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## **Mind the Gap: Students Intentions and Actions in School to Work Transitions**

*Keywords:* School to Work Transitions, Theory of Planned Behavior, Timing in School-to-work-transitions, Effects of Vocational Schools

### **1. Introduction**

In the international and interdisciplinary research on school-to work-transitions students' trajectories have been discussed as a matter of decision making and planned behavior (Altinyelken et al., p. 7 f.; Baumert/Maaz/Trautwein 2009; Neuenschwander/Garrett 2008; Altinyelken et al. 2012). Also European adolescents think of themselves as responsible actors of their careers (Rahn/Bührmann/Hartkopf 2015). Therefore models developed from expectation-value-theories as well as the related theory of planned behavior are widely-used in educational research in order to understand vocational orientation processes and to predict educational transitions. Expectation-value theories as well as the theory of planned behavior have proven themselves in a whole bunch of studies analyzing transitions from compulsory schools to higher secondary schools and from higher secondary schools to higher education or to the vocational education system successfully (Baumert/Maaz/Trautwein 2009; Friberg 2014; Watermann/Maaz 2010; Winther/Ney 2008).

But, if trajectories from compulsory schools to lower vocational schools and from lower vocational secondary schools to another vocational secondary school or an apprenticeship can be understood as results of planned behavior as well is less certain. Especially in the context of vocational education systems with strong apprenticeship systems from school-to-school sequences have been perceived as compromises, which students have to make, if and when their chances on the market for vocational training are rather low. Although participation in the "transition system" – so to speak – in the German vocational education system or in "interim solutions" provided in the Swiss educational system are controversial and have been proven as risks in vocational biographies by research on VET (Beicht/Friedrich/Ulrich 2008; Münk/Rützel/Schmidt 2010; Neuenschwander et al. 2010, p. S. 106 ff.; Schmidt 2011), students do not seem to be aware of it. In accordance to more than one longitudinal study students think of schools in the German "transition system" as an opportunity for increasing their vocational chances by achieving a higher grade or a grade at all (Rahn/Brüggemann/Hartkopf 2014; Gaupp/Lex/Reißig 2008). Hence students do not believe, that the investment of one or two years of their lifetime in visiting a lower secondary vocational school will be a failure, even if those schools do not impart a whole occupational qualification.

Against this background it will be discussed in this paper, how far trajectories within the vocational education system – starting from lower vocational schools - can be understood as results of planned behavior, too. After some short remarks to our theoretical reference and the methods of our study it will be argued in four steps.

1. if a model developed from the theory of planned behavior can explain the transitional intentions and transitional processes of students of lower vocational schools

2. what students actually do to realize their intentions
3. how important students intentions on the one hand and students actions on the other hand are for their statistical chances to get an apprenticeship after leaving lower and higher vocational schools of the transition sector.

The argumentation will be completed by drawing some practical conclusions and research perspectives.

## 2. Theoretical Reference and Methods

This paper highlights some results of a current regional panel study<sup>1</sup>, which inquires the vocational orientations and transitions of German students in the so called transition system. This part of the German vocational education system includes a wide range of vocational courses as well as lower and higher vocational schools which presume different levels of school certificates or none graduation at all and also lead to different levels. The transition sector in the German vocational education system is very heterogeneous. Hence the most important common denominator of the courses and school types in this sector is, that they do not offer a full vocational qualification. The argumentation can be based on a sample of roundabout 900 students, who answered a standardized questionnaire at least twice – the one-year courses at the beginning of the courses and a few weeks before they ended. In the two-year courses four measurements have been taken. The rates of responses were remarkably well – the panel-quota amounts nearly 67 % in the one-year and 73 % in the two-year course. The questionnaire included – among questions to student characteristics (gender, age, social background, cultural resources, educational biography etc.) – scales which operationalize the Ajzen and Fishbeins model of planned behavior. According to Ajzen/Fishbein – as it is well known – human behavior should be analyzed in terms of action and human intentions. That means to predict an individual's intention to take a certain action by three correlated factors (Ajzen/Fishbein 1977, 1980; Ajzen 1991):

- the *attitude* of a given person toward the action, which is a function both of what an individual feels and what she or he considers about the outcomes of the behavior in question.
- the *subjective norm*, which means the perception of the actor what people, who are important to him or her, think about the action and
- the *perceived behavioral control* which is quite similar with the self-efficacy believe in the sense of Bandura and refers to the conviction to have all the knowledge and skills the action in question requires.

