Perceived participation.
A comparison of students with disabilities and students without disabilities

By Lilly Eriksson and Mats Granlund

Abstract: According to a recent study (Almqvist & Granlund, accepted), participation is not strongly related to type and degree of disability but probably to the context of the individual as well as generic personal factors. Such diverse factors can over time become orchestrated and pull the development of individuals with disability in a certain direction. This study compares how 959 students with and without disabilities in two age-groups 7-12 and 13-17 perceive their participation in school activities. The main method of analysis is one-way-ANOVA. The result indicates that students without disabilities rated their perceived participation higher, especially in unstructured "free" activities. Further, students without disabilities experience a higher degree of autonomy and rate the availability of school activities as higher. Students with disabilities rate their interaction with teachers as better and more frequent, but their interaction with peers as less frequent. These differences increase with age and may reinforce a stigmatization process.

Introduction

Participation is a frequently used concept in laws and regulation, in debates about school environments and in relation to constructs such as social competence and democracy. The concept participation may be seen as a contemporary expression of the normalization principle developed forty years ago by Nirje (1969) and Wolfensberger (1980). With present-day legislation and the disability policy as a basis, participation in school activities is a right for students with disability. It is therefore interesting to see if students with disability participate in school activities as other students.

The definition of participation used in this study was developed by Eriksson and Granlund (2004); analyzing written definitions of the concept made by almost 700 students with disabilities, their parents, teachers and special-education counselors. Participation was defined as "a feeling of belonging and engagement, experienced by the indi-
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Individual in relation to being active in a certain context.” Another interesting definition on participation is stated in the International Classification of Functioning, Disability and Health (ICF) as “involvement in a life-situation” (World Health Organization (WHO), 2001, p7).

Ideally, students with and without disabilities should perceive their degree of participation in school activities in a similar manner. Cluster groups of students with disability with different profiles in factors considered to be related to participation in school activities do not have an overrepresentation of students with a certain type or degree of disability in any of the clusters (Almqvist & Granlund, accepted). This result indicates that type and degree of disability not are strongly related to perceived degree of participation of students with disability in school activities. However, several studies (e.g, BO, 2002; Nordström, 2002; Prellwitz, Tamm, & Lindqvist, 2001) indicate that students with disability in different ways are excluded from school activities, especially “free” activities not structured by or lead by adults. Such exclusion has to be explained by other factors than degree and type of disability. The aim of this study is to compare groups of students with and without disabilities in factors reported as related to participation in previous research such as autonomy, locus of control and perceived availability to activities (Almqvist & Granlund, accepted, Wehmeyer, 1995).

Theoretical background

According to Bronfenbrenner’s (1979/1999) bioecological framework, the surrounding systems affect the individual at different levels of interaction. The interactions can be observed at the micro, meso, exo and macro levels. Participation is a phenomenon characterized by perceptions of engagement and motivation that exists and can be observed as focused activity at each of these levels (Paldanius, 1999). In this study, participation at micro-system level is studied, i.e. the student’s participation in his/her living environment in school. According to Bronfenbrenner (1999), interaction between the child and the environment can be described as proximal processes. They are defined as “a progressively more complex reciprocal interaction between an active, evolving biopsychological human organism and the persons, objects, and symbols in its immediate external environment” (Bronfenbrenner, 1999, p.5). This interaction must occur over an extended period. Interaction is an observable social phenomenon between at least two persons that is limited in time (Nordström, 2002). The concept of participation does however also include perception of control and belonging (Eriksson & Granlund, 2004) well as environmental prerequisites. Therefore participation measures preferably should include self reports of perceived participation.
A person is not interacting with all aspects of an immediate setting (Wachs, 2000). The nodal point between the person and the environment has been described as a niche, that is "the part of the environment in which the person in a specific activity interacts relatively continuously with physical and social aspects of the immediate setting" (Wachs, 2000). The actual availability of the environment as well as how the person perceives the availability of a niche will affect the degree of participation a person experiences in a specific life situation. Organizational aspects of a niche affect an individual in at least three ways (Super & Harkness, 1999). These aspects are: "contemporary redundancy," "thematic elaboration" and "chaining." Contemporary redundancy involves the mutually reinforcing repetition of similar influences from several parts of the environment in a specified time-period, e.g. participating in the same kind of activities in different environments. Thematic elaboration refers to the repetition over time of symbols and systems of meaning, e.g. the acquisition of discourse style following from being interacted with in the same fashion by several persons in the immediate setting. Chaining refers to "the completion of a causal chain from separable elements in the environment." "The defining feature of chaining is that no single element of the environment is sufficient in kind to produce a particular outcome. There is, rather, a holistic creation that requires a significant contribution from different aspects of the environment to be realized" (Super & Harkness, 1999, p.292.). Thus, to determine the participation in life-situations of a person with disabilities the pattern of participation over several life-situations needs to be considered and related to niche characteristics. Niches can, dependent on their organizational structure either stimulate or inhibit the development of participation in life-situations. According to Wachs (2000) a disability tends to affect the degree of contemporary redundancy, thematic elaboration and chaining in a manner that close niches.

