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EDUCATIONAL OUTCOMES AND ASPIRATIONS OF UPPER SECONDARY SCHOOL STUDENTS: THE CULTURAL CAPITAL AND RELATIVE RISK AVERSION PERSPECTIVES

Obrazovni ishodi i aspiracije učenika srednjih škola: perspektive kulturnog kapitala i izbegavanja relativnog rizika

ABSTRACT: *The aim of the article was to address the relevance of cultural capital and relative risk aversion theories for educational outcomes and aspirations of upper secondary school students in Croatia, and to examine whether these approaches are compatible in explaining educational inequalities. Linear and logistic regressions were used to analyze data from 2106 students in their last year of upper secondary school (16–18 years old). Both constructs, cultural capital and relative risk aversion, had positive effects on school performance, enrolment of gymnasium instead of vocational school and aspirations for higher education. The analyses indicated that cultural factors frequently associated with school performance should not be separated from more direct status concerns shaping educational decisions. Rather than seeing them as unrelated, these mechanisms may both be seen as constitutive of students' educational dispositions.*

KEYWORDS: cultural capital; relative risk aversion; educational inequality; upper secondary education; aspirations for higher education

APSTRAKT: *Cilj ove studije bio je da se sagleda značaj teorija kulturnog kapitala i izbegavanja relativnog rizika za obrazovne ishode i aspiracije učenika srednjih škola u Hrvatskoj, te da se ispita da li su ovi pristupi kompatibilni u objašnjavanju nejednakosti u obrazovanju. Podaci 2106 učenika u njihovoj poslednjoj godini srednje škole (starost od 16–18 godina) analizirani su linearnom i logističkom regresijom. Oba konstrukta, kulturni kapital i izbegavanje relativnog rizika,*

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imali su pozitivne efekte na školski uspeh, upis gimnazije umesto stručne škole i težnju za visokim obrazovanjem. Analize su pokazale da kulturni faktori koji se često povezuju sa školskim uspehom ne bi trebalo da budu posmatrani odvojeno od direktnije brige o statusu koja oblikuje odluke vezane za obrazovanje. Umesto da ih posmatramo kao nepovezane, oba ova mehanizma se mogu posmatrati kao konstitutivni za obrazovne dispozicije učenika srednjih škola.

KLJUČNE REČI: kulturni kapital; izbegavanje relativnog rizika; nejednakost u obrazovanju; srednjoškolsko obrazovanje; aspiracije za visoko obrazovanje

Introduction

A large body of international studies shows that social background characteristics, such as those related to parental education or occupational status, are associated with educational outcomes, be it school performance or educational choice (e.g. Chesters and Watson, 2013; Sirin, 2005; Strand, 2014). Although these associations remain a common finding in international research, there is a lack of consensus on the social mechanisms through which they are maintained across generations (Vester, 2006). Different authors have articulated two main theoretical approaches for explaining the link between social stratification and educational attainment (Nash, 2003; Vester, 2006). One of these approaches derives from the work of P. Bourdieu (1977a, 1984) on cultural and social reproduction where educational inequality is seen predominantly as a consequence of class differences in the social distribution of different forms of capital (economic, social and cultural). The other main theoretical approach is inspired by the work of R. Boudon (1974) and includes rational decision-making models that emphasize socio-economic constraints of educational choices (Breen and Goldthorpe, 1997). These two theoretical perspectives have often been perceived as opposed/competing explanations of educational inequality and that debate is still ongoing (Boone and Van Houtte, 2013). Consequently, studies that embraced both perspectives are scarce in the international context (Boone and Van Houtte, 2013; Glaesser and Cooper, 2014; Van de Werfhorst and Hofstede, 2007), and even more so in educational research in Croatia.

In order to fill this gap, this paper addresses educational inequality by combining cultural reproduction theory with one central aspect of rational decision-making in education, i.e. relative risk aversion (RRA) (Breen and Goldthorpe, 1997). In doing so, the analysis draws on a sample of upper secondary school students in Croatia. It has been suggested that contextual factors such as educational structures or social and education policies may influence the mechanisms behind educational inequalities (Barone, 2006; Perry, 2009). This paper extends previous research on the mechanisms of educational inequality by offering insight into empirical findings from a less researched country context such as Croatia. More specifically, this is, to the best of our knowledge, the first study that enables insight into educational stratification in Croatia from the viewpoint of both cultural reproduction theory and RRA theory.

Theoretical Framework

Cultural Reproduction Theory

From a Bourdieusian perspective, the educational system is not a neutral screening device that selects individuals according to their talents and capabilities. Instead, it operates in a biased way in favor of those children who come from socio-economically and culturally privileged backgrounds (Bourdieu, 1977a, 1984; cf. De Graaf, 1988). The main reason for this is the fact that the culture of the dominant classes corresponds to the culture present in schools and the educational system as a whole. In this respect, Bourdieu speaks of class differences in children's cultural capital. For the most part, cultural capital is accumulated as a part of socialization processes in the family, during which cultural practices, values and attitudes are transmitted from parents to children. These transmission processes result in the formation of a classed habitus, that is "a system of lasting, transposable dispositions which, integrating past experiences, functions at every moment as a matrix of perceptions, appreciations, and actions" (Bourdieu, 1977b: 82–83). Class differences in family upbringing and habitus are responsible for the fact that students from socially advantaged families start their educational career with more relevant skills and appropriate knowledge (cultural capital), while teachers' expectations often diverge from dispositions and competencies of children from lower status families. Accordingly, criteria used by teachers (and other educational workers) to evaluate students' achievements typically favor students from privileged backgrounds. Apart from embodied dispositions such as linguistic or cognitive competencies (embodied cultural capital), cultural capital also includes the possession of cultural goods (objectified cultural capital) as well as educational qualifications (institutionalized cultural capital) (Bourdieu, 1997). Besides the fact that achievement in education is not evaluated according to class-neutral standards, selection within the educational system is often a consequence of self-elimination of students with lower levels of cultural capital (Bourdieu, 1977a). This means that the lack of cultural capital negatively affects students' hopes and aspirations regarding their participation in more prestigious forms of secondary education, as well as their transition to higher education (Reay et al., 2001). In this case, students adjust their aspirations to the perceived chances of success given the level of cultural capital at their disposal (Bourdieu, 1977a; Reay et al., 2001).