So students' attitudes to apprenticeships, vocational training in full time schools or higher education have been operationalized by five or six items each ("An apprenticeship offers good career prospects"). The scales to the subjective norm consist of items which refer to the perceived expectations of parents, peers and teachers ("My parents think that I should start an apprenticeship), but data analysis shows that the subjective norm distinguishes only between the three options but not between the groups of significant others. The perceived behavioral control has been measured by five items referring to students' believes to be capable to present themselves in job interviews

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<sup>1</sup> The study has been funded by the Hans Böckler Foundation. Short title: Vocational Orientation Processes and Transition of Adolescents.

positively and so on. The reliability of all scales are good (Cronbach's alpha throughout higher than .70).

Moreover, students have been asked what their vocational aspirations are, what they do to get an apprenticeship and what their reasons are, if they do nothing at all.

In addition to the panel-data from the standardized survey qualitative data from 41 face to face and 8 group interviews are available, which deliver some vivid impressions what students think about their current situation, their perspectives in life and how they use the learning time school offers.

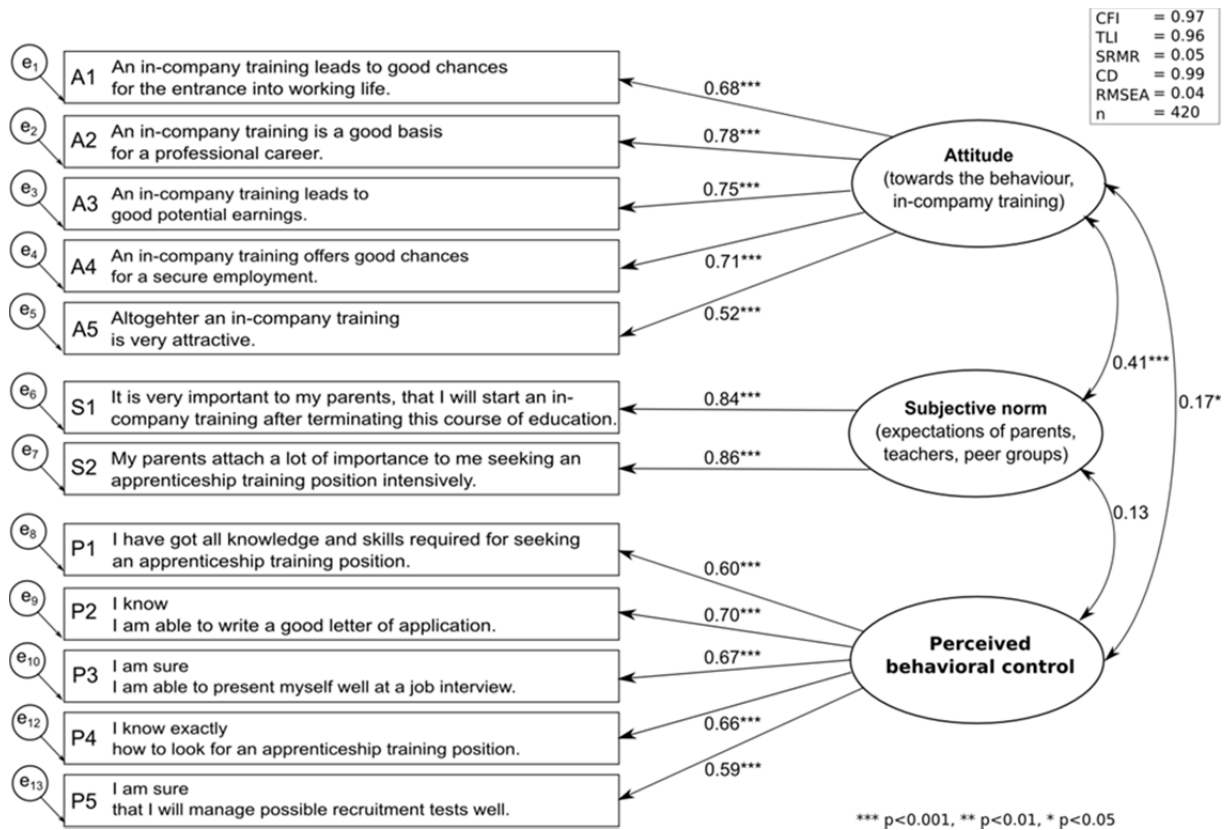
To answer the first research question mentioned above, data has been analyzed by structural and general equation modelling, i.e. models developed from the theory of planned behavior, both with the intention to get an apprenticeship and with the intention to keep on visiting school as endogenous variables, have been tested in order to show if they fit with the empirical data. Secondly, some descriptive statistical results illustrate, what students do and do not do, to realize their plan to get an apprenticeship. Thirdly logistic regression analysis has been used in order to show how far students characteristics, their intentions to discharge into training or another vocational class, and their actions to realize their intentions can explain the next station, they eventually reach in their young vocational biographies.

