Demand for and Satisfaction with Places at University – An Empirical Comparative Study

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Abstract

What features lead a student to choose sport science, chemistry, physics, computer science or musicology as their subject of study and the Saarland University Saarbrücken as their place of study? Empirical analysis shows that study conditions for students of chemistry, physics and music do not play an important role in selecting the place of study, but closeness to family and friends do. Only for students of sports or computer science are ranking results important/very important in making a decision. All students gave acquiring necessary theoretical knowledge for later life, differentiating themselves from competitors without degrees, and the expectation of better earnings as their reasons for choosing a subject. Where students' choice of studies was based on factors specific to the university, they reported higher satisfaction with their choices. Problems arising during the course of studies are generally attributed to the strenuous requirements of the studies.

Keywords: Place of study, Choice, Valuation of study, Study conditions, Distance variable

1. Introduction

1.1 Introducing the Problem

Universities compete with one another to attract students, qualified scientists, and funding. The increasing influence of exogenous factors has also increased the pressure to deliver high-quality results and improve university rankings. This pressure results in greater effort and strain, which is felt individually as the familiar "rat race" characterized by Akerlof (1976), where ever more work has to be done simply to maintain one's relative position within the scientific system (Emrich & Pierdzioch, 2011, 2012). In the context of this competition, universities thus attempt to attract famous scientists and keep them on faculty; to organize high research output as measured by supposedly objective indicators; and even to increase the number of successful and qualified graduates and alumni over time (Wissenschaftsrat, 2006).

This suggests the question of what 'successful and qualified' actually means in the context of graduates. The common method for answering this question is to conduct student questionnaires and graduate surveys. Though this practice is wide-spread, however, it remains unclear whether or to what degree these surveys are a suitable method for answering the question (Emrich, Gassmann & Meyer, 2015). The stated aim of these surveys is to tailor the qualifications and skills earned by previous graduates of a certain course of study at a certain university to the communicated and actual requirements of the job market—these need never be consistent—and to improve future students' courses of study in a supply-oriented way based on the elicited feedback (Boll, Neßler, Oestereicher & Strübig, 2007). In this framework, retrospective information from students and graduates is considered relevant and is meant to help equip incoming generations of students with all the necessary skills for the future (and thus by definition unknowable) requirements of the job market, thus essentially providing guaranteed job training for future careers (Teichler, 2003; Wissenschaftsrat 2000 as cited in Falk, Reimer & Sarcletti, 2009). This demonstrates the problems of such optimistic assumptions about the function of student and graduate surveys, which self-evidently apply to this research as well (Emrich et al., 2015).

Despite their problems, which include limited predictive power or even accuracy regarding the job market and distortion effects with regard to alumni career and income, student and graduate surveys should nevertheless be able to provide information on why students register at a certain university and how they evaluate their decision in hindsight. This is the question the following article seeks to answer because this individuals' career decision-making

process will have important consequences for subsequent choice implementation like commitment to the chosen option and adjustment (Germeijs & Verschueren, 2007).

In a first step, the data of a student survey are used to compare students of sports science, chemistry, physics, computer science, and music. Of particular interest here is why students chose Saarland University (SU) as their place of study and why they chose their subject. After a discussion of the theoretical background (1.2), hypotheses will be formulated (1.3) and methods for testing them established (2). Empirical testing of the hypotheses and the presentation of results follows (3).

1.2 Theoretical Background

The choice of a university is defined as "a complex, multistage process during which an individual develops aspirations to continue formal education beyond high school, followed later by a decision to attend a specific college, university or institution of advanced vocational training" (Hossler, Braxton & Coopersmith, 1989, p. 234) and assuming that it is possible to influence or control the supply of available courses of study, it is important for universities to find out which reasons motivate first-year students to register at a certain university and to choose certain courses of study. In an analytical first step, the attractiveness of a university can be split into regional recruitment and wider national/international appeal (Nutz, 2002). This categorization has already been examined in different studies at different universities since the 1970s (see e. g., Giese, Aberle & Kaufmann, 1982; Muske, 1975; Nutz, 1991; Wenzel, 1984 as cited in Mößig, 2000). Across different courses of study, closeness of the place of study to the hometown emerges as a significant factor in the choice of school (see for example Hachmeister & Hennings, 2007; Mößig, 2000). Nutz (2002, p. 68) attributes this to the increasing concentration of higher education opportunities, which offers a greater number of places of study close to home; in his view the proximity to home is an important or very important reason for 70-80 percent of the students when choosing a place of study.

This result has been used as the foundation for the introduction of so-called distance variables in the economy of education (Denzler & Wolter, 2010). This method makes the simplifying assumption that the quality of courses of study between individual universities varies only slightly, while the costs of overcoming distance increase with greater distance of the university from home. Research has repeatedly shown the negative influence of distance from home on inclination to choose a university (Alm & Winters, 2009; Frenette, 2006). (Note 1)

Furthermore, Denzler and Wolter (2010) found that the probability of studying a given subject offered only at one specific university decreases as distance from home increases, while the probability of studying a given subject in a nearby university offering a limited number of majors increases as distance from home decreases. Two main causes are thought to be at work (Mößig, 2000; Nutz, 2002): the first is the psycho-social complex, including the integration into a familiar social framework, family ties, and friends as well as social anxiety of having to encounter strangers. The second is the economic complex, which includes the financial pressure of emigration to another city and the ensuing loss of existing benefits.

In addition to these two central factors, other push-factors (such as the wish for autonomy; a "spirit of adventure"; family factors, such as parental pressure etc.) and pull-factors (the attractiveness, size, and image of a city; recreational possibilities; work related concerns; spouse considerations etc.) come into play. Other aspects connected with the university and the topics studied there are also relevant to selecting where to go: these aspects include (cf. Hachmeister & Hennings, 2007; Mößig, 2000; Nutz, 2002, Kallio 1995, Sidin, Hussin and Soon, 2003, Dreher & Poutvaara, 2005 e. g.) the size (meaning number of enrolled students) of the university; the topics and research prioritized by faculty, which can be determined largely by word of mouth and online sources, reducing search cost; the university's and faculty's reputation; the organization and structure of the course of study; organization of the curriculum; the quality of the teaching; the accessibility of professors for one-on-one teaching; ranking results, which come to the prospective student's attention either through their social circle or via the media; possible limits to enrollment, costs and other economic and cultural forces. Wilkins, Balakrishnan and Huisman (2012, p. 416) provide a good overview of the international literature on the factors that influence students' choices of a country and/or a particular institution.

In addition, Germeijs and Verschuereren (2007) describe the different effects, depending on whether or not a student wants to study only one subject or make the choice between several. They find out, that students which made a decision for a study but took into consideration several alternatives are more likely to change the subject before they even started their studies. Furthermore, they find out that prospective students, who consider fewer alternatives in their decision-making process and have less confidence in their decision, are more likely to be less engaged in their studies. The contrary finding is that students with a higher commitment to professional decisions are better prepared and more motivated to achieve their goals in their study. Amani (2016) adds that the motivation between the subjects

is different. Thus, the decision for a teachers' study is mainly extrinsic, for studies such as business administration, engineering and law are primarily intrinsically motivated.

