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## **How You Choose Is What You Get? Student Motives for School Choices and Their Evaluations of Educational Quality**

### **1. State of Research and Theoretical Framework**

Throughout their school career students must make different choices regarding their course of education. Especially when it comes to the General Certificate of Education Advanced Level (A-levels), students can choose between different tracks. For example, in Germany grammar and, to a certain extent, comprehensive schools are the more ‘traditional’ tracks to get A-levels. However, during the last decades different types of upper secondary vocational schools (such as Schools for Economics or Electrical Engineering) expanded and have become an increasingly interesting choice for students (Brauckmann/Neumann 2004; Warwas/Watermann/Szczesny 2011; Winther/Ney 2008).

There are some empirical results related to this development that lead to a critical discussion about students’ reasons and motives for choosing an upper secondary school track. Raether (2000) argues that some students use upper secondary vocational schools as a “waiting queue” before they obtain an apprenticeship which leads to high drop-out-rates vocational upper secondary schools have to deal with. In contrast Winther and Ney emphasize with regard to economical upper secondary schools in Lower Saxony that the majority of students didn’t choose this particular school track for defensive reasons at all (Winther/Ney, 2008, S. 329).

This debate has some practical relevance for vocational education because motives for decision making in school to work transitions seem to have consequences for students’ learning processes and therefore also impact the quality of teaching. According to Kutscha, Besener and Debie (2009), German apprentices who chose their occupation as a second-best solution, to avoid unemployment etc., perceive more problems during their first year in vocational education than others. Similar to what Nägele and Neuenschwander (2014) indicate, it is not only important to begin an apprenticeship but to find an apprenticeship that fits with one’s interests and skills in order to increase organizational commitment. Based on vocational schools

in Austria, Eder and Bergmann (2004) argue that students' vocational interests influence the perception of the learning environment and hence, they are a relevant factor of students' socialization in school. The importance of interest in the subjects taught also corresponds with research findings of Rahn, Gruehn, Keune and Fuhrmann (2014; 2015). They found a strong connection between subject interest and student assessment of teaching quality in upper secondary schools (cf. Ditton 2002; Greimel/Geyer 2005; Wagner 2008).

But what kind of motives are important for school choices? One way of looking at it is the basic distinction between so-called "intrinsic" and "extrinsic" motives (cf. Deci/Ryan 1985, 2000; Lüdtke/Trautwein 2004; Kasser/Ryan 1996; Krapp 2005; Schmuck/Kasser/Ryan 1999). An example of an important intrinsic motive for school choices is the question, whether the student is interested in the subjects taught or wants to study in the same career field. However, there also could be other reasons and motives to choose one's education. Students' choices for a specific school type may also be led by extrinsic motives, such as pragmatic or instrumental thoughts like "it is easier to get the aspired grade, good marks, etc."

## **2. Research Questions**

Referring to that theoretical distinction, this paper addresses the question if student ratings of teaching quality are affected by motives for choosing a school type, particularly intrinsic and extrinsic motivations. We argue that extrinsically motivated transition choices lead to a lower perception and evaluation of teaching quality, but that this constellation is not a direct one but rather mediated by subject interest. Accordingly, we will discuss the following research questions and hypotheses.

The first research question is whether students differ in their motives for decisions in transition processes systematically. Although students at a specific vocational school type should be interested in the specific terms of their school, our hypothesis states that there are also groups of students who choose a vocational upper secondary school track for extrinsic motives.

If such groups of students are found, the second research question concerns how strongly student motives for school choice will influence the way students assess the quality of their classes. The hypothesis is that instrumental decisions in transition processes lead to a poorer estimation of the quality of teaching.

Finally, we tested whether the connection between motives for school choice and estimation of teaching quality are mediated by subject interest. Our thesis was that students with a highly

extrinsic school choice are less interested in the subjects taught and therefore assess the quality of their classes more poorly than more intrinsically motivated students.

### 3. Sample and methods

The research questions will be discussed in this paper based on the example of the transition process to German upper secondary vocational schools (Schools for Education, Economics or Electrical Engineering) which enable students to get their A-levels.

The argument is based on a sample of 1318<sup>1</sup> students from 38 upper secondary vocational schools who evaluate the quality of teaching in Mathematics, German and the main vocational subject (Pedagogy, Economy or Electrical Engineering) as well as the motives for attending a special type of vocational upper secondary school (cf. table 1). All participants attend the 11<sup>th</sup> grade. Every student answered the same items on learning environment and teaching quality for each subject in a standardised paper and pencil survey. To avoid order effects, the order of the sampled subjects varies systematically. The variables used are based on the model of teaching quality by Fend (2008) and Helmke (2009) and consisted of mostly existing scales.

