The effect of community, school and parental perceptions on adolescents' civic engagement: the mediating role of values

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A young person's development is shaped by many influences operating on several interconnected levels (Bronfenbrenner, 1979). Development of civic behavior is not an exception. It can be affected by everyday interactions in families and schools, but it also reflects practices shared by the community. In this study, we ask how does the effect of the environmental influences on person's civic engagement work. The main question concerns the role of values. Do the environmental influences shape young person's value orientation, which subsequently leads to higher civic engagement? Or becomes a person engaged directly under the influence of the environment without changing her value orientation?

Socially responsible value orientation is considered to be a predictor of civic engagement. By this term, we mean a personal commitment to act in favor of public good. Close connection and mutual support between socially responsible values and civic engagement is one of the core elements in the social capital theory (Putnam, 2000). Similarly, Funk (1999) finds a relation between endorsing of social interest over self-interest and civic engagement. Higher level of civic engagement is connected also with cognate values such as empathic concern (Bekkers, 2005).

Since socially responsible value orientation seems to be an important precursor of civic activity, a question for its development emerges. Many studies point out the major role of parents in development of adolescent's social values. For example, Pancer & Pratt (1999) found a concordance between adolescent's and parental values, especially between their altruistic orientations. However, not only prosocial orientations are replicated across generations, because parents can transmit to their children also social and political alienation (Gniewosz, Noack, & Buhl, 2009). Another source of socially responsible value orientations are schools. Although some authors are rather skeptical to the role of schools in citizen education (Gallatin, 1980), current research suggests that some structural characteristics of school environment such as classroom democracy or transparency enhance students' commitment to the society (Flanagan et al., 2007; Wilkenfeld, 2009) and tolerant attitudes (Gniewosz & Noack, 2007). Finally, community can be mentioned as a source of young people's socially responsible values. As Flanagan et al. (2007) show, adolescents' sense of community connectedness, including a perception of the community as a caring and trustworthy place, predicts their future plans to work for this community.

It is necessary to emphasize that the effect of mentioned environmental influences (parents, school, and community) should be understood in terms of perception. As Westholm's (1999) study on the parent-child transmission of political orientations suggests, a young person is influenced not directly by parental views, but by her perceptions of these views. Therefore, we will talk about perceived environmental influences in our study. It has its advantages since we can expect stronger and more obvious relation to adolescent’s own value orientations. On the other hand, it is necessary to bear in mind that adolescents’ perceptions may be biased since they usually do not mirror actual parental, school and community practices accurately.
At this moment, one possible model of civic engagement emerges: adolescent's perceptions of his environment, namely perceptions of socially responsible parental values, democracy in the school, and socially responsible values in the community, enhance his own acceptance of these values. Then, socially responsible value orientation motivates him to be engaged in the civic sphere. This mechanism can explain, for example, the observed correlation between civic engagement of parents and their children (Jennings, 2004; Smetana & Metzger, 2005; Zukin et al. 2006).

However, the internalization of socially responsible values does not have to be the only possible mechanism, connecting environmental perceptions with civic engagement. First of all, the relation between value orientations and civic engagement has been found to be nonsignificant for some forms of civic engagement (Funk, 1999). Thus, there are some situations where socially responsible values do not enhance engagement. Although it might seem that in these cases also environmental perceptions do not relate to civic engagement, this conclusion is not necessarily true. The environmental perceptions can relate to civic engagement in a different way, for example by showing the person that there is some norm that should be followed.

Thus, two competing hypotheses can be suggested here. The first one we call “a value mediation hypothesis”. According to it, the effect of environmental perceptions on civic engagement happens through enhancing of certain value orientations in a young person. Adolescent who perceives that his community, school, and family embody and promote socially responsible values accepts these values, which leads him to civic engagement. The process of internalization takes place here as the values perceived in the environment must be accepted by the person first before they affect his civic behavior (see Figure 1). The second hypotheses can be called “a direct environmental effect hypothesis”. It suggests that value orientations are not important factor when explaining civic behavior and there is no substantial link between them and civic engagement. Instead, the environmental perceptions directly influence civic behavior by pointing out the existence of certain behavioral norms (see Figure 2).