Sociology and economics have developed a variety of theories to understand and explain decision processes. The most well-known is the concept of homo economicus—often wrongly interpreted as a universal model of human behavior—, which sees decision-making as the process of trying to maximize utility by inducing a certain benefit with the minimal amount of resources (see Kron & Winter, 2009), while considering the benefits lost by avoiding an alternative use of resources (opportunity cost). According to the theory of homo economicus, a prospective student should choose the university and course of study which he expects to generate the greatest benefit, amortized over her projected life expectancy. It should be noted that not only financial aspects may be considered in the model.

This concept is closely connected with Rational Choice Theory, pioneered Gary S. Becker (e. g., 1976 and 1996) and others. Summarized briefly, the approach consists of multiplying the probabilities of an event occurring with the projected subjective utility of that event, and then selecting the alternative which maximizes utility. Successive decisions are also treated as a sequential filtering process. On this basis, every student would identify the particular factors important to them (reputation of the university, proximity to friends and family, etc.) and then choose the university and field of study that maximizes utility to them (Punj & Staelin, 1978).

Network theory offers a radically different perspective, which is based on the idea that neither individual motivation nor the stability of social systems provides useful starting points from which to examine social situations and circumstance. Instead, network theory considers the interrelationships by which individuals and other social units are bound, in an attempt to develop and apply a relational, social-theory perspective (see Embirmayer, 1997, as cited in Holzer, 2009, p. 252). In the case of choosing a university and field of study, this means that the prospective student's relationship with their parents, relatives, and other acquaintances are of central importance, as is the formation of new relationships through venues such as clubs and associations, student unions, or teaching assistant positions. (Note 2)

In addition, there are combined models, which take into account both the rational assumptions from the economic models as well as the components of the network theory. From a classical point of view they are divided into the three phases "aspirations development and alternative evaluation", "options consideration" and "evaluation of the remaining options and final decision" (Mbawuni & Nimako, 2015). Examples include the Jackson Three-phase model (Jackson, 1982), the Chapman model (Chapman 1981), the Hanson and Litten model (Hanson & Litten, 1982) and the Information Processing Models of College Choice (Hossler, Schmit & Vesper, 1999). If we take the more recent approach of Vrontis, Thrassou and Melanthiou (2007) the four phases include "(1) environment (general public policy and influences/media), (2) high school characteristics (e.g. social composition, quality), (3) higher education institutions (characteristics and actions), and (4) individual (customer and personal attributes)" (Simoes & Soares, 2010, p. 374).

To give prospective students an easier way to choose their place of study, rankings such as Germany's CHE-ranking (Center for Higher Education) try to compare particular courses of study at different universities, evaluate and list them in order of rating. Whether and to what degree rankings influence student choices for or against a particular course of study remains a question for empirical study, though current empirical evidence suggests that rankings play a relatively minor role in student decisions (Gassmann, Emrich & Meyer, 2013, p. 221; for problems with rankings see Dessauer, Emrich, Klein & Pierdzioch, 2014 and Bright, Hindmarsh & Kingston, 2001 for the UK).

This paper, then, asks why students of certain subjects choose SU and how they rate this university. We would like to find out whether the SU as a whole provides uniform reasons for the matriculation or whether it differs between the subjects. This is intended to provide further in detail clarity on the decision-making process about existing and potential students. Using the logic of comparison (see Durkheim, 1991, p. 205), we will compare students of sports science with those studying other fields. The comparison group includes students of chemistry and physics, as both sports and chemistry/physical sciences are highly dependent on department facilities (gyms and laboratories). It also includes students of music, as both musicians and athletes can be viewed as artists in a wider sense and music students likewise require practice rooms and instruments, analogous to sports students' facility requirements. Students of computer science are used as contrasting category, as this area of research is highly regarded at SU.

1.3 Formulation of Empirically Testable Hypotheses

1.3.1 Field-specific Hypotheses

One special feature of studying sports science is that, with the exception of continuing MA programs, the physical portion of the course of study varies significantly in scope and emphasis between universities. This variation extends

to frequency and intensity of facility use (gymnasia, swimming pools, track facilities, martial arts courts etc.). Good infrastructure of a university's sports facilities, as well as their accessibility and location, should thus play an important role in a prospective sports student's choice of where to study. Analogously music students need practice rooms and instruments; while chemistry/physics students need laboratories, equipment, and materials, and should therefore consider these aspects in their choice. An additional question is the degree to which recreational opportunities in Saarbrücken influence student choice of SU.

Hypothesis 1: Students looking to study sports science, chemistry, physics and music consider school facilities and recreational opportunities equally when choosing their place of study.

The department of computer science at SU enjoys a good national and international reputation. Computer science students are therefore more likely to have chosen SU specifically for its high ranking and scientific reputation than students in other fields in which the university's reputation is not so high.

Hypothesis 2: Students of computer science at SU value ranking results and scientific reputation more highly than students of sports, chemistry, physics and music do.

All fields of study have both practical and theoretic content. It is therefore unlikely that the weighting of practical to theoretic studies will differ systematically.

Hypothesis 3: Students of chemistry, physics, computer science, sports science, and music will weight practical and theoretical subject matter more or less equally.

In contrast, if the practical component of the course of study is subjectively rated as relevant for later work and career choices, it seems likely that the course of study will be seen as a good investment for the future.

Hypothesis 4: The more relevant the contents of the curriculum deemed for future work, the more likely it is that the course of study will be considered as a good investment for the future.

1.3.2 Interdisciplinary Hypotheses

Across all fields of study, students who thoroughly research the position of the university in rankings prior to their choice seem more likely to consciously choose one university over another. Consequently, they should be more satisfied with the conditions at their chosen university than those who did not consult ranking results.

Hypothesis 5: The more intensively the students consult ranking results before their choice of the subject, the more positive their evaluation of their studies.

If students encounter problem during their course of study, it seems likely that they will externalize these problems and seek explanations in the quality of teaching and curricula.

Hypothesis 6: A greater number of student problems with the course of study will correlate with a drop in the valuation of that course of study.

The problems and perceived performance demands of the course of study should similarly be related:

Hypothesis 7: The estimated level of difficulty of performance demands within a course of study will be linked to the frequency of the reported problems over the course of study.

2. Method

During the period from July to October 2012, all 17,026 students enrolled in the summer term of SU were invited to take part in a university-wide online survey and subsequently received two reminders to respond to the survey. Among other topics, the questions concerned students' choice of SU and their current field of study. A total of 1,813 students answered the questionnaire (return rate: 11 %; male respondents: 37 %, female respondents: 63 %). Compared to answers by male students, answers by female students are slightly over-represented, at 63 % to 52 %. This margin, however, is commensurate with comparable surveys. (Note 3)

Students were grouped by field of study to attain larger sub-groups and more meaningful results for analysis. Sorting occurred based on the following degree programs and departments:

- Sports
    - Physical Education (teaching position)
    - Sports Science (bachelor, master)
- Computer science
    - Computer science (bachelor, master, teaching position)

- Information technology
- Computational engineering of technical systems: COMET (master)
- Bio-informatics (bachelor, master)
- Computational linguistics (bachelor, master)
- Computer engineering and communications technology (bachelor, master)
- Visual computing (master)
- Business informatics (bachelor, master)
- Media informatics (bachelor)

- Music
  - Music (teaching position)
  - Music Management (bachelor)
  - Musicology (bachelor, master)
- Physics
  - Bio-physics (bachelor)
  - Physics (bachelor, master, teaching position)
- Chemistry (bachelor, master, teaching position)

The analyzed sample of N=460 included only those students who reported one of the subjects as their primary field of study (this largely concerns students of education who were studying one of the above subjects as a secondary field). There were 220 completed questionnaires from students of computer science; 81 from chemistry students; 71 from sports students; 46 from music students; and 42 from physics students. The highest degrees pursued by the students are summarized in Table 1. Considering the sample without regard to field of study, respondents were generally working towards a bachelor's degree (38.5 %) or a consecutive master's degree (27.0 %). There are notable differences between fields of study, however: 35.2 % of the sports students, for example, were pursuing Germany's state teachers' certification, while only 1 % of computer science students were. Graduate students are over-represented in chemistry and physics (27.2 % and 38.1 %, respectively). In contrast, most music students (65.2 %) were pursuing a bachelor's degree.

