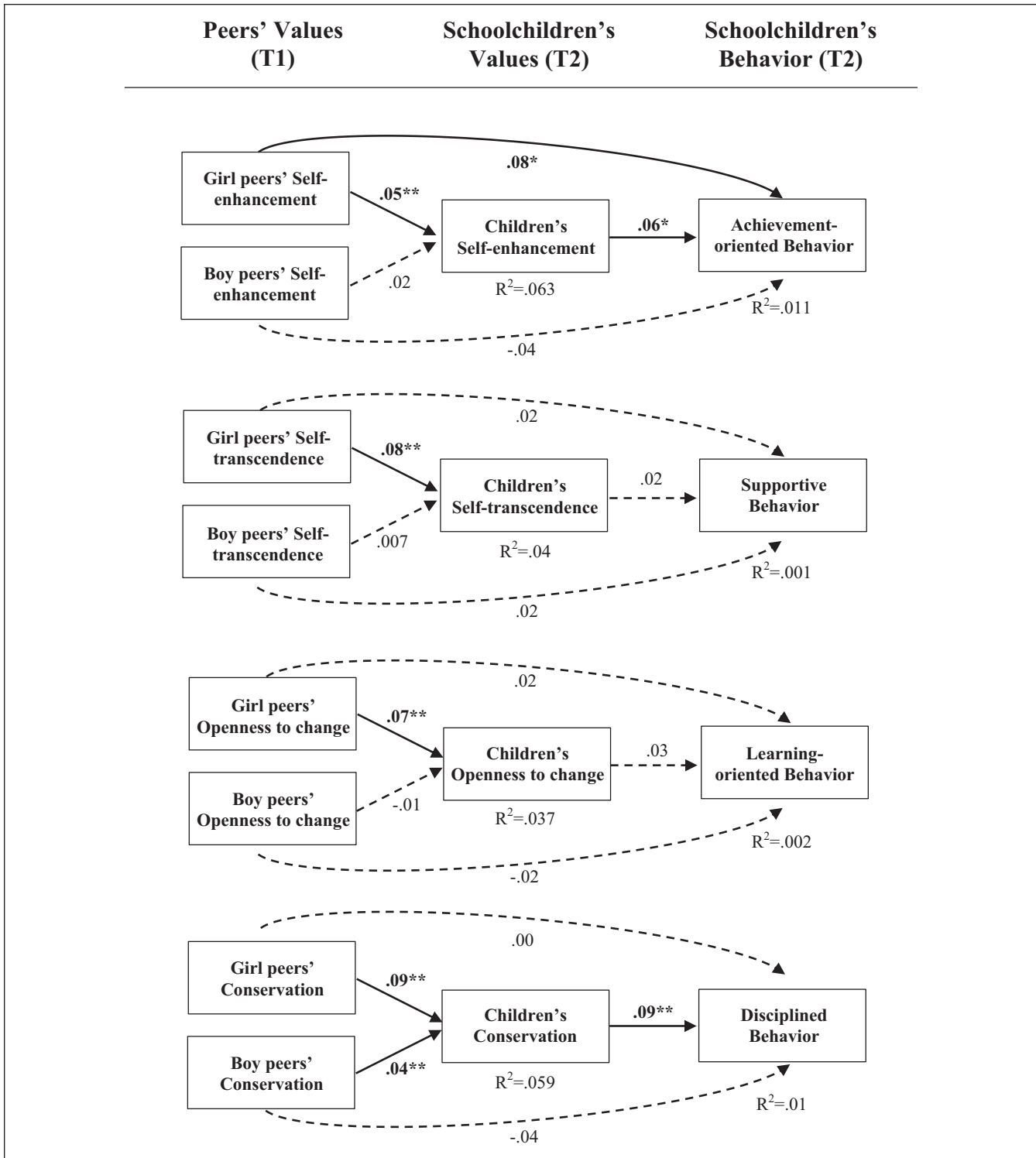
effects above. Specifically, we first tested the moderating effect of age on the relationships between girl and boy peers' values on girls' (Table 5) and then on boys' (Table 6) values. As can be seen in Table 5, age significantly moderated the relationship between girl peer values and girls'



