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An Examination of Public Opinion towards Integration Development of the “Attitudes Towards Integration Scale” – ATIS

Abstract

The “Attitudes Towards Integration Scale” (ATIS) assesses the attitude of the general public towards the school integration of children with disabilities. The scale was empirically created in a pilot study ($n=351$) and later used to survey 2158 people. The data from both surveys are analyzed in the present paper; the results show that the scale exhibits acceptable internal consistency (*Cronbach's* $\alpha=.83$) and that the factorial structure of the scale can be considered as largely confirmed. Overall, the surveyed persons reported a positive attitude towards the school integration of children with disabilities.

However, the form of the disability of the integrated child and the level of education as well as the participants' familiarity with the topic of integration of persons with disabilities, age and gender played a role in their assessment. In addition, the results show that pupils in general have a more negative attitude than students and employed persons. Sequence effects could also be shown. Inclusive education is seen as more positive when respondents are first asked to evaluate how a child with a disability gets on in an integrated class and have to evaluate later how a child with the same disability gets on in a special school setting of an integrated class.

Keywords: Attitudes towards integration; inclusive education; special educational needs; disabilities;

Introduction

The integration rate, i.e., the proportion of pupils with special educational needs (SEN) in mainstream education, varies widely in the European countries (16.8% in Germany, 85.2% in Norway, 100% in Italy; European Agency, 2010). Austria lies in the middle (European Agency, 2010) but there are large fluctuations between the federal states (Buchner, Feyerer & Flieger, 2009; Feyerer, 2009). These are due to the organisational freedom of parents and school authorities provided by educational legislation and the results of educational policies in the individual federal states (Feyerer & Prammer, 2010). For example, integration has been the declared aim in the Austrian county Styria since the 1990s. At the moment, 77.3% of Styrian pupils with SEN are integrated in mainstream schooling. On the other hand, only 27.1% of pupils with SEN in Lower Austria are integrated (Buchner & Gebhardt, 2011; Statistik Austria, 2010). Overall, a clear international trend towards integration can be observed (Boban & Hinz, 2009; Bürl, 2009; Meijer 2010), which is indicated by rising numbers in the European Countries recorded by the European Agency (European Agency, 2010).

The terms “integration” and “inclusion” often are used differently. Depending on the cultural background, they are difficult to differentiate. For this reason several studies exist which use the terms in a synonymic way, as the review of Avramidis and Norwich (2002) shows. In some American studies, inclusion is understood as collective school attendance of children (of the same age) with and without disabilities (Reynolds & Fletcher-Janzen, 2000). However, this corresponds rather with the German understanding of integration (Sander, 2005). In the German-speaking area, inclusion is understood as an optimised form of integration in which all children are regarded as individuals with different initial positions. Differences are regarded as benefits (Sander, 2005).

Attitude towards integration

The attitude of the involved parties regarding the integration of children with SEN in mainstream schools is considered to be an essential aspect in the relevant research literature (Bless, 1995; de Boer, Pijl & Minnaert, 2011; Eberwein & Knauer, 2009), an aspect which influences both cooperation and social climate in an integrated school. Successful integration depends on the skills and attitudes of the professionals involved and can only be realized through cooperation of persons and entities (students,

parents, teachers, school authorities, school administrators, politicians; Feuser, 2005). According to Kalyvaa, Georgiadib and Tsakirisc (2007), the attitude of the parents whose children are enrolled in integrated classrooms also plays an important role for the successful integration of children with SEN. Many experts believe that a positive attitude in the general public is also an important factor for successful integration (Burge, Ouellette-Kuntz & Hutchinson, 2008; Gilmore, Campbell & Cuskelly, 2003; Siperstein, Parker, Norins & Widaman, 2011). We assume that the successful implementation of any inclusive policy largely depends on a positive attitude towards integration among educators but also among the general population. According to Kunz, Luder and Moretti (2010), relatively little research has focused at public opinion on this matter (e.g. Eberwein & Knauer, 2009), which may be due to a lack of adequate German-language research instruments.

