

Schools as promoters of moral judgment: the essential role of teachers' encouragement of critical thinking

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Abstract The assumption that high level functioning is characterized by a great deal of autonomy is central to some major theories of moral development [Kohlberg (in T. Lickona (ed.) *Moral development and behavior: Theory, research and social issues*, 1976); Piaget (*The moral judgment of the child*, 1932)] and to the self-determination theory of motivation [Ryan and Deci (*The American Psychologist*, 55, 68–78, 2000)]. Based on these theories, we hypothesized that students' perceptions of their teachers as autonomy supportive, mainly in the form of encouragement of critical thinking, and perhaps also choice, would be positively associated with students' advanced moral judgment. Data collected from 12th grade students in two regular schools and two democratic schools supported this hypothesis. Results also showed that being a student in a democratic school (as opposed to a regular one) was associated with autonomous moral judgment, and that this association was mediated by students' perceptions of teachers as encouraging criticism, but not choice. A possible implication is that programs of moral education should explicitly promote teachers' inclination to encourage critical thinking in their students.

Keywords Autonomy support · Self-determination theory · Adolescence · Moral autonomy · Critical thinking · Democratic schools

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1 Introduction

According to the cognitive developmental approach to moral judgment, children move from a heteronomous perspective to an autonomous perspective (Kohlberg 1976; Piaget 1932). While young children reify the rules and norms of the adult world as sacred and immutable standards for what is good or bad, older children and adolescents increasingly understand that moral judgment is a complex process that should not be totally constrained by the dictates of the law, social norm, and authority. Thus, with increased cognitive and social maturity, children's moral thinking becomes more autonomous in the sense that their judgments are more and more based on individually determined principles, their own sense of justice and considerations of intention and extenuating circumstances. One of the markers of such moral autonomy is that acts that violate the demands of authority, social norm, or even the law can be viewed as moral, if they are consistent with one's personal moral principles and reflect a deep concern for the human costs involved.

In Piaget's and Kohlberg's views, the move from heteronomy to autonomy depends on a characteristic of cognitive development in which the external physical and the internal psychological become increasingly differentiated, as well as on one's increasing interaction with peers instead of adult authorities. But are those cognitive and social factors the sole determinants of moral judgment, or are there other processes that promote an autonomous moral perspective? This study examines other factors that might contribute to autonomous moral judgment. To do so, we borrow from research in another field in which autonomy has been posited to play an important role. Specifically, the paper explores whether autonomy supportive teacher behavior, as conceived in self-determination theory (Assor and Kaplan 2001), is associated with a more autonomous moral judgment in adolescents, and perhaps also mediates the positive effect of democratic schooling on moral judgment.

According to self-determination theory (Ryan and Deci 2000), optimal motivation, functioning, and development in all domains of life depend on the fulfillment of three basic human needs: the need for autonomy, for relatedness, and for competence. Self-determination theory places a great deal of emphasis on the need for autonomy and has generated a great deal of research demonstrating the importance of this need (Ryan and Deci 2000).

The need for autonomy refers to the striving to feel that one's major goals and acts emanate from one's true self and are self-chosen rather than being a product of external or internal (intra-psychic) coercion. Consistent with this definition, teacher and parent behaviors that promote a child's feeling that she or he does things of understanding and appreciating their value, and not because of pressure to do so, are defined in self-determination theory as autonomy-supportive acts (Assor and Kaplan 2001; Assor et al. 2002; Ryan and Deci 2000). Research on parenting and teaching has shown that autonomy-supportive behaviors of parents and teachers indeed promote optimal functioning in children and deeper and more integrated internalization of parents' values (Assor 2002, 2004, 2005; Grolnick et al. 1997; Reeve et al. 1999; Vansteenkiste et al. 2005).

Specifically with regard to the school context, Assor and Kaplan (2001) and Assor et al. (2002) differentiated between three components of autonomy support: (a) providing choice, (b) demonstrating the relevance of the subjects being learned to the

students' goals and interests, and (c) allowing criticism and encouraging independent thinking. Of the above three components, our main interest in this study was in the component of encouraging critical thinking. Thus, we hypothesized that teachers' encouragement of critical thinking in students would predict more autonomous moral judgment in students. The logic underlying this prediction was that autonomous moral judgment requires youth to be less inclined to automatically accept the dictates of external authorities, laws, and social norms, and examine those critically in light of their own thinking. The encouragement of critical thinking by teachers is likely to promote the ability of pupils to be less obedient for obedience's sake and to be more critical of external norms and dictates, hence promoting autonomous moral judgment.