Table 1. Pursued final degree according by field of study

Degree	Field of study (Number/Percentage)											
	Sports		Chemistry		Physics		Comp. Sci.		Music		Total	
Bachelor	21	29.6 %	21	25.9 %	13	31.0 %	92	41.8 %	30	65.2 %	177	38.5 %
Master (consecutive)	18	25.4 %	10	12.3 %	10	23.8 %	83	37.7 %	3	6.5 %	124	27.0 %
Master (research studies)	1	1.4 %	0	0 %	0	0 %	12	5.5 %	1	2.2 %	14	3.0 %
Diploma	3	4.2 %	4	4.9 %	1	2.4 %	3	1.4 %	1	2.2 %	12	2.6 %
State exam (teaching position)	25	35.2 %	24	29.6 %	2	4.8 %	2	0.9 %	9	19.6 %	62	13.5 %
Post-Graduate	1	1.4 %	0	0 %	0	0 %	1	0.5 %	1	2.2 %	3	0.7 %
Doctoral	2	2.8 %	22	27.2 %	16	38.1 %	27	12.3 %	1	2.2 %	68	14.8 %
Total	71	100 %	81	100 %	42	100 %	220	100 %	46	100 %	460	100 %

Several items were grouped and the values of the medians were summed prior to analysis so as to enable examination of hypotheses 6 and 7.

For the purposes of analysis, the variable "university relevant aspects" consists of the following items:

- The university achieved good ranking results in my field of study
- Because of the emphasis of my field of study (specialization on specific topics)
- Because of the conditions of study and research in Saarbrücken
- Because of the scientific reputation of the university
- Because of the courses offered at the university
- Because of the possibility of specialist discourse in my field of study

The variable „satisfaction" includes the following items (Note 4)

- How satisfied are you with your studies at SU?
- To what degree do your studies at SU fulfill your individual expectations?
- Overall, my studies at SU make me happy.
- How satisfied are you personally with SU?
- How useful do you estimate the contents of your studies will be for your future working life?

To enable analysis in the context of "problems with the course of study" and "evaluation of conditions at university", the question "Many have problems during their course of study, fail their exams, or receive poor marks. [Does this apply to you?]" was used to derive a sample. The percentages of the answers "Yes, frequently" and "Yes, from time to time" were summed, while the percentage answering "No" was discarded. The median values of the following added variables were consulted to determine studying conditions:

Please indicate on the given scale (ranging from "no problems at all" (0) to "severe difficulties" (10)) with which of the following aspects of life at SU you have/have had difficulties.

- Contact with professors
- Subject-related support from professors
- Scope of educational opportunities
- Quality of educational opportunities
- Improvement in language skills
- Improvement in specialist knowledge
- Orientation within the education system
- Orientation at the university

To investigate the connections between problems with the course of studies and the perceived demands of performance, the variable "performance demands" was composed of the following items:

- The exam stress in my studies is very taxing
- I always use the semester break to study
- Performance demands in my course of studies
- I am satisfied with the balance between studying and recreation (transformed)

The last item was transformed to ensure a consistent direction of the items. The variable "problems with the course of study" is computed as above.

3. Results

As to students' reasons for enrolling at SU to study a certain subject, it is possible to derive an order of importance for the 18 items the students ranked on an 11-point scale while answering the survey. Sorting these orderings by field of study reveals that, with the exception of music students, all sampled respondents tended to rate the reason "My course of study exists only in Saarbrücken" as unimportant, and were thus not restricted to Saarbrücken in their choice of where to study. Deciding factors in respondents' choice of the university are mainly personal: closeness of the university to home or its proximity to the homes of family, friends, or partners were rated highly important across all fields of study. Only in the case of computer science and sports did ranking results play an important role.

Comparing selected items grouped by fields of study (Figure 1) reveals, contrary to expectations, music, chemistry, and physics students consider university infrastructure relatively unimportant in selecting their place of study, and even sports students rate its decision relevance as fairly low compared with computer scientists, to whom the question is of significant importance (Median = 7.5). The leisure time activities of the city Saarbrucken are fairly unimportant to all sampled students.

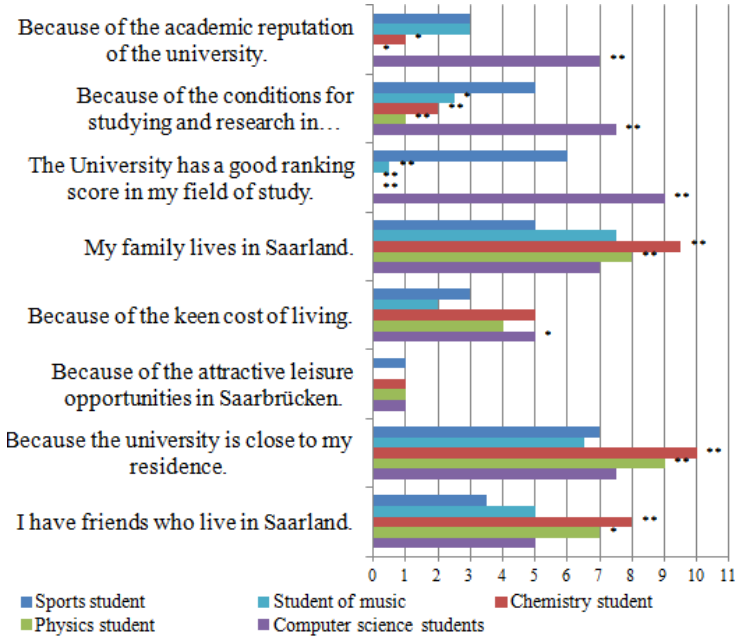

Figure 1. Reasons for choosing to study at SU.

Mann- Whitney-U-Test with sports students as control, * $p < 0.05$, ** $p < 0.01$.

Particularly to chemistry and physics students, proximity to home, to family, and to friends and acquaintances were influential in their decision to study at SU: they rated all these factors as significantly more important as did students of sports science. Apart from the afore-mentioned different weightings of research, study conditions and facilities, music students also differ significantly from sports students in that music students are influenced very little by ranking results. For sports and computer science students, however, rankings have a significantly (and markedly) higher degree of importance (Median=6 and Median=9, respectively) than they do for students in other fields.

To illuminate this trend, a linear regression was calculated comparing the independent dummy-variable "field of study" and control variables "age," "gender," "parents' educational level (graduate)," "acquired university entrance qualification (UEQ) in the Saarland," and "type of degree pursued" with the depending variable "the university has a good ranking score in my field of study" and "because of the academic reputation of the university. The linear regression shows that computer study as a field of study differs from all other fields significantly in the high importance that ranking and academic reputation play for choosing a place of study (see Table 2). For both regressions, gender, age, the acquiring one's UEQ in the Saarland, and parents' educational attainment have a significant influence on how important students rate ranking results and the reputation of the university.