Attitude towards Integration

While research regarding the attitude of teachers towards integrated schooling for children with SEN generally attests to a positive attitude of teachers with regard to the general philosophy of inclusive education (Abbott, 2006; Avramidis, Bayliss, & Burden, 2000; Avramidis & Norwich, 2002), their attitude towards the practical implementation of inclusive education is rather more reserved (Ring, 2005). Overall, teachers tend to view the integration of pupils with SEN in mainstream classrooms in a neutral or negative light (de Boer, Pijl & Minnaert, 2011), which is usually determined by the form of the disability of the integrated child (Avramides & Norwich, 2002; Cloerkes, 2007; de Boer, Pijl & Minnaert, 2011; Gebhardt, Schwab, Rossmann, Ellmeier, Gmeiner & Gasteiger Klicpera, 2011; Hastings & Oakford, 2003; Mand, 2007).

Among pupils, studies have shown both positive (Magiati, Dockrell & Logotheti, 2002; York & Tundidor, 1995) and negative (Nowicki & Sandieson, 2002; Siperstein, Bak & O'Keefe, 1988) attitudes; here the form of the disability (Magiati, Dockrell & Logotheti, 2002; Siperstein, Parker, Bardon & Widman, 2007), gender (Nowicki & Sandieson, 2002) and age of the pupils were highly influential (Ralli, Margeti, Doudoni, Panteleimidou, Rozou & Evaggelopoulou, 2011).

Studies from Italy, Australia, Greece and the USA in general showed that all parents signalled a positive attitude towards inclusive education (Balboni & Pedrabissi, 2000; de Boer, Pijl & Minnaert,

2010; Kalyva, Georgiadi & Tsakiris, 2007). Studies from Austria, Switzerland and the USA made clear that this result can be observed regardless of whether they themselves had children with SEN (Gasteiger-Klicpera, Klicpera, Gebhardt & Schwab, in preparation; Kunz, Luder & Moretti, 2010; Rafferty, Boettcher & Griffin, 2001). Once again, the form of the disability played an important role (Tafa & Manolitsis, 2003). In addition, the attitude was linked to the social economic status (SES) (Balboni & Padrabissi, 2000; de Boer, Pijl & Minnaert, 2010) and the level of education (Leyser & Kirk, 2004; Palmer, Borthwick-Duffy & Widaman, 1998; Stoiber, Gettinger & Goetz, 1998; Tafa & Manolitsis, 2003;).

Parents of children with intellectual disabilities tend to think that their children would receive better support in a special school; however, their general attitude towards inclusive education is positive (Ellinger & Koch, 2006). Ellinger and Koch (2006) also interviewed students of special education schools in Germany; in comparison to the parents they are more critical about inclusive education for pupils with intellectual disabilities. A comparison of students of different subjects (e.g. Education / Pedagogy; medical/psychological subjects; Economics/Engineering/Law/Politics) showed no differences in the attitudes towards inclusive education of children with intellectual disabilities (Ellinger & Koch, 2006). In their Swiss sample, Kunz, Luder and Moretti (2010) could not find any differences between parents and students in the attitudes towards the integration of children with SEN. Moreover, the teachers' attitudes in their sample did not differ from the both the other groups.

Similarly to the results for teachers, parents and pupils cited above, the investigations of attitudes among the general public (in Europe, Canada, the UK, Britain) show that the attitudes depend on the form of the disability (Environics Research Group, 2004; EORG, 2001; NDA, 2002; Staniland, 2010), and that both gender and level of education influence individual attitudes (Burge et al., 2008; Environics Research Group, 2004; NDA, 2002; Staniland, 2010).

The Eurobarometer survey (EORG, 2001) included 16172 persons from Belgium, Denmark, Germany, Greece, Spain, France, Ireland, Italy, Luxembourg, The Netherlands, Austria, Portugal, Finland, Sweden and the United Kingdom. Overall, the respondents (especially Italians) were of the opinion that children with disabilities should go to the same schools as other children and that better standards in inclusive education were necessary. With regard to the question whether children with

disabilities should attend the same schools as children without disabilities, the result was an average of 3.15 on a four-level likert scale (1="strongly disagree", 2="rather disagree", 3="rather agree", 4="strongly agree") in the EU-15 countries, which points towards acceptance of inclusive education. Persons from Portugal, the Netherlands, Greece and Belgium had the least favourable attitude. At average, the attitude of Austrian respondents was more positive for every form of disability (EORG, 2001). Crowson and Brandes (2010) found out that community members ($N=432$) in Oklahoma viewed the school integration of children with disabilities in a rather negative light, while 46% of the Irish respondents ($N=1000$) were of the opinion that children with disabilities should be in the same classes as children without disabilities, with 21% stating that this question depended on the form of disability of the children to be integrated (NDA, 2002). Another study in the United Kingdom ($N=1128$) showed that the general public's attitude is slightly more positive (Staniland, 2010).