Consistent with this logic, Assor (1999) found that teachers' use of the value of encouraging independent thinking as an organizing conceptual category predicted students' perceptions of their teachers as tolerant toward critical and independent students' opinions, which in turn predicted students' tendency to assign little importance to the value of conformity to rules and authorities. While Assor (1999) did show that criticism-encouraging teaching predicted a less conformist orientation in students, we still have no evidence that criticism-encouraging teaching also fosters a more autonomous moral thinking.

Research from the self-determination theory perspective (Gagné 2003) has found that engagement in prosocial activities is related with general autonomy orientation and parental autonomy support. As different types of autonomy support have been shown to have distinct relationships with aspects of engagement in school (Assor et al. 2002), the present study proceeds from the assumption that it would be valuable to distinguish between qualities of autonomy support and parental from teacher autonomy support. Thus, the task of the present research is to test whether some types of autonomy support, specifically criticism-encouraging teaching, might better foster autonomous moral development.

1.1 The present study

The setting for this current study provides a unique opportunity to see not only if criticism-encouraging teaching predicts moral thinking in students, but also if this specific teacher behavior is a factor that accounts for the greater impact of a certain type of schooling on students' moral thinking. In Israel there are public schools, known as "democratic schools," in which teachers encourage their students to express their opinions regarding important class and school issues, including the content of the curriculum, methods of learning, and social relations within the class and the school. Because democratic schools encourage their students to express critical and independent opinions much more than regular schools, we expected that students in those schools would make more autonomous moral judgments, rather than the rule-bound judgments of heteronomous morality, and that this association would be mediated by students' perception of their teachers as encouraging critical thinking.

The mission statement of one of the democratic schools sampled in this study defines its ideal graduate as primarily "a person who thinks and deliberates, that builds his or her world perspective, by making personal value decisions in a critical way." This

formal ideal is instituted in practice in the structure of the school and the roles of the teachers and pupils. Teachers support critical thinking both through the curriculum and in their participation with the students in the democratic, deliberative bodies that are a central component of the operation of the school. Within the classroom, democratic schools emphasize critical thinking over fact learning and memorization. An explicit part of a teacher's role in the classroom is to have the pupils consider the values and the course content and to develop a critical perspective on the field of study. Moreover, these schools allow a great deal of student choice regarding their studies from a young age. Each joins with an adult mentor at the school, most often a teacher, to explore and make decisions about his or her educational directions and needs.

Outside of the classroom, a central part of the democratic schools are the deliberative institutions in which pupils and teachers participate as equals, and which have the real decision-making power in the school. These institutions include a weekly school meeting of all students, school staff, and parents that has legislative power, judicial and enforcement branches, and committees that make decisions regarding the curriculum, methods of evaluation, how money is spent, trips and events, construction and facilities, and so forth. In these forums, authority figures have no greater say, so pupils are encouraged to speak their minds and the merit of argument is most important. By virtue of participating in these forums, the teachers make and demand justifications of positions, respect disagreement, and take pupils' viewpoints seriously even if they differ from their own. In addition to having to justify their positions in public forums, pupils are allowed to appeal decisions with which they disagree. Thus, because of their roles in a school system that values critical discussion and willingness to question practices, it would be reasonable to expect that the pupils would think that their teachers encourage them to be critical and engage in critical thinking.

To allow a more precise examination of our hypotheses, we assessed three variables which may account for any possible relations between criticism-encouraging teaching, type of school, and moral judgment. The first variable concerned the degree of choice provided by teachers. Choice provision is an important component of autonomy support and often comes together with the encouragement of criticism (e.g., [Assor et al. 2002](#)), certainly in democratic schools. Therefore, in assessing the relations between criticism encouragement and moral thinking, we controlled for the effect of the perception of the teacher as allowing choice. This procedure also has the added benefit of controlling for a possible halo effect, in which students rate a teacher as open to criticism because of their general positive view of the teacher. A general positive view of the teacher is likely to enhance the rating of the teacher on both criticism and choice support, and therefore controlling for the effects of choice support is likely to minimize the variance in criticism support scores that is due to a common halo effect.