In a subsequent step, the 18 relevant items were grouped into the four factors "personal reasons", "attractiveness of the city", "university-related reasons" and "field-related reasons." Each of these four factors (dependent variables) was studied in a separate linear regression with the independent variables named above. These regressions revealed a significant difference between fields of study for the university- and field-specific reasons (see Table 2). The variance of the dependent variable (adjusted R^2) is 29 % and 31 % for university- and field-specific reasons, respectively. Age and pursued degree (state examination) can be seen to have a particularly significant influence on the weighting of university- and field-specific reasons. Hypothesis 1 is thus discarded, while hypothesis 2 is supported by the data.

Table 2. Results of the linear regression of independent variables "gender," "age," "university entrance qualification (UEQ) acquired in Saarland," "parents' educational level," "field of study," and "type of degree pursued" with dependent variables "ranking results," "academic reputation," "personal reasons," "attractiveness of the city," "university-specific reasons" and "field-specific reasons" for choosing SU as place of study.

	Model 1 Good ranking results	Model 2 Academic reputation	Model 3 Personal reasons	Model 4 Attractive-ness of the city	Model 5 University-specific reasons	Model 6 Field-specific reasons
Gender (male)	0.672+	1.212***	0.0201	0.782***	0.650**	0.290
	(1.87)	(3.40)	(0.09)	(3.32)	(2.65)	(1.25)
Age	-0.193***	-0.176***	0.0255	-0.0321	-0.147***	-0.0907**
	(-4.43)	(-4.09)	(0.89)	(-1.12)	(-4.91)	(-3.21)
UEQ in Saarland	-0.635+	-0.719*	3.891***	1.201***	-0.132	-0.745**
	(-1.74)	(-1.99)	(16.36)	(5.03)	(-0.53)	(-3.16)
Parents' educational level (graduate)						
None	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
One parent	-0.668+	-0.412	0.0415	0.0527	-0.354	0.0385
	(-1.69)	(-1.06)	(0.16)	(0.20)	(-1.31)	(0.15)
Both parents	-0.963*	-0.774+	-0.678*	-0.345	-0.912**	-0.551+
	(-2.14)	(-1.74)	(-2.31)	(-1.17)	(-2.97)	(-1.90)
Field of study						
Computer science	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Music	-5.802***	-3.858***	-0.239	-0.432	-2.371***	-1.338***
	(-9.34)	(-6.29)	(-0.59)	(-1.06)	(-5.58)	(-3.33)
Physics/Chemistry	-5.753***	-4.378***	0.306	-0.188	-2.523***	-2.600***
	(-12.52)	(-9.65)	(1.02)	(-0.62)	(-8.02)	(-8.75)
Sports	-3.435***	-2.741***	-0.176	-0.310	-1.359***	-1.395***
	(-6.71)	(-5.43)	(-0.53)	(-0.92)	(-3.88)	(-4.22)
Degree						
Bachelor's	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Master's (consecutive)	0.0788	0.458	0.0289	0.102	0.224	0.328
	(0.19)	(1.08)	(0.10)	(0.36)	(0.77)	(1.19)
Diploma	-0.101	1.434	-0.584	-1.022	0.0792	0.410
	(-0.10)	(1.50)	(-0.92)	(-1.61)	(0.12)	(0.65)
Doctorate	1.016	1.030	-0.0111	2.558	1.584	-0.364
	(0.33)	(0.34)	(-0.01)	(1.26)	(0.75)	(-0.18)
State exam	0.856	1.880**	-0.216	-0.0244	0.908*	0.796*
	(1.48)	(3.29)	(-0.57)	(-0.06)	(2.29)	(2.13)
Master's (research studies)	0.00794	-0.263	0.360	0.571	-0.00855	-0.516
	(0.01)	(-0.49)	(1.02)	(1.61)	(-0.02)	(-1.47)
Certificate	0.0553	0.107	-0.00933	0.195	0.410	0.287
	(0.05)	(0.11)	(-0.01)	(0.29)	(0.59)	(0.44)
Constant	12.09***	9.427***	1.927**	2.614***	8.327***	6.619***
	(11.16)	(8.82)	(2.72)	(3.68)	(11.23)	(9.45)
N	342	340	342	342	342	342
R^2	0.482	0.399	0.542	0.168	0.317	0.338
Adjusted R^2	0.460	0.374	0.523	0.132	0.287	0.310

N.B.: (t-statistics in parentheses: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$).

Table 3. Results of the linear regression of independent variables "gender," "age," "university entrance qualification (UEQ) earned in Saarland," "parents' educational level (graduate)," "field of study" and "type of degree pursued" with dependent variables field of study chosen "to earn theoretical knowledge" and "to earn practical skills" for possible future employment.

	Model 1	Model 2
	Field chosen to earn theoretical knowledge	Field chosen to earn practical skills
Gender (male)	-0.210	-0.474
	(-0.84)	(-1.64)
Age	-0.0479	-0.0384
	(-1.58)	(-1.10)
UEQ in Saarland	-0.0469	-0.0473
	(-0.18)	(-0.16)
Parents' educational level (graduate)		
None	Ref.	Ref.
One parent	-0.370	-0.293
	(-1.35)	(-0.92)
Both parents	-0.748*	-1.167**
	(-2.40)	(-3.24)
Subject		
Computer science	Ref.	Ref.
Music	-0.246	-0.689
	(-0.57)	(-1.38)
Physics/Chemistry	0.0680	0.222
	(0.21)	(0.60)
Sports	-0.0980	0.595
	(-0.28)	(1.45)
Degree		
Bachelor's	Ref.	Ref.
Master's (consecutive)	0.777**	0.721*
	(2.62)	(2.10)
Diploma	1.047	0.533
	(1.56)	(0.69)
Doctorate	-4.786*	-4.017
	(-2.23)	(-1.62)
State exam	0.711+	0.187
	(1.77)	(0.40)
Master's (research studies)	0.145	0.939*
	(0.38)	(2.15)
Certificate	0.306	0.408
	(0.43)	(0.50)
Constant	8.933***	8.237***
	(11.86)	(9.46)
N	339	339
R^2	0.075	0.101
Adjusted R^2	0.035	0.062

N.B: (t-statistics in parentheses+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$).

No significant differences were found in how students of sports science, computer science, or any other fields weighted the communication of theoretical knowledge potentially relevant for later employment (all Median=8). The linear regression of the independent variable "field of study" with dependent variable "... will give me theoretical knowledge relevant to my future job" (control variables as above) likewise fails to show any significant effect, as does a linear regression for the dependent variable " … will give me practical skills relevant to my future job" (see Table 3). Only the control variables "parents' educational level," where both parents are academics and pursuing a

consecutive master's degree showed any significant influence. Hypothesis 3 is thus accepted.