Concerning availability to activities several studies report that children with disabilities are excluded from activities (BO; Swedish children’s welfare-ombudsman, 2002; Prellwitz et al, 2001) e.g. playgrounds are inaccessible for children with restricted mobility. In addition, a number of studies argue that students with disabilities spend more time in solitary play (Howard, 1996; Brown & Gordon, 1987; Guralinick & Groom, 1985; Tamm & Skär, 2000) more time with adults and have a more restricted social peer network than students without disabilities (Skär & Tamm, 2002). The differences between children and youths with and without disabilities tend to increase with time.

The organizational aspects of niches, as described by Super and Harkness (1999), have theoretical resemblances both with the theoretical bases of the ICF classification system (WHO, 2001).
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and Goffman’s theory about the stigmatizing process (1963). According to ICF (WHO, 2001) participation is a health related dimension of functioning related both to an individuals body function, performance of activities and environment. In the ICF’s environmental dimension two important chapters are support and attitudes, indicating that other persons can hinder or facilitate participation. Support and attitudes can be linked to niches, where other people’s attitudes will affect their interaction and actions towards a person, and in that way hinder or supports niche opportunities and participation. Goffman (1963), discussed stigma, indicating that people with visible disabilities could be labeled as disabled and therefore receive a certain type of interactional behaviors from others. Neither ICF nor Goffman’s theories can however explain the contribution of the individual with disability to the formation of niche characteristics. Human beings have a tendency to search for niches with a good fit and to avoid niches with a bad fit (Bronfenbrenner, 1999). With time this tendency, in conjunction with the attitudes of others, can lead to that persons with disability experience a restricted number of niches and a restricted variety of niches.

According to Almqvist and Granlund (accepted) perceptions of participation seemed to be a function of the number of environmental and personal factors important for participation pulling the students in the same developmental direction. Such factors are perceived availability, autonomy, internal locus of control and perceived interaction with other students and teachers. A working hypothesis is that children with disability, due to the organizational aspects of the niches and personal characteristics, with time develop patterns of proximal processes that decrease the probability of strong positive patterns in perceived availability to activities, autonomy, locus of control and interaction with others. Thus, children and youth with disability will have lower scores in these factors than children and youth without disability. Differences between the groups will increase with time.

Wehmeyer (1997) reports that students with disabilities have a limited autonomy, and experience a more external locus of control than students without disabilities. According to Grue and Heiberg (2000) social participation on the same arenas as others and the feeling of being socially integrated have an impact on the perceived self-concept in adolescents with disability.

Students with disabilities often experience that teachers give them a positive special treatment (BO, 2002). A good interaction with teachers may affect the students’ experience of participation in a positive manner. A positive interaction with teachers is related to a high degree of perceived participation in school-activities for students with disabilities (Almqvist & Granlund, accepted; Simeonsson et al, 1999). The
pattern of interaction with teachers is important for students' perceptions of control over their own school performance. Students who experience their teachers as warm and supportive adopt a more internal locus of control. Students who experience their teacher as less supportive are more likely to develop external models of causal attributions (Skinner, Zimmer-Gembeck and Connell, 1998).