Two other variables which may account for the association between democratic schooling and moral judgment are parents' support for criticism and choice. Thus, it is possible that parents who send their children to democratic schools rather than to regular schools are also more open to criticism and provide more choice. Consequently, the more autonomous judgment of students in democratic schools might be mainly a product of their parents' behavior rather than their teachers' tendency to encourage criticism. To rule out this possibility, we controlled for the effects of parents' support for criticism and choice in testing our hypotheses.

1.2 Hypotheses

Based on the foregoing considerations, we hypothesized that teachers' encouragement of students' criticism would be associated with more autonomous moral judgment. Furthermore, we predicted that students in democratic schools would show a more autonomous moral judgment than students in regular schools, and this association would be mediated by teachers' encouragement of criticism. Finally, we also hypothesized that both the direct effect and the mediating effect of criticism-encouraging teaching would be apparent even when controlling for the effects of teachers' provision of choice and parents' support for criticism and choice.

2 Method

2.1 Participants

The sample consisted of 62 12th grade students from two regular schools (25 boys, 34 girls) and 33 students from two democratic schools (19 boys, 14 girls) in two cities. To try to match student populations, one democratic and one regular school were drawn from each city.

2.2 Procedure

Students completed the measures assessing moral judgment, perceived teacher behavior and perceived parent behavior, along with several other instruments not related to the research questions of this study. The questionnaire was administered by a graduate student in education, who made it clear to the pupils that their participation and responses to the questionnaires would remain anonymous.

2.3 Instruments

2.3.1 *Morality shifting in adolescence*

This instrument (Ziv et al. 1975, 1978) is a Hebrew measure based on Le Furgy and Woloshin (1969) drawn from Piaget's (1932) theory of moral development. It assesses the extent to which one's moral judgment of various acts reflects a rule-bound, heteronomous versus autonomous view of morality. A heteronomous view considers an act to be moral if it is based on absolute obedience to the law or the social norm, with no consideration for one's sense of justice, personally determined moral principles, circumstance, or intention.

The test consists of 14 vignettes describing morally problematic situations. Each vignette is followed by two responses: one reflects a heteronomous judgment based on rigid obedience to a legal or social norm, and the other reflects a more autonomous judgment favoring a response that, although deviating from the norm, can be viewed as

more justified given the human costs involved and extenuating circumstances. Respondents have to choose among the statements. Below are examples of two vignettes:

1. A man was a witness to an accident and he clearly saw that one of the drivers was at fault. He was in a great hurry because he had been told that his mother was hospitalized suddenly, and he was on his way to see her. The driver who was hurt asked him to help him by giving his testimony. It is clear that following this request would cause loss of time.

What should this person do?

(1) Stay to give testimony to help the injured driver.

(2) He should not agree to give testimony, so he could go to his mother in the hospital, even though by this he would hurt the driver and break the law.

2. Simon's economic situation is very bad. His landlord told him that if he does not pay the rent his family will be evicted and they will be left without a roof over their heads. Simon was desperate because he could not get the amount he needed. Suddenly Simon found a wallet with money and papers. Based on the papers, Simon identified the wallet's owner as a rich man, whose money had come from taking advantage of the weak.

What should Simon do?

(1) Return the money to its owner in order not to break the law.

(2) Take the money so that he can save his family.

In each case, the second choice is considered to be the autonomous choice as it goes against the law or the expected social norm because of considerations of the particular circumstances. This is not to suggest that all might consider the choice to be more moral, but that the judgment is autonomous and not strictly rule-bound.

All 14 items are structured similarly, although the statements in each of the sections are presented in random order. A score of "1" was assigned for each autonomous choice, so that a score of 14 represented the most autonomous score possible. Cronbach's α was .72.

The measure was validated by [Ziv et al. \(1975\)](#), who showed that older adolescents obtained higher autonomous judgment scores, as would have been expected according to [Piaget \(1932\)](#) and [Kohlberg \(1976\)](#). In a further check of the validity of the instrument, the choices that a random half of the participants made were found to be correlated with responses to items, taken from a study that used the instrument ([Nissim 1980](#)), asking for the reasons for the choices. The autonomous scores correlated positively ($r = .54$) with the tendency to base one's decisions on principled reasons and negatively with the tendency to base one's decisions on egoistic ($r = -.37$) or social benefits ($r = -.48$), again as would have been expected by [Kohlberg \(1976\)](#). These correlations suggest that the type of autonomous moral judgment captured by the [Ziv et al. \(1975\)](#) measure is not an anything goes morality but morality based on principle.