Figure 1. Value mediation hypothesis

![Value mediation hypothesis diagram]

Figure 2. Direct environmental effect hypothesis

![Direct environmental effect hypothesis diagram]
We expect that each of these hypotheses will be applicable to different forms of engagement. More demanding forms of engagement (in terms of initial barriers, time, skills etc.) will necessitate person’s deeper commitment to some value principles; i. e. the value mediation hypothesis will be adequate for them. On the other hand, the activities that are more approachable will be more loosely tied to values and will reflect the norms and opportunities perceived in the environment. Considering the range of civic activities undertaken by current adolescents, the engagement in civic organizations or volunteering can be examples of the former form of engagement, while the engagement in school student councils and self-governments can be an example of the latter one. Therefore, we expect that the engagement in civic organizations and volunteering (altogether, we will call these activities civic engagement) will be better explained by the value mediation hypothesis, while the school engagement will be better explained by the direct environmental effect hypothesis.

Besides the forms of engagement, age of a person may be an important factor here. Vollenbergh, Idema & Raaijmakers (2001) showed that the process of stabilization and internalization of cultural values happens in late adolescence. It is in accordance with the fact, behavior of late adolescents is more guided by internalized principles when compared to younger cohorts (Macek, 2003). Moreover, older adolescents have more opportunities to express their value orientation in real civic behavior than the younger persons. Therefore, we expect that late adolescents will be more by the prone to the value-mediation, while younger adolescents will be more dependent on the effect of direct environmental perceptions.

To obtain more convincing conclusions, we will test our hypothesis on the sample representing two historical generations. Moreover, gender comparison will be conducted.

**Method**

**Participants and procedure**

Our data comprise two representative samples using multistage sampling in the region of South Moravia; one collected in 1995 (N = 1127, 52% male) and the other from 2010 (N = 1000, 47% male). Both samples comprise two age cohorts – middle adolescents (end of primary school, mean age 14.6, 50.2% in 1995, 54.7% in 2010) and late adolescents (beginning of secondary school, mean age 17.1).
The proportion of males does not significantly differ between grades both in 1995 and 2010, $\chi^2(1) = 1.56$ and .82 respectively. Respondents were administered a multi-page paper questionnaire comprising many items tapping their perceptions of the economy, local community, school, and their personal beliefs. In 2010, only a part of the 1995 questionnaire was administered. In 1995 the questionnaires were administered at school, in 2010 they were administered individually at home. The willingness of participants to fill up the whole questionnaire was high since all covariance coverage values were above 95%.

Measures

All scales were based on items used in the “Adolescents’ interpretation of the Social contract” project (Flanagan et al., 1998; 2003; Macek et al., 1998; Flanagan, & Tucker, 1999); however, composition of some scales and scale labels were changed to fit to the present study. 5-point response scales were used for all items: (1) “I certainly disagree”, (2) “I disagree”, (3) “I disagree a bit and agree a bit”, (4) “I agree”, (5) “I certainly agree”. The only exceptions were questions on engagement where dichotomous “yes/no” scales were used.

Perceived socially responsible values in the community

Participants were asked 3 questions on the society where they live: “If there is someone in our community with a problem, he may count on the help of the other people”; “In our town (village) people feel to be members of a community, where people are interested in one another”; “Many people in our town attempt to create a community, in which there would be a good life”.

Perceived school democracy

Respondents completed 4 items about their schools: “teachers want students to express their own opinions, even if they disagree with teachers”; “students are encouraged to engage in leadership and management”; “teachers listen to students’ opinion regarding the way how the hours should be improved”; “teachers really care about students”.

Perceived parental socially responsible values

This scale consisted of 3 statement describing participant’s family life: “Parents taught me to help others, namely to those, who had been less lucky in life”; “Parents taught me to be perceptive to the feelings and needs of others”; “Parents taught me to be attentive to the needs of others, not only to those of mine”.

Socially responsible value orientation

Value orientation was measured by 3 possible answers on the question: “When you think of your future life, how much is for you personally the following one?” – “to do something to improve community”; “to help the other ones, who had been less lucky”; “to do something useful for the society”.

Civic and school engagement
Civic engagement was measured by two questions: “Are you involved in any citizen (social) organization or group?” and “Do you participate in any voluntary activities?” If participant answered positively on at least one of these questions, he was considered to be engaged. If he answered negatively on both questions, he was considered to be not engaged.

School engagement was measured by one question: “Do you participate in a student committee or school (class) council?”