Peer relations contribute substantially to both social and cognitive development. Students who interact frequently and in a consistent manner with the environment are more likely to develop a good social competence. Studies have shown that students who are encouraged to engage in interaction with persons and objects are more likely to participate in activities suited for their developmental age (Mahler-Ridely et al, 2000; McWilliam & Bailey, 1995). According to Sigman and Ruskin (1999), students with disabilities whom, as young children, had a better cognitive and linguistic competence participated more frequently with other students in play in their school years.

To sum up, based on previous research, a hypothesis is that factors such as perceived availability to activities, interaction, autonomy and attitudes and values of others over time are orchestrated into patterns of factors that affect the degree of participation in school activities perceived by children and youth with disabilities. The research questions asked in this study were:

1. Do students with disabilities differ, from students without disability, in how they perceive their participation in school activities?
2. Do students with disabilities differ from students without disability, in how they perceive the availability of activities?
3. Do students differ in perceived autonomy and locus of control dependent on whether they have a disability or not?
4. Do students' rate their interaction with teachers and peers differently dependent on whether they have a disability or not?
5. Do differences between the groups in perceptions about participation, availability, autonomy, locus of control and interaction increase with age?

Method

This study is a comparative group study, in which variable-based methods of analysis were used. Four previous studies, in which the same questionnaires have been used, form the base of the study. This design gave an opportunity to compare students with and without disabilities concerning experienced participation in school-activities.
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Respondents

Material, and thus respondents, was collected from four different studies within the project "students' participation in school activities." All together 959 students, age 7 - to 17 years participated in the study. Of these 448 students have disabilities and 511 students have no disabilities. Information about the original studies is displayed in table 1.

Table 1. Studies from which material were collected

<table>
<thead>
<tr>
<th>Author</th>
<th>Group</th>
<th>Age group</th>
<th>Number of participants</th>
<th>Participation in school activities</th>
<th>Rejected children</th>
<th>High-school students school situation</th>
<th>Social problem solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almqvist &amp; Granlund (accepted)</td>
<td>Students with disabilities</td>
<td>7-12</td>
<td>448</td>
<td>211</td>
<td>196</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>13-17</td>
<td>251 students (7-12-year-olds)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>197 students (13-17-year-olds)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eriksson &amp; Mellin (2002)</td>
<td>Comparison-group</td>
<td>7-12</td>
<td>251 students (7-12-year-olds)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>13-17</td>
<td>197 students (13-17-year-olds)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eriksson (2001)</td>
<td>Comparison-group</td>
<td>7-12</td>
<td>211</td>
<td>196</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>13-17</td>
<td>104</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hinds (2001)</td>
<td>Comparison-group</td>
<td>7-12</td>
<td>211</td>
<td>196</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>13-17</td>
<td>104</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Attrition

Attrition was 34 % in total number of questionnaires, 38 % in number of persons and 10% in number of counselors.

9 students of 220 (5% attrition).

36 students of 196 (16% attrition).

The collection of questionnaires only made internal attrition possible.
Students with disabilities.
All data on students with disabilities are gathered from a study conducted by Almqvist and Granlund (accepted) “Students with Disabilities Participation in School-Activities.” Material from altogether 448 students in age groups 7-12 years ($M =10.04, SD = 1.56$) and 13-17 years ($M = 14.99, SD = 1.51$) were collected. Respondents were selected in collaboration with special education counselors from the “Swedish Special Education Institute” (SIT) (altogether 140 persons). One hundred and five positive respondents were asked to gather information from up to 10 students and their parents and teachers. The counselors were instructed to choose students from the beginning, middle and end of their register over students they served in the age groups of interest. As a second step, material from the students, their parents, teachers and counselors were analyzed (2397 questionnaires).

The counselors rated the student’s type and degree of disability using “Abilities Index” (Simeonsson & Bailey, 1984, translated to Swedish by Simeonsson, and revised by Roll-Pettersson and Granlund). Further, students were divided into three groups depending on which counselor group they received consultation from (visual disabilities, motor disability or multi disabilities). Many of the students with disability also had other disabilities; the number of students in each age group with different types of disabilities is displayed in table 2.