2.3.2 Student's perception of teachers' encouragement of criticism and choice

Students' perceptions of their main teacher as encouraging them to express critical and independent opinions (criticism encouragement) was assessed by a three-item scale

based on a measure validated by Assor (1999) and Assor et al. (2002) (Cronbach's $\alpha = .77$). A sample criticism item is: "My teacher says that if we do not agree with the teacher, it is important to say so." Students' perceptions of their main teacher as providing choice (choice provision) were assessed by a four-item scale based on a measure validated by Assor et al. (2002) (Cronbach's $\alpha = .76$). A sample choice item is: "My teacher lets me choose how to do my assignments." The correlation between the two scales in the total sample was .40 in the democratic schools and .46 in the regular schools. On each item, students were asked to rate their agreement with the item on a 4-point Likert-scale.

2.3.3 Student's perception of parents' encouragement of criticism and choice

Students' perception of their parents as encouraging them to express critical and independent opinions (criticism encouragement) and as providing choice was assessed by a six-item scale based on a measure validated by Kaplan et al. (2003). Examples of such items are: "My parents ask me what I want to and what I don't want to do," and "My parents are willing to hear my complaints about them." Because in the factor analysis the choice and criticism items did not load on separate factors, the two subscales were combined into one measure (Cronbach's $\alpha = .76$). On each item, students were asked to rate their agreement on a 4-point Likert-scale.

3 Results

3.1 Preliminary analyses—school differences

To find out whether it is important to control for school type (democratic versus regular) in examining the links of perceived teacher behavior and school type with moral judgment we ran t-tests comparing regular and democratic schools on these variables, as well as on perceived parental behavior.

Table 1 shows that students at the democratic schools reported more encouragement of criticism and choice from teachers (choice: $t(51.56) = 7.60, p = .0001, d = 1.69$; criticism: $t(93) = 5.47, p = .0001, d = 1.21$). The effect sizes are indicated by Cohen's d , with Hedges' adjustment for sample size, with an effect size above .80 considered as large (Cohen 1988). Table 1 also shows that students at the democratic schools scored higher than did the students at the regular schools on the measure of autonomous moral judgment ($t(93) = 2.94, p = .004, d = .64$) with a medium effect size. One sample t-tests were used to see whether those in democratic schools were not just relatively more autonomous but did, in fact, tend toward autonomous morality. The tests showed that indeed those in the democratic schools had a mean autonomous score significantly higher than 7, and thus tended toward the autonomous side, $t(32) = 2.20, p = .035, d = .38$, and those in the regular schools had a mean autonomous score significantly less than 7, and thus tended toward the heteronomous side, $t(61) = -2.07, p = .042, d = .26$. However, because of the large standard deviations and as reflected in the somewhat low effect sizes, it cannot be claimed that students in either school type fit squarely on one side or the other.

Table 1 Perceived teacher behavior, perceived parental support for criticism and choice, and child's moral judgment as a function of type of school

Teacher, parent and child attributes	Type of school			
	Democratic ($n = 33$)		Regular ($n = 62$)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Teacher: encouraging criticism	2.99 ^a	.68	2.07	.82
Teacher: supporting choice	2.81 ^a	.75	1.68	.56
Parent: supporting criticism and choice	3.43	.53	3.21	.62
Child: autonomous moral judgment	8.06 ^a	2.77	6.21	3.01

^a The mean for the democratic schools is significantly higher than the mean for the regular schools

As parental support for choice and criticism may have been a major reason for the decision to send a child to a democratic school, and might account for the differences in students' moral judgment, we tested whether the reported level of parental support for criticism and choice differ as a function of school type. A test showed that the difference was not significant ($t(93) = 1.70, p = .093$). Table 1 shows that the means of parental support for criticism and choice, unlike the means of teacher support for criticism and choice, did not differ substantially significantly as a function of school type.