The hypothesis on the relationship between cultural capital and educational outcomes has been examined internationally in many quantitative studies (Aschaffenburg and Maas, 1997; DeGraaf, 1988; DiMaggio, 1982; Flereet et al., 2010; Jungbauer-Gans, 2004; Jæger, 2009; for an overview see Tan, 2017). In these studies cultural capital was operationalized in numerous ways, including highbrow cultural pursuits (e.g. interest in art and literature, theatre visits, visits to museums and galleries), parental education, parents' and students' reading behavior, the possession of educational resources and works of art, as well as communication patterns in the family. Although past research has found support for a cultural capital effect on school success and educational transitions

(e.g. DiMaggio, 1982; Flere et al., 2010; Jæger, 2009), there are also studies that indicate ambiguous effects (e.g. Boone and Van Houtte, 2013; De Graaf, 1986; Lamb, 1989). These divergences have been attributed to substantial differences in existing operationalizations of the cultural capital concept (Dumais, 2002), to differences in the significance of cultural capital in national educational systems, as well as to the fact that various studies refer to different stages of the educational career (Barone, 2006).

Relative Risk Aversion Theory

Unlike cultural reproduction theory, RRA theory interprets educational choices explicitly as rational decisions made by students and their parents (Goldthorpe, 1996). The theory is based on Boudon's (1974) differentiation between primary and secondary effects of social origin. In contrast to primary effects, which are for the most part associated with the influence of social origin on academic performance, secondary effects directly (i.e. independent of ability) affect educational choices (Boudon, 1974). These choices differ substantially between social classes because of class related evaluations of costs and benefits of alternative educational careers. In examining costs and benefits of more or less extended education, RRA theory gives special attention to the motive for family status maintenance (Breen and Goldthorpe, 1997). Breen and Goldthorpe (1997: 283) conceptualize this motive as a risk avoidance mechanism, which implies that families in all classes alike "seek to avoid downward social mobility". In other words, parents from all classes want to ensure that their children acquire a class position that is at least equal to their own. Other than pointing to the importance of status maintenance, this postulate implies that the motive for upward mobility is only to a lesser extent an incentive for decisions in education (Stockè, 2007). The result of this is considerably limited intergenerational social mobility in educational attainment: children from less privileged classes achieve status maintenance with relatively less ambitious degrees, while children from higher classes have to consider higher levels of education in order to maintain their social status. Consequently, the incentives to accomplish higher levels of schooling rise with the families' socio-economic status net of any class-specific cultural values or social norms. Although from Breen and Goldthorpe's theory (1997) it remains unclear whether RRA is associated with educational performance, some authors reject such correlations (Van de Werfhorst and Hofstede, 2007).

It has been noted that most of the studies that analyzed the effects of RRA on educational decisions relied on proxy variables instead of robust indicators of the theoretical construct (Van de Werfhorst and Hofstede, 2007). For instance, indirect measures of RRA included parents' inclination for educational degrees of their children that are above their own (Becker, 2003), the perceived risk of status decline by how much parents believed education is associated with social status (Becker, 2003), or comparisons of students' educational attainment and aspirations depending on the educational level of their parents (Chesters and Watson, 2013; Davies, Heinesen, and Holm, 2002; Need and De Jong,

2001). Very few studies used more direct measures of RRA. In one of these studies, Stockè (2007) found that the subjective strength of the motive for status maintenance was not associated with decisions on secondary school choice, although beliefs about the degrees' suitability to avoid downward mobility were relevant for such decision. Van de Werfhorst and Hofstede (2007) showed that RRA – measured explicitly by being concerned with downward mobility – strongly affects schooling ambitions, but at the same time has no effect on school performance. These results correspond with studies that relied on less direct measures of RRA that reported mixed results concerning the effects of RRA on educational outcomes (Jæger and Holm, 2012; Need and De Jong, 2001). It seems that the evidence on the relative risk aversion model is still “far from being conclusive” (Stockè, 2007:508), and that, for most of the studies, it remains unclear whether the observed effects operate through the anticipated theoretical construct.

Overview of the Country Context

After compulsory elementary education (primary and lower secondary education), at the age of 14 or 15 years, students in Croatia enroll into upper secondary education. In doing so, they choose between gymnasium (academically oriented), four-year vocational school and three-year vocational school. At the end of upper secondary education all gymnasium students and the majority of vocational four-year students take the national graduation exam (State Matura; in Croatian: *državnatura*), as it is a requirement for enrolment into higher education. If students attending three-year vocational schools want to continue their education at the tertiary level, they must complete an additional bridge-program.

Higher education in Croatia is provided by universities and polytechnics. Similar to other countries in Central and Eastern Europe (Hatos, 2013), participation in higher education has increased considerably in the last two decades. From 2000 to 2014 the number of students rose from 100 297 to 157 827 (Croatian Bureau of Statistics, 2018d), meaning that the student intake has expanded by nearly 60%.

Although there was intensive massification of the higher education system in Croatia, the majority of the student body still comes from educationally advantaged backgrounds. Despite the fact that between 2000 and 2014 the higher education system has expanded by nearly 60%, the share of the least advantaged students, whose fathers have up to upper secondary education, has dropped from 8% in 2001⁴ to 5% in 2014 (Šćukanec et al., 2015). For comparison, in 2001 there were 21% of men aged 40–60 in this educational category in the general population (Farnell et al., 2011), and 19% in 2011 (Šćukanec et al., 2015). At the same time, students from educationally advantaged backgrounds are permanently

4 Source: Croatian Bureau of Statistics (Form-ŠV20), in an e-mail from CBS staff, May 7th 2015, authors' calculation.

overrepresented in the student body. In 2014 there were 34% of students whose fathers had a higher education degree, against 17% of men aged 40–60 in the general population (Šćukanec et al., 2015). Research shows that social inequalities in access to higher education are paralleled by social inequalities at lower levels of schooling. This inequalities include lower educational achievement of students from lower socio-economic status families in primary and secondary education (Gregurović and Kuti, 2010; Jokić and Ristić Dedić, 2010), as well as their overrepresentation in vocational schools in contrast to gymnasias to which they have only limited access (Farnell et al., 2011).

Research Questions and Hypotheses

The aim of the article was to address the relevance of cultural capital and RRA for educational outcomes and aspirations of Croatian students, and to examine whether these approaches could be compatible in explaining educational inequalities.