Many students have more than one disability.

Table 2. Students’ type of disabilities in the different age groups

<table>
<thead>
<tr>
<th>Type of disabilities</th>
<th>Age group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7-12 years</td>
</tr>
<tr>
<td>Hearing</td>
<td>7</td>
</tr>
<tr>
<td>Motor-ability</td>
<td>50</td>
</tr>
<tr>
<td>General health</td>
<td>22</td>
</tr>
<tr>
<td>Social functioning</td>
<td>56</td>
</tr>
<tr>
<td>Behavior</td>
<td>56</td>
</tr>
<tr>
<td>Implicit communication</td>
<td>44</td>
</tr>
<tr>
<td>Explicit communication</td>
<td>47</td>
</tr>
<tr>
<td>Visual</td>
<td>63</td>
</tr>
<tr>
<td>Cognitive function</td>
<td>36</td>
</tr>
<tr>
<td>Muscle tone hyper tension</td>
<td>37</td>
</tr>
<tr>
<td>Muscle tone hypo tension</td>
<td>33</td>
</tr>
</tbody>
</table>
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**Students without disabilities.**
Data on students without disabilities were gathered from three different studies. They were; 1) “Rejected Children” (Eriksson & Mellin, 2002) in which data on 211 children in fifth grade were gathered, 2) “High School Students School Situation” in which data from 165 senior high school students were gathered (Eriksson, 2001), and 3) “Social Problem Solving” (Hinds, 2001) in which data from 104 students from seventh grade in primary school to second grade in upper secondary school were gathered.

Two comparison groups were created from the studies. In age group 7-12 data from the study by Eriksson and Mellin (2002) concerning students in fifth grade was used. Data from Eriksson (2001) and Hinds (2002) studies were used to create the comparison group in age group 13-17 year. The study “High School Students’ School Situation” included material from eight classes. Four classes were preparing for university studies and the other four classes were vocational. The sample consisted of 65 boys and 100 girls. The second study “social problem solving,” included material from five classes, a total of 104 students participated (see table 1).

**Instruments**
All studies from which data were used collected information about perceived participation, availability, autonomy and interaction with teachers. All but one study, “high school students’ school situation,” collected information about students’ interaction with peers.

**Participation and availability.**
An adapted version of an instrument developed by Simeonsson et al. (1999) was used to measure the degree of availability and participation in school activities of students’ with disability. The original instrument was designed for teacher-ratings of students’ participation and availability. The version used in this study is adapted to a Swedish school context as rated by students. The questionnaire contains a list of 25 common school activities. Respondents are asked to check the degree of availability of the activity and the extent to which they participate in the activity on scales from 0 - 3 (0 = not available/do not participate, 3 = always available/always participate). The activities in the list were adapted to each age group, e.g. ”adult structured games” in the 7 - 12 year list was replaced by ”adult structured school assignments” in the 13 - 17 year list.

To reduce the number of items in the analyses, all item scores concerning availability were summarized for each participant and divided with the number of items. The mean score obtained was used as an index for perceived availability. Participation was divided into 2 factors based on Almqvist and Granlund (accepted). They performed a confirmatory factor-analysis with a
two-factor solution based on student ratings. It resulted in the factors "Participation in adult structured activities" (10 - 13 activities) and "Participation in free activities" (6-7 activities). Examples of variable in the index free activities are "break activities," "leisure time" and "disco." Examples of variables in the index "adult supervised activities" are "organized play," "music class" and "using computer in classroom."

The Cronbach alpha coefficient for participation in free activities was $\alpha = .58$ for age group 7 - 12 and $\alpha = .74$ for age group 13 - 17. Cronbach alpha coefficient for participation in "adult structured activities" was $\alpha = .69$ for age group 7 - 12 and $\alpha = .68$ for age group 13 - 17. The Cronbach alpha coefficient for availability was $\alpha = .74$ for age group 7-12 and $\alpha = .78$ for age group 13-17. Despite the low internal consistency for the factor "participation in free activities", the division of participation in the two factors is kept because it is theoretically interesting.