### **3. Empirical Findings**

#### **3.1 Students Transitions as Results of Planned Behavior – Findings from Structural and General Equation Modeling**

In order to discuss if trajectories of the alumni from the transition sector can be understood as results of planned behavior we had to specify the measurement models by confirmatory factor analysis first. Using maximum likelihood estimation we specified two models: one for the one-year courses and one for higher vocational schools (Höhere Berufsfachschule), which take two years and lead to a certain kind of A-Level (Fachhochschulreife).

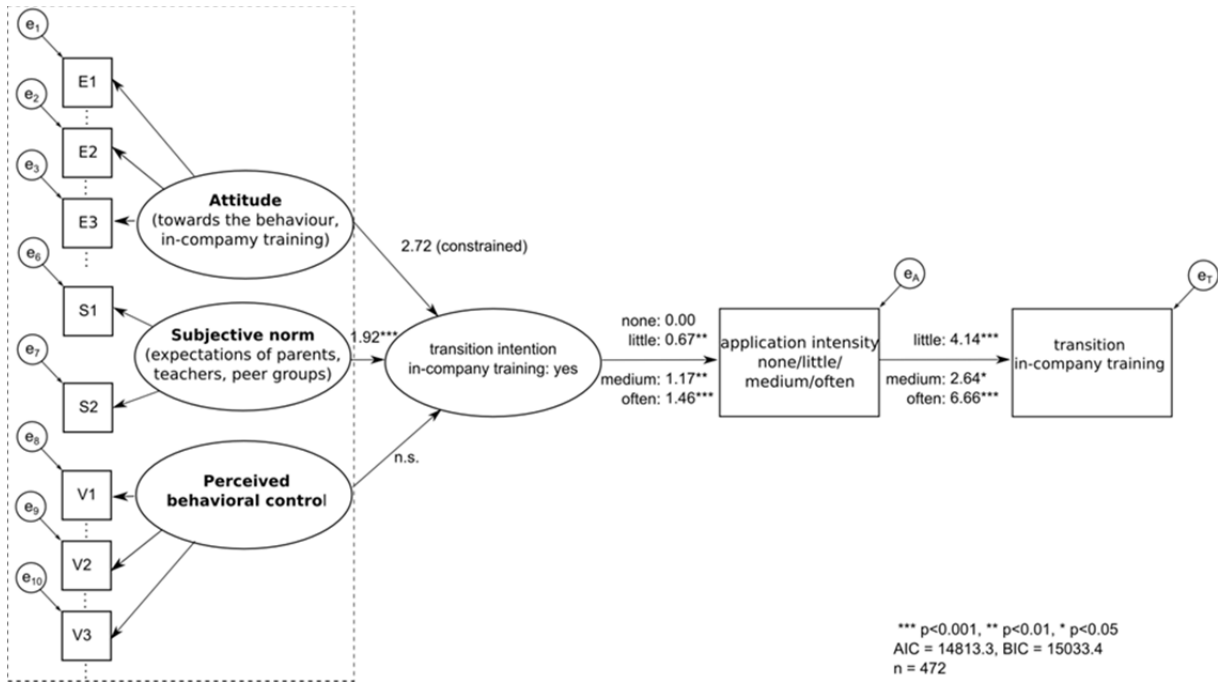
As chart number one shows for the example of the one year courses the empirical data fit very well to the theoretically postulated relations. None of the loadings of the items are lower than .50 and we found the correlations between the three latent variables as expected. The goodness of fit of the whole model is rather well. None of the indices lies lower or higher as the usual cut-offs the literature suggests (Bühner 2006, p. 254 ff.). This is also valid for the two-year-subsample and worked for the further school attendance as well.