The following research questions and hypotheses were formulated:

- (1) Are there differences in the possession of cultural capital and in RRA between students from different socio-economic backgrounds? In accordance with the explicated theoretical framework, the following hypotheses were set:

Hypothesis 1a: *In line with cultural reproduction theory, it is assumed that students with higher socio-economic status are more likely to have higher levels of cultural capital.*

Hypothesis 1b: *As families in all classes alike want to avoid downward social mobility, it is expected that there are no significant differences in RRA with regard to students' socio-economic status.*

- (2) Could the cultural capital and RRA constructs be used together in addressing various aspects of educational inequality? Is there an effect of socio-economic status, net of cultural capital and RRA? Taking into account insights into the cultural capital and rational choice perspectives as well as findings from related studies addressing educational inequality, we assumed that:

Hypothesis 2a: *Cultural capital has a positive effect on students' school performance, upper secondary school choice and aspirations for higher education, controlling for RRA.*

Hypothesis 2b: *RRA has a positive effect on upper secondary school choice and aspirations for higher education, and no effect on students' upper secondary school performance, controlling for cultural capital.*

Hypothesis 2c: *Students' socio-economic status has a positive effect on students' school performance, upper secondary school choice and aspirations for higher education, controlling for cultural capital and RRA.*

Methodology

Sample

The research, carried out in April 2014, was conducted on a representative sample of Croatian upper secondary school students (from both vocational schools and gymnasias) in their final school year (the students were 16, 17 or 18 years old). The survey was conducted in 98 public upper secondary schools and involved N = 2106 students in total (5% of the population of the final-year upper secondary school students). The sample was representative of the Croatian public upper secondary schools graduate students with regard to gender, school type (vocational vs. gymnasium) and Croatian counties and regions. The administration of the survey questionnaire was conducted in schools, during one school hour (45 min). Only one school class in each school, chosen in agreement with the school personnel, participated in the survey. The survey was anonymous and included the informed consent of the students.

Measures

School Performance

The variable included students' general grade-point averages at the end of their previous school year (open-ended question). In Croatia, school grades are expressed on a scale from 1 – insufficient to 5 – excellent.

Upper Secondary School Type

After eight-year elementary schooling (ISCED 1 and 2) students in Croatia continue their education at the upper secondary school level (ISCED 3). There are three basic types of upper secondary schools in Croatia (gymnasiums, four-year vocational schools and three-year vocational schools). Gymnasium education lasts four years and does not result in a professional qualification as students are expected to proceed to higher education. Completion of a four-year vocational program results in professional qualification, but also allows the possibility of continuing education at a higher level. Three-year vocational schools prepare students for working in the fields of industry, economy and crafts. If students from three-year vocational schools want to enroll into higher education, they have to complete an additional bridge-program. The students were asked what type of upper secondary school they attend (three-year vocational school, four-year vocational school or gymnasium). After recoding, the variable had two categories – vocational schools (1) and gymnasium (2).

Aspirations for Higher Education

The variable was operationalized as students' intention to proceed or not to proceed to tertiary education after upper secondary school. It had two categories – "I intend to proceed to tertiary education" (1) and "I do not intend to proceed to tertiary education" (2).

Students' Socio-economic Status

Students' socio-economic status was represented by parental occupational status. Parental occupational status was expressed through the International Socio-Economic Index of Occupational Status (ISEI). The ISEI index was created based on students' answers about their parents' employment and descriptions of the job they do. The answers to the open-ended questions on parents' job and employment were first coded into four-digit *International Standard Classification of Occupations (ISCO)* codes, and then transformed into ISEI index using IBM SPSS Statistics syntax based on Ganzeboom and Treiman (1996). After the ISEI index was created for students' mother and father separately, the final ISEI index was represented by the result of the parent whose occupation had a higher rank. For ANOVA procedures, the values of ISEI index were recoded into three categories: (1) less than $-1SD$, (2) from $-1SD$ to $+1SD$ and (3) greater than $+1SD$. In regression analyses, the ISEI index was used as a continuous variable.

Parental Education

It was assumed that parental education, as a form of institutionalized cultural capital, reflects cultural resources of the students' family (Jonsson, 1987). Parental education was also seen as relevant for relative risk aversion behavior, that is, as shaping parental expectations regarding upper secondary school choice and aspirations for higher education (Davies, Heinesen, and Holm, 2002). The variable was based on the students' answers on their parents' highest educational level (both mothers' and fathers'). The data for the parent with higher educational level was used. The variable *highest educational level of parents* had three categories: *low* – elementary school or three-year vocational school (1); *medium* – four-year upper secondary school (vocational or gymnasium); (2) and *high* – tertiary education (3).

Students' Cultural Activities

The variable was created as a composite index containing two variables representing embodied forms of cultural capital – students' *frequency of reading* and *participation in high culture*. *Frequency of reading* was a composite variable consisting of four items – reading poetry or prose (1), articles about politics or culture (2), popular-science or culture magazines (3) and non-fiction books (4). Students responded on a scale from 1 – “never or almost never” to 5 – “several times a week or every day”. Cronbach's α was 0.67. *Participation in high culture* was a composite variable consisting of three items – frequency of museums or art galleries visits (1), frequency of theatre visits (2) and frequency of opera, ballet or classical concerts visits (3). Students responded on a scale from 1 – “never” to 4 – “more than four times a year” (Cronbach's $\alpha = 0.77$). Cronbach's α of the composite index was 0.74.

Relative Risk Aversion (RRA)

The variable was created as a composite index containing six variables which address students' concerns with status maintenance. The variables, that were translated from English to Croatian from Van de Werfhorst and Hofstede (2007), were: "I find it important to achieve a better job than my parents" (1); "I want to achieve a higher level of education than my parents" (2); "I find it important to earn as much as my parents later in my life" (3); "My parents would dislike it if I found a worse job than they have" (4); "I want to reach equally high as my parents on the social ladder" (5); "I am afraid to achieve a lower position than my parents later in life" (6) (Van de Werfhorst and Hofstede, 2007:399). Students reported on a scale from 1 – "This does not apply to me at all" to 5 – "This applies fully to me". Cronbach's α of the scale was 0.72.

Gender

Today, more females than males enroll in and complete gymnasium programs and tertiary education in Croatia (Croatian Bureau of Statistics 2018a, 2018b, 2018c). Accordingly, we decided to use gender as a control variable in all analyses related to the second research question.

Descriptive statistics for all aforementioned variables are presented in Table 1.