**Table 4.** Indirect Effects of Peer Values on Children's Behavior.

Indirect effects of peers' values (T1) on children's behavior (T2) (see Figure 2)				
Indirect effect tested	Estimate	SE	95% CI	Standardized estimate
Peers' self-enhancement → children's self-enhancement → children's achievement	<b>.0065*</b>	.003	[.0016, .0114]	.0098
Peers' self-transcendence → children's self-transcendence → children's support	.0011	.002	[-.0031, .0052]	.0016
Peers' openness → children's openness → children's learning	<b>.0053*</b>	.002	[.0012, .0094]	.0100
Peers' conservation → children's conservation → children's discipline	<b>.0248**</b>	.006	[.0136, .0360]	.0306
Indirect effects of girl and boy peers' values (T1) on girls' behavior (T2) (see Figure 3)				
Indirect effect tested	Estimate	SE	95% CI	Standardized estimate
Girl peers' self-enhancement → girls' self-enhancement → girls' achievement	<b>.0005*</b>	.000	[.0001, .0009]	.0008
Girl peers' self-transcendence → girls' self-transcendence → girls' support	.0003	.000	[-.0003, .0008]	.0004
Girl peers' openness → girls' openness → girls' learning	.0003	.000	[-.0002, .0008]	.0006
Girl peers' conservation → girls' conservation → girls' discipline	<b>.0014**</b>	.000	[.0004, .0023]	.0018
Boy peers' self-enhancement → girls' self-enhancement → girls' achievement	.0021	.001	[-.0005, .0047]	.0033
Boy peers' self-transcendence → girls' self-transcendence → girls' support	.0004	.000	[-.0008, .0015]	.0006
Boy peers' openness → girls' openness → girls' learning	-.0008	.001	[-.0022, .0006]	-.0016
Boy peers' conservation → girls' conservation → girls' discipline	<b>.0064*</b>	.003	[.0011, .0117]	.0087
Indirect effects of girl and boy peers' values (T1) on boys' behavior (T2) (see Figure 4)				
Indirect effect tested	Estimate	SE	95% CI	Standardized estimate
Girl peers' self-enhancement → boys' self-enhancement → boys' achievement	.0024	.001	[-.0002, .0049]	.0035
Girl peers' self-transcendence → boys' self-transcendence → boys' support	-.0005	.001	[-.0036, .0026]	-.0007
Girl peers' openness → boys' openness → boys' learning	.0024	.001	[-.0001, .0049]	.0044
Girl peers' conservation → boys' conservation → boys' discipline	<b>.0084*</b>	.003	[.0021, .0147]	.0098
Boy peers' self-enhancement → boys' self-enhancement → boys' achievement	.0004	.000	[-.0000, .0007]	.0005
Boy peers' self-transcendence → boys' self-transcendence → boys' support	-.0001	.000	[-.0004, .0003]	-.0001
Boy peers' openness → boys' openness → boys' learning	<b>.0006*</b>	.000	[.0001, .0010]	.0010
Boy peers' conservation → boys' conservation → boys' discipline	<b>.0016**</b>	.000	[.0006, .0026]	.0019

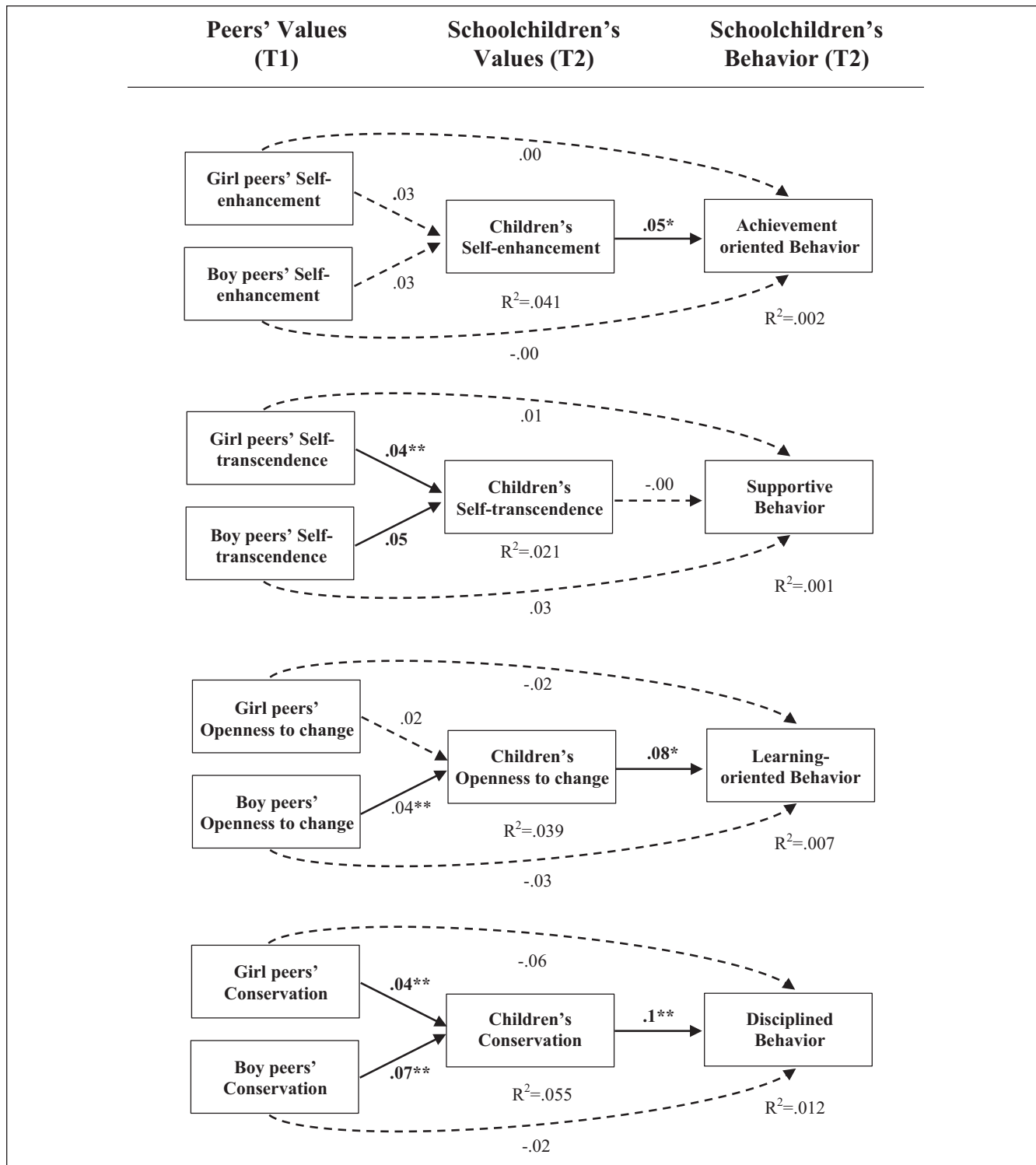
Note. Analyses were conducted while controlling for school size (number of teachers). The model also included intercorrelations among the residuals of children's values and among the residuals of children's behaviors. To obtain effect sizes and CIs with four digits following the decimal point, we used the Mplus output (which provides values with only three digits following the decimal) and the Falk and Biesanz (2016) indirect effect CI calculator. The standardized effects reported are the partially standardized effects, calculated by dividing the nonstandardized effect by the standard deviation of the dependent variable. Estimates in bold are statistically significant: \* $p < .05$ . \*\* $p < .01$ . CI = confidence interval.