In the concluding test, the relation of the median value for the item "How useful do you estimate the contents of your studies will be for your future working life?" with the median value for the item "Do you think your studies are a good investment?" reveals a significant positive correlation ($r = 0.356$, $p < 0.000$). The data thus support hypothesis 4. In general, all students considered their studies to be a good investment. Musicians, however, tended to consider the contents of their studies much less relevant to their future work than did students in comparable fields (Figure 2). (Note 5)

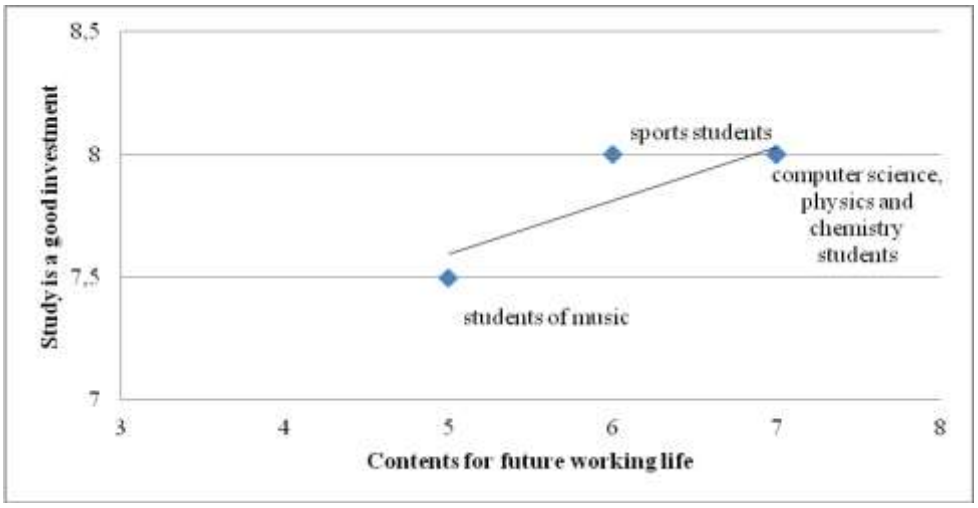

Figure 2. The link between study relevance and seeing studies as a good investment.

Figure 3 shows the correlation, for all subjects, between university-specific factors in choosing one's place of study and the satisfaction with the studies themselves. The Pearson correlation coefficient of 0.418 shows a significant positive relation ($p < 0.000$), confirmed by application of the regression function ($p < 0.000$). Would-be students of computer science rate university-specific aspects as highly important when choosing their places of study and, together with sports students, show the highest levels of satisfaction prior to commencement. Considering only the correlation of the items "ranking results" and "satisfaction" also yields a significant positive correlation (Spearman's $\rho = 0.358$, $p < 0.000$). Hypothesis 5 is thus supported by the available data.

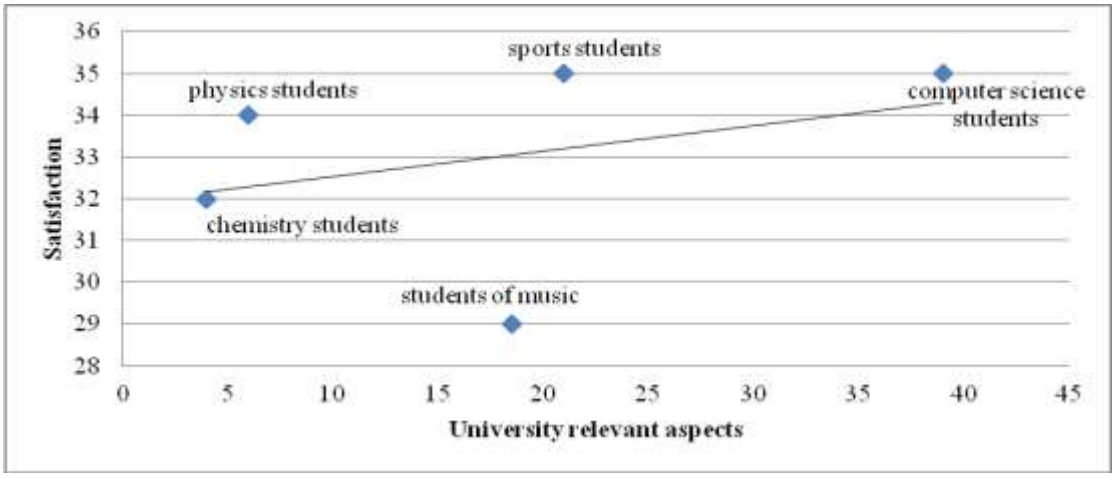

Figure 3. Correlation of university-specific aspects with student satisfaction.

The Pearson correlation coefficient between the variables "problems with studies" and "evaluation of conditions and facilities" shows a positive correlation of 0.813, which, though strong, is not significant ($p = 0.094$; it has to be considered that problems increase as the quality score rises). (Note 6) Hypothesis 6 must therefore be discarded.

In a final step, the correlation between the "problems with studies" and high "performance demand" is shown to be sound. The Pearson correlation coefficient of $r = 0.908$ indicates a correlation between the valuables that is not only very strong, but also significant ($p = 0.033$). The data thus support hypothesis 7 (see Figure 4): problems arising over the course of students' studies are directly influenced by the demand for high performance. Students of sports science declare fewer problems and find themselves confronted with subjectively smaller requirements of effort. Chemistry students, who declare the greatest problems in their studies, also have the greatest performance demands placed on them. No significant influence of students' field of study or pursued degree on problems with studies was found, however.

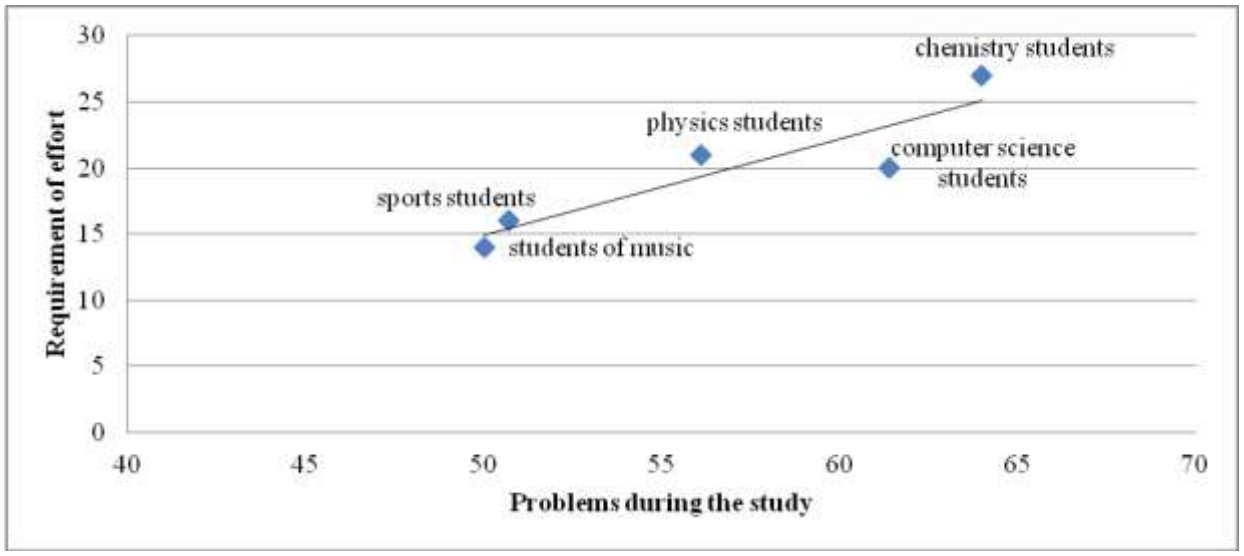

Figure 4. Correlation between problems and performance demands in studies.