Table 1. Descriptive statistics for variables used in the study

Variables	M / %	SD	Percentiles		
			25	50	75
ISEI ($N = 2010$)	44.71	20.37	28.48	37.92	57.03
Students' cultural activities ($N = 2087$)	14.41	4.96	11.00	14.00	18.00
RRA ($N = 2065$)	20.23	4.78	18.00	21.00	23.00
School performance ($N = 2071$)	3.78	0.65	3.30	3.80	4.30
Upper secondary school type ($N = 2106$):					
Vocational schools	71.5 %				
Gymnasium	28.5 %				
Aspirations for higher education ($N = 1795$):					
Yes	77.4 %				
No	22.6 %				
Parental education ($N = 2106$):					
Low	27.5 %				
Medium	42.3 %				
High	30.1 %				
Gender ($N = 2106$):					
Male	50.5 %				
Female	49.5 %				

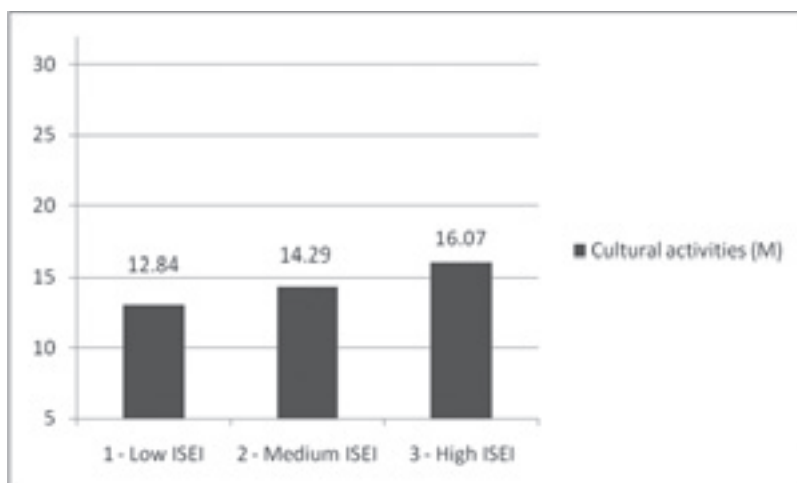
Statistical Analyses

As students were clustered within schools, we used the IBM SPSS 20 complex samples module in all the analyses in order to adjust standard errors for clustering at the school level. We used standardized values (z scores) of all continuous

predictors in order to obtain their standardized regression coefficients which are not provided by default in regression procedures of the complex samples module. Categorical predictors (parental education and gender) were left unstandardized. The majority of students (90.9 %) provided data for all variables. The missing rates for individual variables were relatively low (≤ 4.6 %) so we run a complete-case analyses that we report here. In addition, missing data were imputed using 20 multiple imputations. The analyses were repeated on the imputed data and the results led to the same conclusions as with the complete data. The absolute values of predictor intercorrelations were smaller than $\pm .40$, with exception of correlation between parental ISEI and parental education ($r = -.55$). Variance inflation factors (VIF) were smaller than two, indicating that there were no signs of multicollinearity.

Results

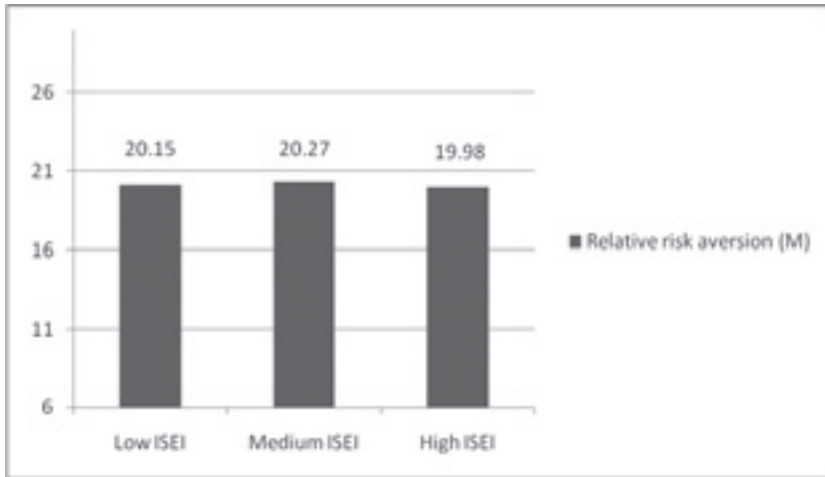
In order to examine core assumptions related to the cultural capital and RRA constructs we tested whether there are differences in students' cultural activities and students' concerns with downward mobility depending on their parents' occupational status (ISEI). Figure 1 presents variation in students' cultural activities. Significant differences were found among all socio-economic groups, where students with higher parental ISEI reported higher levels of cultural activities. Figure 2 presents variation in students' concerns with downward mobility as our measure of RRA. The analysis revealed no statistically significant differences in students' concerns with downward mobility among three ISEI groups. The presented results are in line with theoretical expectations (Bourdieu, 1977a; Breen and Goldthorpe, 1997), as they indicate that socio-economic status is positively related to cultural capital, but not to RRA.



Wald $F(2, 96) = 22.769$, $1 \neq 2^{***}$, $1 \neq 3^{***}$, $2 \neq 3^{***}$, $N = 1995$

*** $p < 0.001$

Figure 1. Students' cultural activities by parental occupational status (ISEI)



Wald $F(2, 96) = 0.503, p = 0.606, N = 1971$

Figure 2. RRA expressed as students’ concerns with downward mobility by parental occupational status (ISEI)

In order to investigate the effects of socio-economic status, cultural capital and RRA on school performance, upper secondary school choice and aspirations for higher education multiple linear and logistic regression analyses were performed.