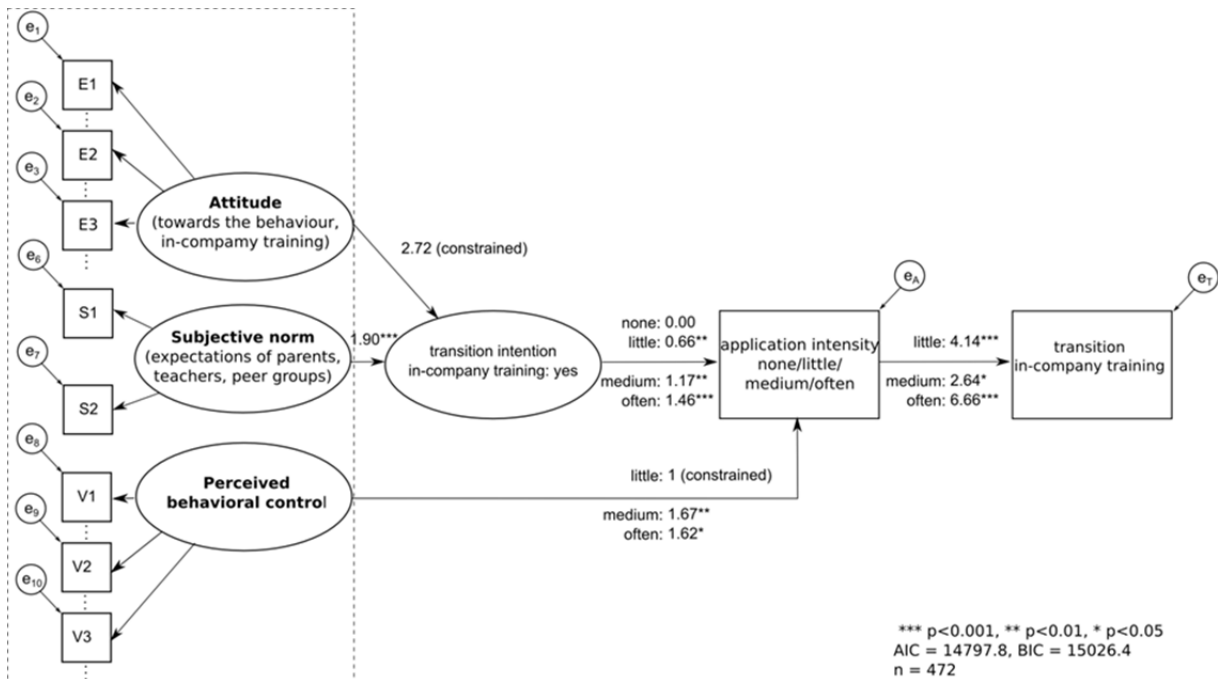
**Figure 1: Measurement model planned behavior regarding in-company training**

In the second step we tested whether the causal relations postulated in the model of planned behavior fit with our data or not.

Figure 2 and 3 show that with regard to the transitions into apprenticeship it basically does, but that we should think about the role of self-efficacy believes. We found no significant influence of the perceived behavioral control onto students' intentions to get an apprenticeship (graph 2), but did find a plausible impact onto the intensity of their application efforts (graph 3). And that is quite the same for the one and two-year courses. As a consequence we should not expect to increase adolescents' intentions to get an apprenticeship by improving their application skills in vocational orientation, but should invest in such competencies in order to help those students who already are interested in getting an apprenticeship. Furthermore our data show – a not too surprising result – that students' transitional intentions are relevant for their search behavior and that the amount of their efforts to reach an apprenticeship is relevant for their chances to be successful.