With regard to children with intellectual disabilities or mental retardation, Burge et al. (2008) reported that more than half of the adults surveyed in Ontario ($N=680$) were of the opinion that they should be inclusively educated. In Australia ($N=2053$), the majority of the respondents would prefer children with Down syndrome to be educated separately (Gilmore, Campbell & Cuskelly, 2003); similarly, the Chinese population also prefers special education for children with intellectual disabilities (Siperstein, Norins, Corbin, & Shriver, 2003).

While standardized instruments are available for surveying teachers, parents and pupils, and have been implemented repeatedly in numerous countries, such instruments are usually not useful when working with laypersons. For most studies, when investigating the attitude of the general public regarding inclusive education, only individual items were used, as with EORG (2001), or there is little reliable information about the quality of the scales. Therefore, the aim of this study is to develop an instrument to measure the attitudes of the general population (of German-speaking people) towards integration, in order to expand the current state of research with regard to the attitude of the German-speaking population (especially Austria) towards the integration of pupils with SEN.

Within the framework of Study 1, the aim is to develop a new instrument to measure the attitude towards inclusive education. To do so, a new scale will be developed from various existing instruments ("Einstellung zur Integration" (EZI-D): Kunz, Luder & Moretti, 2010; "My thinking about

inclusion“(MTAI): Stoiber, Gettinger & Goetz, 1998; “Einstellung zur Integration in der Schule” (EIS): Reicher, 1988; Gebhardt et al., 2011). Study 2 will test the quality of the newly constructed measuring instrument (“Attitudes Towards Integration Scale” – ATIS) and investigate the current attitude of the general public with regard to the contextual effects found in the literature.

Study 1

In order to develop an adequate German-language instrument to record the attitude towards inclusive education, a small-scale survey was carried out as a first model. Its aim was to bring together items from existing instruments in a short scale.

Method

Participants

The sample was composed of 351 German-speaking persons (77.1% female, 22.91% male; 89.1% were Austrians, mainly located in Graz, 9.2% were from Germany and 1.7% from other countries). Participants' ages ranged from 17 to 75 years ($M=27.86$ years, $SD=10.06$ years). Overall the sample tended to be fairly highly educated, as approximately 76.26% of participants were students.

Instruments

The questionnaire was adapted from two German and one English instruments that measure attitudes towards integration: *Einstellungen zur Integration* (EZI-D: Kunz, Luder & Moretti, 2010 [in English known as Parent Attitudes to Integration Scales (PATI): Palmer et al. 1998]), *Einstellung zur Integration in der Schule* (EIS: Reicher, 1988; Gebhardt et al., 2011) and the *My thinking about inclusion* (MTAI: Stoiber, Gettinger & Goetz, 1998).

The EZI-D scale for surveying the attitudes of parents was translated and adapted (e.g. negative items were reversed in the polarity) into the German language by Kunz, Luder and Moretti (2010). The scale consisted of eleven items with an internal consistency of .85. The factorial analysis showed two main factors. In succession, the analysis was not conducted separately for the subscales: for further analysis, a one-factorial solution was assumed, what is quite problematic.

EIS was developed by Reicher (1988) and tested in a re-analysis by Gebhardt et al. (2011) regarding quality criteria and the factorial structure. The German instrument was developed to question teachers. It consists of 11 items which are poled both positive and negative. The items had to be answered on a four-point Likert scale. The instruction refers to a child with a disability, whereas the form of the disability was named (physical disability, learning disability, mental disability). In the re-analysis, internal consistencies of .83 - .89 could be shown. Again, all items were assigned to a general factor, even though the results of the factorial analysis would allow a two-factorial structure (Gebhardt et al., 2011).