Table 2. Multiple regression model for predicting school performance

Predictors	Coefficient	SE
Parental occupational status (ISEI)	0.12***	0.03
Parental education – medium (vs. low)	0.03	0.06
Parental education – high (vs. low)	0.17*	0.07
Students’ cultural activities	0.21***	0.03
RRA	0.07**	0.02
Gender (1=Female)	0.43***	0.06
$R^2 = 0.153$		

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001, N = 1927$

Table 2 presents the estimates of the multiple regression model for school performance. Gender, parental occupational status (ISEI), parental education at the tertiary level, students’ cultural activities and RRA all had statistically significant effects and explained a total of 15% of variance in students’ grade-point averages. Consistent with previous studies, parental occupational status (ISEI) was positively associated with school performance, meaning that students of higher socio-economic status had higher grade-point averages. As expected, the results indicated that parental education and students’ cultural activities, were relevant for upper secondary school achievement. Furthermore, the results suggested that students’ cultural activities had a stronger effect on school

performance than parental occupation (ISEI), which is in line with findings from studies that highlight the relevance of cultural capital in social reproduction (Flere et al., 2010). Contrary to previous findings (Van de Werfhorst and Hofstede, 2007), the results indicated that RRA, measured by students' status concerns, was positively and significantly related to upper secondary school achievement – the students who were more concerned with downward mobility had better overall school performance. However, the size of this effect was negligible. In addition, girls had somewhat higher school achievement than boys.

Table 3. Logit models of upper secondary school type and aspirations for higher education

Predictors	Model 1		Model 2	
	Gymnasium		Aspirations for higher education	
	[vs. vocational school (ref.)]		[vs. no aspirations for higher education (ref.)]	
	Coefficient	SE	Coefficient	SE
Gender – female	1.03***	0.22	0.52	0.29
Parental occupational status (ISEI)	0.67***	0.07	0.53***	0.12
Parental education – high	1.65***	0.27	2.04***	0.28
Parental education – medium	1.03***	0.22	1.18***	0.16
Students' cultural activities	0.52***	0.09	0.81***	0.13
RRA	0.20**	0.06	0.52***	0.07
Upper secondary school performance			0.87***	0.13
Nagelkerke Pseudo R²		0.37		0.49

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, $N1 = 1957$, $N2 = 1653$

In the next step the analysis focused on two seminal transition points in students' educational careers. Table 3 presents coefficients for binary logit regression models of upper secondary school choice (school type) and students' aspirations for higher education. The coefficients refer to the effect of the predictor variable net of the effects of other variables in the regression model. The first analysis refers to students' decision of enrolling into specific upper secondary school type (Model 1 in Table 3), i.e. choosing between gymnasium and vocational school. The results show that parents' higher occupational status (ISEI), higher levels of parental education, students' cultural activities, their concerns with status maintenance (RRA) and female gender all increased the chances of being enrolled in gymnasium.

The second analysis in Table 3 referred to students' aspirations for higher education (Model 2). In addition to the variables from Model 1, Model 2 also included the variable students' upper secondary school performance. The results indicated that parents' higher occupational status (ISEI), higher levels of parental

education, students' cultural activities, their concerns with status maintenance (RRA) as well as higher upper secondary school performance all increased the chances of having aspirations for tertiary education. Since in Model 2 we controlled for school performance as the measure of ability, all of the estimated social background effects can be interpreted as secondary effects of social origin (Boudon, 1974). Gender was not a statistically significant predictor of aspirations for higher education, controlling for all other predictors.

In sum, the presented results suggest that upper secondary school choice and aspirations for higher education may be based on calculations as well as on class determined cultural dispositions. That is, all the predictors that represent the RRA and cultural capital constructs had the expected effects on both choices, controlling for other predictors in the models.

Discussion

The aim of the article was to examine the relevance of cultural capital and relative risk aversion (RRA) for educational outcomes and aspirations of Croatian students, and to see if these approaches could be used together in a constructive way for explaining educational inequalities. Given this aim, specific hypotheses were formulated on the relationship between educational outcomes and aspirations for higher education, socio-economic status, cultural capital and concerns with downward mobility.

The first step in assessing the relevance of the two constructs for educational outcomes and aspirations was to test if there are socio-economic differences regarding students' cultural activities and concerns with downward mobility. In line with theoretical expectations (Bourdieu, 1977a; Breen and Goldthorpe, 1997), the results of our analysis suggested that cultural capital is unequally distributed between socio-economic groups, and that there is no such variation with regard to students' mobility concerns (the measure of RRA) – these results support core assumptions of both theoretical constructs (Hypotheses 1a and 1b confirmed). Affirming comparable findings from an earlier study (Van de Werfhorst and Hofstede, 2007), these results also indicate that central assumptions related to cultural reproduction and RRA hold across different educational contexts.

Next, we examined the effects of cultural capital, RRA and socio-economic and demographic variables on educational outcomes and aspirations. As expected (e.g. Blossfeld and Shavit, 1993; Strand, 2014), the analysis showed that there is a positive association of students' socio-economic status with educational outcomes and aspirations controlling for cultural capital and RRA. According to the analysis, students with higher parental ISEI had higher grade-point averages, they were more likely to enter the more prestigious type of upper secondary school (gymnasium) and they had higher aspirations for continuing education at the tertiary level compared to students with lower socio-economic status (Hypothesis 2c confirmed). These findings indicate that socio-economic disparities in educational outcomes and aspirations are still present, in various ways, in Croatian upper secondary education (cf. Gregurović and Kuti, 2010).

The analysis also showed that these disparities cannot be reduced to differences in cultural capital and RRA alone, since in all three regression models there was an independent effect of students' socio-economic status net of cultural capital and RRA.

The analysis also showed that cultural capital and RRA each had positive and independent effects on all of the examined educational outcomes controlling for other variables in the model (Hypothesis 2a confirmed; Hypothesis 2b partly confirmed). The results indicated that parental education and students' cultural activities were positively associated with educational performance, and that concerns over family status maintenance may also, even if to a lesser extent, contribute to school success. Although this latter finding (on the association between status concerns and school performance) is inconsistent with theoretical expectations (Breen and Goldthorpe, 1997), a possible explanation may be that concerns with status maintenance positively influence students' orientation towards education, which in turn reflects in their school practices (cf. Edgerton and Roberts, 2014). Parental education and students' cultural activities also had significant and positive effects on choosing the gymnasium over vocational school as well as on students' aspirations for higher education, controlling for other variables in the model. However, regarding the effects of parental education on educational choices it has to be noted that these effects may be interpreted in line with both cultural capital and RRA theory. This means that, along with affecting family socialization practices and children's habitus, parental education can also be seen as the main criterion for "setting the bar" in terms of students' educational ambitions and RRA. The assumption that cultural capital effects do not exclude more rational aspects of educational decision-making is supported by the more direct effects of RRA: results suggested that the more students were concerned with reaching the same social position as their parents, the higher was the likelihood of choosing the gymnasium over vocational school and of students' intention of continuing to tertiary education (cf. Chesters and Watson, 2013; Need and De Yong, 2001). Furthermore, students' cultural capital, RRA and socio-economic background all had significant effects on aspirations for higher education when controlling for upper secondary school performance, our measure of academic ability. These findings indicate that the effects of students' concerns with downward mobility, cultural capital and socio-economic status may be interpreted as processes of self-exclusion of some students from tertiary education.