**Figure 3.** Model results for the four value dimensions, using the girls sample only, separately considering girl and boy peer effects. Effect sizes are standardized. Analyses were conducted while controlling for values in Time I and school size (number of teachers). The model also included intercorrelations among the residuals of children's values and among the residuals of children's behaviors. Solid lines and bold font represent statistically significant effects: \* $<.05$ . \*\* $<.01$ .

values only for conservation values. As can be seen in Table 6, the moderating effect of age when predicting boys' values was significant for self-transcendence and

openness values. Age did not moderate any of the opposite-gender peer effects. To interpret the significant moderation effects, we plotted the relationships (Figures 5 and



**Figure 4.** Model results for the four value dimensions, using the boys sample only, separately considering girl and boy peer effects. Effect sizes are standardized. Analyses were conducted while controlling for values in Time 1 and school size (number of teachers). The model also included intercorrelations among the residuals of children's values and among the residuals of children's behaviors. Solid lines and bold font represent statistically significant effects: \* $<.05$ . \*\* $<.01$ .

6) and conducted simple slopes analyses. As can be seen in these plots, all the significant moderating effects were in line with our hypotheses, such that the relationships

between same-gender peer values and children's values were stronger among the older children. Overall, our findings support the hypothesized moderating effect of age

**Table 5.** Moderating Effect of Grade on the Relationship Between Girl and Boy Peer Values (T1) and Girls' Values (T2).

Random effects	Value dimensions												
	Self-enhancement (T2)			Self-transcendence (T2)			Openness (T2)			Conservation (T2)			
	Estimate (SE)	95% CI	Variance (SD)	Estimate (SE)	95% CI	Variance (SD)	Estimate (SE)	95% CI	Variance (SD)	Estimate (SE)	95% CI	Variance (SD)	
School (intercept)	0.0155 (0.124)	[-0.35, .020]	0.027 (0.163)	.103*** (0.020)	[.064, .141]	0.008 (0.090)	-.034 (0.14)	[-.062, -.006]	0.020 (0.143)	.047** (0.016)	[.017, .078]		
Class (intercept)	0.0314 (0.177)	[.005, .041]	0.035 (0.186)	.058*** (0.13)	[.033, .083]	0.028 (0.166)	-.007 (0.009)	[-.025, .012]	0.033 (0.180)	-.045*** (0.010)	[-.065, -.024]		
Residual	0.855 (0.925)	[.214, .259]	0.752 (0.867)	.142*** (0.12)	[.120, .164]	0.894 (0.946)	.215*** (0.12)	[.191, .238]	0.776 (0.881)	.231*** (0.12)	[.207, .254]		
Fixed effects	Estimate (SE)	95% CI	Variance (SD)	Estimate (SE)	95% CI	Variance (SD)	Estimate (SE)	95% CI	Estimate (SE)	95% CI	Variance (SD)	Estimate (SE)	95% CI
Intercept	-.007 (0.14)	[-.035, .020]		.103*** (0.020)	[.064, .141]		-.034 (0.14)	[-.062, -.006]	.047** (0.016)	[.017, .078]			
Grade	.023* (0.009)	[.005, .041]		.058*** (0.13)	[.033, .083]		-.007 (0.009)	[-.025, .012]	-.045*** (0.010)	[-.065, -.024]			
Girl's T1 values	.236*** (0.12)	[.214, .259]		.142*** (0.12)	[.120, .164]		.215*** (0.12)	[.191, .238]	.231*** (0.12)	[.207, .254]			
Girl peer values (T1)	.007+ (0.004)	[.000, .014]		.013*** (0.004)	[.006, .020]		.008 (0.004)	[.001, .016]	.017*** (0.003)	[.010, .023]			
Boy peer values (T1)	.043 (0.030)	[-.015, .101]		.003 (0.026)	[-.048, .054]		-.020 (0.029)	[-.078, .037]	.081** (0.028)	[.027, .135]			
Grade * Girl peer values	-.000 (0.002)	[-.005, .005]		.003 (0.002)	[-.002, .007]		.003 (0.003)	[-.002, .008]	.007** (0.002)	[.002, .012]			
Grade * Boy peer values	-.024 (0.018)	[-.060, .012]		.006 (0.017)	[-.028, .040]		.003 (0.020)	[-.035, .042]	.007 (0.018)	[-.027, .041]			