One additional consideration is that among students pursuing a teaching position (and thus a state examination), students of sport science achieved significantly higher scores on intelligence tests in psychological studies (see Kaub et. al., 2012). It remains unclear whether this assessment of the students' particular aptitude for their practical but not very extensive field of study is the result of high cognitive abilities in the face of comparable performance demands or of comparable cognitive abilities in the face of lower performance demands.

4. Discussion

The presented results are quite surprising, indicating as they do that facilities and similar conditions of study play little significant role in how prospective students of chemistry, physics, or music choose where to study. It remains possible, however, that a misunderstanding was produced by linking the question of *study* conditions with *research* conditions. Ranking results, meanwhile, are important or very important only to students of sports and computer sciences; students in other fields disregard the ranking results of their chosen place of study. Further research might address related aspect from the perspective of the sociology of critical capacity (Boltanski & Thévenot, 2014).

Students of chemistry and physics show a marked concern for the regional variable of distance as a reason to select a particular university, most often selecting a place of study close to their home, family, and friends. Those students are thus frequently recruited from the regions surrounding SU. An interesting question for future research would be whether these students, in retrospect, would change their decision or weight the factors leading to their decision differently. (Note 7) Research by Mößig (2000) at the University of Gießen and Hachmeister and Hennings' analysis of CHR rating data (2007) suggests that such a reevaluation may take place.

It has been shown above that there is a connection between satisfaction with one's studies and consideration of factors specific to the university prior to selecting a place of study—particular in the case of computer science students. Music students tend to exhibit lower overall satisfaction with their studies, and thus differ slightly from this

trend despite having made their decision partly based on university-specific factors.

It should come as no surprise that problems over the course of study are generally attributed to the strenuous performance demands made on students—though this study is of course unable to address whether such external attribution of problems and difficulties occurs consciously or unconsciously. Earlier research, indeed, has also shown students criticizing high workloads and unrealistically high performance demands (see Heine, 2011). Student problems are not directly attributable to the quality of the education and teaching offered, so that the significant correlation must be based on multiple factors. This idea is bolstered by studies from Potsdam and Konstanz in which education quality was also judged positively (Abele, Bargel, Pajarinen & Schmidt, 2009; Heine, 2011).

All sampled students rate their studies as medium to high in practically usefulness and consider them a good investment for the future. In comparison with other research, in which practical usefulness has been consistently criticized and rated poor, the ratings presented here reflect well on the courses of study on offer (Abele et al., 2009; Falk, Reimer & Sarcletti, 2009; Heine, 2011). Falk et al. (2009) indicate that this may be particularly meaningful considering that those who see their courses of study as high in practical usefulness are more likely to recommend the same course of study than those who found it was inapplicable in practice.

This begs the question of whether the students can adequately evaluate the practical usefulness (and, by extension, the value of the offered curricula, the demands of performance, or the quality of educational opportunities and apprenticeships) for their later careers (Emrich et al., 2015). Thus, different interest groups such as parents, students, teachers, and university administrators demand greater practical usefulness of university education without knowing what such usefulness might look like or what the job market might need—especially in rapidly changing fields such as computer science. However, most of the time, as in this research, the success or failure of practical orientation in university studies is investigated on one group only: the students. It is worth considering whether students (who are naturally unable to study at all German universities and work in all companies) really have sufficient experience to count as experts or whether they are unintentionally serving as gateways for groups which have a vested interest in controlling university policy and development.

The first question must therefore be what is meant by quality: in this complex construct, there is often an alarming difference between operational quality (a certified sports teachers' skill in setting up, conducting, and evaluating a test of physical fitness) and subjective quality (a students' evaluation of their experience studying). (Note 8) It should also be mentioned once more that this survey is not immune to the time-frame inconsistencies discussed above, as it elicits motivations for choosing a place of study after the choice and enrollment at the chosen university have already been completed. In addition, questions of time resource management must consider the time invested by students in relation to the time invested by teachers, since from the students' point of view it is only rational to keep their own time investment as minimal as possible while demanding as high as possible a time commitment from educators. A chain of arguments involving bad marks arose from student and graduate surveys which had little input from teachers and but still built considerable pressure towards reforms. An "elevator effect," whereby positive evaluations of a course of study increase the reputation of the program and cause an improvement in the retrospective value of the education of those who completed that course prior to the evaluation, is also possible. Such an effect is slightly counterbalanced, however, by the fact that it would occur at not just one place of study (for advanced discussion of the topic, see Emrich et al., 2015).

It is therefore worth considering whether it would not be preferable to promote students' autonomy, critical thinking, methodological competence, and independent acquisition of knowledge and to evaluate the interaction between professor and student from this perspective.

References

Abele, C., Bargel, H., Pajarinen, A., & Schmidt, M. (2009). "*Studienbedingungen und Berufserfolg": Absolventenbefragung der Universität Konstanz. Prüfungsjahrgang 2007* [Study Conditions and Professional Success: Graduation Survey of the University Konstanz. Graduation Year 2007]. Retrieved from http://kops.ub.uni-konstanz.de/volltexte/2010/10344

Akerlof, G. A. (1976). The Economies of Caste and of the Rat Race and Other Woeful Tales. *Quarterly Journal of Economics, 90*, 599-617. https://doi.org/10.2307/1885324

Alm, J., & Winters, J. V. (2009). Distance and intrastate College student migration. *Economics of Education Review, 28*, 728-738. https://doi.org/10.1016/j.econedurev.2009.06.008

Amani, J. (2016). Do Tanzanian Undergraduate Students Choose or Hunt for their Degree Programmes? *International Journal of Higher Education, 5*(2), 74-81. https://doi.org/10.5430/ijhe.v5n2p74

Becker, G. S. (1976). *The Economic Approach to Human Behavior*. Chicago, IL: University of Chicago Press.

Becker, G. S. (1996). *Accounting for Tastes*. Cambridge, MA: Harvard University Press.

Boll, T., Neßler, C., Oestreicher, W., & Strübig, I. (2007). *Absolventenstudie Rheinland-Pfalz: Landesweite Absolventenbefragung Abschlussjahrgang 2006* [Graduation Survey Rhineland-Palatinate: Statewide Graduation Survey of the Graduation Year 2006]. Mainz: Hochschulevaluierungsverbund.

Boltanski, L., & Thévenot, L. (2014). *Über die Rechtfertigung: Eine Soziologie der kritischen Urteilskraft* [On Justification: Economies of Worth]. Hamburg: Hamburger Ed.

Bright, N., Hindmarsh, A., & Kingston, B. (2001). Measuring up the UK's class system. *The Times Higher Education Supplement, 1492*(22 June) 6–7.Card, D. (1993). *Using geographic variation in college proximity to estimate the return to schooling* (NBER Working Pager, No. 4483). Cambridge, MA: National Bureau of Economic Research.