Data analysis

We used the structural equation modeling approach conducted in Mplus 5.1 software to test our hypotheses. For models composed only of continuous variables, maximum likelihood (ML) estimator was used. Estimation of models containing binary dependent variables was done by weighted least square parameter estimator using a diagonal weight matrix with standard errors and mean- and variance-adjusted chi-square test statistic (WLSMV; Muthén, & Muthén, 2006). We described a fit of the models estimated by ML estimator by a χ² statistic, Comparative Fit Index (CFI; Bentler, 1990), Root Mean Squared Error of Approximation (RMSEA; Steiger, & Lind, 1980), and Standardized Root Mean Residual (SRMR). Fit of the models estimated by WLSMV was described by a mean- and variance-adjusted χ² statistic, CFI, RMSEA and Weighted Root Mean Square Residual (WRMR; Muthén, & Muthén, 2006). Paths leading to continuous variables were described by linear regression coefficients, while paths leading to binary variables were described by probit regression coefficients.

All our analyses consisted in estimation of full models (models containing all paths) and their comparison with constrained models representing tested hypotheses. If the constrained model representing some hypothesis did not differ significantly from the full model, the hypothesis could be maintained as plausible. If the constrained model did differ, the hypothesis was refuted. Significance of the difference between models was tested by a χ² difference test. However, some authors suggest that using of this test on large samples, which was our case, can lead to biased results. Specifically, even a small difference between models can result in a significant value of the Δχ² (Brannick, 1995; Kelloway, 1995). It has been show that differences in the alternative fit indices as CFI, RMSEA, SRMR, and WRMR can serve as a valuable tool for model fit comparisons (Cheung & Rensvold, 2002). Therefore, also these indices were reported when comparing the models.

Before we started to test the main hypotheses, a measurement model was estimated to test the validity of our measures. The model consisted of 4 latent continuous variables (perceived socially responsible values in the community, perceived school democracy, perceived parental socially responsible values, and socially responsible value orientation) and their indicators. Every indicator was only loaded by corresponding latent variable and was not allowed to correlate with other indicators. Since the structural part was not of interest in this step, all latent variables were allowed to intercorrelate. The most important test concerned the possibility to conduct a direct comparison between the 1995 and 2010 samples. The comparison would have been only possible if there had been the same factor loadings and intercepts for all indicators in both generations (i.e. measurement invariance). To test this assumption, we tested the difference between a model with a
free estimation of all parameters in both generations and a nested model where all factor loadings and intercepts were constrained to be the same across generations. If the difference had appeared to be significant, the measures would have been incomparable across generations. In the same vein, we compared the measurement invariance across both age groups (middle and late adolescents) and across both genders to be sure that the indicators measure the same construct in these groups.

The main hypotheses were tested separately for civic and school engagement. For each form of engagement, we estimated a full structural model with 4 latent continuous variables (perceived socially responsible values in the community, perceived school democracy, perceived parental socially responsible values, and socially responsible value orientation) and one manifest binary variable (civic or school engagement). Paths from all environmental perceptions to value orientation, from all environmental perceptions to engagement, and from value orientation to engagement were set. Then we started to remove the paths according to our hypotheses and test changes in the model fit. After these analyses were done for the whole sample, different subgroups were assessed.

**Results**

**Measurement model**

The analysis of a measurement model indicated that our data did not provide means for a direct comparison between the 1995 and 2010 generations. The model with all factor loadings and intercepts being freely estimated in the two generations had a good fit ($\chi^2[127] = 389.54; \text{CFI} = .96; \text{RMSEA} = .04; \text{SRMR} = .04$). However, when we constrained the factor loadings and intercepts to be the same in the generational groups, it caused significant worsening of a model fit ($\Delta \chi^2[13] = 74.86, p < .01; \Delta \text{CFI} = .011$). Closer examination revealed that indicators of community and school perceptions were mainly responsible for a $\chi^2$ change. It suggests that the meaning of these constructs changed over time and they cannot be interpreted as equivalent across the generations. Therefore, we conducted all following analyses separately on the two generational subsamples.