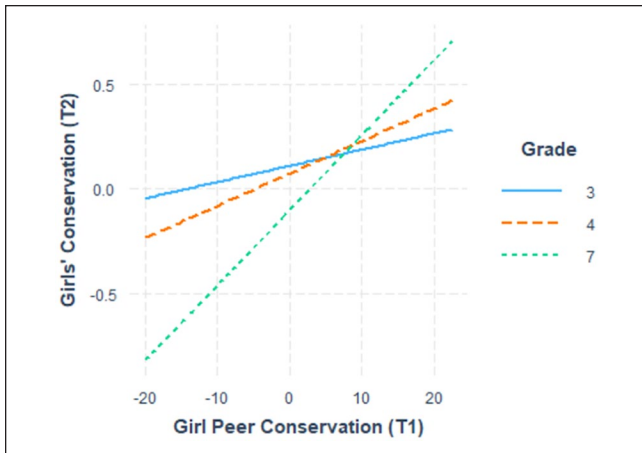
Note. Predictors were grand-mean centered; values in bold are statistically significant after applying the Benjamini-Hochberg correction for multiple testing. CI = confidence interval.  
<sup>+</sup>p < .1. \*p < .05. \*\*p < .01. \*\*\*p < .001.

**Table 6.** Moderating Effect of Grade on the Relationship Between Girl and Boy Peer Values (T1) and Boys' Values (T2).

Random effects	Value dimensions							
	Self-enhancement (T2)		Self-transcendence (T2)		Openness (T2)		Conservation (T2)	
	Variance (SD)	95% CI	Variance (SD)	95% CI	Variance (SD)	95% CI	Variance (SD)	95% CI
School (intercept)	0.011 (0.106)		0.021 (0.146)		0.012 (0.110)		0.013 (0.112)	
Class (intercept)	0.004 (0.060)		0.017 (0.132)		0.004 (0.064)		0.031 (0.175)	
Residual	0.875 (0.935)		0.981 (0.990)		0.876 (0.936)		0.917 (0.957)	
Fixed effects	Estimate (SE)	95% CI	Estimate (SE)	95% CI	Estimate (SE)	95% CI	Estimate (SE)	95% CI
Intercept	.068*** (.014)	[.041, .096]	-.016 (.019)	[-.052, .021]	.077*** (.014)	[.049, .105]	-.133*** (.016)	[-.164, -.101]
Grade	-.001 (.009)	[-.019, .017]	.034* (.014)	[.007, .060]	-.006 (.009)	[-.025, .012]	-.056*** (.011)	[-.077, -.035]
Boys' T1 values	.186*** (.011)	[.163, .208]	.113*** (.012)	[.090, .137]	.203*** (.012)	[.180, .225]	.217*** (.012)	[.194, .240]
Girl peer values (T1)	.023 (.030)	[-.036, .082]	.061 (.034)	[-.009, .131]	.086** (.029)	[.028, .144]	.116*** (.034)	[.049, .182]
Boy peer values (T1)	.005 (.004)	[-.002, .012]	.011** (.004)	[.003, .018]	.011** (.004)	[.004, .019]	.017*** (.004)	[.009, .024]
Grade * Girl peer values	-.015 (.019)	[-.052, .023]	-.023 (.026)	[-.074, .027]	.021 (.020)	[-.018, .061]	.011 (.022)	[-.033, .054]
Grade * Boy peer values	.004 (.002)	[-.001, .008]	.008*** (.003)	[.003, .014]	.010*** (.003)	[.005, .015]	.005 (.003)	[.000, .010]

Note. Predictors were grand-mean centered; values in bold are statistically significant after applying the Benjamini-Hochberg correction for multiple testing. CI = confidence interval. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .





**Figure 5.** Plots of the significant moderating effect of grade on the relationship between girl peers' conservation values (T1) on girls' conservation values (T2). Simple slopes were significant only for the fourth and seventh grade, and were strongest for the seventh grade.

mainly for boys, involving stronger effects of same-gender peers among the older children.

Given the role of culture and ethnic background in shaping people's values (e.g., Sagiv et al., 2011), we reran our analyses, this time while controlling for children's ethnic background (Jewish/Arab).<sup>3</sup> Findings were virtually the same as those obtained without this control. In both the mediation and moderation tests, all the hypothesized effects that were significant without the control remained significant.

Finally, to test the generalizability of our findings to a slightly broader range of ages, we conducted another set of analyses, this time while supplementing our data with additional data that were obtained from children in the first and second grade at the same time frame and within the same schools as those from which our main data were collected. Such an extended data set is particularly useful for retesting the moderation hypotheses, this time with more variance in the moderator (i.e., age). We did not include these data to begin with because the values of the younger children were measured using a different scale (the Picture-Based Values Scale, Döring et al., 2010) than the one used for the older children, which raises concerns about the comparability of value scores from the different scales. We elaborate on the younger sample and the picture-based measure in the Supplemental Online Materials.

Using this extended data set, we obtained support for all the previously supported hypotheses, as well as for several of the hypotheses that our former data did not support (see Tables S1–S3 in the Supplemental Online Material). Specifically, the indirect effect of peers' self-transcendence values on children's supportive behavior was now significant. In the separate analyses of girl and boy peer effects, the indirect effect of girl peer self-transcendence on girls' supportive behavior and of girl peer self-enhancement on boys' achievement-oriented

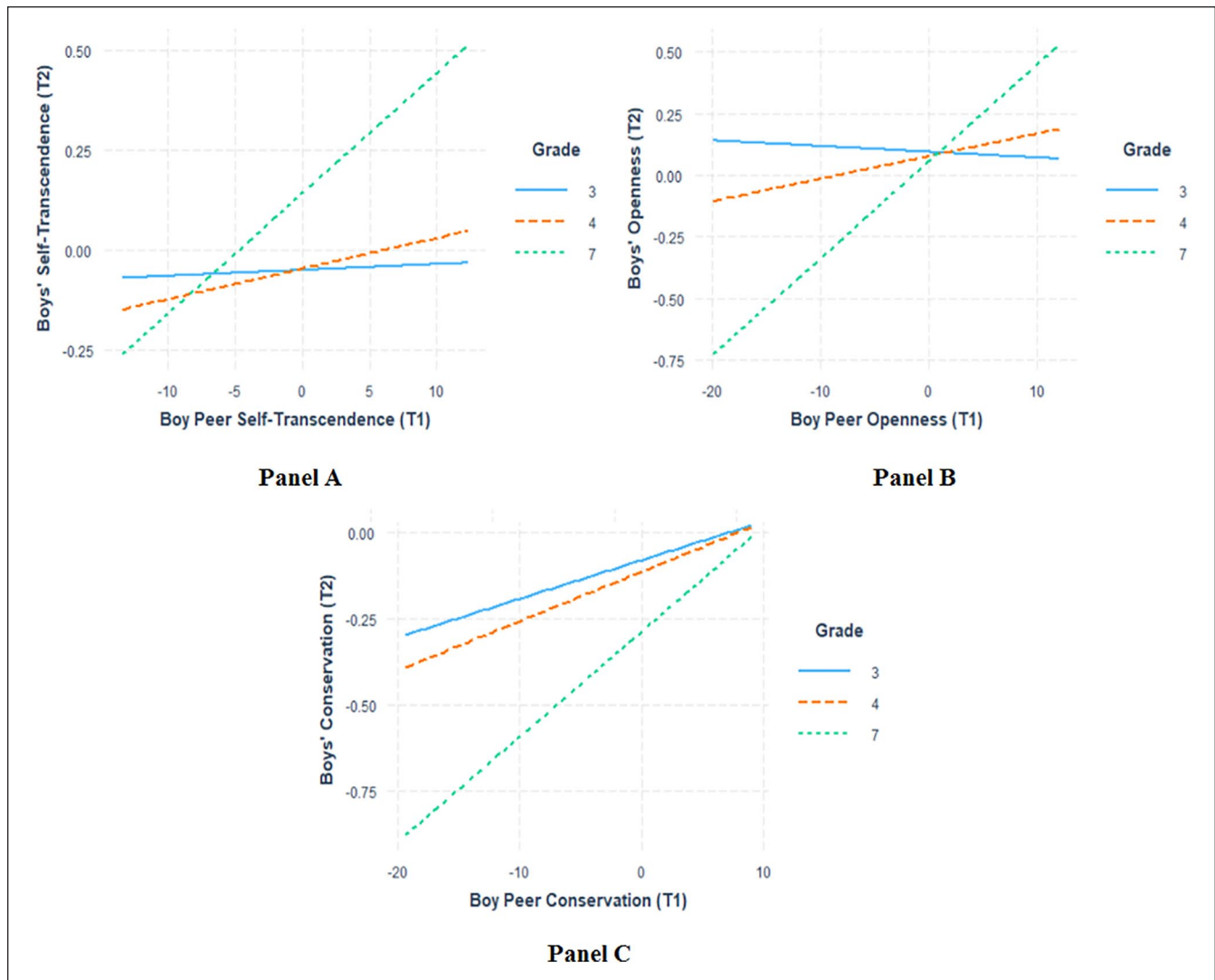
behavior were also significant. In addition, both girl and boy peer values had a significant effect on boys' self-enhancement values (Supplemental Figure S3).