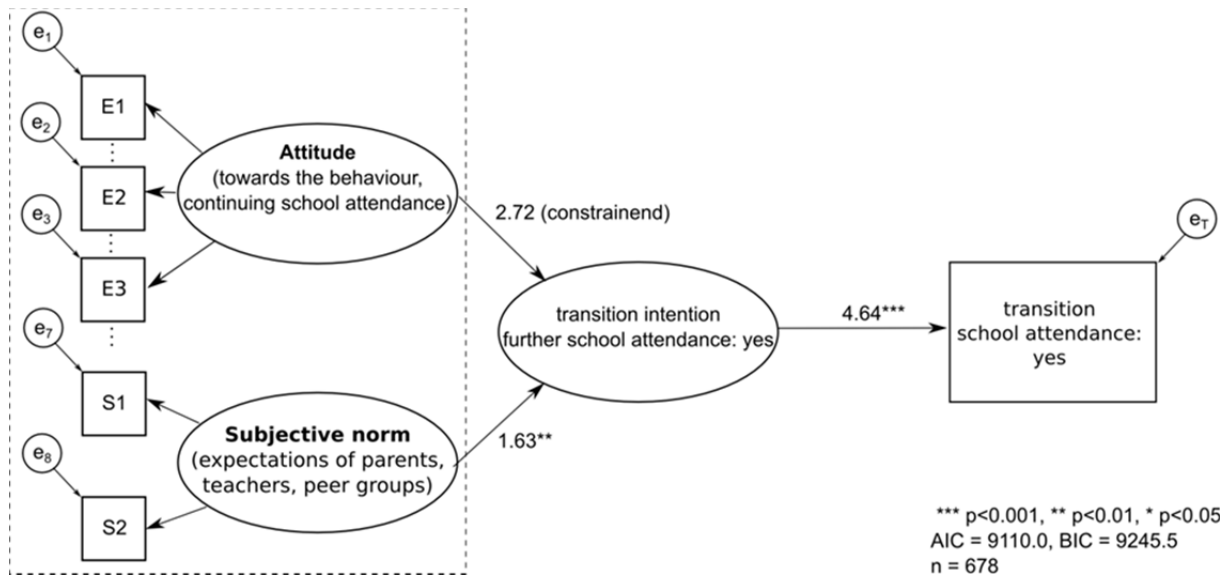


**Figure 2: Structural equation modelling – transition intention, behavior and success regarding in-company training**



**Figure 3: structural equation modelling – transition intention, behavior and success regarding in-company training including the path from perceived behavioral control to the application intensity**

But what about the school-to-school-transitions, which are – as mentioned above – currently viewed with great skepticism? Are these transitions results of planned behavior as well? Indeed they are as it is illustrated in figure 4.



**Figure 4: Structural equation modelling – transition intention and success regarding to school attendance**

So the answer to our first research question is affirmative – in principle at least and in so far as we explain transitional intentions. But when it comes to take action in the transition process this is quite a different story. Because when we test the models against each other, we find that a model which explains the transitional intentions only, but does not include further actions in the search for a training place is the model to choose both on the basis of Akaike and Bayes information criterion.

Therefore it might be interesting to get a more detailed picture of what students actually do or do not do to realize their intentions.

### 3.2 Students' Behavior in School-to-work-transitions – Descriptive Data

So how can we describe students' behavior during the courses to prepare their transitions? Up to our data an unexpected great group of students do nothing at all to get an apprenticeship. Although the agreement to the statement "to participate in this course in order to increase the chance to get an apprenticeship" was rather strong in the beginning of the panel and despite the fact that more than 60 % of the students expressed their wish to start an apprenticeship next, roundabout 44 % of the students in the one-year- and nearly 30 % of the students in the two-year courses wrote not a single application during the whole duration of the courses.

Asked for their reasons only a few students referred to the fact that they already got an apprenticeship. Most times students pointed out that they are (now) planning to keep on going to school. Between 8 and 13 % declared simply that they were not in the mood for it and 12,8 in the one-year courses up to 15 % in the vocational schools, which lead to the Fachhochschulreife, expressed their resigned believe, that they would not be accepted anyway (12,8 – 15 %). Last but not least each fourth or third of the adolescents explains such passivity because they still do not know what to do, where and how to apply or have the impression that it might be too early to apply.

Even among those students who preferred the apprenticeship over the other options explicitly, the quota of students without any job application added up to 35 % in the one-year and nearly 10 % in the two-year courses. Moreover approximately 13 % of the students who show some market activity started rather late to do so and 50 % of the students in the one-year courses (36 % in the two year courses), who did apply, wrote not more than 10 covering letters. In short: A considerable contrast between students' intentions and actions in school to work transition has to be noticed.