For the 1995 generation, the measurement model had an excellent fit ($\chi^2[59] = 135.08; \text{CFI} = .97; \text{RMSEA} = .03; \text{SRMR} = .03$) and the measurement invariance was maintained for the age and gender subgroups. The model with free estimation of factor loadings and intercepts in the two age subgroups ($\chi^2[127] = 251.46; \text{CFI} = .95$) did not significantly differ from the model where these parameters were constrained to be the same in both groups ($\Delta \chi^2[13] = 21.13, p > .05; \Delta \text{CFI} = .003$). Similarly, the unconstrained model ($\chi^2[127] = 232.61; \text{CFI} = .96$) did rather marginally differ from the constrained model ($\Delta \chi^2[13] = 24.41, p = .03; \Delta \text{CFI} = .005$) when comparing gender groups.

Similarly to the 1995 generation, the measurement model gained an excellent fit for the whole sample ($\chi^2[59] = 153.77; \text{CFI} = .97; \text{RMSEA} = .04; \text{SRMR} = .03$) and the measurement invariance was maintained for the age and gender subgroups in 2010. Comparison of the model with free estimation of factor loadings and intercepts in the two age groups ($\chi^2[127] = 231.90; \text{CFI} = .97$) and the model with these parameters constrained to be the same in both groups did not reveal any significant difference ($\Delta \chi^2[13] = 15.16, p > .05; \Delta \text{CFI} = .001$). At the same time, the unconstrained model ($\chi^2[127]$
Therefore, we can conduct cross-age and cross-gender comparisons in both generations since the indicators tap the same constructs in all subgroups. Moreover, the invariance of our measures across various groups supports the validity of our measures.

**Civic engagement**

For civic engagement, the value mediation hypothesis was confirmed in both generations, while the direct environmental effect hypothesis gained very weak support. To test the hypotheses, we compared two models, based on these hypotheses, with a full model, containing all direct and value-mediated paths from environmental perceptions to civic engagement. We conducted this analysis on both generations separately. First we tested the hypotheses on the whole generation; then we looked if the conclusions are valid for both age groups and both genders in the generation.

In 1995, the estimation of the full model suggested significance of all paths form environmental perceptions to value orientation and the path from value orientation to civic engagement, which was in accordance with the value mediation hypothesis (see Figure 3). Moreover, there were significant indirect effects from all environmental perceptions to civic engagement, mediated by value orientation (from community $\beta = .06$, $p < .01$; from school $\beta = .12$, $p < .01$; from parents $\beta = .20$, $p < .01$). This was confirmed by the fact that the full model ($\chi^2[50] = 146.71$; CFI = .919; RMSEA = .042) did not provide significantly better fit than the model representing the value-mediation hypothesis, i.e. having all direct paths from environmental perceptions to civic engagement fixed to zero ($\Delta \chi^2[3] = 4.29$, $p > .05$; CFI = .923; RMSEA = .040). On the other hand, the model representing the direct environmental effect hypothesis, having the path from value orientation to civic engagement fixed to zero, brought a significant worsening of the model fit ($\Delta \chi^2[1] = 37.39$, $p < .01$; CFI = .879; RMSEA = .051).

Figure 3. Full model predicting civic engagement in the 1995 generation (standardized coefficients reported; * $p < .05$, ** $p < .01$)
The same result was obtained for age and gender subgroups. Concerning age, the full model with free estimation of all paths in both age groups ($\chi^2[87] = 192.72; CFI = .908; RMSEA = .047$) did not significantly differ from the model imposing the value-mediation on both groups ($\Delta\chi^2[6]=11.32, p > .05; CFI = .905; RMSEA = .046$). At the same time, removal of the path between value orientation and civic engagement meant significant drop in the model fit, even when done only for younger ($\Delta\chi^2[1] = 17.69, p < .01; CFI = .894; RMSEA = .049$) or older ($\Delta\chi^2[1] = 14.72, p < .01; CFI = .897; RMSEA = .049$) subgroup. This meant that both age groups could be described only by the value mediation hypothesis, while the direct environmental effect hypothesis was inappropriate in both groups.

Similarly, the full model with free estimation of all paths for both gender groups ($\chi^2[88] = 176.29; CFI = .925; RMSEA = .042$) did not have significantly worse fit than the model imposing value-mediation on both genders ($\Delta\chi^2[6]=6.52, p > .05; CFI = .926; RMSEA = .041$). Simultaneously, removal of the path from value orientation to civic engagement in the male ($\Delta\chi^2[1] = 8.16, p < .01; CFI = .920; RMSEA = .044$) as well as in the female group ($\Delta\chi^2[1] = 34.23, p < .01; CFI = .901; RMSEA = .049$) meant significant worsening of the fit. Thus, the supremacy of the value mediation hypothesis over the direct environmental effect hypothesis was valid for both genders in 1995.