In tests of the moderating effect of age within the extended sample when predicting girls' behavior, age now moderated not only the effect of girl peer conservation but also those of girl peer self-transcendence and openness to change values (Supplemental Table S2, Figure S4). For boys, age now also moderated the effect of peer conservation values (Supplemental Table S3, Figure S5). Thus, benefiting from the extended variance of age in this sample, the moderating effect of age was now significant for both boys and girls, for all values except for self-enhancement.

## Discussion

Values describe what is desirable for us and, as such, guide our attitudes, beliefs, norms, feelings, and behaviors (Schwartz, 1992; Tamir et al., 2016). Because of their importance as guideposts, and their significant effect on behaviors, there is much interest in the factors that affect value development among children and youth (Döring et al., 2016). Alongside the obvious effects of parents, there is growing interest in the role of other, nondomestic, predictors, such as school principals' values (Berson & Oreg, 2016). Herein, we focused on peers—a powerful agent of socialization in terms of its effects on the psychological functioning of children (Harris, 1995; Underwood et al., 2001; Vandell, 2000). We examined the extent to which peers' personal values can explain change in children's values over time. We tested the mediating effects that children's values have in the relationship between peers' values and children's behavior, while considering the differential effects of same- and different-gender peers. Finally, we tested the moderating effect of age on the relationships between peer values and children's values. Our findings generally confirmed our expectations.

For all four value dimensions, peers' values predicted children's values and for three of the four (the exception was self-transcendence), values predicted children's behaviors. Accordingly, the indirect effect of peer values on children's behaviors, through children's values, was significant for self-enhancement, openness to change, and conservation. Our findings thus highlight an important factor in children's environment that contributes to the formation of values. Overall, effect sizes were small, although more meaningful in predicting children's values than in predicting their behavior. The small effect sizes can be attributed, at least in part, to the difficulty in measuring these constructs among children. First, children's values may be harder to measure when they have yet to consolidate. Second, our predictors and outcomes were assessed through different sources, which generally yields effects that are much weaker than those obtained solely through self-report. Indeed, the effect sizes we obtained are comparable with those in other studies in which values and behavior were measured from different



**Figure 6.** Plots of the significant moderating effects of grade on the relationship between boy peers' values on boys' values, for self-transcendence (Panel A), openness to change (Panel B), and conservation (Panel C). For self-transcendence and openness to change, slopes were only significant for the seventh grade. For conservation, slopes were significant for both fourth and seventh grades, and were strongest for the seventh grade.

source (e.g., Benish-Weisman, 2015). Moreover, whereas our measures of values pertain to a generalized, trans-situational construct, teachers' reports of children's behavior pertain to a context-specific outcome, which brings about bandwidth-fidelity complexities (Ones & Viswesvaran, 1996). Overall, such differences in the level of specificity of predictor and outcome tend to yield weaker effects than those that involve constructs of the same level of specificity. Given these challenges in the measurement of the constructs and relationships in our model, modest effect sizes are to be expected and may represent conservative estimates of the actual effects.

Our findings complement previous ones about genetic factors (Uzefovsky et al., 2016) and the role of parental socialization (Grusec & Davidov, 2019) in explaining

children's values. Peers have a prominent role in children's lives, beginning in late childhood and early adolescence when children start to think about who they are and begin to consider their values (Daniel & Benish-Weisman, 2019). Our findings support the notion that peers influence not only children's attitudes and beliefs (McPherson et al., 2001) but also their values. Moreover, the indirect effects of peer values on children's behavior provide further insights about some of the mechanisms through which peers influence children's behavior (Brechwald & Prinstein, 2011). Specifically, our findings suggest that one path through which peers influence behavior is through children's values. In other words, children behave in a manner that is consistent with what their peers consider important because they themselves come to consider these things important.