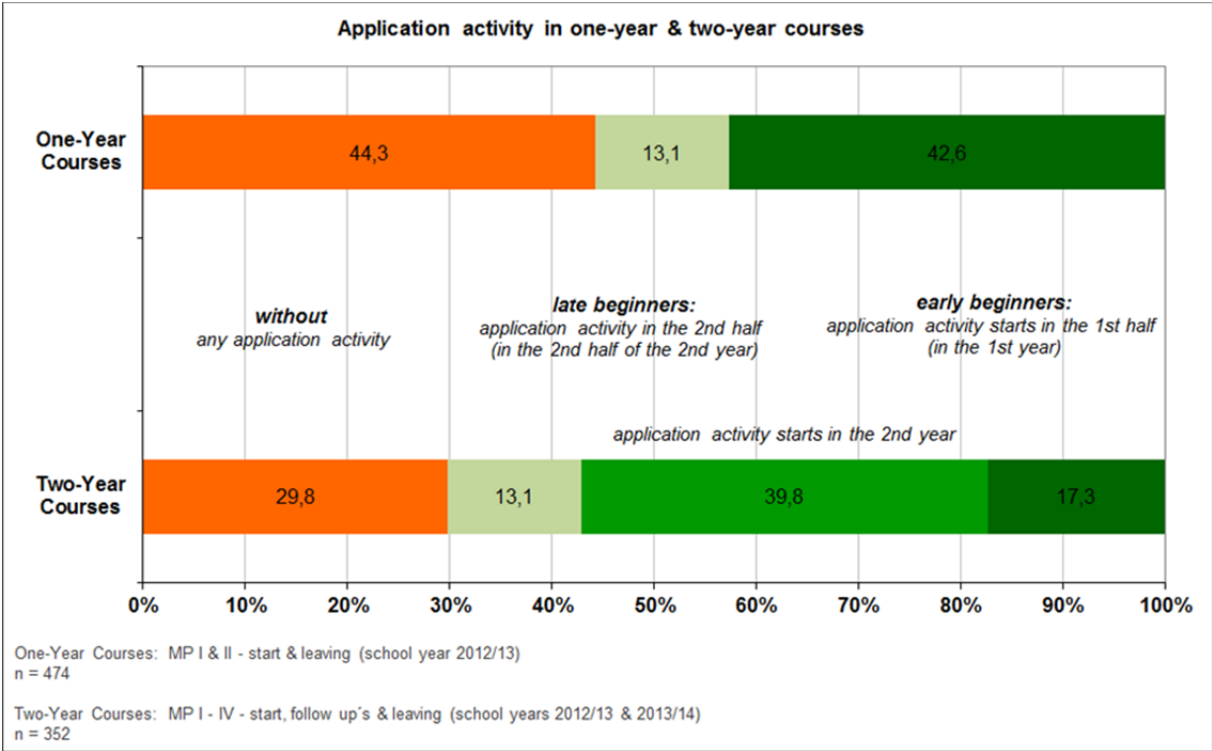
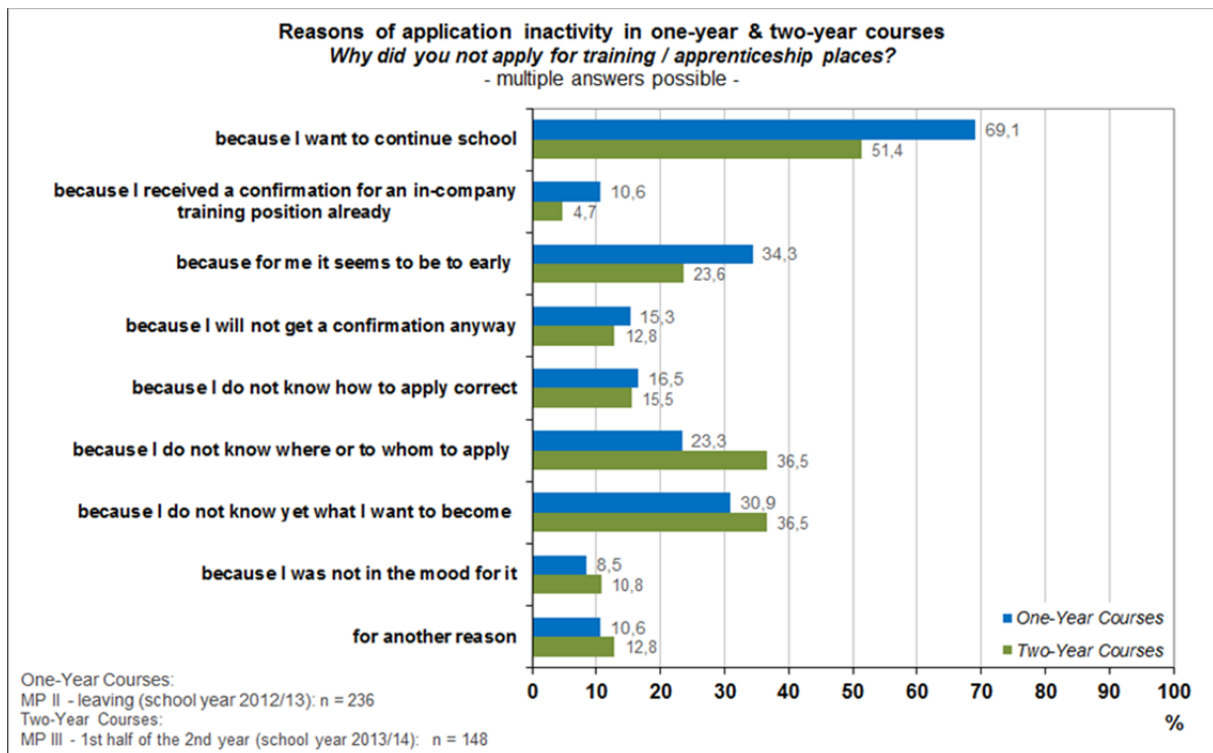