3.2 Primary analyses—the role of criticism encouragement by teachers

3.2.1 Teacher encouragement of criticism and students' moral judgment

The hypothesis that teacher encouragement of criticism would be associated with autonomous moral judgment was first tested within each school type (democratic and regular).

As shown in Table 2, autonomous moral judgment correlated significantly with teacher support for criticism in both types of schools. Neither teacher support for choice nor parental support for criticism and choice correlated significantly with moral judgment. A partial correlation conducted on the total sample and controlling for the effect of school type also showed that teacher support for criticism was related with moral judgment ($r = .24, df = 92, p = .009$).

3.2.2 Criticism encouragement by teachers as a mediator of the relation between democratic schooling and students' moral judgment

To test the possible mediating role of criticism encouragement, we first computed the zero-order correlations of moral judgment with school type and with criticism encouragement on the total sample.

As shown in Fig. 1, both correlations were statistically significant, indicating that being in a democratic school rather than in a regular school and criticism encouraging teacher behavior both predict higher levels of moral judgment. Most importantly for the issue of mediation, a regression procedure showed that when both school type

Table 2 Correlations among perceived teacher behaviors, perceived parental behaviors, and children’s moral judgment by school type

Type of school	1	2	3
Democratic (<i>N</i> = 33)			
1. Teacher: encouraging criticism	–		
2. Teacher: supporting choice	.40*	–	
3. Parent: supporting criticism and choice	.22	.39*	–
4. Child: autonomous moral judgment	.31*	.05	.08
Regular (<i>N</i> = 62)			
1. Teacher: encouraging criticism	–		
2. Teacher: supporting choice	.46**	–	
3. Parent: supporting criticism and choice	.28*	.11	–
4. Child: autonomous moral judgment	.22*	.15	–.02

* $p < .05$; ** $p < .01$

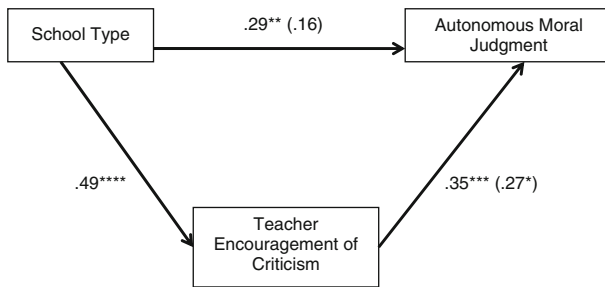


Fig. 1 Relationships tested between school type, teacher encouragement of criticism, and moral judgment
 Key: The numbers not in parentheses represent the zero-order correlations between each of the variables. The numbers in parentheses are the standardized Beta coefficients after “Teacher Encouragement of Criticism” was added to the model to test if it mediates the relationship between “School Type” and “Autonomous Moral Judgment.” That it does mediate the relationship is indicated by the fact that the coefficient following “School Type” is not significant, whereas the one following “Teacher Encouragement of Criticism” is significant. * $p < .05$ ** $p < .01$ *** $p < .001$ **** $p < .0001$

and criticism encouragement were entered as predictors, only criticism encouragement maintained a significant relationship with moral judgment ($\beta = .27, p = .018$). Figure 1 shows that when taking criticism encouragement into consideration, the relationship between school type and moral judgment is no longer significant. The Sobel test (see Preacher and Hayes 2004) indicated that the indirect path connecting the school type with moral judgment through criticism encouragement was significant, as was the reduction in the size of the effect of school type on moral autonomy due to the introduction of criticism encouragement ($z = -2.20, p = .028$).

Because, as shown in Table 2, teacher’s choice support did not predict moral judgment in either school, the mediation analysis did not examine the role of choice-supporting teaching as an additional mediator. However, given the moderate and significant positive correlations between criticism encouraging teaching and choice-supportive teaching shown in the table, it is still important to establish that criticism supporting teaching mediates the relations between school type and moral judgment even when the effect of choice supporting teaching is controlled for.

To allow such an examination, we conducted an additional regression analysis, in which the following three variables were entered as predictors of moral judgment: (1) teacher's criticism encouragement, (2) teacher's choice support, and (3) school type. Results showed that the regression coefficient of teacher's criticism encouragement on moral judgment in this analysis was similar to the one obtained in the analysis in which only criticism encouragement and school type were entered as predictors ($\beta = .27, p = .034$). This finding suggests that the effects of criticism encouraging teaching indeed cannot be ascribed to other positive teaching behaviors such as choice support.