Our expectation of stronger same-gender effects was supported, with somewhat clearer differences between same- and different-gender peers of girls. Among girls, girl peer values had significant effects on girls' values for all four values, and the indirect effect on behavior was significant for self-enhancement and conservation. In contrast, boy peer values had a significant effect on girls' values and behavior for conservation only. Among boys, boy peer values had significant effects on boys' values for self-transcendence, openness to change, and conservation, and the indirect effects on behavior were significant for the latter two values. Girl peer values significantly predicted boys' self-transcendence and conservation, and indirectly predicted boys' disciplined behavior. Differences between girls and boys in the effects of same-versus different-gender peers became even clearer within the extended sample, which included students in the first and second grades. In the extended sample, girls were only influenced by girl peers, whereas boys were influenced by both boy and girl peers (Supplemental Table S1, Figures S2–S3). The stronger impact of girl peers on boys, relative to the effects of boy peers on girls, may have something to do with the earlier maturation of girls' personality (Klimstra et al., 2009). The earlier consolidation of their personality (of which personal values are a component) may contribute to the degree to which they can affect others, including those outside their immediate, same-gender, peer group. In addition, the fact that girls' effect on boys was specifically with respect to self-transcendence and conservation may have to do with the fact that these values are traditionally associated with girls' gender roles (Schwartz & Rubel, 2005).

With respect to the moderating effect of age, our findings supported our hypotheses about peer value effects being stronger among older children, mainly among boys. Whereas among boys, age moderated the effects of same-gendered peers (i.e., boys) for self-transcendence and openness to change, among girls, age only moderated the effect of same-gendered peer (i.e., girls') conservation. That said, using the extended sample, in which the variance of age was meaningfully larger, age now similarly moderated the effects of same-gendered peers for boys and girls (see Supplemental Tables S2–S3, Figures S4–S5). The fact that peer effects on self-enhancement did not appear to vary with age, for neither girls nor boys, may have to do with the school context, in which (academic) achievements constitute a key and salient context, thus overshadowing the moderating effect of age.

As early as Piaget (1932), psychologists have been interested in the unique effects of peers on children. Piaget (1932) distinguished between the effects of peers from those of adults, in particular, parents and other socialization agents. Whereas adult influence is by definition asymmetrical, exposure to peers provides children with the opportunity to examine or reject conflicting ideas and perspectives (Piaget, 1932; Rubin et al., 2015). More recently, group socialization theory suggests that peers are the most powerful source of influence on children's identity and personality development (Harris,

1995), and ample research demonstrates the impact of peers on children's behavior (e.g., Brechwald & Prinstein, 2011; Underwood et al., 2001; Vandell, 2000). Our findings on the role of peer values join evidence about the importance of peers for the development of children's moral judgment (Helwig et al., 2014; Killen & Smetana, 2015; Thompson, 2015; Turiel, 2015), including the development of value-related concepts such as fairness, equality, and personal rights (e.g., Killen, 2018; Nucci, 2001).

Our findings with respect to children's personal values highlight a key mechanism through which peers influence children's behavior, and demonstrate, in most cases, how a given type of peer value influence (e.g., self-enhancement) is ultimately manifested in a specific type of child behavior (e.g., achievement-oriented). Furthermore, the above findings provide empirical support for the effects of peers on behavior and go beyond the consideration of a specific type of behavior (e.g., aggression or prosocial behavior) by demonstrating effects on a range of behaviors in school context.

### *Strengths, Limitations, and Directions for Future Research*

This study has several strengths and limitations. First, among its most notable strengths is the large sample, in particular with respect to the data on children's values. Our sample for testing the effects on behavior is significantly smaller, given our reliance on homeroom teacher's reports, yet even here, our sample still consists of several thousand observations. The use of multiple sources of data, with different raters for each set of variables (peers, the individual child, and teachers), constitutes another important strength of our design as it removes concerns of common method variance and adds to the robustness of our findings (Podsakoff et al., 2003).

Related to the size of our sample, another strength of our design is in breadth of our sample, in which the various populations within Israel are represented. At the same time, the external validity of our findings is restricted, given that our sample is of children within a given country. Our ability to generalize our findings to other populations is thus unclear. Given, however, that the theory underlying our hypotheses is not linked to a given culture, we would expect similar findings in other cultural settings.

It is noteworthy that the effect sizes we obtained are small. This, however, should not be surprising, given the difficulty in measuring children's values, the fact that the data for each of the variables in our mediation model were reported by a different source, and the multitude of other factors that contribute to the development of children's values, for which we could not control. That said, the strong theory on which our hypotheses are based, the size of our sample, and the controls we have taken to account for false detection rates (Benjamini & Hochberg, 1995), all point to the robustness of our findings. Preregistration could have provided yet additional confidence in the veracity of our

findings, yet preregistering studies was not an option when we had begun collecting our data, 8 years ago.

Our findings stress the importance of considering peers as a significant reference group (Benish-Weisman et al., 2019). Beyond consideration of peer influences at the class level, it is also important to take into account the specific social relations within the class (e.g., gender-segregated interactions), which provides a more accurate and nuanced depiction of peer influences. Future studies of peer influences in other contexts (e.g., the workplace) should consider the interrelations that are specific to the given context.

Aside from the moderating effect of age, future research may consider additional factors that might facilitate or hinder peer influence on children values and behavior. Such factors can be related to children's status among their peers, as reflected in their popularity, which has been linked with children's influence on others (Brechwald & Prinstein, 2011) and has been found to moderate the relationship between values and behavior (Rubel-Lifschitz et al., 2020). Other moderators may be related to children's ability to resist social pressure, as is reflected in their sense of autonomy (Allen et al., 2006; Bamaca et al., 2006). Moreover, future research should consider the specific age-related value changes of minority children within their societies' broader cultural context (e.g., Arab students in Israel, Turkish students in Germany).