The positive association of parental education and students' cultural activities with the examined educational outcomes and aspirations is in line with previous research (Aschaffenburg and Maas, 1997; Jæger, 2009), and supports Bourdieu's (1977a) thesis on the importance of cultural capital for the reproduction of educational and social inequality. Likewise, results from the analysis are consistent with studies that reported positive effects of RRA on schooling ambitions and aspirations (Jæger and Holm, 2012; Need and De Jong, 2001; Stockè, 2007; Van de Werfhorst and Hofstede, 2007). At the same time, our examination of different factors that affect students' educational careers suggest

that the two examined constructs, cultural capital and RRA, may be used together in explaining educational inequalities. From this perspective, the presented results highlight the issue of cumulative disadvantage faced by students from lower social background (Aschaffenburg and Maas, 1997; cf. Benito and Alegre, 2012). This means that along with socio-economic differences, explanations of this phenomenon have to take into account social disparities in the distribution of cultural capital (Bourdieu, 1997), as well as more direct mechanisms that affect educational decisions (Boudon, 1974) – in our case status-related concerns over education and downward mobility. Although this conclusion corresponds with conceptualizations of primary and secondary effects of social origin on educational achievement (Boudon, 1974), our analyses indicated that cultural factors commonly associated with school performance, should not be separated from status concerns shaping educational decisions, as was implied in the literature (Baumert and Schümer, 2001; Goldthorpe, 1996). Such a position echoes Nash's (2003) elaboration of lower class students' "frames of mind", in which habitus-driven and more rationally formed educational dispositions can coexist and complement each other in the decision-making process. In other words, the presented results suggest that the actual risk calculus may not be reduced to status concerns and that cultural influences might be combined with socio-economic factors in explaining processes of self-selection.

An important consequence of the above viewpoint is that it seems untenable to build explanations of educational inequality mainly on "wrong" decisions made by individuals from disadvantaged groups, as "individual achievements are not judged in isolation, but in a positional competition that typically privileges those from higher social classes, due to their superior material and cultural assets" (Brown, 2013:682; for an overview of socio-economic inequality in the transition into different types of secondary education in Croatia and other countries see Baucal, 2012). At the same time, the analysis suggested that it might be equally misleading to restrict such explanations to the level of classed dispositions and cultural capital and to exclude the role of cost-benefit calculations in educational choices. There is evidence from qualitative research that corresponds with this type of interpretation in that cost-benefit calculations "play a part" in educational decision-making, although "the rationality is subjective", shaped by past events and structures through one's familial and/or institutional habitus (Glaeser and Cooper, 2014:13; see also Boone and Van Houtte, 2013). In other words, rather than assuming one unitary principle of action, educational outcomes and aspirations may be, to a significant extent, trade-offs between reasoned actions and deep-seated habits and experiences.

From a policy perspective, this conclusion can help to understand why reform efforts, together with the expansion of the higher education sector, haven't produced noticeable results in reducing class inequalities in access to higher education in Croatia (Doolan, Puzić and Baranović, 2018; cf. Halsey, 2006). If the processes of (self)exclusion from extended educational careers are associated with socio-economic concerns (including RRA) that interact with educational structures and processes working to benefit mainly the privileged (through cultural capital effects), then effective policy measures need to address

all of these factors simultaneously, rather than relying primarily on financial support for less-advantaged students, as was the case in Croatia (Doolan, Puzić and Baranović, 2018).

Without devaluing the legitimacy of past financial support programs (Doolan, Puzić and Baranović, 2018), this suggests that larger social policies directed at equalizing living standards could go hand in hand with institutional adjustments of the educational system (e.g. extended provision of early childhood education, standardization of the curriculum, individualization of teaching and learning) as well as with long term support to students (e.g. financial, pedagogical, psychological, career counselling) and teachers (e.g. psychological, pedagogical) (cf. Blossfeld and Shavit, 1993; Van de Werfhorst and Mijs, 2010). Additionally, these and other system-level objectives could be underpinned by local community-centred programs that encourage and support students and their families in the educational decision-making process (cf. Griffin, 2014). The results of our study suggest that such community-based support may be of critical importance for educational aspirations in relation to limited social expectations, i.e. limited with regard to family status maintenance and cultural participation. In this sense, measures also known as “early intervention” programs⁵ would build on changes in the nature of formal education (Usher, 2009), as well as on wider social policy. By merging different policy areas, these elements could be seen as a mapping of territory for a more democratic education (Brown, 2013; Perry, 2009).

Study Limitations and Directions for Further Research

One limitation of the presented study refers to the operationalization of cultural capital, family socio-economic status and RRA. Though various indicators of students’ cultural practices were included in the analysis, the actual possession of cultural capital, operationalized as students’ cultural knowledge or linguistic skills, was not examined. Furthermore, it would have been useful to include in the analyses a more precise measure of parents’ socio-economic status and parents’ cultural capital (including the transfer of cultural capital in the family), possibly via a questionnaire for parents. With regard to RRA, what is missing is the investigation of the motive for status maintenance in relation to parents’ class position. Again, this would require the addition of a parent questionnaire.

Another study confinement refers to the fact that data collected from students could be unreliable, especially with regard to academic performance and parental characteristics. Standardized test/school records and a questionnaire for parents would have been a way to address this reliability problem.

Regarding the shortcomings of using school grades in measuring educational achievement, it should be noted that different teachers have different evaluation

5 Programs aimed at students whose social background “might not orient or prepare them properly for post-secondary education” (Usher, 2009:8).

criteria and different expectations from their students. Consequentially, students who have different teachers and the same grades, may have different levels of competencies. This is another case in point for application of external standardized tests (the same for all students) in future research.

The cross-sectional study design could refer to another study limitation: the fact that information was taken at only one point of students' educational trajectories, does not allow to speak of the relative importance of cultural capital and RRA at different stages of the educational system, i.e. whether these effects are stable, decline or become stronger over the course of the educational career. Only longitudinal analysis and tracking of students' educational and professional careers can provide such generalizations.