The full model for the 2010 generation looked similarly to the model for the 1995 generation, except for significant and weak negative direct path from community perception to civic engagement (see Figure 4). Again, we found significant indirect effects from environmental perceptions to civic engagement, mediated by value orientation (from community $\beta = .04, p = .03$; from school $\beta = .09, p < .01$; from parents $\beta = .26, p < .01$). Comparison of the full model ($\chi^2[44] = 147.11; CFI = .919; RMSEA = .048$) with the model representing the value-mediation hypothesis did not bring any significant difference in the model fit ($\Delta\chi^2[3]= 5.78, p > .05; CFI = .93; RMSEA = .05$), while comparison of the full model with the model representing the direct environmental effect hypothesis revealed significant worsening of the fit ($\Delta\chi^2[1]= 10.06, p < .01; CFI = .91; RMSEA = .05$). Thus, the former hypothesis was plausible for the whole generation, whereas the latter was not.

Figure 4. Full model predicting civic engagement in the 2010 generation (standardized coefficients reported; * $p < .05$, ** $p < .01$)
The results for the age and gender subgroups in the 2010 generation were not so convincing. Assessing the age groups separately, the value mediation hypothesis was plausible for both groups since the full model with free estimation of all paths in both groups ($\chi^2[65] = 124.97$; CFI = .95; RMSEA = .04) did not significantly differ from the model with value mediation in both groups ($\Delta \chi^2[5] = 5.69$, $p > .05$; CFI = .95; RMSEA = .04). However, the direct environmental effect hypothesis could not be refuted since the path between value orientation and civic engagement could be removed without significant drop in the model fit for younger ($\Delta \chi^2[1] = 3.47$, $p > .05$; CFI = .95; RMSEA = .04) as well as for older ($\Delta \chi^2[1] = 4.81$, $p = .03$; CFI = .95; RMSEA = .04) group. Thus, the value mediation hypothesis was plausible for both age groups but it was not possible to refute the direct environmental effect hypothesis. Similar results were obtained for the analysis of the gender groups. The full model with free estimation of all paths for both genders ($\chi^2[66] = 134.58$; CFI = .94; RMSEA = .05) did not have significantly different fit from the model with value mediation in both genders ($\Delta \chi^2[6] = 5.15$, $p > .05$; CFI = .95; RMSEA = .04). Although the direct environmental hypothesis could be refuted for girls ($\Delta \chi^2[1] = 6.52$, $p = .01$; CFI = .94; RMSEA = .05), it could not be done for boys ($\Delta \chi^2[1] = 2.46$, $p > .05$; CFI = .94; RMSEA = .05). Therefore, our analysis the 2010 sample confirmed the plausibility of the value mediation hypothesis but it brought only partial refutation of the competing direct environmental effect hypothesis.

In sum, the value mediation hypothesis had a strong support in our data since it was plausible for both generations and across age and gender subgroups. The direct environmental effect hypothesis was unacceptable in the overall analyses of both generations and in the analyses of all subgroups in the 1995 generation. In the 2010 generation, we were able to refute the direct effect hypothesis only for girls. For boys and when analyzing age groups separately, both hypotheses could be fitted on the data, which was probably given by smaller sample sizes.

In contrast to our expectations, the relation between socially responsible value orientation and civic engagement did not seem to differ for middle and late adolescents. To test this hypothesis directly, we compared the full model with a free estimation of all parameters in both age groups (see above) with a nested model, constraining this path to be same in both groups. In the full model for the 1995 generation, middle adolescents ($\beta = .49$) had unexpectedly higher standardized path coefficient than late adolescents ($\beta = .36$). However, comparison with the restricted model revealed that this difference is not significant ($\Delta \chi^2[1] = .42$, $p > .05$; CFI = .909; RMSEA = .046). In the 2010 generations, the difference between middle ($\beta = .38$) and late ($\beta = .45$) adolescents had an expected direction, but it was not significant again ($\Delta \chi^2[1] = .10$, $p > .05$; CFI = .947; RMSEA = .043). Therefore, we can conclude that the relation between value orientation and civic engagement is the same for middle and late adolescents.