**Table 1**

*Number of Upper Secondary Vocational Schools, Courses and Students*

<i>Upper secondary vocational schools</i>	<i>Number of Courses (number of students) in the subject</i>				
	<i>Mathematics</i>	<i>German</i>	<i>Vocational subject: Pedagogy</i>	<i>Vocational subject: Electrical Engineering</i>	<i>Vocational subject: Economics</i>
<i>Pedagogy</i>	16 (300)	16 (300)	16 (300)	-	-
<i>Engineering</i>	10 (131)	10 (131)	-	10 (131)	-
<i>Economics</i>	49 (887)	49 (887)	-	-	49 (887)
	75 (1318)	75 (1318)	16 (300)	10 (131)	49 (887)

<sup>1</sup> Subsample from the ‘German Research Foundation’-project „Determinants of Student Feedback: A Comparative Subject Analysis of Student Statements on Teaching Quality at Grammar and Vocational Upper Secondary Schools“ – RA 2380/1-1, GR 1951/2-1.

The motives of transition to the perspective vocational upper secondary school were measured using a self-developed multiple-answer-item (cf. table 2). Students had five answer options: They chose the school track because they want to attend an apprenticeship or want to study in the same field, they are interested in the subjects taught, or pupils think that they could get better marks or even because it is the only school track allowing them to obtain their degree.

The answers to that multiple-response-item can be treated as binary answers to a set of dichotomous variables. Additional, student and possible bias characteristics – such as subject interest – were collected as well.

## **Table 2**

### *Student Transition Motives*

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*Why did you decide to visit this educational track of vocational upper secondary school? I decided to attend this vocational school track to get my A-levels because...*

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... I would like to join a vocational training course in the same career field after my A-levels.

... I would like to study in the same career field after my A-levels.

... I learn a lot about those subjects I am interested in most.

... I can achieve better grades in this school type in comparison to a traditional grammar school.

... otherwise I would not get my degree.

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To analyze the main question of this paper – whether the motives to choose a vocational upper secondary school to achieve A-levels determine student ratings on teaching quality or not – the following tests were carried out. At first, we applied a Latent Class Analysis to identify if students differ in their motives for their school choice. Secondly, using these classes, we analyzed the interrelations between motives of school choice and student ratings on the quality of their courses through hierarchical modelling. Thirdly, we used structural equation modelling to clarify if there is a direct link between motives for school choice and teaching quality or if they are mediated by subject interest as assumed.

#### 4. Results

The question, whether students systematically differ in their school choice, was analyzed by a Latent Class Analysis (LCA). The LCA estimation was executed with the assumption that two or three classes exist. In comparison, the three-class-solution is preferable because of better AIC and BIC values and the content structure (cf. table 3). The three-class-solution for school choice motives can be characterized by “interest in vocational training” (class 1), “interest in extrinsic goals” (class 2) and “interest in studying” (class 3) (cf. table 4). The naming is based on the profiles of agreement to the items in the three classes. For example, class 2 has very high agreement levels on the items “better grades as in grammar school” and “otherwise no degree”.

The three named groups make sense because extrinsic items are differentiated systematically from more intrinsic motivated groups of students, who attend vocational training by interest or to study in the same field. Regarding the course of studies, it is well known that there is a strong link between the choice of the field of study and general interest in the subject (Heine/Spangenberg/Schreiber/Sommer 2005).

On the descriptive level, you can see that the sizes of the three latent classes differ in the number of students: The number of class 1 is 384, of class 2 is 50 and of class 3 is 873 pupils (cf. table 4). That means that most students choose their school because of intrinsic motives. This result fits with research findings of Lüdtke and Trautwein (2004) that students very often make a highly interest-oriented choice in the transition from compulsory to secondary vocational education and with the perspective of Winther and Ney (2008) mentioned above. However, even if the majority chooses by interests, there is a distinctive minority who choose due to extrinsic reasons as well.