**Autonomy and Locus of control.**

The questionnaire concerning autonomy and locus of control is a translated and adapted short version of the ARC self-determination scale (Wehmeyer & Kelchner, 1995). Only the students responded to the 23 items in the questionnaire. The autonomy items of the ARC scale (based on Sigafoos et al, 1988) is divided into the sections "routine personal care and family oriented functions," "interaction with the environment," "recreational and leisure time," "community involvement and interaction," "post-school directions" and "personal expression." Respondents are asked to respond to each item on a scale from 1 - 4 (1 = I do not even if I have the chance, 4 = I do every time I have the chance). The responses to the autonomy items were indexed and used in the analyses. The Cronbach alpha coefficient for internal consistency of the indexes was $\alpha = .84$ for age group 7 - 12 years and $\alpha = .93$ for age group 13 - 17.

The index locus of control was formed from 24 items of the ARC-scale. Twelve items from the psychological empowerment scale (based on Nowicki & Strickland, 1973) which contained pairs of sentences with contrasting content concerning how the student perceived him/herself and his/her ability, for example "I usually do what my friends want... or I tell my friends if they are doing something I don't want to do." The respondent was asked to select the sentence that best fitted their self-perception. Twelve items were from the scale self-realization. The respondent agrees or disagrees with items, for example "I do not feel ashamed of any of my emotions." Internal consistency for the index (based on Cronbach alpha) was $\alpha = .62$ for age group 7 - 12 and $\alpha = .78$ for age group 13 - 17. The internal consistency was somewhat low for age group 7-12 years.
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**Interaction**
The questionnaires used for measuring interaction were developed by Granlund and Olsson (1999) and adapted for use with students and teachers by Granlund and Björck-Åkesson (1999). Students in both age groups responded to 8 items concerning how they perceived the interaction with their peers (e.g. "peers understand what I say to them") and 8 items concerning how they perceived their interaction with their teachers ("I understand what the teacher says to me"). Respondents are asked to respond to each item on a scale from 1 - 5 (1 = seldom, 5 = usually).

Cronbach alpha for an index based on items concerning student-peer interaction were \( \alpha = .80 \) for age group 7 - 12 and \( \alpha = .85 \) for age group 13 - 17. Cronbach alpha for an index based on items concerning student-teacher interaction were \( \alpha = .81 \) for age group 7 - 12 and \( \alpha = .89 \) for age group 13 - 17.

In the original studies from which the data sets to this study were collected, the reliability was investigated using Chronbachs alpha. Reliability was commonly good to acceptable in most indexes in the different data sets. In two out of five data sets the alpha coefficient for the index participation in free activities, were somewhat lower for the age-group 7-12.

**Data analysis**
First, the four data sets were analyzed; items not identical for both students with disabilities and students without disabilities were excluded from further analysis. Second, in age group 13-17 two comparison groups existed, before merging these into one data set, differences between the ratings of the two groups were analyzed using ANOVA. This analysis indicated that differences between the two comparison-groups existed in nine of the 125 variables at a 1 percent significance level. Indexes were created for "total autonomy scale," for all the subscales in the autonomy scale, for "availability" and "participation in school-activities," "interaction with peers," "interaction with teacher" and "locus of control."

**Results**
Previous research (Almqvist & Granlund, accepted) has stated that perceptions of participation not are strongly related to type and degree of disability. Thus, as a first step in the analysis the relations between students ratings of participation in both free and adult supervised activities and type and degree of disability was investigated using one-way ANOVA and Pearson's correlation coefficient. First, the relations between type of disability, which in this material consists of three groups (visual disability, motor disability, multiple disabilities), and perceived participation was analyzed using one-way-ANOVA.
The results revealed no statistically significant difference between subgroups in perceived participation in free or adult supervised activities in the two age groups. This was followed by an analysis of the relations between ratings of participation and degree of disability using measures from the ABILITY index in the areas, “Hearing,” “Motorability,” “General health,” “Social functioning and Behavior,” “Communication, vision,” “Cognitive function” and “Muscle tone.” The result from the analysis indicates that only one statistically significant correlation, between “General health” and participation in free activities (r = .165, p = 0.02) in age group 7-12 years; students with a good general health perceived their participation in free activities as better than students with a poorer general health. No correlations were statistically significant in age group 13-17 years. Based on the result the variables type and degree of disability were excluded from further analyses.