The MTAI was developed by Stoiber, Gettinger and Goetz (1998) in English and was used for questioning parents and practitioners. The whole scale comprises of 28 items with a five-point Likert scale and it possesses a *Cronbach's α* of .91. The internal consistency of the three subscales (core Perspectives, expected outcomes, classroom practices) was between .65 and .82. The formulations of the items referred mostly to children with exceptional needs or students with special needs (Stoiber, Gettinger & Goetz, 1998). In a first step, the described scales were used combined. For this, the terms (children with disability, children with special needs, children with SEN) were standardized to children with SEN. Furthermore, all items were led in the "I think that" ("Ich denke, dass") and rephrased to that effect. Questionnaires were sent electronically via email to students at the University of Graz.

Results

The results show that all scales can be used for the reliable measurement of public attitudes towards integration in the German-speaking countries. *Cronbach's α* coefficients ranged from .64 to .82 for the MTAI subscales, .87 for EZI-D and .90 for EIS. The inter-item-correlation of individual items was satisfactory, with the exception of four items in the MTAI ($r_{ii} > .3$). The means of the scales (except one scale of the MTAI) were all higher than the theoretical mean. Therefore the participants had rather positive attitudes towards integration.

Discussion

Results showed good reliabilities for the three existing scales (EZI-D: Kunz, Luder & Moretti, 2010; MTAI: Stoiber, Gettinger & Goetz, 1998; EIS: Reicher, 1988; Gebhardt et. al., 2011). To construct a short scale, only items with good selectivities and different parameters for the difficulty of the items were chosen. The new scale should contain two items with easy difficulties ($p_i=.6-.8$), medium difficulties ($p_i=.4-.59$) and high difficulties ($p_i=.2-.39$). Therefore, in each case the items with the best selectivities were chosen. In doing so, a total of six items for the new scale was found. All in all, the completed short scale comprises of two items of the EZI-D (Kunz, Luder & Moretti, 2010), two items of the EIS (Reicher, 1988; Gebhardt et. al., 2011) and two items of the MTAI (Stoiber, Gettinger & Goetz, 1998) (see table 1). Nevertheless, without any concrete information about the situation of the child and the resources in the school, the association of the test participants regarding the individual and specific needs of the child cannot be determined. Therefore there are doubts concerning the validity of the estimations. It is questionable whether the results would be the same for the general population. For this reason, case studies were constructed for the new short instrument, the “attitudes towards integration scale - ATIS”, for Study 2.

Study 2

Purpose of the study

The first objective of the study is to investigate whether the newly developed scale meets the relevant psychometric quality criteria and which factorial structure this is based on. The second question addresses the current attitude among the general population. Does the German-speaking population's attitude tend to be positive or negative? How does the form of disability of the integrated child influence the attitude towards inclusive education? Do the participants view the school integration of pupils with physical disabilities in the most positive light, and that of pupils with emotional problems in the most negative light? How influential are gender, age, level of education, profession (pupils/students/employed persons), prior experience (familiarity) with integration? Can sequencing effects (starting with the student to be integrated/separated) or effects relating to the survey method (paper vs. online survey) be identified?

Participants

The sample was composed of 2158 German-speaking persons (69.3% were women, 30.7% were men; 85.4% were Austrians, mainly located in Graz, 13.5% were from Germany, 0.7% from other countries and 0.4% did not answer this question). Participants' ages ranged from 11 to 82 years ($M=26.63$ years, $SD=11.79$ years). As before, this sample tended to be highly educated, as approximately 24.4% of the participants reported having at least completed a college degree and 41.6% reported having a Matura (A-level equivalent). 31.7% of the sample graduated from high-school (GCSE equivalent) or had completed an apprenticeship, and 3.5% had either completed other kinds of qualifications or did not answer this question. 21.2% of participants were pupils (or in vocational training), 41.3% were students (29.7% were students of Education/Social Education/Special Education or Psychology) and 26.4% were employed. The remaining 11.1% were either retired, in alternative civilian service, unemployed, or had not answered the question. About five percents of the participants did not finish the whole questionnaire. That is why the sample size may vary in separated analyses.

Procedure

The online survey ($N=1244$) was sent to students at the University of Graz, to students of Special Education in Germany and to participants in the Socio Panels (www.soscisurvey.de), asking them to participate and to forward the survey to others. The paper survey ($N=914$) was administered to the general public in public spaces (in Graz) and in trains of the Austrian Federal Railways. Both surveys were identical. The questionnaire included one out of four randomly assigned vignettes and a series of six items that required respondents to rate the vignette. Furthermore they were asked to answer demographic questions and questions about prior experience with individuals with disabilities.