In addition, the causal nature of the relationships we found is unclear, given the nonexperimental nature of our design. In particular with respect to the relationship between children's values and behavior, which were collected at the same point in time, it is possible, and even likely, that alongside the effect of values on behavior, behavior may also influence values, as children aim to justify or interpret their behavior through their values (Benish-Weisman, 2015; Vecchione et al., 2016). Future research with data from three or more measurement times will be useful for more effectively testing the full mediation chain in our model longitudinally. Moreover, our design cannot rule out the possibility that the effects we obtained on children's values and behavior may result from class-level factors other than peers' values. Certain educational or teacher-related factors, for

example, may have effects on children's values. Yet key educational factors, such as the pedagogic practices applied, are typically determined at the school or even country level, and each class has multiple teachers, each of which teaches multiple classes. To more conclusively rule out such alternative explanations, however, additional research, controlling for such factors, would be required.

Another limitation concerns our operationalization of peers, which includes the entire group of a child's classmates and does not necessarily represent the most impactful group of peers. For each child, there is likely a subgroup of peers, both within and outside class, that would have the strongest effects on the child's values. Our findings thus represent a conservative estimate of the effect that peers have on children's values and behavior.

Finally, we acknowledge a limitation in the measurement of children's behavior through a questionnaire, rather than some objective measure (e.g., the number of times a child raises their hand, the number of times a child is called to detention). As such, we cannot rule out the possibility that our measure captures children's overall behavioral patterns (i.e., traits) rather than their class-specific behavior. Yet the use of scales for measuring behavior is very common and their validity has been demonstrated in many contexts (e.g., Murphy et al., 2020; Vergauwe et al., 2018). Moreover, the fact that children's behavior in our study was reported by children's home-room teachers, whose familiarity with the children comes specifically by observing their behavior in class, provides further confidence about the validity of the measure we used.

**Conclusion.** Through this large-scale, longitudinal study, we examined peers' effects on children's values and behavior. We found that peers, who serve as children's immediate social environment in the school context, have a significant effect on children, and that girls have a particularly consistent effect on both girls' and boys' values. In addition, we found that the effect of peers tends to strengthen with age, which highlights the role of children's development processes in the socialization of values.

#### Appendix I. Items Used for Measuring Children's Values.

Conservation	1. It is important to me to follow rules even when no one is watching.
	2. Following my family's customs is important to me.
	3. It is important to me that my country protects itself against all threats or danger.
	4. It is important to me to feel safe.
	5. It is important to me to keep the traditions and customs of my family and of Israel.
	6. It is important to me to behave according to the rules.
Openness to change	7. It is important to me to have all sorts of new experiences.
	8. It is important to me to make my own decisions.
	9. It is important to me to come up with new ideas.
	10. I always look to try new things.
Self-transcendence	11. It is important to me to help the people dear to me
	12. It is important to me to be loyal to my family and friends.
Self-enhancement	13. Being very successful is important to me.
	14. It is very important to me to be a successful person.



**Appendix 2.** Items of the Schoolchildren's Behavior Measure.

Disciplined	1. Is very disciplined in class. 2. Obeys the rules in class.
Learning-oriented	3. It is important to him or her to understand the material covered in class. 4. Enjoys learning new things.
Supportive	5. Asks many good questions in class. 6. Helps other children in class.
Achievement-oriented	7. Is sensitive to the other children's needs. 8. Seldom fights or argues with the other children. 9. Is very competitive in class. 10. It is important for him or her to excel in class. 11. Pays much attention to the grades he or she gets.

**Acknowledgments**

We would like to thank Ariel Knafo-Noam and Eugene Tartakovsky for their valuable and helpful comments on earlier version of this manuscript.

**Declaration of Conflicting Interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

**Funding**

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was partially funded by the Israel Science Foundation (Grant No. 704/10), the Avney Rosha Institute, and a grant from the Recanati Fund of the School of Business Administration of the Hebrew University.

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**Supplemental Material**

Supplemental material is available online with this article.

**Notes**

1. We also had data from younger children, who reported their values using a scale different from that used for the other students. We mention these data and the findings they provided further below.
2. As in several other countries, schoolchildren in Israeli primary and to some degree secondary schools are assigned to a homeroom, which is the class in which they study all subjects throughout the school year. Each homeroom is assigned a teacher who is responsible for the children in her class, teaches many of the subjects, and spends a particularly large portion of her work time with the children in her homeroom.
3. We also tried to run separate analyses among the Arab participants, but although our sample of Arab students is large, we only have teacher reports of children's behavior for a relatively small subset of the children (as explained in the "Method" section). As such, the multilevel mediation model we tested does not converge when tested among the subsample of Arab students.

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