**Comparing Students With and Without Disabilities**

Means and standard deviations for the indexes used for comparing students with and without disabilities are displayed in table 3. In table 3 significant f-values are also displayed. The results displayed in table 3 is commented on in three sections, differences between students with and without disabilities in 7-12 years, 13-17 years and differences between the two age groups.
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Table 3. Mean and standard deviation for indexes, and statistically significant f-values

<table>
<thead>
<tr>
<th>Indexes</th>
<th>Age group</th>
<th>With disabilities</th>
<th>Without disabilities</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation in free activities</td>
<td>7-12</td>
<td>1.68 .64</td>
<td>1.88 .58</td>
<td>10.2*</td>
</tr>
<tr>
<td></td>
<td>13-17</td>
<td>1.77 .64</td>
<td>2.03 1.16</td>
<td>7.24*</td>
</tr>
<tr>
<td>Participation in adult supervised activities</td>
<td>7-12</td>
<td>1.65 .38</td>
<td>1.98 .46</td>
<td>37.3**</td>
</tr>
<tr>
<td></td>
<td>13-17</td>
<td>1.66 .45</td>
<td>1.66 .66</td>
<td></td>
</tr>
<tr>
<td>Availability</td>
<td>7-12</td>
<td>1.91 .39</td>
<td>2.12 .46</td>
<td>9.1**</td>
</tr>
<tr>
<td></td>
<td>13-17</td>
<td>2.10 .43</td>
<td>2.46 1.09</td>
<td>6.9*</td>
</tr>
<tr>
<td>Autonomy</td>
<td>7-12</td>
<td>2.83 .46</td>
<td>3.39 .33</td>
<td>163.5**</td>
</tr>
<tr>
<td></td>
<td>13-17</td>
<td>2.89 .64</td>
<td>3.44 .39</td>
<td>131.6**</td>
</tr>
<tr>
<td><strong>Autonomy sections:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal care</td>
<td>7-12</td>
<td>2.84 .53</td>
<td>3.52 .75</td>
<td>209.4**</td>
</tr>
<tr>
<td></td>
<td>13-17</td>
<td>2.74 .34</td>
<td>3.39 .52</td>
<td>117.6**</td>
</tr>
<tr>
<td>Interaction with the environment</td>
<td>7-12</td>
<td>2.63 .69</td>
<td>3.04 .81</td>
<td>50.3**</td>
</tr>
<tr>
<td></td>
<td>13-17</td>
<td>3.08 .49</td>
<td>3.57 .52</td>
<td>71.0**</td>
</tr>
<tr>
<td>Recreational and leisure time</td>
<td>7-12</td>
<td>2.77 .66</td>
<td>3.10 .66</td>
<td>78.4**</td>
</tr>
<tr>
<td>Community involvement</td>
<td>7-12</td>
<td>3.32 .47</td>
<td>3.55 .39</td>
<td>83.0**</td>
</tr>
<tr>
<td></td>
<td>13-17</td>
<td>2.71 .77</td>
<td>3.10 .69</td>
<td>31.4**</td>
</tr>
<tr>
<td>Post-school directions</td>
<td>7-12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>13-17</td>
<td>2.69 .93</td>
<td>3.21 .60</td>
<td>48.8**</td>
</tr>
<tr>
<td>Personal expressions</td>
<td>7-12</td>
<td>2.94 .69</td>
<td>3.14 .82</td>
<td>68.1**</td>
</tr>
<tr>
<td></td>
<td>13-17</td>
<td>3.48 .54</td>
<td>3.78 .33</td>
<td>127.8**</td>
</tr>
<tr>
<td>Locus of Control</td>
<td>7-12</td>
<td>1.23 .14</td>
<td>1.19 .13</td>
<td>11.11*</td>
</tr>
<tr>
<td></td>
<td>13-17</td>
<td>1.76 .13</td>
<td>1.74 .17</td>
<td></td>
</tr>
<tr>
<td>Interaction with peers</td>
<td>7-12</td>
<td>4.31 .73</td>
<td>4.24 .86</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13-17</td>
<td>4.38 .66</td>
<td>4.56 .77</td>
<td>104**</td>
</tr>
<tr>
<td>Interaction with teachers</td>
<td>7-12</td>
<td>4.41 .55</td>
<td>4.34 .67</td>
<td>19.3**</td>
</tr>
<tr>
<td></td>
<td>13-17</td>
<td>4.09 .72</td>
<td>3.71 .87</td>
<td>64.3**</td>
</tr>
</tbody>
</table>
Students without disabilities have, independent of age, rated their perceived participation in free activities, the perceived availability of activities and their autonomy higher than students with disabilities. Students with disabilities rated their "interaction with teachers" as better. The standard deviation was usually larger in the group of students without disability than it was in the group of students with disability.