Instrument

To design valid cases, the research of the stereotype content model was reverted. According to Fiske, Cuddy, Glick and Xu (2002), people are animated through cases to judge general prejudices. As a pattern, the study of Barg, Armstrong, Hetz and Latimer (2010) was used which investigates stereotypes facing students with physical disabilities. These cases were complemented through further

form of disabilities (learning disability, mental disability and emotional disorder). These descriptions were developed by four experts (two special education teachers and two psychologists with experiences in special needs) in dependence on the ICD-10 (WHO, 1993). All descriptions were tested upon comprehensibility for laypersons during the construction phase.

Eight different questionnaires with three vignettes each were applied. These vignettes were addressed in 18 items (six items for the vignettes “Child with disability in integrated class”, six items for the vignettes “Child with disability in special class”, and six items for the vignettes “regular pupil enrolled in an integrated class”; the items were identically in each vignette). Participants were asked to respond using 5-point likert scales with anchors of 1=“strongly disagree” and 5=“strongly agree”. Two items were reversed. The score on the scale was determined as means of the item scores. Therefore, the minimum was one point, the maximum five points.

The participants were randomly assigned one of the eight questionnaires, with four questionnaires beginning with an integrated instruction (condition 1-4), the other four starting with a special education instruction (condition 5-8). Each questionnaire only deals with one form of disability: questionnaires one and five contain the case of a pupil with a physically disability (PD), questionnaires two and six the case of a pupil with a learning disability (LD), questionnaires three and seven the case of a pupil with an intellectual disability (ID), and questionnaires four and eight the case of a pupil with an emotional disorder (ED) (see Table 3).

Flanked by the two vignettes which refer to the same form of disability (one in an integrated setting and one in a segregated setting), each questionnaire also contains a vignette with a regular pupil, who is enrolled in an integrated class, as a control variable. Therefore the questionnaire consists of a short text introducing the integrated and segregated case and two vignettes (integrated and segregated education) with one form of disability and a vignette with a regular pupil, as presented in the following:

After providing informed consent, participants read the following brief introduction in the integrative setting:

A: “Ms. Müller teaches fourth grade at primary school, in a class with 22 pupils with different performance levels. Five pupils with disabilities are integrated in the class. In addition, an integration teacher, Ms. Maier, is present during each lesson to support Ms. Müller.

Please read the short text about two pupils in Ms. Müller’s class and evaluate them according to the following assumptions.”

B: or the following brief introduction in the segregated setting:

„Ms. Huber teaches fourth grade at a special school. Her class includes 10 pupils with different performance levels. All of them have a disability.

Please read the short text about two pupils in Ms. Huber’s class and evaluate them according to the following assumptions.”

The descriptions of the disability cases were as follows:

- 1. PD:** “Lukas is ten years old and has been physically disabled since birth. Since he can neither move nor feel the lower part of his body, he has to use a wheelchair and needs support, for example, to use the toilet. Lukas has no intellectual disabilities or learning difficulties. His performance in reading, writing and numeracy is average.”
- 2. LD:** “Lukas is ten years old. He has serious problems with reading, writing and numeracy and needs more time to process new information. He has been diagnosed with a developmental disorder of scholastic skills.”
- 3. ID:** “Lukas is ten years old and was born with trisomy 21 (Down syndrome). He has an intellectual disability which manifests in a reduced cognitive performance in learning, reading, writing and communicating.”
- 4. ED:** “Lukas is ten years old. He has great difficulty keeping to class and school rules, which often leads to arguments, where he will become aggressive towards other pupils. He often disregards the teachers’ instructions and is easily distracted during class. He has been diagnosed with ADHD (attention-deficit hyperactivity disorder).”

Results regarding the instrument (for the integration case)

The following results regarding the instrument were analysed only for all nine items from the integration case. The *Cronbach's α* of the scale is .82. The inter-item-correlation of the items was in a satisfactory range for all items ($r_{ii}=.41-.66$). In order to monitor the factorial structure of the scale, an explorative factorial analysis was carried out ($KMO=.81$; *Bartlett's Test = sig, $p<.001$*). The result showed one factors with an explained variance of 52.65% ($\lambda=56.-.79$) respectively. The inter-item-correlation and factor loads for individual items are given in Table 1.