**School engagement**

We found no relation between environmental perceptions or value orientations and school engagement in the 1995 generation, while we found some support for the direct environmental effect hypothesis in the 2010 sample. However, we found several important differences among analyzed subgroups. The value mediation hypothesis was found implausible when predicting school engagement. Models with school engagement as a dependent variable were tested in the same way
as the models with civic engagement, i.e., by comparing the full model with two nested models representing our main hypotheses.

Estimation of the full model predicting school engagement in the 1995 generation revealed no significant path leading to school engagement, either from value orientation, or from environmental perceptions (see Figure 5). It was possible to remove all paths predicting school engagement from the full model ($\chi^2[50] = 165.72$; CFI = .901; RMSEA = .045) without any substantial drop in a model fit ($\Delta\chi^2[3] = 11.08, p = .01$; CFI = .907; RMSEA = .046). Although the $\chi^2$ change was significant on the .05 level (which must be taken cautiously with respect to the sample size; see above), all other fit statistics did not indicate worse model fit. Actually, the CFI become even higher, suggesting better model fit. The environmental perceptions were not associated with school engagement in 1995, neither directly, nor indirectly. Therefore, both hypotheses had to be refused.

Figure 5. Full model predicting school engagement in the 1995 generation (standardized coefficients reported; * p < .05, ** p < .01)

Results for the age and gender subgroups confirmed the results obtained on the overall 1995 sample and brought one specification. Concerning age, the full model with free estimation of all paths in both age groups ($\chi^2[88] = 206.19$; CFI = .892; RMSEA = .049) did not significantly differ from the model lacking all paths leading to school engagement in both groups ($\Delta\chi^2[7] = 12.09, p > .05$; CFI = .898; RMSEA = .048). Thus, there was no relation between environmental perceptions (neither direct nor indirect) and school engagement for both age groups. However, the full model with free estimation of all paths for both gender groups ($\chi^2[89] = 185.26$; CFI = .916; RMSEA = .044) differed significantly from the model having all paths to school engagement fixed to zero for both genders ($\Delta\chi^2[7] = 20.84, p < .01$; CFI = .908; RMSEA = .046). Additional analysis of the full model revealed that the female group was responsible for this drop in a model fit because there was a significant path between value orientation and school engagement for girls ($\beta = .20, p = .05$). Adjustment of the model by freeing this path for girls lead to the model fit that did not significantly differ from the full model ($\Delta\chi^2[6] = 8.50, p > .05$; CFI = .919; RMSEA = .043). The indirect effects of all environmental perceptions on school engagement were small, but significant (from community $\beta = .05, p = .02$; from
school β = .04, p = .01; from parents β = .10, p < .01). It meant that there was a value-mediated effect of environmental perceptions on school engagement of girls.

In the 2010 generation, the full model predicting school engagement provided somewhat mixed results. School engagement was significantly predicted only by one of the environmental perceptions (perceived school democracy). However, there was also similarly strong nonsignificant path from value orientation to engagement (see Figure 6). Restriction of the full model $\chi^2[44] = 152.79; CFI = .92; RMSEA = .05$ to represent the value mediation hypothesis lead to a significant worsening of its fit ($\Delta\chi^2[3] = 16.85, p < .01; CFI = .91; RMSEA = .05$). Thus, this hypothesis did not appear to be appropriate. On the other hand, the model representing the direct environmental effect hypothesis, with the path from value orientation to school engagement fixed to zero, did not significantly change a model fit ($\Delta\chi^2[1] = 1.48, p > .05; CFI = .92; RMSEA = .05$). More detailed analysis revealed that only school engagement was important among the environmental perceptions since the model having the paths from community perception, family perception, and value orientation to school engagement fixed to zero did not significantly differ from the full model ($\Delta\chi^2[3] = 4.57, p > .05; CFI = .93; RMSEA = .05$). Therefore, the direct environmental effect hypothesis was plausible when predicting school engagement in this generation.