**Statistical differences between students with and without disabilities in age group 7-12 years.**
Students without disability rate their perceived participation, availability and autonomy as higher than students with disability (see table 3). Students without disabilities rated all sections of the autonomy scale statistically significant higher that students with disabilities. The largest differences between groups are in the sections personal care and recreational and leisure time (see table 3). Students with disability rate their locus of control as more internal as well as their interaction with teachers as better and more frequent than students without disabilities. There are no statistically significant differences between the groups in interaction with peers.

**Statistical differences between students with and without disabilities in age group 13-17 years.**
Students without disabilities rate their participation in free activities as higher than students with disabilities, but no statistically significant difference exists concerning participation in adult structured activities. Students without disability rated the availability of activities and their autonomy as higher and their interaction with peers as more frequent and better than students with disability (see table 3). Students with disability rated their interaction with teachers as better and more frequent (see table 3).

Students with disability rated their participation in adult structured activities the same in both age groups, while the students without disability rated their participation in adult structured activities lower in age group 13-17 than in age group 7-12 years. The differences between students with and students without disabilities are stable concerning availability, and autonomy. Student ratings of interaction indicates that students without disability, focuses more on peer related interaction in the older age group and less on teacher related interaction. On the other hand, students with disability seem to focus more on teacher related interaction and somewhat less on peer related interaction in the older age group. Students with disability rated their locus of control as more internal than students without disability in age group 7-12 years, but no difference between the two groups were found in age group 13-17 years. Both students with and without disability, rate their of locus of control as more internal in age group 13-17 than in age group 7-12 (see table 3).
Perceived participation.

Discussion

The aim of this study was to compare students with and without disabilities concerning perceived participation in school activities and factors related to participation. Summarizing the result, it is evident that students without disabilities rated their perceived participation in free unstructured activities, availability to activities and autonomy higher, in both age groups. Students with disabilities rated their interaction with teachers as better and more frequent in both age groups. The result also indicates an increased difference with age between students with and without disabilities in their perceptions of interaction with peers as well as teachers.

A limitation with the study is that material from different studies was used. Even though the subjects have responded to the same questionnaires, the fact that the material is gathered from different places at different moments of time leads to heterogeneous responses to questionnaires. Thus, some background information about the individuals in the comparison group important for interpreting the result is missing. Another limitation is that all studies from which material was gathered used convenience sampling. That is, the sample of subjects in this study is not representative for a specific population and generalizations should be done with caution. Finally, if data about students' with and without disabilities had been collected in the same environment more direct conclusion about the influence of age and disabilities on availability to and participation in participation in school activities could have been made.

The reliability of the scales was investigated with Chronbach's alpha, not only in this study but also in the studies that forms the base for this study. The index participation in free activities has low alpha in the age group 7-12, while the indexes participation in structured activities and total participation score have higher alpha values. One explanation for the lower alpha for the index participation in free activities for the age-group 7-12 is the low number of items used for the index. Development of two independent and validated measures assessing these concepts is needed. Another explanation might be that it is difficult to obtain consistent response pattern for young children on self-rating scales concerning perceptions of self.