Card, D. (2001). Estimating the return to schooling: progress on some persistent econometric problems. *Econometrica, 69*, 1127-1160. https://doi.org/10.1111/1468-0262.00237

Chapman, D. (1981). A model of student college choice. *The Journal of Higher Education, 52*(5), 490-505. https://doi.org/10.2307/1981837

Dee, T. S. (2004). Are there civic returns to education? *Journal of Public Economics, 88*, 1697-1720. https://doi.org/10.1016/j.jpubeco.2003.11.002

Denzler, S., & Wolter, S. C. (2010). *Wenn das Nächstgelegene die erste Wahl ist: Der Einfluss der geographischen Mobilität der Studierenden auf die Hochschullandschaft Schweiz* [When the Next is the First Choice: The Impact of Students Geographical Mobility on Universities in Switzerland]. Aarau: SKBF-CSRE.

Dessauer, B., Emrich, E., Klein, M., & Pierdzioch, C. (2014). Zur Evaluation wissenschaftlicher Publikationsleistungen in der Sportwissenschaft [Evaluation of Scientific Publications in Sports Science]. *Zeitschrift für Evaluation, 13*(1), 55-83.

Donabedian, A. (1966). Evaluating the quality of medical care. *Milbank Memorial Fund Quarterly, 44*, 166–206. https://doi.org/10.2307/3348969

Dreher, A., & Poutvaara, P. (2005). Student flows and migration: An empirical analysis. *CESifo working papers, No.1490*, 1-24.

Durkheim, E. (1991). *Die Regeln der soziologischen Methode* [The Rules of Sociological Method]. Frankfurt am Main: Suhrkamp.

Emrich, E., Gassmann, F., & Meyer, W. (2015). Kritische Reflexion nationaler und internationaler Absolventenstudien [Critical Reflection of National and International Graduate Studies]. In F. Gassmann, E. Emrich, W. Meyer, & L. Rampeltshammer (Eds.), *Was kommt nach dem Studium an der Universität des Saarlandes? Empirische Befunde einer fächerübergreifenden Absolventenstudie* (pp. 9-72). Saarbrücken: universaar.

Emrich, E., & Pierdzioch, C. (Eds.). (2011). *Im Biotop der Wissenschaft: Das PARK-Modell der Makroökonomie* [In the Biotope of Science: The PARK-Model of Macroeconomy] (Schriften des Europäischen Instituts für Sozioökonomie, Vol. 1). Saarbrücken: universaar.

Emrich, E., & Pierdzioch, C. (Eds.). (2012). *Vademecum der Evalualogie: Neue Arten im Biotop der Wissenschaft* [Vademecum of Evalualogie: New Species in the Biotope of Science] (Schriften des Europäischen Instituts für Sozioökonomie, Vol. 2). Saarbrücken: universaar.

Falk, S., Reimer, M., & Sarcletti, A. (2009). *Studienqualität, Kompetenzen und Berufseinstieg in Bayern: Der Absolventenjahrgang 2004* [Quality of Studies, Competencies and Career Advancement in Bavaria: Graduation Year 2004] (Studien zur Hochschulforschung, 76). München: Bayerisches Staatsinstitut für Hochschulforschung und Hochschulplanung.

Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Stanford: Stanford University Press.

Frenette, M. (2006). Too far to go on? Distance to School and University Participation. *Education Economics, 14*(1), 31-58. https://doi.org/10.1080/09645290500481865

Gassmann, F., Emrich, E., & Meyer, W. (2013). Bedingungen des Kommens und Bleibens der Studierenden der Universität [Conditions of Coming and Staying of Students of the University]. In E. Emrich, W. Meyer, & L.

Rampeltshammer (Eds.), *Die Universität des Saarlandes in sozio-ökonomischer Perspektive: Ausgewählte Analysen sozialer und wirtschaftlicher Effekte* (pp. 207-240). Saarbrücken: universaar.

Gassmann, F., Meyer, W., Emrich, E., Knoll, J., & Staub-Ney, N. (2013). Die qualitativen und quantitativen Datenerhebungsmethoden im Projekt [The Qualitative and Quantitative Data Collection Methods in the Project]. In E. Emrich, W. Meyer, & W. Rampeltshammer (Eds.), *Die Universität des Saarlandes in sozio-ökonomischer Perspektive: Ausgewählte Analysen sozialer und wirtschaftlicher Effekte* (pp. 57-68). Saarbrücken: universaar.

Germeijs, V., & Verschueren, K. (2007). High school students' career decision-making process: Consequences for choice implementation in higher education. *Journal of Vocational Behavior, 70*, 223-241. https://doi.org/10.1016/j.jvb.2006.10.004

Giese, E., Aberle, G., & Kaufmann, L. (1982). *Wechselwirkung zwischen Hochschule und Hochschulregion: Fallstudie Justus-Liebig-Universität Gießen* [Interaction between University and University-Region: Case Study Justus-Liebig-University Giessen]. Gießen: Ferber.

Grotheer, M., Kerst, C., & Wolter, A. (2011). Studienqualität als Prozessindikator in der nationalen Bildungsberichterstattung: System- und hochschulbezogene Auswertungen von Studierendenbefragungen [Study Quality as a Process Indicator in National Education Reporting: System- and University-related Evaluations of Student Surveys]. In M. Baethge, H. Döbert, H.-P. Füssel, H.-W. Hetmeier, T. Rauschenbach, U. Rockmann et al. (Eds.), *Vertiefende Studien zu ausgewählten Aspekten der Indikatorenentwicklung für den nationalen Bildungsbericht* (pp. 95-124). Bonn/Berlin: Bundesministerium für Bildung und Forschung.

Hachmeister, C.-D., & Hennings, M. (2007). *Indikator im Blickpunkt: Kriterien der Hochschulwahl und Ranking-Nutzung: Auswertung aus dem CHE-Ranking* [Indicator in Focus: Criteria of University Selection and Ranking Usage: Evaluation from the CHE-Ranking]. Gütersloh: Centrum für Hochschulentwicklung.

Hanson, K. H., & Litten, L. H. (1982). Mapping the Road to Academe: Women, Men, and the College Selection Process. In P. Perun (Ed.), *The Undergraduate Woman: Issues in Educational Equity* (pp. 73-98). Lexington, MA: Lexington.

Heine, C. (2011). Studienqualität nach Bologna aus Studierendensicht: Wahrnehmung und Bewertung von Studienbedingungen und Praxisbezug [Study Quality according to Bologna from a Student Perspective: Perception and Assessment of Study Conditions and Practical Reference]. In W. Schubarth, K. Speck, & A. Seidel (Eds.), *Nach Bologna: Praktika im Studium – Pflicht oder Kür?. Empirische Analysen und Empfehlungen für die Hochschulpraxis* (Potsdamer Beiträge zur Hochschulforschung, 1, pp. 45-78). Potsdam: Univ.-Verl. Potsdam.

Holzer, B. (2009). Netzwerktheorie [Network Theory]. In G. Kneer, & M. Schroer (Eds.), *Handbuch soziologische Theorien* (pp. 252-275). Wiesbaden: Springer VS. https://doi.org/10.1007/978-3-531-91600-2_13

Hossler, D., Braxton, J., & Coopersmith, G. (1989). Understanding student college choice. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research.* Vol. V (pp. 231–288). New York, NY: Agathon Press.