Table 1. Inter-item-correlation and factor loads of items of the subscales for measuring attitudes towards inclusive education

Original scales of the items	item number in ATIS		Factor 1 r_{it}	Factor 1 λ
EZI: Item 3	1R	I think that Lukas feels alone and isolated in this class.	.54	.69
MTAI: Item 20	2	I think that Lukas is developing a positive self-concept in this class.	.66	.79
EIS: Item 5	3R	I think that Lukas is developing weaker self-confidence in this class.	.58	.73
EIS: Item 4	4	I think that Lukas' motivation to achieve increased through comparison with his class mates.	.41	.56
EZI: Item 8	5	I think that the quality of learning Lukas experiences in this class is very good.	.64	.78
MTAI: Item 14	6	I think that Lukas learns a lot in this class.	.65	.78

Note: R=Recode, r_{it} = inter-item-correlation, λ = factor loads

Descriptive results

In order to simplify the assessment of the descriptive results, Table 2 presents the means and standard deviations of the items (instruction in integrated classrooms), broken down according to form of disability. The means of items 1, 3, 5 and 6 (scale of 1-5) are above the theoretical mean of 3 for all forms of disability. Those of items 2 and 4 are slightly below the mean for attitude towards inclusive education for children with emotional disorder.

Table 2. Means and standard deviations of items, broken down according to form of disability

Items No.	PD (N=575)		LD (N=546)		ID (N=503)		ED (N=453)		Overall (N=2078)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1R	3.75	1.06	3.56	1.13	3.55	1.13	3.38	1.19	3.57	1.13
2	3.55	1.02	3.17	1.03	3.30	1.04	2.92	1.09	3.26	1.07
3R	3.58	1.10	3.28	1.15	3.36	1.15	3.34	1.19	3.40	1.15
4	3.35	1.11	3.10	1.10	3.09	1.14	2.98	1.17	3.14	1.14
5	3.77	1.06	3.37	1.08	3.36	1.11	3.17	1.18	3.43	1.12
6	3.84	1.01	3.52	1.02	3.53	1.08	3.23	1.16	3.55	1.09
Scale	3.64	0.75	3.33	0.77	3.37	0.82	3.17	0.81	3.39	0.80

Scale from 1= fully disagree with integration to 5 = fully agree with integration

Effect of sequencing on attitude towards integration

In order to descriptively compare the means of the test arrangements, Table 3 shows the identical items for the integrated case, the regular pupil and the special school case. Please note that, in the case of the special school pupil, the figures relate to how the pupil is doing in her/his class. Therefore, the high score does not represent positive integration, but agreement to separation.

The means differ depending on the sequence of vignettes. In questionnaires one to four, the integrated case came first, followed by the mainstream case and the respective special school case. In questionnaires five to eight, the special school case was followed by the respective integrated case and finally the mainstream case. The attitude towards inclusive schooling was more positive when the case study of the integrated pupil was described first. However, the means were lower when a special school case was presented first, in both cases independently of the form of disability. With regard to the special school case, the figures are the same for both physical and intellectual disability. Separation is seen as more negative when presented after the integrated case. In the case of integration of a child with a learning disability, the figures are the same regardless of whether the integrated case or the special school case is presented first. For the child with an intellectual disability, segregation was judged more negatively when the integrated case had been presented first. With regard to the child

with an emotional disorder, however, those respondents who had been presented with the integrated case first rated segregated schooling more positively than those persons who had been asked to start with the special school case. Regarding the control case (regular pupil), the respondents rated his being part of an integrated classroom more positively when they had first been presented with the special school case, regardless of the form of disability of the children to be integrated.