Figure 5: Distribution of application activity in one-year and two-year courses



**Figure 6: Reasons of application inactivity in one-year and two-year courses**

So it might be not too surprising that there is a remarkable discrepancy between the transitional intentions at the beginning of the courses and what students actually do in the end. In the one-year courses 62 % percent wanted an apprenticeship at our first measurement, but only 27 % got one. In the higher vocational schools the difference is much smaller, 57 % wanted to get an apprenticeship at the beginning and 47,5 % got one by the end of the course.

So we should differentiate between the two subsamples not only with regard to those differences, because they have their peculiarities with regard to students' social backgrounds, group compositions, educational biographies and grades as well as students' behavior. The stories students told in the interviews underline that – as we can only suggest by some examples from the qualitative material: *“Yes she thinks (a social worker, who offers vocational guidance) that I couldn't cope, because with us it is so – our missing hours”, I have a lot of missing hours*” a student of an one-year course points out and that illustrates among other passages in the interviews, that school absenteeism is a great issue in those schools as it could be expected in the light of the research to that topic (Badel 2007; Stamm2007). Even if students started classes with the very best intentions to improve their grades and vocational chances, some seem to have great difficulties to regulate their actions in everyday school life in efficiently as well as when it comes to job applications in particular.

So to have a clear intention what to do next after leaving school is quite relevant, but clearly not sufficient to explore ones opportunities in school to work transitions.



### 3.3 Impact of Intentions and Actions for Transitional Outcomes – Findings from Logistic Regression Analysis

Both is needed, a clear intention to get an apprenticeship and taking action at an early stage, this is also emphasized by the results of logistic regression analysis (see table 1). Taking a moderate level of significance of 10 % as a basis students' transitional intentions on the one hand and their actions on the other are the most important factors for the statistical explanation of students' chances to start an apprenticeship after leaving the German vocational transition system. Additionally only the self-efficacy believes in the one year courses and the subjective norm in the two-year courses have a small impact on the transitional outcome. Controlling students' intentions and actions in their vocational orientation process statistically none of their individual characteristics as sex, social and migration background and so on affect whether a student gets an apprenticeship or not. There is only one exception. The grades in mathematics of the alumni of higher vocational schools – who mostly visit business schools – do make a difference.

Altogether we are able to explain the transitional outcomes of students of higher vocational schools are much better than for alumni of the one-year courses. Whereas the model for the higher vocational schools explains nearly 46 %, the model for the one-year courses, in which disadvantaged adolescents are overrepresented, clears up only 32 % of the variance of the dependent variable. Therefore there is more room for the influences of unobserved factors as self-regulation abilities, regular school attendance etc.