Figure 6. Full model predicting school engagement in the 2010 generation (standardized coefficients reported; * p < .05, ** p < .01)

More in-depth analyses of the 2010 sample revealed significant differences between age groups and no differences between genders. Comparison of the full model, freely estimating all paths in both age groups $\chi^2[64] = 127.87; CFI = .943; RMSEA = .045$ with the model imposing the direct environmental effect hypothesis on both age groups revealed a significant drop in a fit ($\Delta\chi^2[2] = 15.74, p < .01; CFI = .936; RMSEA = .048$). At the same time, it was not possible to impose the restrictions given by the value mediation hypothesis on both groups ($\Delta\chi^2[6] = 31.44, p < .01; CFI = .92; RMSEA = .05$). Analysis of the direct and indirect paths in the full model revealed that the most appropriate solution lies in imposing of different restrictions on different age groups. Especially, there was a significant indirect effect of school and parental perception on school engagement mediated by values for late adolescents. Therefore, when we applied the direct environmental effect hypothesis on middle
adolescents (by fixing to zero the path from values to school engagement in this group), and the value mediation hypothesis on late adolescents (by fixing to zero the paths from environmental perceptions to school engagement in this group), we got a plausible model ($\Delta \chi^2[4] = 9.04, p > .05; \text{CFI} = .940; \text{RMSEA} = .046$). The indirect effect of some environmental perceptions on school engagement among late adolescents was small, but significant (from community $\beta = .01$, $p > .05$; from school $\beta = .06$, $p = .03$; from parents $\beta = .16$, $p < .01$). Moreover, we could reduce the effect of environmental perceptions in the younger group on the effect of perceived school democracy ($\Delta \chi^2[5] = 11.15, p = .05; \text{CFI} = .938; \text{RMSEA} = .046$). Thus, the age groups differed in their pathways to school engagement: middle adolescents were directly influenced by perceived school democracy, while late adolescents were motivated by their value orientations. Concerning gender, we found no major differences. It was possible to restrict the full model ($\chi^2[66] = 135.20; \text{CFI} = .941; \text{RMSEA} = .046$) by imposing the direct environmental effect restrictions on both groups ($\chi^2[2] = 1.32, p = .05; \text{CFI} = .942; \text{RMSEA} = .046$). At the same time, we got somewhat mixed results when we tried to refute the value mediation hypothesis separately for boys ($\chi^2[3] = 9.16, p = .03; \text{CFI} = .938; \text{RMSEA} = .047$) and girls ($\chi^2[3] = 10.86, p = .01; \text{CFI} = .937; \text{RMSEA} = .048$).

To sum up, the analysis of school engagement brought more diverse results than the analysis of civic engagement. In the 1995 generation, school engagement seemed to be unassociated with environmental perceptions (both directly and indirectly). However, deeper analyses revealed that the value mediation model applied for girls. For the 2010 generation, the direct environmental effect hypothesis seemed to be plausible first. After the comparison of middle and late adolescents, we concluded that the direct environmental effect hypothesis is appropriate for the former group, but for the latter, we should suppose rather the value mediation.

**Conclusions**

We found a support for our expectation that civic engagement in organizations and volunteering is explained rather by the value mediation hypothesis. In neither generation and for no subgroup, there was no evidence favoring the direct effect hypothesis over the value mediation hypothesis. For this form of engagement, we did not find any differences among middle and late adolescents. There were also no gender differences. Therefore it seems that the path to civic engagement is relatively stable among different young people. As a quite “demanding” form of engagement, it requires the internalization of socially responsible values in a person. Other than inner motivations do not have enough power to make an adolescent engaged.

Predictions of school engagement appeared to be more mixed. In the 1995 sample, the environmental perceptions had almost no relation to school engagement. It can be caused by the specific situation in the early post-communist society where the patterns of everyday public engagement were not settled down. At the same time, there was a significant association between value orientation and school engagement for girls. It can be explained by the finding that women, more than men, tend to be motivated to public service by social feelings such as compassion (DeHart-Davis, Marlowe, & Pandey, 2006). On the other hand, this gender difference was not confirmed in the 2010 sample. It can be caused by two reasons. First, the fact that girls have
prosocial motivations to engagement reflects traditional gender stereotypes. Since these stereotypes are diminishing in the current society, they do not influence young people’s behavior as much as they did 15 years ago. Second, as we revealed in the analyses of the measurement model, our constructs have slightly different meaning in both samples which can be the reason why we found different associations among them. Compared to the 1995 sample, we suppose that the 2010 sample reflects more “normal” society in terms of stability and similarity to other democratic societies. In accordance to our expectations, we came to the conclusion that the environmental perceptions have rather direct impact on school engagement. Especially younger adolescents seem to take advantage of perceived norms and opportunities given by the school democracy; they do not become engaged because of having developed stable value orientations. On the other hand, older adolescents seem to be motivated by their values, formed on the basis of their environmental perceptions.