Table 3. Means and standard deviations subject to vignette sequencing

Number of questionnaire (case)	<i>N</i>	Integration case (mean/standard deviation)	Mainstream pupils (mean/standard deviation)	Special needs school (mean/standard deviation)
1 (PD)	264	3.76/0.68	2.69/0.40	2.91/0.68
2 (LD)	277	3.45/0.81	2.75/0.35	3.03/0.63
3 (ID)	240	3.47/0.83	2.74/0.35	3.08/0.64
4 (ED)	268	3.21/0.82	2.77/0.40	2.95/0.61
5 (PD)	313	3.54/0.78	2.77/0.42	3.04/0.62
6 (LD)	295	3.23/0.72	2.80/0.39	3.03/0.62
7 (ID)	286	3.26/0.80	2.78/0.40	3.16/0.61
8 (ED)	215	3.12/0.81	2.80/0.47	2.61/0.59

Results for the predictors for attitude towards integration

Due to the length of this article, only an analysis of a scale can be described, so the differences and predictors are only examined for students with disabilities in an inclusive setting. A univariate analysis of variance was carried out, with the form of disability as the independent variable (PD, LD, ID, ED) and the overall scale (respectively, the averaged sum score of all six items from the integration case) as the dependent variable.

The main effects of the form of disability became significant [$F(3, 2074) = 32.21, p < .01; \eta_p^2 = .05$].

The mean value for the integration of pupils with physical disabilities was 3.64 ($SD = 0.75$), the mean

for the integration of pupils with a learning disability was 3.33 ($SD=0.77$), the mean for the integration of pupils with intellectual disability was 3.37 ($SD=0.82$) and the mean for the integration of pupils with emotional disorder was 3.17 ($SD=0.81$). All differences in mean values except those between the groups for learning disability and intellectual disability were significant according to the post hoc test (Scheffé). Therefore, the attitude towards the integration of pupils with physical disability was rated most positively, followed by pupils with learning disability/ intellectual disability. The attitude towards the integration of pupils with emotional disorder was most negative.

To find out how influential the form of the disability, gender, age, level of education, profession (pupils/students/employed persons), prior experience (familiarity) with integration, sequencing effects (starting with the student to be integrated/separated) or effects relating to the survey method (paper vs. online survey) is, a multivariate stepwise regression analysis of the scale ATIS was carried out. The form of disability was converted into four variables with dummy codes. The form of disability (four dummy codes) gender, age, level of education (less than A-level, A-level, university degree), group (pupil, student, employed person; coded as dummy variables: PD, LD, ID, ED), familiarity with the topic of the integration of persons with disability (FAM, yes or no), vignette (1=starting with integration case, 2=starting with special school case) and the survey method (online or paper survey) were included as predictors in the regression analysis. Results are summarised in Tables 4 and 5, showing the R^2 value for all models, the R^2 change for all models, and the significant predictors of the final regression model.

Table 4. Summary of Hierarchical Regression Analysis for ATIS ($N = 1792$)

Model (significant predictors)	R^2	ΔR^2	F
Model 1 (pupil)	.04	.04	83.53**
Model 2 (pupil, PD)	.09	.05	88.33**
Model 3 (pupil, PD, FAM)	.10	.01	66.44**
Model 4 (pupil, PD, FAM, ED)	.11	.01	54.65**
Model 5 (pupil, PD, FAM, ED, level of education)	.12	.01	46.91**

Model 6 (pupil, PD, FAM, ED, level of education, age)	.12	.00	40.81**
Model 7 (pupil, PD, FAM, ED, level of education, age, sequence)	.12	.00	35.84**
Model 8 (pupil, PD, FAM, ED, level of education, age, sequence, gender)	.13	.00	31.97**

** $p < .01$

Table 5. Predicting persons' attitude towards integration by measures of form of disability (PD, ED, ID), level of education, familiarity with the topic of the integration of persons with disability (FAM) group (pupil, student) and age (model 8)

Variable	<i>b</i>	<i>SE</i>	β
pupil	-.18	.06	-.10**
PD	.33	.04	.18**
FAM	.15	.04	.09**
ED	-.19	.05	-.10**
level of education	.10	.03	.10**
age	.01	.00	.09**
sequence	-.09	.04	-.05*
gender	.08	.04	.05*