Similarly, besides the analysis of students' intentions to proceed to tertiary education, it would have been useful to have information about the actual admissions to higher educational institutions and students' course choice. Such information would allow for the exploration of subtle modes of exclusion of children from disadvantaged backgrounds from more prestigious institutions and study programs (Bourdieu, 1984).

The fact that we did not analyze institutional (school) factors that could affect educational inequalities (school program, infrastructure, evaluation procedures, etc.) as well as microprocesses in schools (interaction between teachers, expert staff and students, school governance, etc.) presents another limitation. In order to understand these processes qualitative research design would have been more appropriate.

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References

- Aschaffenburg, Karen and Ineke Maas. 1997. Cultural and Educational Careers: The Dynamics of Social Reproduction. *American Sociological Review*, 62 (4): 573–587.
- Barone, Carlo. 2006. Cultural Capital, Ambition and the Explanation of Inequalities in Learning Outcomes: A Comparative Analysis. *Sociology*, 40 (6): 1039–1058.
- Baucal, Aleksandar. 2012. *Ključne kompetencije mladih u Srbiji u PISA 2009 ogledalu*. Beograd: Filozofskifakultet. Institut za psihologiju: Tim za socijalno uključivanje i smanjenje siromaštva Vlade Republike Srbije.
- Baumert, Jürgen and Gundel Schümer. 2001. Familiäre Lebensverhältnisse, Bildungsbeteiligung und Kompetenzerwerb. In Deutsches PISA-Konsortium (ed.), *PISA 2000: Basiskompetenzen von Schülerinnen und Schülern im internationalen Vergleich*, Opladen: Leske und Budrich.

- Becker, Rolf. 2003. Educational Expansion and Persistent Inequalities of Education: Utilizing Subjective Expected Utility Theory to Explain Increasing Participation Rates in Upper Secondary School in the Federal Republic of Germany. *European Sociological Review*, 19 (1): 1–24.
- Benito, Ricard and MiquelÀngelAlegre. 2012. The Changing Patterns of Individual and School Effects on Educational Transitions. Evidence from Catalan Data (Spain). *Educational Research*, 54 (1): 65–81.
- Blossfeld, Hans-Peter and Yossi Shavit. 1993. Persisting Barriers: Changes in Educational Opportunities in Thirteen Countries. In Shavit, Yossi and Hans-Peter Blossfeld (eds.), *Persistent Inequality: Changing Educational Attainment in Thirteen Countries*, Boulder, Colorado: Westview Press.
- Boone, Simon and Mieke Van Houtte. 2013. In Search of the Mechanisms Conducive to Class Differentials in Educational Choice: A Mixed Method Research. *The Sociological Review*, 61 (2): 549–572.
- Boudon, Raymond. 1974. *Education, Opportunity, and Social Inequality: Changing Prospects in Western Society*. New York: John Wiley and Sons.
- Bourdieu, Pierre. 1977a. Cultural Reproduction and Social Reproduction. In Karabel, Jerome and Albert Henry Halsey (eds.), *Power and Ideology in Education*, New York: Oxford University Press.
- Bourdieu, Pierre. 1977b. *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.
- Bourdieu, Pierre. 1984. *Distinction: A Social Critique of the Judgement of Taste*. London: Routledge.
- Bourdieu, Pierre. 1997. The Forms of Capital. In Halsey, A. H., Hugh Lauder, Phillip Brown and Amy Stuart Wells, *Education, Culture, Economy and Society*, Oxford: Oxford University Press.
- Breen, Richard and John H. Goldthorpe. 1997. Explaining Educational Differentials: Towards A Formal Rational Action Theory. *Rationality and Society*, 9 (3): 275–305.
- Brown, Phillip. 2013. Education, Opportunity and the Prospects for Social Mobility. *British Journal of Sociology of Education*, 34 (5–6): 678–700.
- Chesters, Jenny and Louise Watson. 2013. Understanding the Persistence of Inequality in Higher Education: Evidence from Australia. *Journal of Education Policy*, 28 (2): 198–215.
- Croatian Bureau of Statistics. 2018a. *Students Enrolled on Professional and University Study, Winter Semester of 2017/2018 Academic Year. First Release*. Zagreb: Croatian Bureau of Statistics. <https://www.dzs.hr/>
- Croatian Bureau of Statistics. 2018b. *Students Who Graduated University Study or Completed Professional Study, 2017. First Release*. Zagreb: Croatian Bureau of Statistics. <https://www.dzs.hr/>
- Croatian Bureau of Statistics. 2018c. *Upper Secondary Schools: End of 2016/2017 School Year and Beginning of 2017/2018 School Year*. Zagreb: Croatian Bureau of Statistics. <https://www.dzs.hr/>

- Croatian Bureau of Statistics. 2018d. *Women and Men in Croatia, 2018*. Zagreb: Croatian Bureau of Statistics. <https://www.dzs.hr/>
- Farnell Thomas, Karin Doolan, Teo Matković and Mirna Cvitan. 2011. *Socijalna i ekonomska slika studentskog života u Hrvatskoj – Nacionalno izvješće istraživanja Eurostudent za Hrvatsku*. Zagreb: Institut za razvoj obrazovanja.
- Davies, Richard, Eskil Heinesen and Anders Holm. 2002. The Relative Risk Aversion Hypothesis of Educational Choice. *Journal of Population Economics*, 15 (4): 683–713.
- De Graaf, Paul M. 1986. The Impact of Financial and Cultural Resources on Educational Attainment in the Netherlands. *Sociology of Education*, 59 (4): 237–246.
- De Graaf, Paul M. 1988. Parents' Financial and Cultural Resources, Grades, and Transition to Secondary School in the Federal Republic of Germany. *European Sociological Review*, 4 (3): 209–221.
- DiMaggio, Paul. 1982. Cultural Capital and School Success: The Impact of Status Culture Participation on the Grades of U.S. High School Students. *American Sociological Review*, 47 (2): 189–201.
- Doolan, Karin, SašaPuzić and Branislava Baranović. 2018. Social Inequalities in Access to Higher Education in Croatia: Five Decades of Resilient Findings. *Journal of Further and Higher Education*, 42 (4): 467–481.
- Dumais, Susan A. 2002. Cultural Capital, Gender, and School Success: The Role of Habitus. *Sociology of Education*, 75 (1): 44–68.
- Edgerton, Jason D. and Lance W. Roberts. 2014. Cultural Capital or Habitus? Bourdieu and Beyond in the Explanation of Enduring Educational Inequality. *Theory and Research in Education*, 12 (2): 193–220.
- Flere, Sergej, Marina TavèarKrajnc, Rudi Klanjšek, BojanMusil and Andrej Kirbiš. 2010. Cultural Capital and Intellectual Ability as Predictors of Scholastic Achievement: A Study of Slovenian Secondary School Students. *British Journal of Sociology of Education*, 31 (1): 47–58.
- Ganzeboom, Harry BG and Donald J. Treiman. 1996. Internationally Comparable Measures of Occupational Status for the 1988 International Standard Classification of Occupations. *Social Science Research*, 25 (3): 201–239.
- Glaesser, Judith and Barry Cooper. 2014. Using Rational Action Theory and Bourdieu's Habitus Theory Together to Account for Educational Decision-making in England and Germany. *Sociology*, 48 (3): 1–19.
- Goldthorpe, John H. 1996. Class Analysis and the Reorientation of Class Theory: The Case of Persisting Differentials in Educational Attainment. *British Journal of Sociology*, 47 (3): 481–505.
- Gregurović, Margareta and Simona Kuti. 2010. Učinak socioekonomskog statusa na obrazovno postignuće učenika: Primjer PISA istraživanja, Hrvatska 2006. *Revija za socijalnu politiku*, 17 (2): 179–196.
- Griffin, Tabatha. 2014. *Disadvantaged learners and VET to higher education transitions*. Adelaide: NCVER.