Almqvist and Granlund (accepted) did not find any differences in perceived participation or perceived availability of activities between students with different types of disability when analyzing the same sample of students with disability as in this study. Thus, the differences between students with and without disabilities found in this study indicates that independent of how body impairment affects the performance of activity of the student the fact that the student has a disability is related to the students’ perceived availability to and
participation in school activities. Differences are primarily seen in perceived participation in unstructured free activities and interaction with peers, that is, in contexts in which the degree of perceived participation is more dependent on the student’s own activity. One explanation, based on niche theory (Wachs, 2000), might be that both the personal characteristics of the student with disability as well as the organizational aspects of the niches are affected by the disability label assigned to the student. The stigmatization process can be described in terms of the organizational aspects of niches. Due to contemporary redundancy, thematic elaboration and chaining the student experience factors in the context as uncontrollable and starts explaining his/hers failures as caused by the disability, creating an experience of lack of control over his/her school achievements and social competence (Grue & Heiberg, 2000; Skinner et al, 1998). The impact of such niche aspects is greater in free activities not adapted to the abilities and skills of the individual. This hypothesis is supported by the significant difference in autonomy between the groups, with students with disability reporting lower autonomy.

Another, related explanation is based on the fact that students with disability continue to perceive the interaction with teachers as frequent and good in the older age group. This fact may indicate two phenomena.

First, students with disability are stigmatized (Goffman, 1964), they selects adults to interact with as a means for increasing the person-environment fit. According to Skinner et al (1998) perceptions of control (autonomy, self-efficacy and locus of control) are facilitated by a good interaction with teachers. Students with disability do not have as many opportunities to develop competence in peer relationships as other students (Skär & Tamm, 2002), which in it’s turn is related to a low degree of perceived autonomy. While students without disabilities are breaking free from adults students with disabilities remain dependent on adults, for interaction and support (Skär, submitted).

Second, the fact that students with disabilities have good and frequent interactions with teachers and support from an assistant facilitate participation in structured activities. Probably students with disability on average experience a more structured and less flexible school situation than students without disability. For example, students without disabilities have different teachers for different subjects in high school, while students with disability often have a close interaction with one special education teacher and/or personal assistant all the way through school.

The differences in perceived participation and availability to activities between the groups of students with and without disabilities increase with age. This fact can be explained by that the
Perceived participation.

Factors described above with time become orchestrated and thus asserts a greater impact on the student with disability. Students with and without disabilities in interaction with the environment probably create niches with different characteristics in the same context, and therefore obtain different skills, knowledge and attitudes. Students with disability facing few niches with relatively similar characteristics will specialize on available niches and start to avoid other niches that they do not handle as well (Wachs, 2000). Students with low ratings of perceived participation probably participate in a more restricted variety of activities than students with high ratings of participation. Students with a restricted set of niches can however, be highly participative in specific activities (Gustavsson, 1998).

To conclude, the differences in perceived participation and availability of school activities between students with and without disabilities are probably related to the fact that students with disabilities experience fewer niches in which they can act autonomously as well as a restricted variety in the type of niches available. Several factors contribute to the restricted niche-opportunities, probably factors related to the number of environmental opportunities experienced, the attitudes towards disability exhibited by others in conjunction with generic person characteristics such as autonomy and locus of control are more influential than the body impairments of the student with disability. Therefore such factors need to be taken into consideration in assessment and intervention aimed at increasing participation in school activities of students with disabilities.

Perceived participation is in this study measured post hoc and is therefore affected by the person's perception of the past. To get an authentic picture of participation in present situation perceptions of participation need to be collected here and now, it requires development of reliable measures that can be used within a time sampling design. In what sort of niches do students with disabilities perceive a high degree of participation?

The result of this study indicates that it is interesting to compare perceptions of participation of students with and without disability in the same environment. In this study the samples of students with and without disability were collected from several samples. Therefore, the impact of environmental variables is somewhat unclear. In future studies it would be interesting to investigate if differences in participation between groups are dependent on school-form and other demographic factors. By such means it would be possible to obtain answers to questions like; do students with disabilities attending a regular school perceive a higher degree of participation in a wider variety of school activities than students with disabilities attending a special school? Do students with disability have fewer activities
available in integrated settings, do they have problem experiencing the chances available or are they excluded because of their disability?

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