In sum, the results of the various analyses are consistent with the hypothesis that teacher encouragement of students' criticism has a direct positive relationship with autonomous moral judgment in students and may be one of the processes through which democratic schools enhance their students' autonomous moral judgment.

4 Discussion

The hypotheses regarding the association between teacher encouragement of students' criticism and a more autonomous moral judgment was supported. Also as predicted, students in democratic schools showed more autonomous moral judgment than students in regular schools, and this association was mediated by teachers' encouragement of criticism. Finally, both the direct effect and the mediating effect of criticism-encouraging teaching also were detected when we controlled for the effects of teachers' provision of choice and parents support for criticism and choice.

Although we cannot make causal claims, this study indicates that it would be worthwhile to further investigate the relationship between formal education and moral development in terms of types of autonomy support. The support for independent thinking and criticism has not been a central goal of forms of moral education, in particularly not of values or character education (Joseph and Efron 2005). Although Kohlberg's just community schools, based on the democracy and collective vision of kibbutz schools (Walsh 2000), did not originate with autonomy support or encouragement of critical thinking as their goal, perhaps that is an important factor in fulfilling their mission.

In addition to the implications for moral education, the finding speaks to the relationship between a teacher's behavior and the cognitive behavior of the students. In particular, the findings confirm those of Assor's (1999) conclusion, that teachers' support for independent critical thinking will be reflected in the students' own non-conformist critical thinking. What the current study adds is that students' perceptions of their teachers' support for criticism apparently extended beyond the school context. The students' assessments of their teachers' support for being critical in the school context was found related with their autonomous thinking in the moral domain.

On a more general level, the results of the present study may promote attempts to examine potential links between social cognitive theories of moral development and self-determination theory. One key concept in self-determination theory that appears particularly close to the notion of principled and autonomous moral development is the concept of integrated internalization of values (e.g., Grolnick et al. 1997; Ryan and Deci 2000). According to self-determination theory, when a value is internalized in

an integrated way, people adopt it because they fully understand it, and perceive and experience it as central to their self chosen identity. Thus, integrated internalization of values requires considerable deliberation on one's values and goals in life; including awareness that some valued goals might conflict at times and one has to choose among them. In integrated internalization the choice is guided by one's core personal principles and sense of what reflects best one's true self.

Although the concept of integrated internalization of values lays heavier emphasis on feelings and intuitive experiential knowledge than Kohlberg's and Piaget's cognitive developmental concept of autonomous moral development, the two clearly share a strong emphasis on the importance of attending to one's understandings, principles, and personal sense of justice in making moral and personal decisions, rather than simply obeying external social dictates or egoistic impulses. It is also not surprising that encouragement of critical and independent thinking is likely to promote both integrated internalization of values and more autonomous moral judgment. Consistent with this view, [Ryan and Connell \(1989\)](#) found that among high school students, a type of internalization of pro-social values that is close to integrated internalization (i.e., identified internalization) was associated with a more principled and autonomous level of moral judgment, as indicated by Rest's (1979) defining issues test.

In differentiating the types of teacher autonomy support from each other and the overall type of school, the findings help specify the relationships between specific aspects of teacher behavior and moral development. The positive effect of the teacher's behavior in encouraging criticism behavior on moral development cannot be ascribed to generally positive perceptions of the teacher (a halo effect), or not even to a general autonomy-supportive teaching style or the general autonomy-supportive atmosphere of the school. Rather moral development is enhanced by a specific type of autonomy-supportive teacher behavior, namely criticism encouragement, and even the effect of choice support is less important. That choice-supporting teacher behavior did not predict moral development, and did not lessen the predictive power of support for criticism, allows us therefore to rule out the possible attribution of the positive effect of criticism encouragement to general positive perception of the teacher or to general autonomy support.

From the standpoint of self-determination theory, one particularly interesting finding of the present research is that choice provision was not significantly associated with enhanced moral judgment. This finding is not surprising in view of other research showing that in order for choice to have positive effects on students it has to be offered in very specific ways that would cause students to experience it as meaningful and as truly supportive of their basic needs ([Katz and Assor 2007](#)). Further research on other components of autonomy support, such as clarifying relevance to students' goals or taking the students' perspective, might determine if those components enhance moral judgment, meaning that criticism encouragement might not be the only aspect of autonomy support that contributes to autonomous moral thinking.