**Table 3**

*Two-Class- and Three-Class-Solution (LCA)*

	<i>AIC</i>	<i>BIC</i>
2-class-solution	10160.80	10202.96
3-class-solution	10091.28	10175.60

**Table 4**

*Motives for School Choice (LCA)*

<i>Why did you decide to visit this educational track of a vocational upper secondary school?</i>	<i>school choice motives – interest in vocational training (lat. class 1)</i>	<i>school choice motives – interest in extrinsic goals (lat. class 2)</i>	<i>school choice motives – interest in studying (lat. class 3)</i>
vocational training course afterwards	5.15	-0.52	-1.40
studies afterwards	-0.20	-3.33	0.17
interested in the subjects taught	-0.39	-0.56	0.13
better grades than in grammar school	-2.44	44.80	-0.84
otherwise no degree	-3.15	94.10	-2.31
class probabilities	0.21	0.03	0.76
resultant class size	276	39	1001
a posteriori class size	384	50	873

In the next step we analyzed the influence of the named classes for school choice motives on teaching quality (cf. table 5). Because of the fact that in this study student assessments on the quality of teaching were measured in three subjects, there is a repeated measurement problem. This issue is addressed using a hierarchical linear model, taking the students as level two effects. The results of this model show that the repeated measurement has no effect and that the extrinsic class has a negative influence on the assessment of teaching quality (-0.21), while the others do not. With other words: Students who choose a vocational upper secondary school track due to extrinsic motivation evaluate the teaching of their courses less positively than other pupils.

**Table 5**

*Effects of School Choice Motives on Teaching Quality (Hierarchical Linear Model)*

<i>Model</i>	<i>factor variable</i>	
teaching quality	interest in vocational training	0 (base)
	interest in extrinsic goals	-0.21***
	interest in studying	-0.04
	constant	3.00***
effect of level (repeated measurement)		3.8 E-19
var(residual)		0.80***
observations		3.927
number of groups		1.309

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

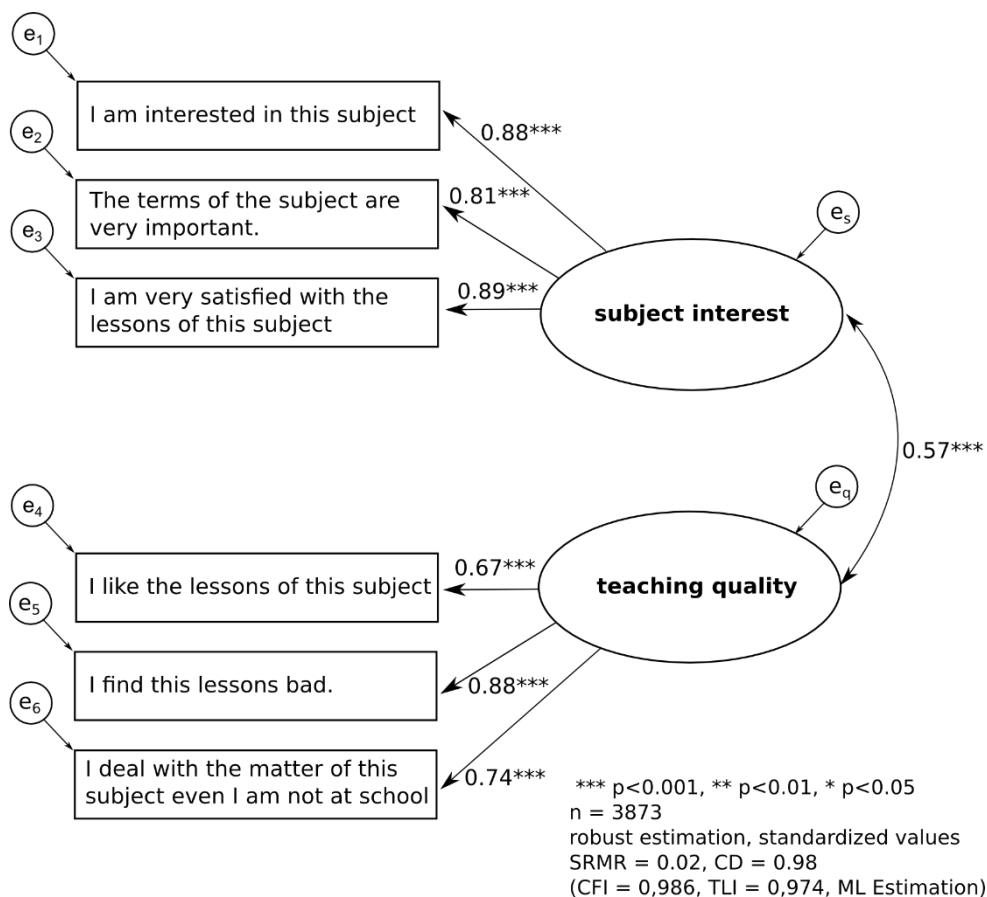
According to the research results of Rahn et al. (2014; 2015) in terms of bias and fairness factors in the evaluation of teaching quality, it is highly likely that extrinsic motivation is not a direct

effect on teaching quality. Presumably, it is rather an effect on the subject interest that itself causes a bias effect on the assessment of teaching quality.