Dependent variable: <i>Transition to in-company training</i> (yes = 1; another transition option = no = 0)		Graduates <i>one-year courses</i> main effects (full) n = 161				Graduates <i>two-year courses</i> main effects (full) n = 227				
Independent variables (main effects)		<i>b</i>	$\sigma_b$	<i>e<sup>b</sup></i>	<i>Sig.</i>	<i>b</i>	$\sigma_b$	<i>e<sup>b</sup></i>	<i>Sig.</i>	
Vocational orientation attributes	Transition intention (MP I   II) <i>reference: other or no intention of transition</i> Transition to an in-company training	0,825	0,535	2,201	0,098	1,067	0,471	2,907	0,024	
	Educational aspiration in life (MP I)	n. s.				X				
	Career aspiration specification (MP I   II)	n. s.				n. s.				
	Application activity (MP I & II   MP I - IV) <i>reference: without any application activity</i> application activity in the 2nd half (in the 2nd half of the 2nd year) application activity starts in the 2nd year application activity starts in the 1st half (in the 1st year)	1,210	0,648	3,352	0,062	0,325	0,655	1,384	0,620	
		1,709	0,495	5,523	0,001	1,709	0,495	5,523	0,001	
		1,586	0,648	4,882	0,014	2,542	0,625	12,706	0,000	
	Attitude towards in-company training (MP I   II)	n. s.				n. s.				
	Subjective Norm: Apprenticeship preference (MP I   II)	n. s.				0,564	0,212	1,757	0,008	
	Self efficacy expectation (search and application) (MP I   II)	0,586	0,327	1,798	0,073	n. s.				
	Occupational field fit (MP III)	X				n. s.				
Individual attributes descriptive	Sex	n. s.				n. s.				
	Migration status	n. s.				n. s.				
	Social status (book indicator)	n. s.				n. s.				
	Individual attributes acquired	Grade at the end of the 1st half year in mathematics	n. s.				-0,449	0,153	0,638	0,003
		Grade at the end of the 1st half year in german	n. s.				n. s.			
		Level of school leaving certificate at the time of leaving secondary school	n. s.				X			
		Educational biography background (Sek. I type)	n. s.				n. s.			
Context	Course type	n. s.				X				
Pseudo-R <sup>2</sup> (Nagelkerke)		0,325				0,463				

Table 1: Logistic regression of transition to in-company training with vocational orientation and individual attributes

#### 4. Summary and Conclusions

Summarized shortly, our data indicate that it is possible to reconstruct school to work transitions even of students in the German transition sector in terms of intentional decision making and planned behavior. Students' attitudes and subjective norms can predict what students want to do after the end of the school year. Those intentions do affect their applying efforts. And last but not least it does make a difference for their chances to reach their aims if students do a lot or little to get an apprenticeship.

Although intentions and plans of students have some prognostic value for the explanation of the transition process the results of regression analysis as well as descriptive quantitative and qualitative data indicate that the meaning of timing and effort in the process of job application might be more relevant for successful transitions from school to work and deserve closer attention both in research and in the practice of vocational orientation and guidance. Adolescents especially socially disadvantaged ones, who are overrepresented in lower vocational schools, might have reasonable intentions and plans for their vocational education and lives but often lack – in accordance to our data at least – the right timing and – maybe – do not regulate their actions effectively. So we should mind the gap between the intentions students have in their processes of vocational orientation and transition and the actions, which are the basis to make them become real. Therefore this paper did start with the meaning of intentions for the transitional process, but it ends with the relevance of regulating actions in order to support students' trajectories and transitions effectively.

As a consequence we should think about vocational orientation programs in vocational schools, which take into consideration that they have to support students, who possibly lack self-regulating skills. In fact some promising approaches as concepts which combine periodical individual student support counselling with individual learning contracts, already exist, but we definitely need evaluation studies with robust results which verify the effectiveness of such efforts.

Regarding to research perspectives some limitations of our previous results should be recognised and lead to further endeavours. In this paper we discussed the transitional chances only *within* the subgroup of students in the transition sector. Whether these students benefit from their investment of one or two years learning time compared with students who pass directly from schools of the secondary level one into the apprenticeship system with regard to their chances on the labour market or not, could not be answered in this paper. But we will pay some further attention to this question which can be answered with our data fundamentally. Moreover we did a regional study and can say nothing about the relative relevance of students' behaviour for their chances in school to work transitions, when different opportunities regional labour markets provide or not provide for adolescents are taken into account as well. But whatever the chances are, which students have or have not on the labour market for juveniles – and we know of course – that they are different depending on the regional situation both between and within European countries, we should be prepared to avoid two mistakes easily made in the research and discussion on school to work transitions in Europe:

1. individualizing structural problems, which was – for example – the case in Germany for quite a long time when vocational orientation and guidance had been discussed a lot and at the same time the immense shortage of apprenticeships has been almost ignored.
2. bringing students as actors to disappearance in our research concentrating on institutional analysis of school-to work transitions, because that way we can learn nothing about what at

least *those* students need in vocational orientation and guidance, who do not mind or are not able to close the gap between their intentions and actions in school to work transitions on their own.

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