Another finding of note in the present research is the clear linkage between democratic schooling and more autonomous moral thinking. Importantly, most of the students of the democratic schools had moral judgment scores that were more on the autonomous side, where most of the students of the regular schools had scores that were more on the heteronomous side. Although the findings suggest that criticism

encouragement by teachers mediated the relations between democratic schooling and moral judgment, it is important to note that the mediation was only partial because the relations between democratic schooling and moral judgment were not reduced to zero when criticism encouragement was entered as another predictor. Thus, it is quite possible that there are other aspects of the democratic schools which contribute to autonomous moral thinking which should be further investigated in future research.

One obvious candidate is the dynamic of the weekly school meeting, in which there is a strong emphasis on rational and considerate discussion of rules, values, and decisions, which are conducted in ways that are close to the meetings of Kohlberg's "just community" schools. Another aspect of democratic schools which might enhance moral thinking is the strong emphasis on rules and norms as derived from basic moral principles, human caring, intentionality, and mutual consent rather than as sanctified, immutable, external entities.

On the other hand, as the choice component of the democratic schools did not appear to be a factor in the development of autonomous moral judgment, perhaps the atmosphere of the democratic schools was not that relevant. That is, it is also possible that any curriculum that places a strong emphasis on critical thinking without the choice component of a democratic school would also be effective in the development of autonomous moral judgment. In order to further explore the relationship between education for critical thinking and moral development, it would be useful for future studies to look at the moral development of pupils who have studied courses or in programs stressing ethical inquiry (Lipman et al. 1980), critical thinking (Kuhn 2005, Lipman 2003) or critical pedagogy (Shor 1992).

This study had a number of clear limitations. First, it is not possible to make causal claims because of the correlational nature of the design. Second, it would be beneficial to use additional measures of moral thinking and development, such as the Defining Issues Test (Rest 1979) or the Moral Judgment Test (Lind and Wakenhut 1985), and of prosocial behavior and reasoning (Eisenberg et al. 1991) in order to make stronger and broader claims about the relationship between criticism encouragement and aspects of moral development. In this regard, it would also be beneficial to probe the pupils' rationale for their decisions. Aside from telling more about moral judgment, it might shed light on what specifically they are taking from their support for criticism in making their moral judgments. Fourth, the number of schools in the study, and the size of the samples in the schools, are small and make it difficult to make reliable generalizations with regard to the effect of type of schooling. Fifth, although the measure of students' perception of teachers as encouraging critical opinions was found by Assor (1999) to correlate with teachers' use of criticism encouragement as an organizing conceptual category, it would still be important to show that teachers' criticism encouraging behavior predicts students' moral judgment also when this behavior is assessed via direct observations or reporters other than the students. Future research would need to address those limitations.

For example, a longitudinal study could be useful in shedding light on the relationship between the effects of type of schooling on moral development. It would be worthwhile to assess students in several grades over several years at the two different school types in order to assess if the reported teacher autonomy support is consistent throughout the years at school and to have a more complete picture of moral develop-

ment in each school type in comparison with each other. Assessing children starting either type of school would also help control for group differences in who chooses to attend each type of school.

In terms of practical implications, the results of the study, particularly if supported by additional studies, highlight the importance of fostering teachers' ability to allow students' criticism and encourage the expression of independent opinions in the classroom. As such behavior might be difficult and perhaps even threatening for many teachers, it appears that moral educators would do well to invest special efforts in teacher training focusing on the encouragement of students' criticism. Such training may focus not only on the importance of criticism support, but also on the difficulties it might create for teachers, and ways of overcoming them. Alfi et al. (2004) proposed specific methods for helping teachers to accept and identify with new and initially threatening practices.

Overall, the present study suggests that teachers' ability to tolerate and even encourage critical and independent thinking in students might be an important factor in promoting students' moral judgment and development. The study also suggests that students in democratic schools reach higher levels of moral judgment, at least in part, due to their teachers' tendency to encourage independent and critical thinking in their students. The findings thus highlight the importance of helping teachers to accept and encourage the expression of critical opinions by students.

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