Therefore, we estimated a structural equation model with the scales of teaching quality and subject interest in the next step. The measurement model for the scales reveals good quality of fit values (fit indices for non-robust estimation in brackets). All standardized path coefficients are significant and four out of six are above 0.8. The correlation between the latent variables is medium (0.57) (cf. figure 1).

**Figure 1**

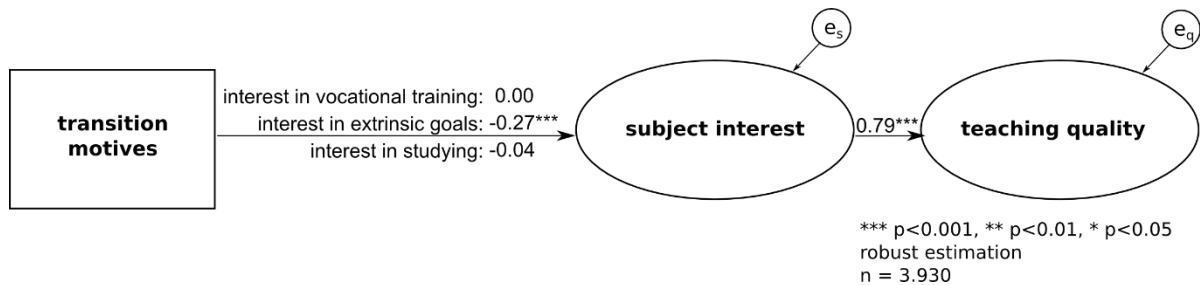
*Structural Equation Model – Measurement Model*



Testing whether the subject interest mediates the effect on extrinsic school choice motives on teaching quality, it reveals that all estimates from the hierarchical model were reproduced almost approximately in the generalized linear model with subject interest as a mediator between the classes – as a categorical variable – and teaching quality (cf. figure 2). This means students with extrinsic school choice motives are less interested in the subjects of their lessons and therefore evaluate the quality of their courses less positively.

**Figure 2**

*Generalized Structural Equation Model – Subject Interest as Mediator*



## 5. Conclusion and Research Perspectives

This paper analyzed student motives for school choices and their perceptions of educational quality. The result of the data analysis is that most students are led by interest to join upper secondary vocational schools to achieve their A-levels and a remarkable smaller group of students choose vocational upper secondary schools for strategic reasons (cf. Lüdtke/Trautwein 2004). The more extrinsically motivated students assess the teaching quality of their classes significantly less positively than other pupils. This interrelation between the motives of transition and rating teaching quality is mediated by students' subject interest (cf. Ditton 2002; Greimel/Geyer 2005; Wagner 2008). This suggests that extrinsically motivated school choices lead to less subject interest which in turn leads to a lower assessment of teaching quality by students.

The finding that school choice motives mediated by subject interest are bias or fairness factors for the evaluation of teaching quality, poses the question which consequences arise for the transition process from compulsory to upper secondary vocational schools. First, the motives for school choices have consequences for the everyday teaching in school. If students attend a school for extrinsic reasons, teachers have a 'hard job' in motivating their students for subject topics. In accordance with our data, it becomes even harder in the general subjects such as Mathematics and German. The profile subjects (Pedagogy, Electrical Engineering and Economics) get slightly better estimations but still are rated lower compared to the assessments of intrinsically motivated students.

Second, the strong effect of subject interest as a bias factor for teaching quality has previously been confirmed in studies (Ditton 2002; Greimel-Fuhrmann/Geyer 2005; Rahn et al. 2015; Wagner 2008). If teaching quality evaluations of students with mainly extrinsically motivated

school choices are used for quality management in school, the previously described bias effect should be considered before taking development actions.

Moreover, not only the vocational upper secondary school and teachers in their everyday lessons find themselves in a difficult position, pupils with extrinsic school choices and low subject interest also struggle with achieving good grades and finishing educational courses (cf. Eder/Bergmann 2004; Nägele/Neuenschwander 2014). On the individual level it is therefore important to guide young people in their vocational orientation process to ensure they find a school that aligns with their interests.

All in all, the opening statement “how you choose is what you get” is valid. Extrinsically motivated students are often less interested in their lessons and therefore assess the quality of their courses less positively than other students.

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