- Halsey, A. H. 2006. The European University. In Lauder, Hugh, Phillip Brown, Jo-Anne Dillabough and A. H. Halsey (eds.), *Education, Globalization and Social Change*, Oxford: Oxford University Press.
- Hatos, Adrian. 2013. Access to Higher Education. A Review of the Literature, with a Focus on Central and Eastern Europe. *Sociologie Românească*, 11 (2), 61–75.
- Jæger, Mads Meier. 2009. Equal Access but Unequal Outcomes: Cultural Capital and Educational Choice in a Meritocratic Society. *Social Forces*, 87 (4): 1943–1971.
- Jæger, Mads M. and Anders Holm. 2012. Conformists or Rebels? Relative Risk Aversion, Educational Decisions, and Social Class Reproduction. *Rationality and Society*, 24 (2): 221–253.
- Jokić, Boris and Zrinka Ristić Dedić. 2010. Razlike u školskom uspjehu učenika trećih i sedmih razreda osnovnih škola u Republici Hrvatskoj s obzirom na spol učenika i obrazovanje roditelja: populacijska perspektiva. *Revija za socijalnu politiku*, 17 (3): 345–362.
- Jonsson, Jan O. 1987. Class Origin, Cultural Origin, and Educational Attainment: The Case of Sweden. *European Sociological Review*, 3 (3): 229–242.
- Jungbauer-Gans, Monika. 2004. Einfluss des sozialen und kulturellen Kapitals auf die Lesekompetenz: Ein Vergleich der PISA 2000 – Daten aus Deutschland, Frankreich und der Schweiz. *Zeitschrift für Soziologie*, 33 (5): 375–397.
- Lamb, Stephen. 1989. Cultural Consumption and the Educational Plans of Australian Secondary School Students. *Sociology of Education*, 62: 95–108.
- Nash, Roy. 2003. Inequality/Difference in Education: Is a Real Explanation of Primary and Secondary Effects Possible? *British Journal of Sociology*, 54 (4): 433–451.
- Need, Ariana and Uulke De Jong. 2001. Educational Differentials in the Netherlands: Testing Rational Action Theory. *Rationality and Society*, 13 (1): 71–98.
- Perry, Laura. 2009. Characteristics of Equitable Systems of Education: A Cross-National Analysis. *European Education*, 41 (1): 79–100.
- Reay, Diane, Jacqueline Davies, Miriam David and Stephen J. Ball. 2001. Choices of Degree or Degrees of Choice? Class, “Race” and the Higher Education Choice Process. *Sociology*, 35 (4): 855–874.
- Sirin, Selcuk R. 2005. Socioeconomic Status and Academic Achievement: A Meta-Analytic Review of Research. *Review of Educational Research*, 75 (3): 417–453.
- Stocké, Volker. 2007. Explaining Educational Decision and Effects of Families’ Social Class Position: An Empirical Test of the Breen-Goldthorpe Model of Educational Attainment. *European Sociological Review*, 23 (4): 505–519.
- Strand, Steve. 2014. Ethnicity, Gender, Social Class and Achievement Gaps at Age 16: Intersectionality and “Getting it” for the White Working Class. *Research Papers in Education*, 29 (2): 131–171.

- Šćukanec, Ninoslav, Matija Sinković, Ria Bilić, Karin Doolan, and Mirna Cvitan. 2015. *Socijalni i ekonomski uvjeti studentskog života u Hrvatskoj – Nacionalno izvješće istraživanja Eurostudent V za Hrvatsku za 2014*. Zagreb: MZOS.
- Tan, Cheng Yong. 2017. Conceptual Diversity, Moderators, and Theoretical Issues in Quantitative Studies of Cultural Capital Theory. *Educational Review*, 69 (5): 600–619.
- Usher, Alex. 2009. Ten Years Back and Ten Years Forward: Developments and Trends in Higher Education in Europe Region. Paper presented at the UNESCO Forum on Higher Education in the Europe Region: Access, Values, Quality and Competitiveness, May 21–24, Bucharest, Romania.
- Van de Werfhorst, Herman G. and Saskia Hofstede. 2007. Cultural Capital or Relative Risk Aversion? Two Mechanisms for Educational Inequality Compared. *The British Journal of Sociology*, 58 (3): 391–415.
- Van de Werfhorst, Herman G. and Jonathan JB Mijs. 2010. Achievement Inequality and the Institutional Structure of Educational Systems: A Comparative Perspective. *Annual Review of Sociology*, 36 (1), 407–428.
- Vester, Michael. 2006. Die ständische Kanalisierung der Bildungschancen. Bildung und soziale Ungleichheit zwischen Boudon und Bourdieu. In Georg, W. (ed.), *Soziale Ungleichheit im Bildungssystem. Eine empirisch-theoretische Bestandsaufnahme*, Konstanz: UVK.