Notes: β =standardized regression coefficient

The hierarchical multiple regression analysis showed eight significant models. The final regression model (model 8) explained 13% of the variance of the attitude towards the integration [$F(8, 1783)=31.97, p < .01$; cf. Table 4]. The group pupil, the form of disability (PD, ED; except ID and LD), the familiarity with the topic of integration of persons with disability (FAM), the level of education, and the age, the sequence and the gender emerged as significant predictors of the attitude towards integration. In addition LD, ID, the group student and the group employed person, and survey method were not found to account for a significant amount of the criterion variance. Pupils have a more negative attitude towards inclusive education than other persons. The attitude is more positive towards children with physical disability than towards children with other disabilities. Familiarity with the topic of integration of persons with disabilities led to a more positive attitude. The attitude is more

negative towards children with an emotional disability than towards children with another. Persons with a higher level of education have a more positive attitude towards inclusive education for children with disabilities. In addition, age was another influential factor, as older respondents showed a more positive attitude. Inclusive education is seen as more negative when respondents are first asked to evaluate how a child with a disability gets on in a special school setting and have to evaluate later how a child with the same disability gets on in an integrated class. Also women showed a more positive attitude than men. The results also showed that the survey method (online vs. paper survey) did not help to explain variance.

Discussion

The Attitude towards integration scale (ATIS) exhibits a high degree of internal consistency and the factorial structure was confirmed. In comparison with the previous instruments (MTAI by Stoiber et al., 1998, EZI-D by Kunz, Luder & Moretti, 2010, EIS by Reicher, 1988) ATIS shows a similar reliability. The items were chosen on an empirical basis and were shortened to match with the different cases. For example, the statement of item six, “Lukas learns a lot in this class”, was chosen generally, so that laypersons, too, can answer this question. The learning progress can be referred to as to school achievement and to social factors as well. The advantage of ATIS is its broad possibility of implementation, which can vary with the cases. Cases can be constructed to measure attitudes towards schooling (integrative/segregative), towards different forms of disabilities (LD, PD, ID, ED) and towards different didactical methods.

The descriptive results allow the conclusion that the German-speaking public’s attitude towards inclusive education is generally positive. Overall, however, almost all values were above or close to the theoretical mean value of the scales and can therefore be interpreted as (cautious) agreement. The results for sequencing (app. half of the sample was first presented with the integration case and then with the special school case, and vice versa for the other half of the sample) suggest that the general public can be influenced when surveyed on inclusive education.

Similar to other studies (Environics Research Group, 2004; EORG, 2001; NDA, 2002; Siperstein et. al., 2007; Staniland, 2010), the results show that the general public has the most positive attitude

towards the integration of pupils with physical disabilities, while the attitude towards the integration of pupils with emotional disorders is generally the most negative, with pupils with learning disabilities or intellectual disabilities falling between the two. It is not clear why the results of this study show no difference between learning disability and intellectual disability. One reason could be the description of the cases. Another reason could be the selective nature of the sample (high level of education); another reason could be that the texts describing the cases were too similar so that the respondents took delayed educational development (learning disability) to be very similar to intellectual disability. In public media discourse, these terms are also sometimes used interchangeably (Scholz, 2009). Reminiscent of earlier studies, the present results show that the form of disability is an important variable for the attitude towards inclusive education (Avramides & Norwich, 2002). It has also been previously shown that both the level of education, age and gender influence attitude (Burge et al., 2008; Environics Research Group, 2004; Leyser & Kirk, 2004; NDA, 2002; Ralli et al., 2011; Staniland, 2010; Tafa & Manolitsis, 2003) and that persons who have had experience with integration exhibit a more positive attitude (Tafa & Manolitsis, 2003). In addition, the results show that pupils in general have a more negative attitude than other groups surveyed. This might be due to the fact that pupils are younger than students or employed persons. An interesting finding for further research is that the survey method (online vs. paper survey) was proved not to influence the attitude which indicates that the online sample did not represent a particular specific distortion. Especially from an economic viewpoint, online recruiting for this survey was more efficient than data collection in the field because it saves time on data entry and there is no need for a test administrator to be personally present during the survey.

Surveying persons who have no or little insight into the world of education and of pupils with disability is important because the political mainstream and society decide the framework for successful integration. However, it is difficult to gauge general attitudes and evaluations among the general public, which becomes obvious when looking at distortion effects such as the response tendency and the lack of information about integration. For most respondents, it was good feeling rather than experience which influenced their decisions, since many (69.1%) indicated that they had no previous experience with the integration of people with disabilities. In this light, subsequent research

projects on integration among the general population may want to focus on stereotypes, as these are generally formed on the basis of partial knowledge.

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