Hossler, D., Schmit, J., & Vesper, N. (1999). *Going to college: How social, economic, and educational factors influence the decisions students make*. Baltimore, MD: The Johns Hopkins University Press

Jackson, G. A. (1982). Public efficiency and private choice in higher education. *Educational Evaluation and Policy Analysis 4*(2): 237–247. https://doi.org/10.3102/01623737004002237

Kallio, R. E. (1995). Factors influencing the college choice decisions of graduate students. *Research in Higher Education, 36*(1), 109-124. https://doi.org/10.1007/BF02207769

Kaub, K., Karbch, J., Biermann, A., Friedrich, A., Bedersdorfer, H.-W., Spinath, F., & Brünken, R. (2012). Berufliche Interessensorientierungen und kognitive Leistungsprofile von Lehramtsstudierenden mit unterschiedlichen Fachkombinationen [Professional Interest Orientations and Cognitive Performance Profiles of Teachers with different Subject-Combinations]. *Zeitschrift für Pädagogische Psychologie, 26*, 233-249. https://doi.org/10.1024/1010-0652/a000074

Kron, T., & Winter, L (2009). Aktuelle soziologische Akteurstheorien [Recent Sociological Actor Theories]. In G. Kneer, & M. Schroer (Eds.), *Handbuch soziologische Theorien* (pp. 41-66). Wiesbaden: Springer VS. https://doi.org/10.1007/978-3-531-91600-2_3

Long, M. C. (2008). College quality and early adult outcomes. *Economics of Education Review, 27*, 588-602. https://doi.org/10.1016/j.econedurev.2007.04.004

Mbawuni, J., & Nimako, S. G. (2015). Critical Factors Underlying Students' Choice of Institution for Graduate Programmes: Empirical Evidence from Ghana. *International Journal of Higher Education, 4*(1), 120-135. https://doi.org/10.5430/ijhe.v4n1p120

Mößig, I. (2000). *Gründe und Motive bei der Wahl des Studienortes Gießen unter besonderer Berücksichtigung der Informationsmöglichkeiten im Internet* [Reasons and Motives fort he Choice of the Place of Study in Giessen, with a Special Focus on Information on the Internet]. (Studien zur Wirtschaftsgeographie). Gießen: Geographisches Institut.

Muske, G. (1975). *Motive für die Wahl des Studienortes München: Ein entscheidungstheoretischer Ansatz zur Erklärung räumlicher Mobilität angewandt auf ein Beispiel aus dem Bereich der Bildungswanderung* [Motives fort he Choice of the Place of Study in Munich: A Decision-Theoretic Approach for Explaining Spatial Mobility Applied to an Example from the Field of Educational Migration]. (Münchener Geographische Hefte, 38). Kallmünz/Regensburg: Lassleben.

Nutz, M. (1991). *Räumliche Mobilität der Studierenden und Struktur des Hochschulwesens in der Bundesrepublik Deutschland: Eine Analyse des Entscheidungsverhaltens bei der Studienortwahl und der Einzugsgebiete der Universitäten* [Spatial Mobility of Students and the Structure of Higher Education in the Federal Republic of Germany: An Analysis of the Decision-Making Behaviour in the Selection of Universities and the Entry Areas of Universities]. (Kölner Geographische Arbeiten, 54). Köln: Geographisches Institut.

Nutz, M. (2002). Einzugsbereiche der Universitäten im Wandel [Change of the Catchment Area of Universities]. In A. Mayr, & M. Nutz (Eds.), *Nationalatlas Bundesrepublik Deutschland* (Vol. 6: Bildung und Kultur, pp. 68-71). Heidelberg: Spektrum Akad. Verlag.

Teichler, U. (2003). *Hochschule und Arbeitswelt. Konzeptionen, Diskussionen, Trends* [Secondary School and the World of Work: Concepts, Discussions, Trends]. Frankfurt a. M. and New York: Campus-Verlag.

Punj, G.N., & Staelin, R. (1978). The choice process for graduate business schools. *Journal of Marketing Research, 15*, 588–598. https://doi.org/10.2307/3150628

Sidin, S. M., Hussin, S. R., & Soon, T. H. (2003). An exploratory study of factors influencing the college choice decision of undergraduate students in Malaysia. *Asia Pacific Management Review, 8*(3), 259-280. http://dx.doi.org/10.6126%2fAPMR.2003.8.3.01

Simoes, C., & Soares, A. M. (2010). Applying to higher education: information sources and choice factors. *Studies in Higher Education, 35*(4), 371-389. https://doi.org/10.1080/03075070903096490

Vrontis, D., Thrassou, A., & Melanthiou, Y. (2007). A contemporary higher education studentchoice model for developed countries. *Journal of Business Research, 60*, 879–989. https://doi.org/10.1016/j.jbusres.2007.01.023

Wilkins, S., Balakrishnan, M. S., & Huisman, J. (2012). Student Choice in Higher Education: Motivations for Choosing to Study at an International Branch Campus. *Journal of Studies in International Education, 16*(5), 413-433. https://doi.org/10.1177/1028315311429002

Wissenschaftsrat. (2006). *Empfehlungen zur künftigen Rolle der Universitäten im Wissenschaftssystem* [Recommendations on the Future Role of Universities in the Scientific System]. Köln: Wissenschaftsrat.

Notes

Note 1. The effect of the chosen course of study on later salary and other factors can be examined subsequently (Card, 1993, 2001; Dee, 2004; Long, 2008).

Note 2. The authors are aware that these approaches are themselves in no way uncontroversial and merely provide simplifying models of a far more complex system, as discussed for example in Esser (1999, p. 313 ff. and 460 ff.). For examples of alternative sociological and economic theories of choice, see Kneer and Schroer (2009); Brock, Junge, Diefenbach, Keller and Viláyi (2009); or Laux, Gillenkirch and Schenk-Mathes (2014).

Note 3. Additional and more detailed information on the data set may be found in Gassmann, Meyer, Emrich, Knoll and Staub-Ney (2013).

Note 4. Analysis by multiple regression showed that each of the "factors of satisfaction" given here had a significant effect on the answer to the more general question "How satisfied are you with your studies at Saarland University?" The item was not excluded, however, because in this case different items were grouped into one variable and this

variable was more meaningful than the single item. (No control variable had significant influence on the response to the question.)

Note 5. A regression, performed to double-check the findings, showed that gender and type of degree pursued, as well as field of study, had some influence on student response to the question "How useful do you estimate the contents of your studies will be for your future working life?" Neither the field of study nor any of the control variables had significant influence whether students considered their studies to be a good investment, however.

Note 6. To find out which precise variables affect on the problems over the course of studies, an Ordered Probit Model was calculated using the "problems in studies" question (Yes, frequently; Yes, occasionally; No) as dependent variable and all sub-items of "facilities/conditions" and "performance demand," as well as all controls, as independent variables. The model revealed that only the demand for high performance ($p < 0.000$), the scope of educational opportunities ($p = 0.033$), and the improvement in language skills ($p = 0.004$) appear to have any significant effect on the response to the question of problems in studies. A test on interaction between fields of study and reported problems found no significant effects.

Note 7. This question might be examined from the perspective and within the framework of Cognitive Dissonance (Festinger, 1957).

Note 8. For this reason, it seems advisable to follow Donabedian (1966) in distinguishing between quality of infrastructure, process, and results, as Emrich et al. (2015) have in reference to the Education Report of Germany's Federal Ministry of Education and Research (cf. also Grotheer, Kerst & Wolter, 2011). The first two factors refer to organizational processes, while quality results of the micro (e. g., courses), meso (e. g., degree programs) and macro (e. g., entire universities) level concerns the utilization of the results of teaching and learning in the job market.